



Coded Equipment Register

PART ONE - CURRENT EQUIPMENT

Listing Codes allocated the
period 1 January 1977 to
31st December 1987

1987



CODED EQUIPMENT REGISTER

PART 1. CURRENT EQUIPMENT

1987

This volume lists, in alphabetical Unit Code order, all equipments which were first registered with D&ED Drawing Office during the period January 1977 to December 1987, as well as older units which are still in common use within the BBC. All such items also appear in the D&ED publication "**Engineering Components Catalogue**", which contains information formerly given in the yellow-covered "Summary of Coded Equipment manufactured for the BBC".

Standard information for each unit includes the Unit Code, Equipment Title, (brief) technical details, and the Department and year of registration. Further details may include PCB size or chassis code, superseded equipment, sub-units or parent equipment, codes of a chassis extender or dedicated termination panel, and details of extra support documentation, eg. EDI or Handbook numbers.

(Note that a more complete list of available documentation for coded equipment is provided in the Technical Documentation Cross-Reference, which is also published by Liaison Unit, D&ED.)

The entry for each coded item is based substantially on information given in the original Code Application form (plus any revisions), submitted by the originating engineer. Therefore, any changes to the equipment will only appear in CER if an updated CA form is received by D&ED Drawing Office.

A brief explanation of the meaning of the different Unit Code categories is given on a later page, to help you find your way around the Manual. More detailed information is available in a Technical Memorandum from this Department, number DDTM 4.32(76); copies of this may be ordered through Liaison Unit, D&ED.

The Coded Equipment Register is published by:-

Liaison Unit
Design and Equipment Department
Avenue House

SOURCES OF FURTHER INFORMATION ON EQUIPMENT AND DESIGNS

Each Unit Code entry in the Coded Equipment Register gives the originating Department, to whom further enquiries should be made for support information.

These Departments publish a range of documents, such as Information Sheets, Handbooks, or Technical Memoranda, which are intended to assist engineering staff to specify, install, and maintain the equipment. The list below gives details of the written support which is offered for items from Design and Equipment Department, the main source of new designs and manufactured items.

Availability of any document, for a particular piece of equipment, is regularly updated on EDI sheets (see below), and is summarised in the Technical Documentation Cross-Reference, published annually.

- * EDI Engineering Design Information sheets (with a blue banner headline) are written for a range of items, and are designed specifically as advance details of new equipment. The front page usually includes a photograph of the unit, and technical details, along with the name and telephone number of the designer, are also given.

White-headed sheets are used to provide summaries of recently-published documentation.

- * D&EDMI Design and Equipment Department Manufacturing Information booklets (DDMI before 1986) contain all the details necessary to be able to make a piece of equipment and, as such, they are not generally available. However, prints of the various drawings contained therein, *eg.* circuit, parts list, and component location, can be ordered through Liaison Unit.
- * D&EDTM A Design and Equipment Department Technical Memorandum (DDTM before 1986) will be written, usually to cover a particular subject, rather than a piece of equipment as such. So, for example, a Tech. Mem. might cover digital audio editing techniques, or an appraisal of the Datacast system; it would not necessarily enter into the operational details of the units designed to fulfil that rôle.
- + D&EDHB The Design and Equipment Department Handbook (DDHB before 1986) forms the reference document for a unit or a complete system, and acts as a "user guide". It contains the equipment specification and functional description, and selected drawings and text to assist in installing, operating, and maintaining the equipment.
- + TI Technical Instructions, although not published by D&ED, cover a selection of designs, and provide a useful aid to maintenance. These are prepared by Technical Publications at Wood Norton, to whom all enquiries should be directed.

- * Order from Liaison Unit, D&ED, on AH 375
- + Order from Technical Publications, ETD, on WN 318

INDEX TO PRIMARY CODING GROUPS

Codes indicated by * are restricted, and will only be allocated where no other master code group is suitable.

Codes indicated by ** are not available for new designs, and are shown solely for reference: the current alternative is listed alongside.

AM	AMPLIFIER	
** AP	APPARATUS.....	(now coded by function)
AT	ATTENUATOR	
** BX	BOX	(now coded by function)
** CA	CABINET (EQUIPPED).....	(now coded by function)
CD	CODER	
CH	CHASSIS (UNEQUIPPED)	
CO	CONVERTER	
CS	CASE (UNEQUIPPED)	
CT	CABINET (UNEQUIPPED)	
* DK	DESK	
DM	DEMULATOR	
* EP	EQUIPMENT	
EQ	EQUALISER	
FL	FILTER	
FW	FRAMEWORK (UNEQUIPPED)	
GE	GENERATOR	
** IN	INDICATOR	(superseded by MN)
JF	JACKFIELD	
LS	LOUDSPEAKER	
** MA	MATRIX.....	(now coded by function)
MD	MODULATOR	
ME	MEASURING EQUIPMENT	
MN	MONITOR	
MP	MISCELLANEOUS PART	
MX	MIXER	
** NE	NETWORK	(now coded by function)
OS	OSCILLATOR	
* PA	PANEL (EQUIPPED)	
PN	PANEL (UNEQUIPPED)	
PS	POWER SUPPLIER	
RC	RECEIVER	
RD	RECORDING EQUIPMENT	
RP	REPRODUCTION EQUIPMENT	
** SC	SCANNER	(superseded by SE)
SE	SWITCHING EQUIPMENT	
TE	TESTER	
TM	TRANSMITTER	
* UN	UNIT	

INDEX TO SECONDARY CODING GROUPS

Codes indicated by * are restricted, and will only be allocated where no other code group is available.

Codes indicated by ** are not available for new designs, and are shown solely for reference: the current alternative (where applicable) is listed alongside.

Note that, where a code is no longer used, it has been omitted from this list. Please refer to previous volumes of RD & CE for a complete list.

AM AMPLIFIER

- * AM1/ Miscellaneous
- AM4/ Distribution
- AM5/ Multi-purpose
- AM6/ Limiting
- AM7/ Line
- AM8/ Loudspeaker
- AM9/ Microphone
- AM10/ Headphone(was Monitoring)
- AM14/ Radio Frequency
- AM15/ Recording
- AM16/ Reproducing
- ** AM17/ Servo(now coded by function)
- AM18/ Stabilising
- AM19/ Non-linear
- AM20/ Peak Programme
- AM21/ Intermediate Frequency
- AM22/ Response Selection (AF tone control)
- AM23/ Matrix

AP APPARATUS

- ** AP1/ Miscellaneous(now coded by function)

AT ATTENUATOR

- * AT1/ Miscellaneous
- AT2/ Audio Frequency
- AT3/ Video Frequency
- AT4/ Radio Frequency

BX BOX

- ** BX3/ Distribution(now coded by function)**
- ** BX6/ Switch(superseded by SE)**

CA CABINET (EQUIPPED)

- ** CA1/ Miscellaneous(now coded by function)**

CD CODER

- CD2/ Coder**
- CD3/ Decoder**
- CD4/ Transcoder**

CH CHASSIS (UNEQUIPPED)

- CH1/ Chassis**
- CH4/ Extender**

CO CONVERTER

- * CO1/ Miscellaneous**
- CO2/ Frequency**
- CO4/ Digital Code.....(was Pulse)**
- CO5/ Voltage Level.....(was Signal)**
- CO6/ Television Standards**
- CO8/ Analogue to Digital**
- CO9/ Digital to Analogue**
- CO10/ Serial to Parallel**
- CO11/ Parallel to Serial**

CS CASE (UNEQUIPPED)

- CS2/ Carrying**

CT CABINET (UNEQUIPPED)

- * CT1/ Miscellaneous**
- CT3/ Desk**
- CT4/ Loudspeaker**

DK DESK

- * DK1/ Miscellaneous
- * DK2/ Continuity
- * DK4/ Sound Production
- * DK5/ Vision Production

DM DEMODULATOR

- * DM1/ Miscellaneous
- DM2/ Amplitude
- DM3/ Frequency
- DM4/ Phase

EP EQUIPMENT

- * EP1/ Miscellaneous
- * EP2/ Carrier
- ** EP4/ Recording(superseded by RD)
- * EP5/ Studio
- ** EP6/ Telecine(superseded by RP3)
- ** EP8/ Communications(now coded by function)
- ** EP9/ Monitoring(superseded by MN)
- * EP10/ Control Room
- * EP11/ Outside Broadcast
- ** EP14/ Test(superseded by ME or TE)
- ** EP15/ Switching(superseded by SE)
- ** EP16/ Transposer(superseded by TM)

EQ EQUALISER

- ** EQ1/ Miscellaneous(now coded by function)
- EQ3/ Audio Frequency
- EQ4/ Radio Frequency
- EQ5/ Video Frequency
- ** EQ6/ Microphone(superseded by EQ3)
- ** EQ7/ Repeater(superseded by EQ3)
- ** EQ8/ Disk Reproducer(superseded by EQ3)
- ** EQ12/ Automatic(now coded by function)

FL FILTER

- * FL1/ Miscellaneous
- FL2/ Bandpass
- FL3/ Highpass
- FL4/ Lowpass
- FL5/ Combining
- FL6/ Splitting
- FL7/ Bandstop

FW FRAMEWORK (UNEQUIPPED)

FW1/ Framework

GE GENERATOR

- * GE1/ Miscellaneous
- GE2/ Pulse
- GE4/ Test Signal
- GE5/ Television Synchronising Pulse
- GE6/ Video Waveform
- GE7/ Digital
- GE8/ Character

IN INDICATOR

- ** IN1/ Miscellaneous(now coded by function)
- ** IN6/ Signal(superseded by MN)

JF JACKFIELD

- * JF1/ Miscellaneous
- JF2/ Audio Frequency
- JF3/ Coaxial

LS LOUDSPEAKER

- * LS1/ Miscellaneous
- LS2/ Unmounted
- LS3/ Outside Broadcast
- LS5/ Monitoring(was Studio)

MA MATRIX

- ** MA1/ Miscellaneous(now coded by function)
- ** MA2/ Switching(superseded by SE)

MD MODULATOR

- * MD1/ Miscellaneous
- MD2/ Amplitude
- MD3/ Frequency
- MD4/ Phase
- MD5/ Modem

ME MEASURING EQUIPMENT

* ME1/	Miscellaneous
ME2/	Audio(was Admittance)
ME3/	Video(was Calibration)
ME4/	Digital(was Current)
ME5/	Delay
ME6/	Frequency/Period
ME7/	Impedance/Return Loss
ME8/	Noise.....(was Modulation)
ME12/	Peak Programme
ME15/	Transmitter/Receiver(was Test)
ME16/	Standard Level (to calibrate test equipment)

MN MONITOR

* MN1/	Miscellaneous
** MN2/	Automatic
MN3/	Picture
MN4/	Audio Frequency(was Programme)
MN5/	Video Frequency(was Sequential)
MN6/	Waveform
MN7/	Frequency
MN8/	Digital
MN9/	Synchronising

MP MISCELLANEOUS PART

MP1/	Mechanical
MP2/	Electrical

MX MIXER

** MX1/	Miscellaneous
MX3/	Audio Frequency
MX5/	Video Frequency

NE NETWORK

** NE1/	Miscellaneous(now coded by function)
** NE3/	Weighting(superseded by FL)
** NE4/	Delay(now coded by function)

OS OSCILLATOR

* OS1/	Miscellaneous
OS2/	Fixed Frequency
OS3/	Variable Frequency

PA PANEL (EQUIPPED)

* PA1/	Miscellaneous
** PA3/	Amplifier(superseded by AM)
** PA5/	Carrier.....(now coded by function)
* PA6/	Control
** PA7/	Delay(now coded by function)
** PA8/	Desk(superseded by PA6)
* PA9/	Power Distribution
** PA10/	Fuse(superseded by PA1)
** PA11/	Indicator(now coded by function)
** PA18/	Switch(superseded by SE)
** PA19/	Telephone(superseded by UN10)
* PA20/	Connection
** PA22/	Measurement.....(superseded by ME)

PN PANEL (UNEQUIPPED)

* PN1/	Miscellaneous
PN3/	Chassis Mounting
PN4/	Termination

PS POWER SUPPLIER

* PS1/	Miscellaneous
PS2/	Stabilised
PS3/	Unstabilised
PS4/	Switched Mode.....(was Vibrator)
PS5/	DC-DC Converter

RC RECEIVER

* RC1/	Miscellaneous
RC2/	Communications/Talkback
RC3/	Monitoring
RC4/	Radio Link (Broadcast Quality)
RC5/	Rebroadcast

RD RECORDING EQUIPMENT

* RD1/	Miscellaneous
RD3/	Magnetic Data(was Film)
RD4/	Magnetic Programme(was Magnetic)
RD5/	Paper

(x)

RP REPRODUCTION EQUIPMENT

- * RP1/ Miscellaneous
- RP2/ Disk
- RP3/ Film
- RP4/ Magnetic

SC SCANNER

- ** SC1/ Miscellaneous(superseded by SE)

SE SWITCHING EQUIPMENT

- * SE1/ Miscellaneous
- SE2/ Audio Frequency
- SE3/ Video Frequency
- SE4/ Radio Frequency
- SE5/ Digital
- SE6/ Power

TE TESTER

- TE1/ Tester
- ** TE2/ Amplifier(superseded by TE1)

TM TRANSMITTER

- * TM1/ Miscellaneous
- TM2/ Communications/Talkback
- TM3/ Radio Link (Broadcast Quality)
- TM4/ Broadcast(was Telegraph)

UN UNIT

- ** UN1/ Miscellaneous(now coded by function)
- ** UN2/ Calibration(superseded by ME or TE)
- * UN3/ Manual Control
- * UN4/ Programme Effects
- ** UN5/ Housephone(superseded by SE)
- ** UN7/ Keyswitch(superseded by SE)
- ** UN8/ Signalling(now coded by function)
- ** UN9/ Switch(superseded by SE)

(cont....

....cont)

- * UN10/ Telephone
- * UN11/ Transformer
- * UN12/ Display
- * UN13/ Clamp
- * UN14/ Delay
- ** UN15/ Discriminator(superseded by DM)
- * UN16/ Separator
- ** UN17/ Synchronising(now coded by function)
- ** UN18/ Chrominance.....(now coded by function)
- ** UN20/ Detector.....(now coded by function)
- * UN21/ Relay
- * UN23/ Control Logic
- ** UN24/ Directional Coupler(now coded by function)
- ** UN25/ Modem.....(superseded by MD5)
- * UN26/ Processing
- * UN27/ Store

AM010055 AM1/55	Tape Tension Servo Amplifier. To control the torque of the spooling motors of the RD4/12, thereby maintaining constant tape tension using the tape deck jockey arm as the tension sensing element. Power Requirements +8V. Printed circuit board 115mm x 100mm. Parent equipment RD4/12. DD 1978. DDMI 7.430(80).
AM1/55A	Tape Tension Control Amplifier. This servo amplifier forms part of the Tape Reclamation Equipment EP1/17 and EP1/17A and is used to control tape tension. It replaces the AM1/55 when the equipment is modified to incorporate tape tension arms with rotating guides (MP1/32). Power requirements +12 V, 50 mA. PCB approx. 105 mm x 150 mm. Supersedes AM1/25. Parent equipment EP1/17 and EP1/17A. DD 1984. DDMI 7.523(84).
AM010056 AM1/56	Second loop drive unit. Amplifies TTL pulses to drive 20mA clock loop. Similar to AM24/1 but BMM. Power requirements ±12V d.c. CH1/64J. DD 1978.
AM010057 AM1/57	Dual Meter Drive Amplifier. The amplifier accepts the control voltage from either one or two UN4/6 voiceover units and drives one or two remote gain reduction meters. +12V, 0, -12V, 15mA each rail. CH1/64A. DD 1978. DDMI 3.646(78). DDTM 3.214(78).
AM010058 AM1/58	Dual Stereo Channel Input Amplifier provides buffering, digitally controlled phase reverse and stereo/mono switching, stereo offset and gain control facility, PH outputs. Power requirements +12V/0/-12V and +5V/0/-5V. 3U BMM. Parent equipment PA6/88, PA6/89 and PA6/90. DD 1978. DDMI 3.675(80). DDHB 2.242(80). DDTM 3.242(80).
AM010059 AM1/59	Frame Combing Amplifier. The amplifier is a constituent part of the CINETRACE system. Waveforms from the Fame Combing Generator GE1/601 are amplified to drive redundant telecine scan coils. Power requirements ±50V. 3U unsupported card. Parent equipment EP1M/550. DD 1982.
AM010060 AM1/60	Drive Amplifier. Fits within the quad FM4 tuner to provide gain when used for 76kHz dissemination. Power requirements 12V from internal source. 50 x 64 printed board with aluminium bar for mounting. DD 1983.
AM010600 AM1/600A	Bank Service Amplifier. Mechanically and electrically similar to AM1/600, but with video mode changeover performed automatically by relays instead of manually. DD 1977.
AM010611 AM1/611	Luminance/Chrominance Corrector. Video amplifier using the ITS Luminance bar in an AGC system to obtain standard signal level output. Power requirements +12V, -12V, +5V. CH1/64A. DD 1978.
AM010612 AM1/612	Video Amplifier. Replacement for ITT Thick Film Amplifier 233BAA. Small module, 28mm x 17mm, pin-compatible with 233BAA. Power requirements +8.5V, -4.5V 50mA. PCB 28mm x 17mm with mounting pins. DD 1980. EDI 10391(1)JUN80.

AM010613 AM1/613	Inserting Amplifier. Inserts test signals on externally selected line. Includes a test signal mixing and output amplifier. Power requirements +12 V, +5 V, -5 V, -12 V. 2U unsupported printed board. Parent equipment GE4SM/575. DD 1985.
AM010614 AM1/614	Video Auto-Phasing Amplifier. 6 dB video amplifier providing 70° subcarrier phase correction automatically using phase and timing references from UN26/601. High impedance video input. 6 x 75 Ω video outputs at 1 V p-p. Power requirements +18 V, at 200 mA; -18 V, at 200 mA both unstabilised. 4U unsupported pcb. Chassis extender CH1A/44. Termination panel PA20/534. DD (8) 1985.
AM010615 AM1/615	Key Delay and Amplifier. To delay key and compensate for loss. Unit also conditions mixed blanking to a 0.7 V key signal. Unit is used in BBC 2 symbol system. Power Requirements ± 12 V. CH1/64A. Chassis Extender CH1A/43. DD(8) 1985.
AM010616 AM1/616	Telecine Head Amplifier. This P.E.C. head amplifier is a replacement for the existing head amplifier in the Cintel Digiscan MK.III Telecine. It provides a significant improvement in signal to noise ratio. Power requirements +12 V, 40 mA; -12 V, 40 mA. PCB: 75 mm square. Parent equipment: Cintel Digiscan MK.III Telecine. Supersedes Cintel P.E.C. Head Amplifier GB100159 issue 6. D & ED(C) 1986.
AM040011 AM4/11	Distribution Amplifier, providing unbalanced output signal and zero volume from eight input signals via pre-set gain controls and remotely controllable switches. Printed circuit board, 133mm x 178mm, with front panel 15mm wide. SCPD 1974.
AM040013 AM4/13	Output Amplifier. Takes in programme at -20dB volume unbalanced, gives out programme at 0dB volume balanced, floating. Minimum load impedance 10k Ω . Two channels per card. Power Requirements ± 15 V 40mA. 2U unsupported card. Parent equipment RP2/10. DD 1977.
AM040014 AM4/14	Output Amplifier. Takes in programme at -20 dB volume unbalanced and gives out programme at 0 dB volume, balanced, floating. Minimum load impedance 600 Ω . Two channels per card. Power requirements +36 V regulated down to 30 V on the card. 2U unsupported card. Parent equipment EP2/10. DD 1977.
AM040015 AM4/15	2 x 4 Source Selection Amplifier. Similar to AM4/11 but the inputs are divided into 4 groups of 2 each feeding a separate output. Drawing Number SP25224. Power requirements ± 12 V d.c. Printed circuit board 111.76 mm x 190.5 mm. SCPD 1978.
AM040016 AM4/16	2 x AM4/10 Cue Programme Amplifier. To meet a requirement to mount 12 Cue Programme Distribution Amplifiers mounted on a 3U printed board and wired to tags on the board. 6 boards of this type will plug into the CH1/77 on 37 mm

centres. Power requirements 50 V 40 mA. DD 1978. DDMI 3.652(78).

AM040017 AM4/17 Output Amplifier. Takes in programme at -20 dB volume unbalanced, raised its level by 10 dB or 20 dB, selectable by "handbag" connector. Minimum load impedance 600 Ω , suitable for internal line sending up to 50 metres. This unit is a mono version of the AM4/14. Power requirements +36 V 40 mA. Parent equipment AM16M/16 and RP2/10. DD 1978.

AM040018 AM4/18 Time Distribution Amplifier. Buffer amplifier to provide four feeds of 5 pair coded time signals. Power requirements 5 V d.c. CH1/64A. DD 1978.

AM040019 AM4/19 Auxiliary Output Amplifier, mono version of the AM4/13. Power requirements +36 V 50 mA. 2U unsupported card. Parent equipment AM16M/16 and RP2/10. DD 1978

AM040020 AM4/20 VHF Aerial Distribution Amplifier. Complete rack mounting Aerial Distribution Amplifier intended for use at rebroadcast sites. Comprises AM4/21 and two PS2/186B power suppliers in 2U high rack PN3/55. Mains powered. DD 1979. DDMI 5.381(80).

AM040021 AM4/21 VHF Aerial Distribution Amplifier. Distribution amplifier for feeding up to 8 receivers (in 2 sets of 4) for rebroadcast use. Comprises two AM14/43 amplifiers in quadrature followed by a passive 8 way power splitter, providing some 506 dB gain overall from input to any output. The isolation between adjacent outputs is greater than 20 dB and corresponding outputs in each group of 4 is greater than 35 dB to prevent local oscillator interaction in the receivers. The unit is housed in a diecast box and requires separate power supplies for each amplifier of 18 V at 200 mA. Diecast box (STC X6R.C500.085.A00) 222 mm x 146 mm x 57 mm. Parent equipment AM4/20. DD 1979. DDMI 5.381(80).

AM040022 AM4/22 Half Minute Clock Drive Amplifier. Input 0.5Hz TTL square wave. Output to drive Gents half minute clock loop. Power requirements 24V d.c. 220mA. 75mm x 130mm PCB. Parent equipment CA1/6. DD 1980.

AM040024 AM4/24 PCM Distribution Amplifier. This unit is a 75 Ω wideband (5kHz-50MHz) high level distribution amplifier with selectable gain of 0dB/21dB and nominal output level of 5V peak to peak. It is intended for use in distributing high level PCM digital bitstreams using codes such as HDB 3 etc. Power requirements $\pm$ 18V 200ma. 4U card 140mm long. DD 1981. DDMI 6.390(82). DDHB 6.197(82). EDI 10448(1) AUG 82. DDHB 6.197(82). EDI 10448 (1) AUG 82.

AM040025 AM4/25 PCM Distribution Amplifier. This unit is a high input impedance (>1 k Ω) wideband (5 kHz - >10 MHz) high level distribution Amplifier. It has selectable gain of 0 dB/6 dB/21 dB and nominal output level of 5 V pk to pk. It is intended for use in monitoring or distributing high

level PCM bitstreams such as HDB3 at rates up to 2048 kbit/s. Power requirements ± 18 V, 180 mA. 4 U card 140 mm long. DD 1983. EDI 10482(1)APR 84.

AM040026 AM4/26

Data Distribution. This unit is designed to interconnect a number of processing units which together make up the automatic control system for HF transmitter installations. The unit accepts up to 20 input and 20 output data connections, each with separate buffer amplifiers. The interface standard is nominally RS 422C at input and output. Power requirements 19-45V dc. 2U x 19" Chassis. DD 1984.

AM040527 AM4/527

UHF Distribution Amplifier. For use at relay stations. Supplies up to 4 band IV and I outputs from an aerial input. Constructed on a printed circuit board mounted in a diecast box. DD 1975. DDMI 5.300. DDHB 5.107.

AM040530 AM4/530

Video Distribution Amplifier. 2 U replacement for AM4/519 constructed on CH1/65A. 6 main outputs plus 75 Ω output on front panel for connection of 75 Ω test apparatus. High-impedance input. The EQ5/540 cable equaliser has been designed for use with this amplifier. DD 1975. DDMI 8.567(77). DDHB 8.340. EDI 10262(1)JAN77.

AM040531 AM4/531

6 dB Distribution Amplifier. 4 U BMM replacement for AM4/519. 6 outputs at 75 Ω . Mains powered. Performance similar to AM4/519. CH1/64A. DD 1976. DDMI 8.582(77). DDTM 8.343(77). EDI 10328(1)DEC77. Superseded by AM4/536 in most applications.

AM040532 AM4/532

3-Channel Distribution Amplifier. 4 U BMM replacement for AM4/522. 4 outputs for each of 3 inputs. Mains powered. CH1/64A. DD 1976. DDMI 8.592(77). DDTM 8.352(78). Superseded by AM4/538.

AM040533 AM4/533

Pulse Distribution Amplifier. This unit will handle all the common television pulse waveforms, and is designed for use with the BMM chassis system as a replacement for the AM4/521. Mains powered. 10 outputs, normal input will be -6dB with respect to 2V p-p. CH1/64A. DD 1977. DDMI 8.588(77). DDHB 8.351(77).

AM040534 AM4/534

Data - Video Driver accepts balanced data inputs at emitter coupled logis or TTL levels for mixed syncs, monitoring data, and transmission data, and produces two sets of three video outputs all at 75 Ω . Three outputs of 1V non-composite filtered data. Three outputs of 0.5V data and 0.3V sync composite filtered waveform for monitoring data content. Choice of filters by change of sub boards. Power requirements a.c. mains. CH1/64A. RD 1978.

AM040535 AM4/535

UHF Distribution Amplifier. Low noise UHF distribution amplifier with four outputs suitable for feeding UHF television transposers type TM4M/502. Printed circuit board mounted in an extruded aluminium chassis. Power requirements +24V at 200mA. 230mm x 48mm. Parent equipment TM4M/502. DD 1980. DDMI 5.399(81).

AM040536 AM4/536 6 dB Video and Pulse Distribution Amplifier. Distribution amplifier with 6 dB gain and 6 outputs at nominal 1 V p-p. Power requirements ± 18 V 150 mA unstabilised. 4U unsupported half-card. Supersedes AM4/531 (in most applications). DD 1981. DDMI 8.628(82). EDI 10407(2) OCT 81. DDHB 8.372(81).

AM040537 AM4/537 15 dB Distribution Amplifier. Distribution amplifier with 15dB gain and 6 outputs at nominal 1V p-p. For applications where AM4/536 has insufficient gain. Power requirements ± 16 V 120mA. 4U unsupported half-card. DD 1981.

AM040538 AM4/538 3 Channel 6dB Distribution Amplifier. This unit will contain three separate four output distribution 6dB amplifiers, closely matched. It is constructed in a CH1/64A chassis and is mains powered. This amplifier is suitable for RGB or YUV operation. Power requirements 240V mains. CH1/64A. Supersedes AM4/532. DDMI 8.652(84). EDI 10491(1)MAR 85. DD 1983. EDI 10491(1)MAR85.

AM040539 AM4/539 Video Output Amplifier. Output Amplifier used in the RC5M/503. It provides four video programme outputs and one monitoring output and also generates a voltage for adjusting the IF frequency response in the DM2/514. Power requirements ± 16 V dc. CH1/86. Parent equipment RC5M/503. DD(5) 1985.

AM040540 AM4/540 Video Distribution Amplifier. Video Distribution Amplifier incorporating Low Pass Filter, providing 4 video outputs. Power requirements ± 12 V. CH1/86. Parent equipment DM1M/506. DD 1984.

AM050007 AM5/7 General Purpose Amplifier superseding AM9/8. Gain: pre-set 10dB to 40dB. Output: ± 12 dB maximum. Across 1200 Ω . Printed circuit board 57mm x 40mm. DD 1969. DD Spec 3.495. DDHB 3.141. ACO.

AM050015 AM5/15B Channel Amplifier. Channel amplifier used as subunit in PA8/411. Provides 1 pre fader and 2 post fader outputs. It is mechanically and electrically compatible with the AM5/15 but has 9dB gain in pre-fader output. Power requirements -24V dc. PCB 101.5 x 89.0. Parent equipment PA8/411. SCPD 1981.

AM050020 AM5/20 Intercom Power Amplifier providing 2 watt output into load of 8 ohms or higher. Extended heat sink will permit up to 10 watts output power. For -24V and -50V operation. Printed circuit board 127mm x 75mm with ISEP 11 way plug. DD 1977. DDMI 3.643(77). DDHB 3.193(77). EDI 10307(P)APR77.

AM050021 AM5/21 General Purpose Amplifier. Intercom power amplifier providing 2 watts output into a load of 8 ohms or higher. Extended heat sink permits up to 10 watts output power. For -50V, and -24V operation. Operation on +12V, +24V also possible. Printed circuit board to be mounted in CH1/65A, provision for input transformer and gain control, to be

added as required by SCPD. DD 1977. DDMI 3.639(77). DDHB 3.201(77). EDI 10312(P)MAY77.

AM050023 AM5/23 General Purpose Intercom Amplifier. Consists of AM5/21 pcb mounted in CH1/65A chassis with input transformer and volume control. Input impedance approximately 15 k balanced. Volume control not calibrated. Supersedes AM5/5 in some applications. SCPD 1978.

AM050024 AM5/24 Twin, Stereo, Voltage Controlled Amplifier. This printed circuit board carries two stereo voltage controlled amplifier circuits with pre-hear feeds and forms part of several desk panels used in EP10/18 Continuity equipment. Power requirements +12V, 0, -12V at 100mA. 3U BMM printed circuit board. Parent equipment EP10/18. DD 1978. DDMI 3.664(79). DDTM 3.230(79).

AM050025 AM5/25 Buffer Amplifier. Printed card mounting output buffer amplifier and d.c. blocking capacitors for 3 stereo channels. For use in PA6/90 and PA6/91. Power requirements $\pm 12V$ 30mA. 3U Printed board BMM. Parent equipment EP10/8. DD 1978. DDMI 3.669(79). DDHB 3.236(79). DDTM 3.236(79).

AM050026 AM5/26 Input Amplifier. Printed card mounting input buffer stage and pan control amplifier for 3 mono channels. For use in PA6/87 and PA6/91. Power requirements $\pm 12V$ 50mA. 3U Printed board. Parent equipment EP10/18. DD 1978. DDMI 3.671(79). DDHB 3.237(79). DDTM 3.237(79).

AM050027 AM5/27 General Purpose Amplifier. This is a general purpose stereo mixing card used in both the PA6/86 and PA6/87 panels, which are part of the EP10/18 Regional Continuity suites. Power requirements +12V, 0, -12V. 3U BMM printed circuit board. Parent equipment EP10/18. DD 1978.

AM050028 AM5/28 General Purpose Amplifier. This is a general purpose stereo mixing card used in the PA6/87 which forms part of the EP10/18 Regional Continuity suites. Power requirements +12V, 0, -12V 50mA. 3U BMM printed circuit board. Parent equipment EP10/18. DD 1978. DDMI 3.662(79). DDHB 3.234(79). DDTM 3.234(79).

AM050029 AM5/29 Fader Drive Amplifier. This card carries six stereo buffer amplifiers each with 3dB gain to drive the faders in the PA6/87 microphone module. Power requirements 50mA from +12V, 0, -12V. 3U printed circuit board. Parent equipment PA6/87. DD 1979. DDMI 3.658(79). DDHB 3.226(80). DDTM 3.226(79).

AM050030 AM5/30 General Purpose Amplifier. Printed circuit board consisting of an AM5/15 together with an AM5/19. The AM5/15 is the channel amplifier and requires -24V. The AM5/19 is a general purpose amplifier and requires -12V, and -24V. Power requirements -12V and -24V, approximately 100mA. 3U card mounted in CH1/77. Parent equipment PA6/100 and PA6/81. SCPD 1979.

AM050031 AM5/31 Twin Stereo Voltage Controlled Amplifier. This printed circuit board carries two stereo voltage controlled amplifier circuits with pre-clean feeds. It is similar to the AM5/24 (3U card). Power requirements 12V, -, 12V 100mA. Parent equipment EP10/18. DD 1979. DDHB 3.251(80).

AM5/31A Twin, Stereo, Voltage Controlled Amplifier. The AM5/31 twin stereo voltage controlled amplifier with +4 dB gain. The AM/31A is a 0 dB gain version. Power requirements ± 12 volts. 3U unsupported card. Parent equipment EP5M/17. DD 1983

AM050032 AM5/32 Mixer Amplifier. For use in the PA6/87 Mono Microphone Module (part of EP10/8 Continuity Suite) to mix and amplifier +10dB. Power requirements ± 12 V 100mA. 3U card. Parent equipment PA6/87. DD 1980. DDMI 3.682(80). DDHB 3.249(80).

AM050033 AM5/33 Mixer Amplifier. For use in Mono Microphone Module PA6/87 (part of EP10/18 Continuity Suite) to combine Echo Return signals with output of Presenter's mic. channel. Zero gain. Power requirements ± 12 V 100mA. 3U card. Parent equipment PA6/87. DD 1980. DDMI 3.683(80).

AM050034 AM5/34 Mixer Amplifier. For use in the PA6/87 Mono microphone module. (Part of the EP10/9 London Continuity Equipment) to mix and amplify the five microphone inputs. The amplifier gain is +10 dB. Power requirements ± 12 V 100 mA. 3U unsupported card. Parent equipmet PA6/87. DD 1983.

AM050035 AM5/35 General Purpose Amplifier. General purpose amplifier for Studio Communications, microphone amplification or distribution. High impedance input, low impedance output, both balanced and earth free. Two independant amplifiers on one BMM A width 2U unsupported PCB. Power requirements 30mA at 24V d.c. PN1/27A. Supersedes AM5/13. SCPD 1984.

AM050527 AM5/527 15dB Video Amplifier, 4U high version of AM5/526, which supports a video equaliser. CH1/64A. DD 1977. DDMI 6.311(77). DDHB 6.177(80). EDI 19359(1)SEP79.

AM050528 AM5/528 15dB General Purpose Amplifier. Version of AM5/527 without an input termination. CH1/64A. DD 1977. DDHB 6.177(80). EDI 19359(1)SEP79.

AM050529 AM5L/529 A unit containing two AM5/528 15dB General Purpose Amplifiers. DD 1977. DDMI 6.330(78). DDHB 6.177(80). EDI 10343(1)SEP79.

AM050530 AM5/530 Buffer Amplifier. To buffer output of a video error correcting side chain unit from the video signal passing through the main chain. Combines an operational amplifier I.C. with associated components. Power requirements 12V at 10mA. 20mm x 45mm board. Supersedes ITT 58CP x 00233BAA thin film amplifier. Parent equipment EQ5/553 and EQ5/554 (may also be used for maintenance of EQ5/537 plug-ins). DD 1980. DDMI 6.362(80).

AM060017 AM6/17 Limiting Amplifier. This unit comprising of two printed circuit boards plus controls for front panel mounting is designed to provide general purpose limiting and compression characteristics when assembled on a chassis appropriate to the desk in which it is used. DD 1976. DDMI 3.638(77), 3.207(77), 3.202(77), 3.199(77). DDHB 3.200(77). DDTM 3.199(77). EDI 10304(P)MAR77.

AM6/17A Limiting Amplifier. As AM6/17 except (1) "Input gain" changed to "Threshold" control; (2) "Output gain" changed to "Gain make-up" control; (3) Compression mode threshold reduced by 4 dB. AM6/17A becomes operationally similar to commercial practice, AM6/17 remains similar to previous BBC limiters. Power requirements same as AM6/17. Supersedes AM6/17 in some cases. DD 1979.

AM060018 AM6/18 Limiting Amplifier. This is a zero volume, overshoot free, peak limiting amplifier. Designed to supersede the AM6/3A and AM6/14 at medium wave transmitters. CH1/65B. DD 1977. DDMI 3.643(78). DDHB 3.208(78). EDI 10302(2)JUL77.

AM6/18A Limiting Amplifier. As AM6/18 except the following modifications for HF station use:- (1) "12dB Limiting" mode becomes "16dB Limiting"; (2) Triple time constant changed to double time constant; (3) RFI Improvement. Power requirements +12V, 0, -12VA d.c. CH1/65B. DDMI 3.743(85). DDHB 3.310(85). DD 1979.

AM6/18B Limiting Amplifier. As AM6/18 but giving:
1. 0dB, 2dB, 4dB and 8dB compression.
2. A fixed 2s recovery time in place of the 'complex' recovery characteristic. Power requirements as AM6/18. DDMI 3.743(85). DDHB 3.310(85). DD 1981.

AM6/18C Limiting Amplifier. This is an existing unit, AM6/18B with an additional filter which can be remotely switched in or out. Power requirements 250 V. 2U chassis B Width. DDMI 3.743(85). DDHB 3.310(85). DD 1984.

AM6/18D Limiting Amplifier. The equipment is identical to an AM6/18B but with an additional filter that can be switched in circuit to reduce audio bandwidth. Power requirements 240 V, 100 mA. 2U 'B' width chassis CH1/65B. DD 1984.

AM060019 AM6/19 76kHz Limiting Amplifier. This unit accepts a 1V p-p stereo multiplex signal with a 76kHz subcarrier added at -30dB with respect to 1V p-p. The 76kHz signal is filtered, amplified and limited to provide a 10V p-p square output. It is intended to be used with the DM1/5 demodulator. CH1/63. DD 1977.

AM060020 AM6/20 Variable Emphasis Limiting Amplifier. Modified form of AM6/16 for use as audio processor for external broadcasting. Used in EP1M/21. CH1/65C. DD 1977. DDMI 6.323(78).

AM060021 AM6/21 Limiting Amplifier. This unit includes a much simplified version of the AM6/17 fitted in a triple width 2U chassis to give a simple limiter, initially designed for Local Radio use. CH1/65C. DD 1977. DDMI 3.647(78). DDHB 3.215(78). DDTM 3.216(78).

AM060023 AM6/23 Variable Emphasis Limiting Amplifier. Provides flat Delay-Line Limiting with Auto-Recovery time constant and optional

50 μ S variable emphasis limiting. Power requirements $\pm$ 15V. 4U BMM J card G06 connector. Supersedes AM6/15. DD 1979. DDMI 6.362(80).

AM060024 AM6/24	Limiting Amplifier. An AM6/17A Compressor - Limiter Amplifier wired and housed in a Calrec Modular chassis, type CL1204. Power requirements 24 volts, 1200mA d.c. Chassis type CL1204. Sub-unit AM6/17A. SCPD 1981.
AM060025 AM6/25	Limiting Amplifier. An AM6/17A Compressor - Limiter Amplifier wired and housed in an Audix Modular chassis, type 35403. Sub-unit AM6/17A. SCPD 1981.
AM060026 AM6/26	Limiting Amplifier. An AM6/17A Compressor - Limiter Amplifier wired and housed in a Neve Modular chassis, type PN33/614A. Power requirements 24 Volts at 100mA d.c. PN33/614A. Sub-unit AM6/17A. SCPD 1981.
AM060027 AM6/27	Limiting Amplifier. This unit provides band-limiting filters and both flat and de-emphasis level limiting as required by NICAM 3, to control signals feeding the analogue to digital converter. Two units can be ganged for stereo operation. Power requirements +5V at 70mA $\pm$ 18V at 270mA. CH1/64A. Supersedes AM6/23 and FL4/68A. Parent equipment CD2M/17. Sub-unit NE4/3. DD 1981. DDMI 6.406(83).
AM060028 AM6/28	A.G.C. Amplifier and Limiter. Automatic gain control amplifier and cue send amplifier for mic and tape repro inputs of EP5M/22 NCA Equipment. Power requirements $\pm$ 12 V 100 mA. 3U Unsupported card. Parent equipment EP5M/22. DDMI 3.735(84). EDI 10521(1)OCT 85. DD 1983.
AM060029 AM6/29	Automatic Gain Control Amplifier. Automatic gain control for use with AM5/35 to give microphone amplifier control in communication systems. Also provides 24V phantom powering for microphone. Two independant circuits on one BMM A width 2U unsupported PCB. Power requirements 24V d.c. PN1/27A. Supersedes NE1/14. SCPD 1984.
AM060030 AM6/30	Limiting Amplifier. Provides dynamic carrier control for Marconi B6034 AM transmitters. It is housed within the transmitter and powered from the transmitter DC supplies. Power requirements $\pm$ 12 V. Chassis (special). DD(3). 1985. DDHB 3.326(85).
AM060031 AM6S/31	Digital Audio Limiter. The AM6S/31 is an Audio Limiter working in the digital domain. It was first used in the COLM/15 EBU - NICAM Converter to produce the variable emphasis limiting function. The unit is programmable to perform as a limiter or a compressor. It is compatible with the D.D. multiphase digital audio bus (D.D. Tech. Mem. No. 3.291(84). Power requirements $\pm$ 12 V; +5 V. 4 U BMM unsupported card J width panel. Chassis extender CH4/5. DD (3) 1985.
AM060032 AM6/32	Storno Audio Limiter. Audio limiter operating at -17 dBm for use in Storno mobile transmitters. Power requirements 9 V. pcb 55 mm x 70 mm. DD (5) 1985.

AM060033 AM6/33	Audio Limiter. Consists of four A.G.C. amplifiers. Steady state signals in the range of -22 dBm to +22 dBm can be held at +6 dBm. Dynamic characteristics can be changed by component substitution. NOT FOR PROGRAMME USE. Power requirements ± 12 V dc, 50 mA. 2 U unsupported PCB with PN1/27J Front Panel. Chassis extender CH4/9. TCPD 1986.
AM070002 AM7/2A	Line Sending Amplifier. Accepts 0 dB programme volume input. Gain: 10 dB. Z in: high. Z out: 600 Ω . CH1/18A, pgs 5, 30. DD 1965. DD Spec 3.318.
AM070003 AM7/3A	As AM7/3, but gain adjusted within closer tolerance (± 0.1 dB) for use in stereo installations. DD 1972. DDMI 3.313.
AM070004 AM7/4B	Similar to AM7/4 but with protection from interference by RF fields. Includes FL1/23. DD 1967.
AM070012 AM7/12A	Stereo/Mono Converter. This amplifier is an AM7/12 equipped with a second input, to provide stereo-to-mono conversion. Power requirements ± 12 V. Chassis CH1/65A. Chassis extender CH1A/45. D&ED (A) 1987.
AM070013 AM7/13A	General Purpose High Gain Low Noise Line Amplifier. Fixed gain version of AM7/13. Power requirements + 12V and -12V at 80mA. CH1/65A. DD 1978. EDI 10353(1)NOV78.
AM070014 AM7/14	Sending Line Amplifier, containing four amplifier circuits each with gain variable in 2dB steps over the range +8dB -10dB. Maximum volume fed to line is 18dB. Input circuits are unbalanced. Printed circuit board, 133mm x 178mm, with front panel 30mm wide. SCPD 1974. Superseded by AM7/23. OBSOLESCE.
AM070015 AM7/15	Sending Line Amplifier, as AM7/14 but with internal, continuously variable gain controls. SCPD 1974. Superseded by AM7/23. OBSOLESCE.
AM070017 AM7/17	Line Send and Receive Amplifiers and filters for use with M.I.C. telephone data reception. CH1/64J. DD 1977.
AM070018 AM7/18	Line Sending Amplifier. Output amplifier containing 10kHz filter. PCB 50mm x 145mm. DD 1977.
AM7/18A	Line Sending Amplifier. Same as AM7/18 with 12.5 kHz audio bandwidth. Power requirements ± 12 V. pcb 143 mm x 65 mm. Parent equipment RC4M/8D. DD 1984.
AM070019 AM7/19	Line Drive Amplifier. Printed circuit board containing 10 fixed gain audio amplifiers suitable for driving short tie lines. Power requirements +12V, 0, -12V. Parent equipment EP10/18. DD 1979. DDMI 3.688(81). DDHB 3.258(82).
AM070020 AM7/20	Line Sending Amplifier. The amplifier is intended for sending programme to line. It has a gain of 0, 2, 4, 6, 8 or 10dB which is controlled remotely by logic signal. A dual input facility enables a stereo input to be connected where a stereo to mono conversion is required. Power requirements ± 18 volts d.c. unregulated. 3U Printed

Board. DDMI 3.716(82). DDHB 3.277(82). EDI 10450(1) JUN 83. DD 1981.

AM070021 AM7/21

Dual Line Amplifier. Line amplifier with remotely controlled gain in 3/4dB steps. Contains two independent channels. Power requirements <200mA at $\pm 12V$. CH1/82A, 3U Unsupported Card (A width). DD 1982. DDMI 3.710(82). DDHB 3.280(82). Obsolescent. Superseded by AM7/21A.

AM7/21A

Dual Line Amplifier. The AM7/21A is a dual Line Sending Amplifier for use in video tape and audio record and replay chanis. The gain is remotely adjustable between -5.25 and +6 dB. This amplifier supercedes the AM7/21 with additional facilities:-

1. Power supply $\pm 12 V$ or $\pm 24 V$.
2. Ability to switch gain on program.
3. Power on indication.

Power requirements $\pm 12 V$ or $\pm 24 V$ 150 mA. 3U unsupported card with A width front panel. Supersedes AM7/21. EDI 10461(1)APR 84. DD 1983. DDMI 3.756(85). DDHB 3.318(85).

AM070022 AM7/22

Loudspeaker Input Line Amplifier. Double line amplifier (stereo). Unbalanced input, (transmitted earth reference). Balanced output (d.c. coupled, without transformer). Quick line disconnect in the event of power failure; intended to drive line to loudspeaker amplifier. Driven from UN26/51 monitor unit. Power requirements $\pm 12.5V$ +5V. 3U BMM unsupported card. DD 1982. DDMI 3.727(83).

AM070023 AM7/23

Quad Line Amplifier. First developed for Outside Broadcast communications in television. The module has four isolated amplifiers using active balanced inputs and outputs. Each amplifier has line send and receive capacity. The gain is normally preset internally but can be adjusted between +20dB and -10dB by a switch and variable control on the front panel. Immunity to high fields and protection from high voltages from entering lines required by British Telecom is incorporated into the design. Monitoring push buttons connect each output to a buffered bus bar which can be commoned to other units and taken to a signal monitoring system. Power requirements $\pm 16V$ 65mA. 100mm x 220mm Eurocard. Mounted on 0.6" width front panel for 3U high racking with 96 way Euro-connector. Supersedes AM7/14, AM7/15, AM5/22. SCPD 1983.

AM7/23A

Quad Line Amplifier. Complements AM7/23 but does not have front panel gain controls, uses same PCB and circuit as AM7/23 but simplified front panel. Power requirements $\pm 15 V$ dc at 120 mA. 222 mm x 100 mm Eurocard. Chassis extender CH4/7. SCPD 1985.

AM070024 AM7/24

Line Sending Amplifier. Output line sending amplifiers for EP5M/22 N.C.A. Equipment. To drive 600 Ω P.O. Line. Power requirements $\pm 12 V$ 150 mA. 3U unsupported card. Parent equipment EP5M/22. DDMI 3.738(84). DD 1983.

AM070025 AM7/25

Low Gain Line Amplifier. This amplifier is for internal line-sending or ring main distribution. It accepts zero volume signal and produces an output of 0 dB, variable ± 5 dB, from output impedances of 20 Ω and 5 Ω . Mono version of AM7/26. Power supplier PS3/71. Power

requirements ± 24 V, 70 mA. 3 U unsupported card with front panel. Parent equipment AM7/12. DD 1984. DDMI 3.753(85). DDHB 3.325(85). EDI

AM070026 AM7/26

Low Gain Twin Line Amplifier. 2 amplifiers on 3 U card. Each amplifier is for internal line-sending or ring-main distribution. It accepts zero volume signal and produces an output of 0 dB variable by ± 4 dB from output impedances of 50 Ω . Suitable for use as 2 mono amps or for stereo. Suitable power supply PS3/71. Power requirements ± 24 V, 100 mA. 3 U unsupported card with Front Panel. Supersedes AM7/12. DD 1985. DDMI 3.750(85). DDHB 3.325(85).

AM070027 AM7/27

Low Gain Line Amplifier. This amplifier is for internal line-sending or ring main distribution. It accepts zero-volume signal and produces an output of 0 dB, variable ± 5 dB, from output impedances of 20 Ω and 5 Ω . Similar to AM7/25 but with built-in power supplier. Power requirements 240 V ac. 3 U CH1/82A. DD 1985.

AM070028 AM7/28

Stereo Line Sending Amplifier. Electrically similar to two AM7/11 line sending amplifiers fitted in a CH1/64A chassis. Includes a stereo headphone socket and volume control. For general monitoring use. Power Requirements ± 12 V. CH1/64A. TCPD 1985.

AM070029 AM7/29

High Gain Line Amplifier. This line amplifier is an operational equivalent of the AM7/13 and is based on the AM7/25 line distribution amplifier. The gain is adjustable from 0 to 65 dB by means of a 5 dB stepped switch and 0-10 dB fine gain control, both being accessible from the front panel. The unit will run in an AM7/25 slot and is totally pin compatible. An on-board 600 Ω termination is provided for the input and is selected by a link. Power Requirements ± 24 V, unreg. 150 mA. Unsupported PCB with 1/10 width front panel. Equipment superseded: AM7/13. DD(3) 1986.

AM070030 AM7/30

Line Sending Amplifier. This unit is a high performance line sending amplifier and is a functional replacement for the AM7/11. The unit has 10 dB gain with a +6 dB link for use with 600 Ω source/load applications. It also has a selectable 600 Ω termination on the input. The unit has both 50 Ω and 600 Ω outputs with a further 600 Ω monitoring point on the front panel. The unit is pin compatible with the AM7/25. Power Requirements +24 V and -24 V, 150 mA unregulated. 3 U 1/10 rack width. AM7/11. Equipment superseded: AM7/11. DD(3) 1986.

AM070031 AM7/31

Line Drive Amplifier. This Amplifier is an option available for use with the Needle-Time Logging Equipment EP1/61. Developed by Radio Stoke engineers. Die-cast box. D&ED (Services Sec.) 1987.

AM070512 AM7/512

12dB Video Line Sending Amplifier with +12dB O/P level. CH1/64A. DD 1975. DDMI 6.326(78). DDHB 6.175(79). EDI 10337(1)SEP79.

AM7/512A

Line Sending Amplifier. Similar to AM7/512 but provision made for switching the amplified gain from +9dB to +15dB.

The monitoring output is also modified to give a 1 volt output whatever the amplifier gain is set to. Power requirements 240V AC. CH1/64A. Parent equipment AM7L/513. Sub-units PA20/512A. SCPD OBU 1982.

AM070513 AM7L/513 Line Sending Amplifier. Comprises of AM7/512A and PA20/510A. Power requirements 240V AC. PN3A/79A & CH1/64A. SCPD OBU 1982.

AM070514 AM7/514 27 Mbytes/s Parallel Interface Regenerator. This unit is required to extend the transmission distance of the 27 Mbytes/s bytes/s EBU parallel interface for digital video signals. It amplifies the received video and clock signals and a phase locked loop is used to regenerate the clock signal. This is used to retime the video data signals before they are transmitted with the regenerated clock. Basic alarm facilities which monitor the status of the input data signals, clock and power supplies have been included. Power requirements 240 V ac. BMM Chassis. Termination Panel: PA20/529. DDMI 1.288(86). DDHB 1.207(86). DD 1984.

AM080012 AM8/12A Loudspeaker Amplifier. As AM8/12, but fitted with XLR connector for i/p and o/p. (Change initiated to H.H. Electronics manufacture). Metal Box, 9⁷/₈" x 6¹/₄" x 3¹/₂". DD 1984.

AM080015 AM8/15 Frequency Splitting Power Amplifier. Low level frequency splitting amplifier combined into a modified QUAD 303A Power Amplifier for use with LS3/7 O.B. Loudspeaker. Delivers a 28 watts into 16Ω. Delivers 45 watts into 8Ω. Power requirements 240V 1 amp maximum. Equipment supersedes AM1/53, AM8/14. ED 1977.

AM080017 AM8/17 Loudspeaker Amplifier. Mono 50 W Loudspeaker Amplifier with -20dB programme sensitivity. Power requirements 200-250V AC at 100VA and/or ±24V DC at 50W. Mounting metalwork FW1/17 and/or PN1/41. DDMI 3.728(84). DDHB 3.295(84). EDI 10494(1)AUG 84. DD 1982.

AM080018 AM8/18 Dual Loudspeaker Amplifier. First developed for Outside Broadcast communications in television. Each amplifier has six actively balance inputs. Virtual earth inputs are available for use with an unbalanced signal matrix. The gain of each amplifier and overall 'high normal cut' volumes are remotely controlled. A band pass filter can be switched into circuit by a front panel control which reduces any incoming LF or HF noise. This can be overridden remotely. Monitoring push buttons connect each output to a buffered bus bar. The bus bar can be connected to other units and to a signal monitoring system. Power requirements ±16V 160mA quiescent. 100mm x 220mm Eurocard. Mounted on 0.6" width front panel for 3U high racking with 96 way Euro-connector. Supersedes AM5/18. SCPD 1983.

AM080019 AM8/19 Loudspeaker Amplifier. General purpose loudspeaker amplifier designed as a replacement for the AM8/12. It uses a Quad 405 amplifier circuit board and has similar

performance. Power requirements 240 V ac. 250 x 165 x 100. Supersedes the AM8/12. DD 1985.

AM090016 AM9/16C Microphone Amplifier. Identical to AM9/16B except that 50V phantom powering is provided by an additional PCB. Power requirements as AM9/16B plus +50V. CH1/72A. DD 1981.

AM090018 AM9/18 Microphone Amplifier, providing balanced zero volume output signal from a 200 ohm A.K.G. type C451 microphone with optional compression facility and gain adjustable over 20dB range. Printed circuit board, 133mm x 178mm, with front panel 30mm wide. SCPD 1974. Superseded by AM9/23. OBSOLESCENT.

AM090019 AM9/19A&B Microphone Amplifier. Level raising amplifier for use with zero level input studio desks. "A" version without filter and "B" version with 15.625kHz notch filter. CH1/65A. DD 1976. DDMI 3.635(77). DDHB 3.194(77). EDI 10301(1)JAN78.

AM090020 AM9/20 Talkback Amplifier. This unit has a microphone attached to the front panel by a flexible extension and an amplifier on a PCB to raise the output to sending level. The front panel also carries a key to switch the unit into the 'SPEAK' or 'MUTE' modes, with an associated relay and drive circuit mounted on the PCB. Power requirements -12V, +12V and -50V. CH1/72A. Parent equipment DK4/19. DD 1977. DDMI 3.656(79). DDHB 3.222(79).

AM090021 AM9/21 Intercom Microphone Amplifier. This amplifier presents a balanced input to a 300 Ω microphone and has a gain which may be preset in the range 40 dB to 70 dB. It has a balanced output intended to drive -10 dB volume into impedances greater than 1 k Ω . The amplifier bandwidth is restricted for intercom operation and is intended for use with the AM5/20 intercom amplifier. Power requirements -50 V, -24 V or +12V, 0 V -12 V at about 20 mA. Printed circuit board approximately 125 mm x 75 mm plus mounting bracket. Equipment superseded AM1/7. DD 1978. DDMI 3.668(79). DDHB 3.235(79). EDI 10336(1)MAR80.

AM090022 AM9/22 Microphone Amplifier. Used in conjunction with Storno car transceiver. The unit provides automatic level control for high quality microphone, radio telephone microphone and tape recorder inputs. It also provides a monitoring output. Power requirements +12V d.c. Eddystone box. DD 1981.

AM090024 AM9/24 Microphone Amplifier. Input amplifiers and mixer for 2 microphone inputs and 2 tape repro inputs for EP5M/22 N.C.A. Equipment. Power requirements ± 12 V 25 mA. 3U unsupported card. Parent equipment EP5M/22. DDMI 3.737(84). DD 1983.

AM100009 AM10/9 Monitoring Headphone Amplifier, with both low and high impedance output connections and provision for external volume control. Input: -20dB. Output: +15dB across 1k Ω . PCB 78mm x 97mm. DD 1972. DDMI 3.562. DDHB 3.131. EDI 10185(1)AUG73.

AM100012 AM10/12 Stereo Monitoring Headphone Amplifier, low output impedance and integral volume control. Input -20dB. Output +16dB across 8Ω. Diecast box 120mm x 95mm x 55mm. Utilising 2 Glensound amplifier PCB's type GS306. Replaces existing mono headphone amplifier, in B.H. Continuity Suites. TSR 1977.

AM100013 AM10/13 Headphone Amplifier. Provides headphone monitoring facilities in RP2/10. Power requirements ±15V 40mA, +5V 20mA. Parent equipment RP2/10. DD 1977.

AM100014 AM10/14 Amplifier. Takes in feeds of pre-fade listen (stereo), cue programme (stereo) and talkback (mono) selects one of these, amplifies it and presents the feed to up to 2 pairs of high impedance headphones. This is a stereo version of the AM10/13. Power requirements +30V d.c., +5V d.c. 2U unsupported card. Parent equipment RP2/10. DD 1978.

AM100015 AM10/15A,B Headphone Amplifier. To provide drive to a headset, giving gain control of two balanced of two balanced inputs for each ear.
A version with hard wired inputs and outputs
B version has connections via 15-way Cannon 'D'
Power requirements ±12V. PC board approx 84mm x 84mm 'A' version, 84mm x 100mm 'B' version. SCPD 1982.

AM100016 AM10/16 Headphone Monitoring Amplifier. Consists of an AM10/9 mounted in sn 'A' size 4U chassis with front panel mounted audio jack socket and volume control. (The AM10/9 is a general purpose Monitoring Amplifier suitable for driving headphones or small high sensitivity loudspeaker.) The AM10/16 is primarily intended for mounting in an RD4L/513 to provide audio output for the Subtitle Preparation Desk DK5/501. Power requirements Supplied by PS2/184 contained in RD4L/513. CH1/64A. Parent equipment RD4L/513. DD 1982. DDMI 7.510(83).

AM100017 AM10/17 Studio Headphone Amplifier. Split headphone amplifier unit for use in News and General Purpose radio studios. Six zero - level inputs to two rotary selector switches and volume controls, one for each leg of stereo headphones, high or low impedance. Contains glensound GS 601 amplifier card. Inputs on Varicon 38-way socket, outputs on 2 B-gauge jacks. Power requirements -24V or -50V, maximum consumption 100mA. 'Scroff' box, 65mmH x 175mmW x 165mmD. SCPD 1982.

AM100019 AM10/19 Quad Headphone Amplifier. Four identical amplifiers for driving paralleled ear pieces used in television. Each amplifier has balanced input and output connections and is current limited at 390 mA. Power requirements ±15 V Load Dependant current. 100 x 220 mm Euro card with 3U high Front Panel 0.6" wide. SCPD 1983.

AM100020 AM10/20A-D Dual Headphone Amplifier. Dual headphone amplifier with transformer-balanced inputs. An improved layout based on the RD4/17 headphone amplifier board but allowing additional components to be mounted on board.
AM10/20A - Dual headphone amplifier with gain 6 dB nominal

±10 dB external volume control.

AM10/20B - As version A but the gain can be reduced to completely eliminate the signal. Used in AM10P/21.

AM10/20C - Reconfigured as a single channel bridged amplifier with auxilliary centre tapped high impedance output. Used in DK4/44 Conductor's Desk.

AM10/20D AM10/20A with preset gain controls mounted on PCB. Power requirements 12 - 24 V dc. PCB 74 x 97 mm. Parent equipment used in; DK4/44 & A, AM10P/21, see also RD4/17. Radio Engineering Services 1985.

AM100021 AM10P/21 Headphone Monitoring Amplifier. Dual Stereo Headphone Amplifier for artists in Studios. Incorporates independant volume controls and input selector switches for each amplifier. A pair of headphones is plugged into a standard P0 jack inside the lid of the unit and after being clamped securely by an adjustable P clip emerges through a slot at each end thus preventing the loss of the headphones. An auxilliary jack on each end of the unit allows a second pair of headphones to be connected for test purposes or a loudspeaker amplifier to provide locally derived loudspeaking cue/foldback. The unit consists of a diecast box mounted on a modified microphone. A multipair cable emerges through the base of the stand and carries 24 V dc and 3 stereo programme feeds to the unit. The cable is typically 8 m long and terminates in either a Varicon 38 or 26 pole OB bayonet plug. It is in any case easily removed. Originally intended for SSL 4000E Multitrack Consoles. Power requirements 24 V dc at 250 mA max. Approx. 750 mm high Box 220 x 120 x 100 including controls. Supersedes the AM10/18 which was abandoned. Sub-units AM10/20B. Radio Engineering Services 1985.

AM140016 AM14/16C,D RF 35W Amplifier. Options 'C' and 'D' of the amplifiers are mechanically identical to 'A' and 'B' respectively, but have an insertion gain of 13dB. Power requirements +34V d.c. Parent equipment AM14/14. DD 1978.

AM140023 AM14/23 Low Noise RF Head Amplifier for studio communication equipment EP8M/7 receiving aerial, working at 540MHz, powered by d.c. feed up the coaxial cable. Mounted in diecast box 76mm x 32mm x 32mm with 'N' type connectors. DD 1976. DDMI 5.334(77).

AM140024 AM14/24 RF Power Amplifier. Part of TM3M/7. Class C RF power amplifier giving an output power of 15 watts in the frequency range 450MHz-470MHz. Construction printed circuit board 168mm x 133mm mounted with heat sink, on TM3M/7 front panel. DD 1976.

AM14/24A 15W R.F. Power Amplifier. Class C power amplifier giving an output power of 15W in frequency range 450 to 475MHz. Similar to AM14/24 with wider Bandwidth and new centre frequency. Power requirements +12V to +16V. PCB 168mm x 133 mounted on heat/sink. Parent equipment TM3M/8D. DD 1983. DDMI 5.437(84).

AM14/24B 15W RF Power Amplifier. Class C RF Power Amplifier giving an output of 15W in the frequency rasnge 420MHz. Similar

to AM14/24 with wider bandwidth and new centre frequency. Power requirements +12V to +16V. PCB 168mm x 133mm mounted with heatsink on TM3M/8C front Panel. Parent equipment TM3M/8B. DD 1983. DDMI 5.437(84).

AM140025	AM14/25	Band II Power Amplifier. Accepts frequency modulated input signal at a frequency between 87.5 MHz and 108 MHz and amplifies it to a preset level between 6 W and 15 W. Power requirements 13.5 V 3 A. Printed board mounted on a metal plate 132 mm x 125 mm approximately. Parent equipment TM4/2. DD 1980. DDMI 5.370(79).
	AM14/25A	Band II Power Amplifier. Same as AM14/25 but with increased AGC range (I/P level + 18 dBm to +26 dBm). Output power can be set between 5 W and 15 W. Power requirements 132 mm x 125 mm approximately. Supersedes AM14/25. Parent equipment TM4/2A. DD 1980. DDMI 5.370(79).
AM140026	AM14/26	Band II Power Amplifier single 500W output. Requires a 2W input. Power requirements 240V a.c. mains. FW2/4. Sub units CO2/6 (modified), PA1/72, AM14/14, AM14/9&2, PA1/71, PA1/73, PA9/15&2. Equipment superseded variant of BA13/15 without drives. TCPD 1978.
	AM14/26A	Band II Power Amplifier, single 500W output. Requires 1 x 8W input. Power requirements 240V a.c. 50Hz. FW2/4. Variant of AM14/26 without input amplifier panel. Sub units PA1/72, AM14/14, AM14/9 x 2, PA1/71, PA1/73, PA9/15 x 2. TCPD 1978.
AM140027	AM14/27	Band II Power Amplifier 2 x 250W output. Requires 2 x 1W inputs. Power requirements 240V a.c. mains. FW2/4. Sub units CO2/6 (modified), PA1/72, AM14/14, AM14/9 x 2, PA1/71A x 2, PA1/73, PA9/15 x 2. Equipment superseded variant of BA13/15 without FM drives. TCPD 1978.
AM140028	AM14/28	Band II Power Amplifier. Used with PS2/113 to deliver 2-6W output from 1W input for drive in Band II Transmitter Bay. Derived from output amplifier of CO2/6. Power requirement +30V d.c. CH1/27A. Parent equipment AM14/26, AM14/27. DD 1978.
AM140029	AM14/29	RF Amplifier 20-35W. A 20/35W amplifier module based on the AM14/16 and interchangeable mechanically. Operates from a 34V semi-stabilised supply, but incorporates its own regulator and protection devices. Power requirements +34V 2A maximum. Supersedes AM14/16A and AM14/16B. Part of AM14/26. DD 1978. DDMI 5.390(80).
AM140030	AM14/30	RF Amplifier 50-100W. A 50-100W power amplifier module based on the AM14/10 and interchangeable mechanically. Operates from a +34V semi-stabilised input but incorporates its own regulator and protection devices. Power requirements +34V d.c. 6A maximum. Supersedes AM14/10. Part of AM14/26. DD 1978. DDMI 5.390(80).
AM140031	AM14/31,A	Band II Power Amplifier covering frequency range 87.5MHz to 104.5MHz. Output power may be set within the range 5W to 18W by front panel control. An EQ4/1 may be fitted as

option 'A'. Power requirements 13.5V at 3.5A maximum. Sub-unit PS4/5. DD 1978. DDMI 5.385(80).

AM140034 AM14/34 Band II Power Amplifier 18W. Development of AM14/25 giving 5-18W output power. Power adjustment is accessible from front panel of parent equipment. Power requirements 13.5V, 4A approximately. 150mm x 140mm printed board. Parent equipment AM14/31. DD 1979. DDMI 5.387(80).

AM140036 AM14/36A,B Band II Multiple Channel Amplifier. This amplifier houses 3 or 4 AM14/29 45W modules each carrying separate Band II service. The unit is 483mm rack mounted and withdraws from the bay on slides for ease of maintenance. 'A' version: 4 service amplifiers. 'B' version: 3 service amplifiers. Power requirements 34-40V d.c. 10A maximum. CH1/78A or CH1/78B. Parent equipment AM14/40A,B. Sub-units CH1/78A or CH1/78B and AM14/29. DD 1979.

AM140037 AM14/37 Band II Two Channel Amplifier 40-90W. This amplifier consists of two identical halves, each half incorporating an AM14/33 module driving an AM14/30 100W module. The unit is 482mm rack mounted and withdraws from the bay on slides to facilitate maintenance. Power requirements 34-40V d.c. 12.5A maximum. CH1/78C. Parent equipment AM14/41. Sub-units CH1/78C, AM14/33 and AM14/30. DD 1979.

AM140038 AM14/38 Band II Amplifier 100-180W C.W. This amplifier comprises one AM14/29 module driving two AM14/30 modules in parallel using an FL1/53 as the splitting/combining unit. The amplifier is 482mm rack mounted and will withdraw from the bay on slides to facilitate maintenance. Power requirements 34-40V d.c. 12.5A maximum. Parent equipment AM14/42. Sub-units CH1/78D, AM14/29, AM14/30 and FL1/53. DD 1979.

AM140040 AM14/40A,B Band II Multiple Channel Amplifier. The AM14/40A(B) is a complete 482mm bay containing four (three) identical amplifier chains, each of which corresponds to a band II channel. The four (three) channel outputs are individually monitored prior to feeding a multi-channel combiner to produce a single combined co-phased output aerial feed. Each channel requires two co-phased feeds of 2W drive to produce 40-80W output, 88-108MHz. Power requirements 190-260V a.c. 50Hz. Sub-units FL5/8, PS2/260, PA9/22, AM14/36A, AM14/36B, PA1/110A, PA1/110B, PA1/110C and PA1/110D. DD 1979. DDHB 5.155(80).

AM140041 AM14/41 Band II Two Channel Amplifier. This power amplifier contains two identical halves, each of which handles a band II (88-108 MHz) channel. The drive requirements for each channel is two co-phased signals of 0.5 W to produce two co-phased outputs of 50-90 W. A diplexing and monitoring panel (PA1/110A-D) may be added to combine the two outputs. Power requirements 190-260 V a.c. 50 Hz. 482 mm bay. Sub-units AM14/37, PS2/260 and PS9/22. DD 1979.

AM140042 AM14/42 Band II Amplifier 200-360W. This is a single channel band II power amplifier housed in a standard 482mm rack. The

input requirement is two co-phased feeds of 1-1.5W. (88-108MHz) for 200-360W output. The amplifiers are narrow-band but may be tuned anywhere in band II. Output power monitoring with remote indication is provided. Power requirements 190-260V a.c. 50Hz. Sub-units AM14/38, PS9/22 and PS2/260. DD 1979.

AM140043 AM14/43

Band II VHF Amplifier. VHF Band II amplifier on plug-in printed circuit board 80mm x 52mm using SMB connectors. Mounted on heatsink for use in AM4/21 on front end of RC5/9 receiver. Power requirements 18V at 200mA. Parent equipment AM4/21. DD 1979. DDMI 5.381(80).

AM140044 AM14/44

R.F. Output Amplifier. 26dB amplifier to raise output of CARFAX drive to a level suitable for driving the main transmitters. (ET 4336). Power requirements $\pm 15V$. CH1/64B. Parent equipment TM4M/3. RD 1979.

AM140045 AM14/45

Band II Amplifier Module 500W. This power amplifier module is designed for use in transmitter systems up to 2kW per service in Band II. It is intended for assisted-air cooling, and provides 500W C.W. minimum for 4W drive 88-108MHz. Power requirements 28V d.c., 14A twice. DD 1980. DDMI 5.410(82).

AM140046 AM14/46A-B

Band II Multiple Channel Amplifier. This amplifier houses 3 or 4 AM14/30A 100 watt modules each carrying a separate service. The unit is 19" rack mounted and withdraws from the bay on slides for ease of maintenance.

'A' Version : 4 Service Amplifiers

'B' Version : 3 Service Amplifiers

Power requirements 34-40V DC 4 x 5.5A max. Parent equipment AM14/47 A-B. Sub-units AM14/30A, CH1/78A or B. DD 1980.

AM140047 AM14/47A-B

Band II Multiple Channel Amplifier. The AM14/47A (B) is a complete 19" bay containing 4 (3) identical amplifier chains, each of which corresponds to a Band II channel. The 4 (3) channel outputs are individually mounted using a MN1/20 housed in the PA1/110C (D). Each channel requires two feeds each of 7 watt max. Relative phase of 'A' feed lags 'B' feed by 51 cms of PSF1/4M cable. Power requirements 190-260V AC 50Hz. 19" Bay. Sub-units AM14/46 A-B, PA1/110 C-D, PA9/22, PS2/260. DD 1980.

AM140048 AM14/48

Band II Amplifier. Broadband Band II amplifier covering the range 87.5MHz to 108MHz, producing 5-18W output power for an input of 100mW. Self-contained switched-mode power supplier. Designed for use in pairs to form a transmitter output stage producing 20-32W. Mechanically similar to AM14/31, but without EQ4/1. Power requirements 190-260V a.c. 60V maximum. CH1/64D. Sub-units AM14/31 and PS4/5. DD 1980.

AM140049 AM14/49

Band II Amplifier. A transmitter output stage producing 20-32w output power from 2 broadband amplifiers in the range 87.5 to 108MHz. RF input required is 2 x 100mW nominal. Power requirements 190-260v AC. PN3/54. Sub-

unit AM14/48 (Mechanically and Electrically similar to AM14/31. But without EQ4/1). DD 1980.

AM140050 AM14/50 Wide-band RF Amplifier. Designed for use in aerial amplification and distribution system. Frequency response $\pm 0.5\text{dB}$ 100kHz to 30MHz. Input and output Z 50 Ω unbalanced. Insertion gain 15.5 $\pm 0.5\text{dB}$, maximum output +33dBm. Noise figure <6dB above 200kHz. Second order intercept >103dBm, third order intercept >48dBm. Power requirements 20V 550mA. PCB 254mm x 67.3mm mounted on PN1/27J. Supersedes AM14/6. BBC Receiving Station Caversham 1981.

AM140051 AM14/51A-C Band II Power Amplifier. Band II Power Amplifier Bay housing 4 AM14/45 500 watt amplifier modules and associated power supplies and combiners etc. The three options available are:
AM14/51 A - single service 2kw
B - dual service 2 x 1kw
C - four service 4 x 500w
Power requirements 190-260v AC twice, approx 2.2kva twice. 44U 19" Bay. Sub-units AM14/45 others to follow. EDI 10460(1) SEP 83. DDHB 5.161(82)Part I. DD 1981.

AM140052 AM14/52 Droitwich Head Amplifier. 200kHz Droitwich Tuned Head Amplifier with bandwidth of $\pm 3\text{--}5\text{kHz}$ to match rod aerial with 75 ohm input of RC3/13. Phantom powered from RC3/13. Power requirements 12 Volts 8mA. Parent equipment RC3/13. SCPD 1981.

AM140053 AM14M/53 Band II RF Power Amplifier. This assembly comprises four AM14/45 500W Power Amplifier modules, housed in a bay mounting unit and suitable for forced-air cooling. All connections are accessible from the front and the individual modules slide forward from the chassis for maintenance. Power requirements 4 x (28 volts at 40A). 8U high x 19" Rack mounting. Parent equipment AM14/51. Sub-units AM14/45. DD 1981.

AM140054 AM14/54 A&B Band II Power Amplifier. Band II Power Amplifier Bay, similar to AM14/51 series, but only partially equipped. Two options are available:
AM14/54A Single Service 1 kW
AM14/54B Dual-Service 2 x 500 W
Power requirements 190 - 260 V ac 2.2 KVA once. 44U x 600 mm 19" Bay. Sub-units AM14/45, PS2/281, PA1/121 A&B, FL5/13A, CD3/43, PA1/120. MN1/24, FL4/72. EDI 10460(1)SEP 83. DDHB 5.161(82)Part I. DD 1982.

AM140055 AM14/55 Band II Test Amplifier. This amplifier is an AM14/48, modified for use as a broad band test amplifier, 88-108MHz. The modifications increase the input sensitivity to 0dBm, and add precision leveling and an output pad. P out (min) 3 watts. Power requirements 190-260 VAC 40VA. CH1/64D. Sub-unit AM14/34. DD 1982.

AM140056 AM14/56 Band II Test Amplifier. AM14/45 broad band amplifier, modified for use as part of test equipment for AM14/45 repair or manufacture. Modified to produce a constant

output of 20-40 watts, 88-108MHz. Driven from AM14/55. Power requirements 28V 4A max. BBC extrusions. DD 1982.

AM140057 AM14/57 12W UHF Power Amplifier. UHF class C 12W power amplifier module for the 870-970MHz band. Part of TM3M/8B. Power requirements 12V, 5A approx. 168 x 135mm pcb. Parent equipment TM3M/8C. DD 1983.

AM140058 AM14/58 UHF Mast Head Amplifier. UHF mast head amplifier centred on 435MHz. Bandwidth 20MHz. Gain $\approx$ 20dB, low noise. Mounted in 'Rose' type waterproof box. Power requirements $\pm$ 15V d.c. DD 1983. DDMI 5.438(84).

AM14/58A UHF Mast Head Amplifier. UHF mast head amplifier centred on 870MHz. Bandwidth 20MHz. Gain $\approx$ 20dB, low noise. Mounted in 'Rose' type waterproof box. Power requirements $\pm$ 15V d.c. DD 1983. DDMI 5.438(84).

AM140059 AM14/59 UHF Amplifier. This unit forms part of the GE4/17 UHF 4-Tone Generator. Its purpose is to combine the 4 UHF tones generated by an OS3/14 Twin UHF Oscillator in such a way that their relative levels are as required. The absolute level corresponds to -20 dBm vision peak sync power. A UHF amplifier has been incorporated to increase this level to 0 dBm vision peak sync power when required. Power requirements +12 V, 300 mA. About 14 cm x 11 cm. Parent equipment GE4/17. DD 1984.

AM140060 AM14/60A & B RF Amplifier. This amplifier provides 12dB RF gain in a weatherproof box. The required 24Vdc can be supplied either via the inner conductor of the output connector, or via a 4-pin XLR plug. It is intended to be used with the RC4P/10 Band I Radio-Mic Receiver, either as a distribution amplifier (with a splitter, type FL6/37) or as a head amplifier, and requires a preceding band-pass filter FL2/13A or FL2/13B, for the AM14/60A or B respectively. Power requirements +24Vdc. 'Rose' weatherproof box. D&ED (RF) 1987.

AM140560 AM14/560 Power Amplifier Transposer. 40 dB, 100 mW UHF linear amplifier, designed as the final amplifier in a Low Power Transpose, with output suitable for driving a Travelling Wave Tube or solid state power amplifier. The unit, previously known as TPA/6, is intended to replace the Multistage and Balanced (Type 1) amplifiers, low or high band, on a retrofit basis, in Plessey LPT PF 45C or PF345E. The case and mounting hardware are designed to enable the amplifier to mount in the same physical position as the multistage or 'high gain' amplifier, in either style LPT. Power requirements + 30 V d.c. 850 mA. Non-standard case, to suit Plessey LPT as above, PTFE fibreglass board 197 mm x 133 mm. Parent equipment Plessey PF345C,E. Trans.Gp 1978.

AM140561 AM14/561 UHF Power Amplifier. Two watt linear UHF amplifier with approximately 55dB gain over the frequency range 470MHz to 860MHz. Plus a 20dB directional coupler and automatic gain control circuit which may be used, with an external variable gain amplifier, to regulate the output power. Three printed circuit boards mounted in an extruded

aluminium chassis. Power requirements +28V. 350mm x 120mm x 48mm. Parent equipment TM4M/503. DD 1980. DDMI 5.393(81).

AM140562 AM14/562 UHF Power Amplifier. Broadband 9dB UHF Power amplifier for use with UHF TV transposer TM4M/503. An output power of 10 watts is provided when the amplifier is driven by the transposer. Power requirements 28 volts d.c. at 3.5 amps. 450 x 105 x 120mm (approx). DD 1981.

AM140563 AM14/563A,B Video Amplifier. Intended for use with EQ5/565A-C Video Equalisers, it corrects the insertion loss of the equaliser. Power requirements AM14/563/A: NPN requiring +16 V, 55 mA; AM14/563B: PNP requiring -16 V, 55 mA. Die-cast Box 111 x 60 x 33. TCPD 1983.

AM140564 AM14/564 R.F. Amplifier. R.F. amplifier covering band IV and V Gain Variable from +25 to -10dB. Power requirements ±18V dc. PCB 110 x 80mm. Parent equipment RC5/503. DD 1984.

AM150009 AM15/9 Recording Amplifier. Generates a 13.33kHz and 133.3kHz, mixes and amplifies to obtain sufficient drive for a special 7mH recording head. 4U unsupported boards with PN1/29J front panel. DD 1977. DDMI 7.448(80).

AM150010 AM15/10 Head Pre-Amplifier. Contains 3 emitter followers for a 3 track reproducing head operating at a frequency of 133kHz together with 2 photo-transistor I.C. switching amplifiers. Power requirements +5V. 108mm x 38mm pcb. Parent equipment RD4/12. DD 1978.

AM150011 AM15/11 A80 Timecode Rec/Rep Amplifier. This Amplifier carries the circuitry which when fitted to a suitably modified Studio A80 .25" twintrack audio recorder permits the recording and reproducing of Centretrack EBU Timecode. Power requirements +12 volts, -12 volts. Studer Chassis - Single PCB chassis approximately 100(H) 30(D). Parent equipment RD4/19. DD 1981. DDMI 7.448(81).

AM150012 AM15/12 B67 Timecode Rec/Rep Amplifier. This amplifier carries the circuitry which when fitted to a suitably modified studer B67 0.25" twin-track tape recorder permits the recording and reproduction of centretrack EBU Timecode. Power requirements +12 volts, -12 volts. Studer Type Chassis - Two PCBs. Parent equipment RD4/20. DD 1981. DDMI 7.500(82)

AM160008 AM16/8A As for AM16/8, but modified for use with Shure SC35 pick-up cartridge. Parent equipment RP2/6, RP2/6A, RP2/8 and RP2/8A. ED 1980.

AM160015 AM16/15 Reproducing Amplifier. Selects and amplified 13.33kHz and 133.3kHz. Both signals being simultaneously recorded. Consists of four separate amplifiers for each frequency. 4U unsupported boards with PN1/29J front panel. DD 1977. DDMI 7.433(80).

AM160016 AM16M/16 Pickup Amplifier. A family of amplifiers which may be used singly or in various combinations to amplify, equalise,

control and process the signals from a pickup. 2U BMM crate. DD 1977.

AM160017 AM16/17 Pickup Amplifier. Takes the signal from a pickup and raises it to -20dB volume. Two channels per card, no operational controls. $\pm 15V$ 35mA, +5V 30mA. 2U unsupported card. Parent equipment RP2/10. DD 1977.

AM160018 AM16/18 Wideband Timecode Head Amplifier. Amplifies and equalises timecode signals from a tape recording head. Designed to plug into a Studer A80 recorder in the control rack. Power requirements +24V. Special unsupported card approximately 100mm x 110mm to fit Studer A80. DD 1978.

AM160019 AM16/19 Timecode Reproduce Amplifier. To reproduce timecode from tape on a Studer B62 twin track machine using existing audio reproduce head. The AM16/19 replaces either of Studer audio reproduce amplifiers and enables timecode to be read at spooling speeds for editing or synchronising purposes. Power requirements 12V at 20mA. 207mm x 82mm self supporting printed circuit board with edge connection. Parent equipment Studer B62 tape recorder. DD 1978.

AM160020 AM16/20 Timecode Reproduce Amplifier. Designed to amplify timecode signals from the replay head over a wide tape speed range. Used in JVC CR8500 Video cassette tape machine. Power requirements +12V 3mA from the machine. Small printed circuit board 64mm x 51mm. DD 1979.

AM160021 AM16/21 Timecode Replay Amplifier for Studer A80 multitrack tape recorder. Similar circuit to AM16/18 but incorporating relays enabling rapid change from Audio to Timecode Reproduction from the same replay head. The AM16/21 is mounted on and wired to an existing Studer audio reproduce amplifier. Power requirements +12V at 80mA, -12V at 15mA. Printed circuit board 134mm x 73mm. DD 1979. DDHB 7.276(80).

AM180525 AM18L/525 Stabilising Amplifier. Sync pulse stabilising amplifier for general use contains clippers, sync pulse and colour burst re-insertion stages cue-dot insertion facilities etc. Power Requirements: 240V 50Hz PN3A/53C. Supersedes AM18/511. DD 1977. EDI 10368(P)MAY80.

AM180526 AM18L/526 Stabilising Amplifier. Modified version of AM18L/525 with different output arrangements to meet requirement of Television News. Power Requirements: 240 V 50 Hz. PN3A/53C. DD 1977.

AM18M/526 Stabilising Amplifier for Television News. Similar to AM18L/525 but with different output arrangements. Power requirements 240 V 50 Hz mains. PN3/54 sub-units, 2 x AM6/502, 2 x UN16/537, 2 x UN26/537, 2 x UN26/543, 2 x PS2/187G and EQ5/550A. Equipment superseded, AM18L/511A. DD 1978. DDMI 8.609(79). DDHB 8.367(80). EDI 10377(1)APR80.

AM180527 AM18/527 AGC Amplifier. This unit forms part of the ME3M/502 Television waveform analyser. It provides a clamped consistent amplitude video signal for a range of input

levels from +4.8dB to -7.9dB. Power requirements +12V, -12V. 4U unsupported card with 57 way edge connector. Parent equipment ME3M/502. Sub-units FL1/532 and FL4/588. DDMI 9.296(83). DD 1980.

AM190001 AM19/1 CCITT Pre-emphasis Amplifier. Power requirements 24V, 25mA. CH1/64A. RD 1978.

AM190002 AM19/2 CCITT De-emphasis Amplifier. Power requirements 24V, 25mA. CH1/64A. RD 1978.

AM190003 AM19/3A-C Audio Frequency Comander. Printed board containing audio circuitry which can be externally programmed to either compress or expand incoming programme. For use with F.M. radio links. A,B, or C versions may be produced according to audio bandwidth required, current consumption etc. Power requirements +9V or ± 12 V dc. Supersedes AM6/22. DD 1985.

AM200003 AM20/3 Peak Programme Meter Amplifier, suitable for use with a wide range of meters. PCB 80mm x 108mm. DD 1973. DDMI 3.571. DDHB 3.137. EDI.

AM200004 AM20/4 Stereo PPM Amplifier, used to drive a twin pointer meter containing circuitry to enable either "A" and "B" or "M" and "S" signals to be displayed. Printed circuit board. DD 1974. DDHB 3.154. DDTM 3.617(75). EDI.

AM200005 AM20/5 Stereo Peak Programme Meter Amplifier. Stereo P.P.M. amplifier, to drive a twin pointer meter. Displays either "M" and "S" or "A" and "B" signals. Simplified alignment and reduced drift. Printed Circuit fitting on meter terminals. Power requirements 24 V at 75 mA. DDMI 3.744(85). EDI 10525(1)OCT 85. DD 1984. DDHB 3.315(85).

AM210004 AM21/4A&B I.F. Amplifier and Discriminator for use in VHF Stereo Receiver RC5M/6. As AM21/1 but with 75 Ω buffered 2nd I.F. output. "A" version has 1MHz 2nd I.F. "B" version has 1.6MHz 2nd I.F. CH1/26A. DD 1977. DDMI 5.328(77).

AM210005 AM21/5 I.F. Amplifier used in RC4M/7, contains discriminator. PCB 75mm x 145mm. DD 1977.

AM210006 AM21/6 I.F. Amplifier. Contains 1st and 2nd I.F. amplifiers and pulse counting discriminator used in RC4M/8. PCB approximately 75mm x 145mm (fits across BMM chassis). DD 1977. DDMI 3.344(77).

AM21/6A IF Amplifier. Same as AM21/6 with a reduction in IF bandwidth to 100kHz. Power requirements ± 12 V. PCB 175mm x 145mm. Parent equipment RC4M/8B. DD 1983. DDMI 5.433(84).

AM21/6B IF Amplifier. Same as AM21/6 with reduction in IF bandwidth to 50kHz. Power requirements ± 12 V. PCB 75mm x 145mm. Parent equipment RC4M/8D. DD 1983. DDMI 5.433(84).

AM210018 AM21/18 10.7MHz I.F. Amplifier and F.M. Demodulator for F.M. Stereo Transmissions. Original use with RC5/9B and II

Receiver. Power requirements +18V and -5.2V d.c. CH1/64 printed board with G06 connector. DD 1978.

AM210507 AM21/507 I.F. Amplifier. Used in the DM1M/506 and RC5M/503 as a 40.75 MHz IF amplifier for vision and sound signals. Power requirements ± 12 V dc. CH1/86. Parent equipment RC5M/503. DD (5) 1984.

AM220013 AM22/13 6-Way OB Response Selection Amplifier. This unit contains six R.S.A. modules of the type used in the MX6/3 and a power supply module of the type used in the DK2/20. This unit is for use with the MX6/2 OB Mixer. Specially built and designed by Glen Sound Services to BBC specifications. Similar to UN1/179 but approximately 280mm long x 182mm high x 185mm deep. SCPD 1977.

AM220014 AM22/14 Response Selection Amplifier. Provides RSA facilities for one channel of audio Power requirements ± 15 V 40mA, +5V 40mA. 2U unsupported card. Parent equipment RP2/10. DD 1977.

AM220015 AM22/15 Response Selection Amplifier. Updated version of AM22/9 using Silicon Transistors, and operating on ± 12 V supplies. Passive components are replaced by modern types, and front panel modified. Power requirements ± 12 V, 47mA. CH1/72A. DD 1981. DDMI 3.715(82).

AM230001 AM23/1 Matrix Input Amplifier. Unit provides 10 independent unbalanced outputs (for matrix inputs) from 10 balanced transformerless inputs. Constructed on 3U ISEP PCB with UECL connector. SCPD 1977.

AM230002 AM23/2 Matrix Output Amplifier. Unit provides 20 unbalanced and isolated outputs from 20 zero impedance inputs (from matrix summing points). Constructed on 3U high ISEP PCB with 80 way UECL connector. SCPD 1977.

AM230508 AM23/508A Destination Matrix Amplifier similar to AM23/502A but allows control from 5V logic circuitry, either timed or untimed. Used in MA2M/505. DD 1970. DD Spec 8.423. EDI.

AM230509 AM23/509 Matrix Source Amplifier, as AM23/504A-D but having 8 shunt elements. Printed circuit board. DD 1973. DDMI 8.507.

AM230512 AM23/512 RGB to YIQ Matrix Amplifier. Matrixes RGB signals to YIQ. High impedance input with facilities for terminating. 'A' version 1 set of outputs 75 Ω impedance; 'B' version 2 sets of outputs 75 Ω impedance; 'C' version 3 sets of outputs 75 Ω impedance. Power requirements +12V -12V 300mA. 4U unsupported card with screen. DD 1978.

AM230514 AM23/513 RGB to YUV Matrix Amplifier. Matrixes RGB signals to YUV. High impedance input with facilities for terminating. 'A' version 1 set of outputs 75 Ω impedance; 'B' version 2 sets of outputs 75 Ω impedance; 'C' version 3 sets of outputs 75 Ω impedance. Power requirements +12V -12V 300mA. 4U unsupported card with screen. Sub-unit C06/510. DD 1978.

AM230514 AM23/514 YUV to RGB Matrix Amplifier. Matrixes YUV signals to RGB. High impedance inputs with facilities for terminating. 'A' version 1 set of outputs 75 Ω impedance; 'B' version 2 sets of outputs 75 Ω impedance; 'C' version 3 sets of outputs 75 Ω impedance. Power requirements +12V, -12V 300mA. 4U unsupported card with screen. Sub-units UN14/538, GE4/567, GL1/530, FL5/506, CD3/537 and FL4/584. DD 1978.

AM230515 AM23/515 YUV to YIQ Matrix Amplifier. Matrixes YUV signals to YIQ. High impedance input with facilities for terminating. 'A' version 1 set of outputs 75 Ω impedance; 'B' version 2 sets of outputs 75 Ω impedance; 'C' version 3 sets of outputs 75 Ω impedance. Power requirements +12V -12V 300mA. 4U unsupported card with screen. DD 1978.

AM230516 AM23/516 YIQ to RGB Matrix Amplifier. Matrixes YIQ signals to RGB. High impedance input with facilities for terminating. 'A' version 1 set of outputs 75 Ω impedance; 'B' version 2 sets of outputs 75 Ω impedance; 'C' version 3 sets of outputs 75 Ω impedance. Power requirements +12 V, -12 V 300 mA. 4U unsupported card with screen. DD 1978.

AM230517 AM23/517 YIQ to YUV Matrix Amplifier. Matrixes YIQ signals to YUV. High impedance input with facilities for terminating. 'A' version 1 set of outputs 75 Ω impedance; 'B' version 2 sets of outputs 75 Ω impedance; 'C' version 3 sets of outputs 75 Ω impedance. Power requirements +12V, -12V 300mA. 4U unsupported card with screen. DD 1978.

AM230518 AM23/518 Matrix Amplifier IQ to UV. Matrixes IQ signals to UV. High impedance input with facilities for terminating. 'A' version 1 set of outputs 75 Ω impedance; 'B' version 2 sets of outputs 75 Ω impedance; 'C' version 3 sets of outputs 75 Ω impedance. Power requirements +12V, -12V 200mA. 4U card with screen. Parent equipment C06/510. DD 1979.

AM230519 AM23/519A-C NTSC Decoder Matrix Amplifier to convert from YIQ (NTSC) to YUV (PAL Luminance and Colour difference signals).
A Version 1 set of outputs)
B Version 2 sets of outputs) output impedance 75 Ω
C Version 3 sets of outputs)
Power requirements +12V, -12V at 300mA. 4U unsupported card with screen. Coding positions 1, 23, 41. Parent equipment C06/510 and PA6M/544. DD 1979.

AM230520 AM23/520 RGB Matrix Amplifier. This unit receives a number of binary and analogue video signals, each corresponding to a different region of a picture which is required to have a particular colour, and combines them with a resistive matrix to produce resultant RED, GREEN and BLUE outputs. The R, G and B components corresponding to each input signal are set by means of potentiometers on the board. The output stages are capable of driving 0.7V p-p into 75 Ω loads. Power requirements +5V. 4U BMM unsupported card with 57-way double-sided edge connector and PN1/29J panel. DD 1980.

AM230521 AM23/521A Matrix Amplifier. This amplifier converts analogue RGB signals to analogue YUV. It is designed for a 700mV input

and provides three separate 75 Ω outputs of 700mV for each component. It is identical to the AM23/521B except that it has a different matrixing resistor network fitted. Power requirements +12V at 150mA -12V at 150mA. 4U 'J' width unsupported card. DDHB 8.421(84). DD 1983.

AM23/521B This amplifier converts analogue YUV signals to analogue RGB. It is designed for a 700mV input and provides three separate 75 Ω outputs of 700mV for each component. It is identical to the AM23/521A except that it has a different matrixing resistor network fitted. Power requirements +12V at 150mA -12V at 150mA. 4U 'J' width unsupported card. DDHB 8.421(84). DD 1983.

AM23/521ABCD Matrixing Amplifier. This unit is designed to convert between RGB and YUV analogue component television signals. It will provide three separate 75 Ω outputs for each component.

The A version converts 700mV RGB to PAL weighted YUV signals

The B version converts PAL weighted YUV to 700mV RGB signals

The C version converts 700mV RGB to 700mV YUV signals

The D version converts 700mV YUV to 700mV RGB signals

These versions are identical except for a matrixing resistor network fitted during manufacture. Power requirements +12V at 150mA -12V at 150mA. 4U unsupported pcb with PNI/29J front panel. DDHB 8.421(84). DDMI 8.695(85). DD 1984. EDI 10531(1) JUL 86.

AM230522 AM23/522A-D Matrix Amplifier. This unit is designed to convert between RGB/S and YUV/S analogue component television signals. It will provide three separate 75 Ω outputs for each component.

The A version converts 700 mV RGB to PAL weighted YUV signals

B version converts PAL wighted YUV to 700 mV RGB signals

C version converts 700 mV RGB to 700 mV YUV signals

D version converts 700 mV YUV to 700 mV RGB signals

These versions are identical except for a matrixing resistor network fitted during manufacture. Power requirements 240 V ac mains. CH1/64A. DD 1984.

AM230523 AM23/523 A-F Matrix Amplifier. This unit is designed to convert between RGB/S and YUV/S analogue component television signals. It will provide three separate 75 Ω outputs for each component.

The A version converts 700 mV RGB to PAL weighted YUV signals.

" B " " PAL weighted YUV to 700 mV RGB signals.

" C " " 700 mV RGB to 700 mV YUV signals.

" D " " 700 mV YUV to 700 mV RGB signals.

" E " " 700 mV RGB to Betacam-weighted YUV signals.

" F " " Betacam weighted YUV to 700 mV RGB signals.

These versions are identical except for a matrixing resistor network fitted during manufacture. Power

requirements ± 5 V, -18V unstabilised at 260 mA each. 4U unsupported card. DD 1984.

AP010014 AP1/14A,B,H Apparatus Connector. This connector is a 2U printed circuit board termination panel in 3 widths A(53mm), B(106mm), and H(426mm). It accepts 17 way Souriau socket(s) and a 4 pole miniature mains connector if required. DD 1978.

AT020014 AT2/14 Fader Module. Provides control of system gain in mono versions of the RP2/10. Power requirements ± 15 V 30mA. 2U unsupported card. Parent equipment RP2/10. DD 1977.

AT020015 AT2/15 Fader Module. Provides control of system gain and balance in stereo versions of RP2/10. Power requirements ± 15 V 30mA, +5V 20mA. 2U unsupported card. Parent equipment RP2/10. DD 1977.

AT020016 AT2/16 Muting Unit. Momentarily attenuates the signal passing through the RP2/10 during the run-up time of the turntable. Mute duration is adjustable by edge-mounted potentiometer. Power requirements ± 15 V 16mA, +5V 80mA. 2U unsupported card. Parent equipment RP2/10. DD 1977.

AT020017 AT2/17 Attenuator Module. This is one of a range of optional modules for the AM16M/16 (part of RP2/10). It produces up to 10dB switched attenuation in 2dB steps. Attenuation is remotely controlled by digital signals from PA6/96. Power requirements +36V, +5V. 2U unsupported card. DD 1978.

AT020018 AT2/18 Audio-Frequency Attenuator. Attenuates input signal to commercial Compressor/Limiter. This unit and an AM7/12 plug into EP2M/7C when the AM6/18 is removed. CH1/65A. Parent equipment EP2M/7C. SCPD 1980.

AT030512 AT3/512 Video Attenuator. The unit comprises two 75 Ω attenuators, each having a range of 1dB in 0.1dB steps and is used for equalising the levels at the inputs of a diversity switch. Code pins 1, 21, 29. CH1/64A. DD 1980.

AT040514 AT4/514B 6dB UHF Attenuator. This is an addition to the AT4/514 series. It is mechanically the same as the "A" version and is intended for general use at frequencies up to 1GHz. DD 1977.

BX030006 BX3/6

Technical Cables Distribution Box, housing 4 x 250 way tag blocks and noise free earth busbar. Metal, with hinged front cover. SCPD 1973.

BX060008 BX6/8A

Operational Master Switch. As BX6/8 but for flush mounting only. SCPD 1977.

CA010006 CA1/6A	Clock Drive Cabinet. Similar to CA1/6 but contains a high stability 5MHz oscillator in place of the external feed of Natlock frequency. DD 1977. DDMI 1.214(77). DDHB 1.140(77).
CD020011 CD2/11	Stereo Coder, codes a pair of baseband stereo input signals into the standard pilot tone format required to modulate a broadcast transmitter. Power requirements 240V a.c. BMM 4U chassis supersedes CD2L/4. DD 1977. DDMI 6.347(79), 6.348(79). DDHB 6.173(79). EDI 10383(1)MAR80.
CD020012 CD2/12	30 Channel Coder. This unit consists of a general purpose microprocessor controlled logic unit which is configured by appropriate software as the sending end of a digital signalling system. It accepts as input up to 30 channels (bits) of parallel data plus, optionally, one 50 bit per second serial signal (in the standard Automatic Fault Reporter/Monitoring and Information Centre format). These are coded into a single 160 bit per second data plus clock signal suitable for transmission over a 76kHz subcarrier system. An adaptive priority system ensures the fastest response to a change in the parallel data. Normally used with the CD3/25 decoder. Power requirements +5V at typically 600mA. 4U 57 way double sided unsupported board with PN1/25J Panel. DD 1978.
CD020013 CD2/13	Timecode Waveform Coder. Encodes 26 bit parallel BCD data with sign to Biphase Mark serial timecode similar to EBU timecode. Used to encode static times for serial transmission to remote displays. Two similar encoders are incorporated in this unit. Power requirements +12V 10mA. 4U BMM unsupported card. DD 1978. DDMI 7.420(79).
CD020015 CD2/15	Timecode Waveform Coder. Encodes parallel 26 bit time information to biphase mark serial timecode. Used to encode time over a wide range of timecode frame rates and in both forward and reverse directions. Power requirements +12V. 4U BMM unsupported card. Parent equipment C04P/2. DD 1978. DDMI 7.487(81).
CD020016 CD2/16	Decimal Binary Coder. Any single (high-level) input from a range of 64 inputs is encoded to a 6-bit parallel binary output. If more than one input is applied simultaneously only the highest decimal number is encoded. Power requirements +5V. CH1/64J. DD 1979.
CD020017 CD2M/17	NICAM 3 Coder. NICAM 3 equipment, Coder pair, input is two high quality audio signals, and signalling. Output is bitstream, exact form depends on addition of an inboard or outboard multiplexer. Power requirements 250V AC 50Hz. 4U BMM Frame PN3/54. Sub-units FL4/68B or AM6/27, C08/9, UN27/10, CD2/21, GE1/17, UN26/41, C011/2, PS4/10, PS2/275. DD 1981. EDI 10439 (1) JAN 82. DDHB 3.329(85)(Mods). DDHB 6.201(83) (Maintenance).
CD2MP/17	O.B. NICAM 3 Coder. To make it suitable for OB use, this portable version of the NICAM 3 coder is treated to withstand shocks and vibration, and is contained in a protective box. It includes vibration mounts and a connector panel to bring required I/Os to front of unit.

CD2M/17A,B	Calls for use of CD2M/17 option 3 or 4 i.e. same as option 1 or 2 but with mains PSUs replaced by PS5/8. Power requirements nominal 24 V d.c. Box 550mm x 370mm x 630mm. Sub-units CD2M/17 option 3 or 4. DD 1984. NICAM 3 Coder. Nicam 3 equipment, coder pair, input is two high quality audio signals, output is bitstream from 'B' version. Basic version is basic coder pair. 'A' version includes multiplexing cards and gives out 2048kbit/s HDB3 bitstream. 'B' version as 'A' but also carries extra provision for "Hot Spare" function. Conversion between basic version, 'A' and 'B' is easily made. Power requirements 250V a.c. 50Hz. 4U BMM frame. DD 1979. DDHB 3.329(85) (Mods).
CD020018 CD2/18	16 Way Decimal-Binary Coder. Any single (high level) input from a range of 16 inputs is encoded to a 6-bit parallel binary output. If more than one input is selected simultaneously only the highest number is encoded. Power requirements +5V. 3U unsupported card 190mm long. DD 1979.
CD020019 CD2/19	Aerial Bearing Coder. Converts 3-phase aerial control voltages into 10-bit parallel BCD. Power requirements +5V $\pm$15V. 3U unsupported card. DD 1980.
CD020020 CD2/20	Aerial Bearing Coder. Provides the facility of adding correction digits to a parallel BCD code representing aerial positional information so that the bearing has an absolute reference. Power requirements +5V. 3U unsupported card. DD 1980.
CD020021 CD2/21	NICAM 3 Range Coder. This unit examines blocks of 32 samples and generates a NICAM type range code. These are combined in groups of three and coded with Hamming protection bits. Power requirements 5V. CH1/64J. Parent equipment CD2M/7. DD 1980. DDMI 6.367(80). DDHB 6.211(83).
CD020022 CD2/22	PLBS Coder. This unit simulates the transmitter section of HP 1645A Data Error Analyser. It provides outputs of data and clock signals at TTL levels. Power requirements 650mA at 5V. BMM 4U unsupported printed circuit board with PN1/29A front panel. Parent equipment GE7P/10. DD 1980.
CD020023 CD2M/23	NICAM 3 Insertion Equipment. Equipment to insert two NICAM 3 channels into a 2048 kbit/s bitstream. Five options are available: - Option 1 - Tributary input, 676 kbit/s. O/P at 676 kbit/s average rate. - Option 2 - Tributary input, 2048 kbit/s. O/P at 676 kbit/s average rate. - Option 3 - Tributary input, 676 kbit/s. Main I/P and O/P, 2048 kbit/s. - Option 4 - Tributary input, 2048 kbit/s. Main I/O and O/P, 2048 kbit/s. - Option 5 - Tributary input, 676 kbit average rate (local coder). Main I/P and

Power requirements 250V ac 50Hz at 80VA. 4U BMM Frame. DD 1981. DDHB 6.203(83).

CD020024 CD2/24 16-way Decimal Binary Coder. Any single high-level input from a range of 16 inputs is encoded to parallel binary outputs. If more than one input is selected simultaneously only the highest number is encoded. 4U version of CD2/18. Power requirements +5V. CH1/64J. Parent equipment PA6/131. DD 1981.

CD020025 CD2/25 64-way Coder. Samples the binary state of 64 inputs using a 6-bit binary address. Two extra address bits allow the block of 64 addresses to be set within the range 0-256 using links. Power requirements +5V. CH1/64J. DD 1981.

CD2/25A 64-Way Coder. Identical to CD2/25 in mechanical layout and electrical Performance, but some suppression components added. Power Requirements 5 Vdc. 4U Unsupported Card with J. Width Front Panel. Chassis Extender CH4/5. Parent equipment EP1/30. DD(2) 1986.

CD020027 CD2/27 Pre-Programmed Bearing Encoder. Accepts 3-digit B.C.D input and converts these numbers to a 2-byte pattern that can be entered sequentially into a microprocessor input port. Power requirements +5V. Unsupported 4U P.C.B. Parent equipment PA6/132. DD 1983.

CD020028 CD2/28 676 kbit/s Tamed FM Coder. Accepts a 676 kbit/s HDB3 input (e.g. 2-channel NICAM) and generates the two quadrature TFM coded (a form of PSK), baseband signals required by the MD4/2 modulator. Intended for use with MD4/2, DM4/5 and CD3/46 as part of CML link PML 15. Power requirements +5 V 500 mA, +15 V 100 mA, -15 V 100 mA. Unsupported P.C.B. 9" x 5" approx. EDI 10501(1)JAN85. DDMI 5.446(84). DD 1983.

CD020029 CD2M/29 Stereo Test Coder. Portable test coder for Transmitter maintenance team use, working to the Zenith - GE system. Standard multiplex output together with switchable pilot, modulation tone and supervisory signals. Power requirements 240 V ac <30 VA. Proprietary Case. Sub-units CD2/30. DD 1985.

CD020030 CD2/30 Stereo Coder. Printed circuit board containing heart of a stereo test coder working to the Zenith - GE system. Printed circuit board. Parent equipment CD2M/29. DD 1985. EDI 10517(1)JUL 85.

CD020031 CD2/31 2048 kbit/s PSK Coder. Accepts 2048 kbit/s HDB3 input and generates the quadrature modulation waveforms required by the MD4/5 Modulator. Intended for use with MD4/5, DM4/6, CD3/48. Power requirements +5 V, 900 mA; -5 V, 250 mA. 4U PCB mounted in a CH1/64A chassis. Parent equipment TM2L/6. DD 1985. EDI 10517(1)JUL85. DDMI 5.445(85).

CD020032 CD2/32 6-bit Checksum Coder. 6-bit checksum coder for Plessey 8448 kbits/s multiplexer. It provides a facility for monitoring programme-modulated 8448 kbits/s distribution.

Power requirements +5 V, 250 mA; -5 V, 100 mA. PCB approx. 5½" x 3". DD(6) 1985.

- CD020033 CD2S/33 676 kbit/s Linear PCM Coder. A 676 kbit/s linear 14 bit PCM coder for use in O.B. 1.5 GHz Link Equipment. Power requirements +15 V, +5 V. Modified 3 U unsupported pcb. DD(6) 1985. HB A.1009(87).
- CD020034 CD2/34 Enhanced Remote Cue Coder/Decoder. The unit provides Coder and Decoder facilities to communicate the state of four cue signals by means of sequential tone bursts injected into the P.T.B. circuit between main and remote C.M.C.R.s on an outside broadcast site. The code used is compatible with the "Selcue" system currently in use but this unit incorporates enhancements to prevent the decoding errors which could occur with the equipment it replaces. Power requirements ±15 V. 222 mm x 100 mm. Supersedes CD2/14, CD3/28, CD2/26. SCPD 1985.
- CD020035 CD2S/35 728 kbit/s Coder. The coder converts two 14-bit parallel PCM sound channels into the 728 kbit/s serial format as specified in "Draft Specification of Standards for UK Stereo with Television Transmissions." (Rev.3). 4U-PN1/29J Unsupported Card. RD 1986.
- CD020036 CD2/36 Co-ord. Encoder. Operating on the Digital Audio Multiphase Bus D.D.T.M. 3.291(84) this unit dis-assembles the 12-bit words of two 8 kHz band-limited sampled audio 'Co-ordination' channels into sets of four bits, which are inserted as the 'auxiliary' bits of an AES/EBU serial digital audio signal. Power Requirements 5 Vdc. 4U BMM unsupported card with 'J' width front panel. Chassis Extender CH4/5. DD(3) 1986.
- CD020037 CD2M/37 Analogue Input Co-ord Combiner. The inputs to this unit are one analogue or EBU - Serial - Digital stereo programme signal, and two analogue 'Co-ordination' signals. The unit combines these into an EBU - Serial - Digital output which carries the Co-ord channel information in its auxiliary data bits. Power Requirements 240 V a.c. BBC Chassis Code PN3/54. Sub-units: PS4/18A, PS3/67, C010S/12, C011S/6, FL4/80, FL4/82, 2 x C08/13, C04/9, CD2/36. DD(3) 1986.
- CD020038 CD2M/38 Co-ord. Inserter. The inputs to this unit are one EBU serial digital stereo programme signal, and two analogue 'co-ordination' signals. The unit combines these into an EBU serial digital output which carries the Co-ord channel information in its auxiliary data bits. 240 V a.c. BBC Chassis Code MP2/34. Sub-units: PS4/18A, PS3/67, C08/13, C010S/12, C011S/6, CD2/36, FL4/82. DD(3) 1986.
- CD020039 CD2SM/39 D.S.S.T.V 728kbit/sec Coder. This Coder takes two analogue sound signals and converts them to coded, serial, digital data at a bit-rate of 728 kbit/sec. The coder outputs data and data-clock signals. The coder conforms to the stereo coding option of Revision 4 UK Specification for DSSTTV. The coder performs the following function: (a) analogue pre-emphasis to CCITT Rec J17; (b) 14-bit analogue-to-digital conversion at 32kHz sampling-rate; (c)

Near-Instantaneous Companding to 10-bits per sample. The companded sample and companded data are then formed into special data in a 1msec frame structure, closely related to that agreed for DBS, MAC Packet Systems. Power requirements 240Vac. PN3/54. Sub-units PS4/44, PS2/275, CD2S/35, FL4/75, CO8S/17, GE2/17, UN26/96. RD 1987.

CD020040 CD2/40 2048kbit/s T.F.M. Coder. This unit accepts a 2048kbit/sec HDB3 input, and generates the quadrature modulation waveforms required by the MD4/8 modulator. It is intended for use with MD4/8, DM4/10 and CD3/56. Power requirements $\pm 5V$. CH1/86K. Parent equipment TM2L/7. Supersedes CD2/31. D&ED (RF) 1987.

CD020516 CD2/516 Matrix Remote Control Coder. This equipment is to be used for the coding and transmission of data to primarily control the remote selection of 25 cross points on a vision matrix. The data may be transmitted as balanced or unbalanced over a line, or may be reverse fed on a vision circuit the data in this case being modulated on a carrier. DD 1977. DDMI 8.610(79). DDHB 8.358(79). EDI 10318(1)SEP79.

CD020517 CD2/517 Timecode Waveform Encoder. The unit contains a 24 hour counter chain which can be loaded from an external input or will count from an internal crystal oscillator. The input of the counter is converted to serial and coded into Biphase Mark to EBU Timecode Specification. The user and unassigned bits can also be inserted at inputs to the unit. The frequency of the output waveform is crystal controlled and can be locked to an external 12.5Hz reference. 4U BMM unsupported card. DD 1977. DDMI 7.415(79).

CD020518 CD2L/518 Matrix Remote Control Coder. This equipment is to be used for the coding and transmission of data to primarily control the remote selection of 25 source crosspoints on a vision matrix. The data is in serial form and may be transmitted as balanced or unbalanced over a line or may be reverse fed on a vision circuit, the data in this case being modulated on a carrier. 2 x 4U BMM unsupported cards with PN1/29J front panels and a mother card. DD 1977. DDMI 8.611(79). DDHB 8.358(79). EDI 10318(1)SEP79.

CD020519 CD2/519 Serial Data Coder. This card accepts the output of the UN23/656 Control panel interface card and generates serial balanced data together with data modulated on a high frequency carrier suitable for reverse feed over a video cable in the presence of video. The CD2/519 and the UN23/656 together plus a mother card form the CD2L/518 Matrix remote control coder. Power requirements 15 V, -12 V. 4U BMM unsupported card with PN1/29J front panel. DD 1977.

CD020520 CD2/520 Serial Data Coder. This card accepts as its input parallel data and generates serial data. It also decodes its serial data and provides outputs to drive seven segment displays direct to indicate the number represented by the parallel data input. This card together with the UN23/655 Control panel interface and the MD2/511 form the CD2L/516 Matrix

remote control coder. Power requirements +5V, +12V. 3U standard ISEP. DD 1977. DDMI 8.607(79).

CD020521 CD2/521 525 Colour Coder. This unit provides a composite video signal from RGB and switchable Y inputs. It is intended for use on the 525 NTSC system and can provide a pedestal if necessary. Power requirements 240V a.c. via XLR mains plug. 1U x 483mm chassis. Supersedes GE1/521B. DD 1978. DDHB 9.160(81). DDMI 9.271(84). EDI 10387(1)MAY80.

CD020522 CD2L/522 PAL Coder. Codes RGB or RGBY signals to PAL. Contains a Colour Bar Generator with IRS, 2nd white bar and 'VT Patch' capability. The coder's luminance channel has the BBC standard cross-colour reducing notch filter and a 6MHz low-pass filter. Power requirements mains. CH1/64B and Termination Panel. Supersedes CD2L/503 and GE1M/526. Sub-unit CD2/523. DD 1979. DDMI 8.624(80). DDHB 8.368(80). EDI 10404(1)JULY81.

CD2L/522A PAL Coder. The same as the standard version except that the notch filter is omitted. Power requirements 240 V ac. CH1/64B and Termination Panel. Supersedes CD2L/503, GE1M/526. Sub-units CD2/523 & A. DD 1979.

CD2L/522B PAL Coder. This is a modified CD2L/522. It accepts a single YUV input and has no notch filter in its luminance channel. Power requirements Mains. Special Terminations Panel and CH1/64B. Sub-unit CD2/523B. DD 1981.

CD020523 CD2/523 PAL Coder. This unit is the plug-in electronics module of the CD2L/522 PAL Coder. Power requirements mains. CH1/64B. Parent equipment CD2L/522. DD 1979. DDMI 8.625(80). DDHB 8.368(80). DDTM 8.382(82).

CD2/523B PAL Coder. This is the sub-unit of the CD2L/522B. Power Requirements Mains. CH1/64B. Parent equipment CD2L/522B. DD 1981.

CD020524 CD2/524 Tone Decoder. This is an A size 4U unit with mains and accepts Timing and Phase signals to produce the appropriate tone according to the correction required. LED's on the front panel will indicate the correction being sent. Power requirements Mains approx 10VA. Parent equipment Termination Panel PA20/527. DD 1982.

CD020525 CD2M/525 Used in the 68 Mbit/s transmission equipment to generate a 6-bit dpcm signal from a 10-bit sub-Nyquist sampled and comb-filtered input. Uses three-dimensional prediction and includes provision for dealing with field-interval signals e.g. ICE or teletext. Complementary decoder is the CD3M/541. Power requirements 240V a.c. at 74VA. PN3/54; PN3A/53H and p.c.b. term panel. Parent equipment not known yet. Sub-units CD3/526, UN26/566, UN26/567, UN14/542, UN14/543 and others. DD 1982.

CD020526 CD2M/526 Quantiser and Coder. Used in the CD2M/525 DPCM coder to generate the quantised difference between the actual sample and predicted sample. Also codes the 10-bit quantised difference into 6-bit samples. Power requirements +5 V at 0.5 A; -5 V at 2.2 A. BMM 4U Unsupported Card. Parent equipment CD2M/525. DD 1982.

CD020527 CD2/527	Error Corrector Coder. The unit adds redundant check information to an input signal using the Reed-Soloman (63, 59) code, interleaved six ways. Input and output is in the form of 6-bit words, with 11.456MHz clock and a frame-marker pulse, all at TTL levels. The unit forms part of equipment CD4M/504 which multiplexes together digital video and other signals to produce an output signal at 68Mbit/s. Power requirements +5V at current to be advised. 4U solderwrap card with 'J' width Front Panel. Parent equipment CD4M/504. DD 1982.
CD020528 CD2/528	DPCM Coder. 6U printed circuit board for DPCM coding in the 68 Mbit/s transmission equipment (Mark 11). Power requirements +5 V at 1 A, -5 V at 4 A. 6U unsupported printed circuit board. DD 1984.
CD020529 CD2L/529	Parallel Interface Coder. This equipment generates a bit-parallel word-serial digital video output which conforms to CCIR Rec 656 from analogue inputs of YUV or RGB and mixed syncs. Power requirements 240 Vac. Termination panel PA20/541. Sub-units GE7/509, C011S/503, C08S/512, AM23/521C. D&ED (V) 1987.
CD030014 CD3/14	Stereophonic Decoder for measureing stereophonic sound transmission. CH1/64B replaces CD3/1, CD3/2. DD 1976. DDMI 5.140(78).
CD030020 CD3M/20	A.F.R. Data Decoder. Converts serial fault reporter data into a parallel form suitable for driving as even segment display and a printer. The input signal from a fault reporter is obtained from a connection to the telephone system. The print out on 60mm paper roll includes the time that the message was received. 4U BMM chassis. DD 1977. DDHB 2.437(78).
CD030021 CD3/21	Single Instruction Decoder. Unit accepts decoded tens and units input and combines them into gates to produce operating pulses. Both TTL and relay contacts outputs are available. Part of the instruction decoding system for Monitoring and Information Centres. 4U unsupported card with J size front panel. DD 1977.
CD030022 CD3/22	Dual Instruction Decoder. Unit accepts decoded tens and units input and combines them in gates to produce operating pulses. Part of instruction decoding system for Monitoring and Information Centres. 4U unsupported card with J size front panel. DD 1977.
CD030023 CD3/23	Stereophonic Decoder working on the Zenith-G.E. system and was designed principally for use in the RC5L/10 RBL receiver. The input is 75Ω unbalanced and requires a 1V p-p multiplex input for an output of +10dBm into 600Ω from left and right channels. Auxiliary monitoring outputs are also available. Power requirements +18V, -5.2V. CH1/64A. DD 1977. EDI 10357(1)SEP79. DDMI 5.408(82).
CD3/23A	Stereophonic Decoder. This unit accepts a multiplex signal at standard level and decodes this to produce left and right stereo outputs. The unit is derived from, similar to and compatible with a CD3/23. The difference between the

two units is that the CD2/23 has a +ve signal strength control I/P which switches it to mono, where as the CD2/23A has both +ve and -ve signal strength control I/Ps which do not switch but blend the O/Ps to mono. There is not reverse compatibility. Power requirements +18V -5V. CH1/64A. Parent equipment RC5L/10, RC5L/8, SE1L/5. DD 1981.

- CD030024 CD3/24 Decoder Unit. Card decoding serial data from Monitoring and Information Centre clock unit, into indications compatible with fault reporting transmitter family TM1M/1. Power requirements 5V, 12V d.c. CH1/63. DD 1978.
- CD030025 CD3/25 30 Channel Decoder. This unit consists of a general purpose microprocessor controlled logic unit which is configured by appropriate software as the receiving end of a digital signalling system. It accepts as input a 160 bit per second serial data plus clock signal and decodes this into 30 channels (bits) of parallel data plus, optionally, one 50 bit per second serial signal in the standard Automatic Fault Reporter/Monitoring and Information Centre format. An adaptive buffer system allows a fast response to changes in the parallel data without interruption of the serial data output. Normally used with the CD2/12 coder. Power Requirements +5V at typically 600mA. 4U 57 way double sided unsupported board with PN1/29J panel. DD 1978.
- CD030026 CD3/26 Remote Decoder Unit. Decodes multiplexed indications from VHF Radio Control and Indication Panel PA6M/70 into logic level suitable for driving TM1M/1 family of Fault Reporting Transmitters. Power requirements 16/5V d.c. Diecast box 127mm x 191mm x 76mm. Parent equipment PA6M/70. DD 1978.
- CD030027 CD3/27 Alarm Decoder. This unit receives serial data from the C04/3 Rugby-locked clock and decodes this into eight independent alarm indications (four 'sleep' and four 'snooze' alarms). These are suitable for feeding a TM1M/1 automatic fault reporter. Intended for use at M.I.C.'s. Power requirements +5 V at 120 mA, -12 V at 20 mA. PCB 72 mm x 56 mm. DD 1978.
- CD030029 CD3/29 Decoder Unit. This unit contains nine BCD to seven segment decoders to nine, seven segment, LED display modules. It is used with a Timecode Decoder to form a Time Display Unit. 4U printed circuit board. Parent equipment UN12P/17. DD 1979. DDMI 7.480(81)
- CD030030 CD3/30 8 x 4 Decoder Latch. Accepts 8-bit binary input, using the two most significant bits to identify separate decoding blocks within the unit. Two further bits are used to define within one of these blocks which group of sixteen numbers from a range of sixty-four are to be decoded, and an additional bit combined with these two defined groups of eight from sixty-four in a second block. Each output contains a latched peripheral driver capable of driving 24V devices at 250mA maximum. Power requirements +5V. CH1/64J. DD 1979.

CD030031 CD3/31	16 +16 Source Destination Decoder. Accepts 8 bit binary input, using the two most significant bits to identify two separate decoding blocks within the unit. Two further bits are used to define in each block which group of sixteen numbers from a range of sixty-four are to be decoded. Each output appears as a momentary closure of relay contacts. Power requirements +5V. CH1/64J. DD 1979.
CD030032 CD3/32	16 x 2 Decoder Latch. Accepts 8 bit parallel binary input, using the two most significant bits to identify separate decoding blocks within the unit. Two further bits are used to define in each block which group of sixteen numbers from a range of sixty-four are decoded in each block. Each output contains a latched peripheral driver capable of driving 24V devices at 250mA maximum. Power requirements +5V. CH1/64J. DD 1979.
CD030033 CD3M/33	NICAM 3 Decoder. NICAM 3 equipment, decoder pair, input is bitstream depending on demultiplexer, output is two high quality audio signals, and signalling. Power requirements 250V AC. 4U BMM frame. Sub-units PS4/10, PS2/275, CO10/3, UN26/49, UN26/42, CD3/38, UN27/10, CO9/8. DD 1981. EDI 10440(1) AUG 82. DDHB 6.202(83).
CD3/33A,B	NICAM 3 Decoder. Nicam 3 equipment, decoder pair, input is 2048kbit/s HDB3 bitstream to 'A' version, output is two high quality audio signals. Basic version is basic decoder pair. 'A' version also carries demultiplexing cards. 'B' version as 'A' but also carries facilities for "Hot Spare" function. Power requirements 250 V a.c. 4U BMM frame. DD 1979.
CD3MP/33	O.B. NICAM 3 Decoder. The unit consists of a normal CD3M/33 except in 2 respects. 1. The mains PSUs are replaced by the PS5/8 2. The individual cards are modified for O.B. conditions Power requirements nominal 24 V dc. PN3/54. DD 1984.
CD030034 CD3/34	Binary-BDC Decoder. Accepts 6-bit parallel binary inputs which can be stored in two alternative latches under control of a separate 2-bit binary input. 9 outputs of the pair of latches are converted to give an 11-bit parallel BCD output and 3 outputs of the latches are used to derive a strobe pulse to any one of 8 outputs. Power requirements +5V. 3U unsupported card 190mm long. DD 1979.
CD030035 CD3/35	64 Way Binary-Decimal Decoder. Decodes 6-bit binary input to 64 decimal outputs. CMOS buffered outputs. Power requirements +5V. CH1/64J. DD 1979.
CD030036 CD3/36	Time Signal Decoder. The unit accepts 1kHz tone with interruption for the time signal pips and produces a gate waveform to operate the GE1/16 Time Signal Generator. Power requirements $\pm 12.5V$ d.c. 200mA approximately. CH1/65B. DD 1980.
CD030037 CD3/37	4 x 8 Decoder Latch. Accepts parallel 8-bit input. Uses the two most significant bits to identify separate decoding blocks within the unit. Two further bits are used to define within one of these blocks which group of sixteen numbers from a range of sixty-four are to be decoded. An

additional bit combined with these two defined groups of four from sixty-four in a second block. Each output contains a latched peripheral driver capable of driving 24 V devices at 250 mA maximum. Power requirements +5 V. 4U unsupported board. DD 1980.

CD030038 CD3/38 NICAM 3 Range Decoder. This unit accepts a received Hamming code which it error corrects and decodes into three separate range codes to control an expander. Power requirements 5V. Parent equipment CD3M/33. DD 1980. DDMI 6.373(80). DDHB 6.218(83).

CD030039 CD3/39 Dual Timecode Decoder. The unit incorporates two separate EBU Timecode decoders which will decode over a wide speed range. The output from each decoder is in 4-bit parallel form with a 4-bit input to select 1 of 16 groups of 4-bit data. Power requirements +12 volts, -12 volts. 4U BMM Unsupported Card. DD 1981. DDMI 7.495(82). DDHB 7.302(82)

CD030040 CD3/40 Binary-BCD Decoder. Accepts 6-bit parallel binary inputs which are stored in two alternative latches under the control of a separate 2-bit binary input. 9 outputs of the pair of latches are converted to give an 11-bit parallel BCD output and 3 outputs of the latches are used to derive a strobe pulse to any one of 8 outputs. 4U version of CD3/34. Power requirements +5V. CH1/64J. Parent equipment PA6/132. DD 1981.

CD3/40A Binary-BCD Decoder. Accepts 6-bit parallel binary inputs which are stored in two alternative latches under the control of a separate 2-bit binary input. 9 outputs of the pair of latches are converted to give an 11-bit parallel BCD output and 3 outputs of the latches are used to derive a strobe pulse to any one of 8 outputs. 4 U version of CD3/34.

'A' version allows two or more units to be bussed together so that analogue data may be decoded and displayed on one meter. Power requirements +5 V. CH1/64J. Parent equipment PA6/157. Chassis extender CH1A/43. DD (2) 1985.

CD030041 CD3/41 64-Way Cross-point Decoder. Accepts parallel 8-bit binary inputs and uses the two most significant bits to identify two separate decoding blocks within the unit. The next two significant bits determine groups of sixteen numbers within a range of 64 binary inputs. Linking arrangements allow a selection from 16 decoded outputs of the 1st block and 32 outputs of the 2nd block to operate a 64-way matrix cross-point output drive in a varied pattern. Power requirements +5V. CH1/64J. DD 1981. DDMI 2.469(83).

CD030042 CD3/42 Indication Decoder. Decodes BCD inputs (normally from thumbwheel switches) to 8-bit parallel binary code and compares this code with another similar input. A true comparison causes this second input and a further set of 8-bit parallel binary code to be held in latches for use elsewhere, such as in display devices. Power requirements +5V. CH1/64J. DD 1981. DDMI 2.470(83).

CD3/42A Indication Decoder. Decodes BCD inputs (normally from thumbwheel switches) to 8-bit parallel binary code and

compares this code with another similar input. A true comparison causes this second input and a further set of 8-bit parallel binary code to be held in latches for use elsewhere, such as in display devices. 'A' version will allow up to 16 different codes to be compared. Power requirements +5 V. CH1/64J. Parent equipment EP1M/47. Chassis extender CH1A/43. DD (2) 1985.

- CD030043 CD3/43 19kHz Pilot Decoder. This unit comprises a single 19kHz Tone Decoder which accepts standard level as an input. Four outputs; fully isolated via opto-isolators are provided for locking switch mode power supplies. Power requirements 50v DC at 30mA. 4U BMM 19" panel. Parent equipment AM14/51. DD 1981. DDMI 5.418(82)
- CD030044 CD3/44 Tone Decoder. Receives FSK audio tone signal. It decodes the 3 tones and provides 3 logic outputs and 2 sets of relay c/o contact outputs. Power requirements +12V +5V -5V. 4U unsupported PCB with PN1/29 front panel assembly. Parent equipment TM1M/4. DD 1982.
- CD030045 CD3/45 Timecode Decoder. The card consists of half CD3/39 timecode decoder and interface circuitry for a UN26/46 single board computer. Input signals from a video cassette recorder are processed by the unit and passed to the UN26/46. Timecode information produced by the UN26/46 is latched by the unit. +12 V, +5V. 4U BMM unsupported card. DD 1982. DDMI 7.507(83).
- CD030046 CD3/46 676 kbit/s Tamed FM Decoder. Accepts two quadrature, TF coded, baseband signals from a DM4/5 and provides two separately buffered 676 kbit/s HDB3 outputs. The outputs are suitable for use by 2-channel NICAM. Intended for use with CD2/28, MD4/2 and DM4/5 as part of CML link PML 15. Power requirements +5 V 600 mA, +15 V 200 mA, -15 V 150 mA. Unsupported P.C.B. 9" x 5" approx. EDI 10500(1)JAN 85. DDMI 5.447(83). DD 1983.
- CD030047 CD3/47 Animation Decoder. Data decoder for BBC1 Logo Generator - O.W.L. Decodes the compressed sequence data into a 13.5MHz real-time data stream. Power requirements +5V at 1.0A - 5V at 0.1A. 4U unsupported. Parent equipment GE6S/565. EDI 10518(1)JUL 85. DD 1984.
- CD030048 CD3/48 2048 kbit/s PSK Decoder. Accepts two quadrature PSK baseband signals from a DM4/6 Demodulator and provides two buffered 2048 kbit/s HDB3 outputs. Intended for use with CD2/31, MD4/5 and DM4/6. Power requirements +5 V, 600 mA; -5 V, 120 mA. 4 U PCB mounted in a CH1/64A chassis. Parent equipment RC2L/4. DD (5) 1985. EDI 10518(1)JUL85. DDMI 5.457(85).
- CD030049 CD3S/49 676 kbit/s LINEAR PCM DECODER. A 676 kbit/s linear 14 bit PCM decoder for use in O.B. 1.5GHz Link Equipment. Power requirements ±15V. Modified 3U unsupported pcb. D (Sec.6) 1985. HB A.1009(87).
- CD030050 CD3/50 Tape Timer Decoder. This unit accepts the tape timer data and clock waveform from the remote connector of a VPR6 VTR

and presents the time information in a form that can be handled by the UN26S/71 Microcomputer. It forms part of the Record Bank installation at Television Centre. Power requirements +12 V, -12 V, +5 V. 4 U unsupported printed board. Parent equipment UN23L/172. Chassis extender CH4/5. DD(7) 1985. DDMI 7.537(86).

- CD030051 CD3S/51 728 kbit/s Decoder. The decoder converts a 728 kbit/s serial data stream as specified in "Draft Specification of Standards for UK Stereo with Television Transmissions" (Rev.3) into two 14-bit parallel PCM sound channels. 4U-PN1/29J & Unsupported Card. RD 1986.
- CD030052 CD3/52 Co-ord. Decoder. Operating on the Digital Audio Multiphase Bus D.D.T.M. 3.291(84), this unit re-assembles the two streams of 48 kHz x 4 'Auxiliary' bits in the AES/EBU serial digital audio signal into two 16 kHz - sampled 12-bit quantised 'Co-ordination' channels. Power Requirements 5 V. BBC Chassis Code 4U BMM unsupported card with 'J' width front panel. Chassis extender CH4/5. DD(3) 1986.
- CD030053 CD3M/53 Analogue Output Co-ord Separator. The input to this unit is an EBU - Serial - Digital stereo programme signal that also carries Co-ord channel information in its auxiliary data bits. The unit provides separate analogue Co-ord and programme outputs. Power Requirements 240 V a.c. BBC Chassis Code PN3/54. Sub-units: PS4/18A, PS3/67, CO10S/12, CD3/52, 2 x CO9/9, FL4/81, FL4/83. DD(3) 1986.
- CD030054 CD3SM/54 D.S.S.T.TV 728kbit/sec Decoder. This decoder is designed to receive 728kbit/sec Clock and serial Data signals from the DSSTTV Demodulator, and convert them to two analogue sound signals. The Decoder conforms to the stereo coding option of Revision 4 of the UK Specification for DSSTTV. The unit decodes, demultiplexes and expands the serial digital data, to generate 14-bit digital sound samples on both channels at 32kHz rate. These undergo digital-to-analogue conversion to regenerate the original analogue waveforms, and are de-emphasised and filtered ready for outputting to audio amplifiers, etc. Power requirements 240Vac. PN3/54. Sub-units PS4/44, PS2/275, CD3S/51, CO9S/12, FL4/86, GE2S/18. RD 1987.
- CD030055 CD3/55 Clock Recovery/QPSK Decoder. This unit forms part of the Digital Stereo Sound with Terrestrial Television Demodulator. The unit receives differential-encoded symbol-rate (2 x 728kbit/sec) demodulated data, recovered by the QPSK Demodulator unit (DM4/9) from the I & Q phase-axes of the digital QSPK signal. The unit differentially decodes the I & Q channel symbol-rate data, to regenerate the 728kbit/sec serial bit-stream (TTL level) signals. The clock recovery circuitry uses a 'Modified Mengali Tracker' circuit, to recover a bit-rate clock (728kHz) from the demodulated data signal. Power requirements +12V (165mA), -12V (70mA). CH1/64A. Chassis extender CH1A/43. Parent equipment DM4M/8. RD 1987.
- CD030056 CD3/56 2048kbit/sec TFM Decoder. This unit accepts two quadrature baseband signals from a DM4/10 demodulator, and provides

two buffered 2048kbit/sec HDB3 outputs. This is intended for use with CD2/40, MD4/8 and DM4/10. Power requirements $\pm 5V$. CH1/86K. Parent equipment RC2L/5. Supersedes CD3/48. D&ED (RF) 1987.

CD030058 CD3M/58	6 Channel NICAM II Decoder. This equipment, comprising two digital cards, a DAC card, and a power supply, uses half the width of a 6U crate. It provides full decoding of six audio channels in 2048kbit/sec, HDB3 format. Power requirements 240Vac. Sub-units CO9/13, PS4/51, UN26/99, UN26/100. D&ED (A) 1987.
CD030501 CD3/501A	Error Signal Tone Decoder. CD3/501 modified to work over a 20dB range of input levels. Fitting of extra boards as described in DDTM 1.131(76). DD 1977.
CD3/501B	Error Signal Tone Decoder. CD3/501A modified to decode nine tones for Line Drop Natlock. Fitting of extra boards as described in DDTM 1.139(76). DD 1977.
CD030530 CD3/530	Timecode Decoder. The unit decodes EBU serial Timecode over a wide speed range and converts it to 26 bit parallel time or 32 parallel user bit outputs. 4U BMM unsupported card. DD 1977. DDMI 7.401(77). DDHB 7.235(77).
CD030531 CD3L/531	Matrix Remote Control Decoder. This equipment is to be used for the decoding of data from the CD2L/516, to primarily control the selection of 25 cross points on a vision matrix. DD 1977. DDMI 8.613(79). DDHB 8.359(79). EDI 10139(1)SEP79.
CD030534 CD3/534	Serial Data Decoder. This card has been designed to decode a serial data input as generated from either the CD2L/516 or CD2L/518. There are two serial data inputs:- balanced line or modulated data from a carrier system. The decoder checks for various errors in the serial data stream and outputs parallel data to the Matrix interface card. The Serial Data Decoder CD3/534 and Matrix interface card UN23/653 together with a Mother card form the CD3L/531 'Matrix Remote Control Decoder'. Power requirements +5V, -12V. 4U BMM unsupported card with PN1/29J front panel. DD 1977. DDMI 8.598(79).
CD030535 CD3L/535	Timecode Reader. Self contained equipment containing time code decoder driving a video character inser ter. Front panel controls on UN3/63 to allow video display to be adjusted. UN3/63 also contains the power supply and processing circuitry for a buffered timecode output. Power requirements 240V a.c. mains. PN3A/53B. Sub units CD3/530, GE8/502, UN3/63. Supersedes CD3M/518. DD 1978. DDMI 7.406(78). DDHB 7.245(78). EDI 10338(2)APR80.
CD030536 CD3/536	Line Decoder. This unit contains a sync separator, line counter and decoder. Front panel switches are used to select any decoded lines required to operate the video switch within the MX5/501. Power requirements +12V, -12V, +5V. CH1/64A. Parent equipment AM1L/609. DD 1978. DDMI 9.245(79).

CD030539 CD3L/539 CEEFAX Subtitle Display Decoder. To decode the digital o/p of a subtitling inset into a television picture as determined by the i/p data. The unit will accept colour encoded composite video in and deliver RGB and sync to drive a picture monitor. Also an o/p for B/W subtitles that delivers encoded composite video. Power requirements +5 V at 1A and +12 V at 750 mA. Sub-units PS2/187H, UN23/670, UN23/672, and UN23/673. DD 1979. DDMI 7.482(81). DDHB 7.293(81).

CD030540 CD3L/540 Ceefax Subtitle Display and Timecode Decoder. This unit is for the preparation of subtitles in conjunction with the Computer Automation LSI minicomputer. It decodes subtitle input data and inserts boxed subtitles into its RGB and encoded video outputs. It also provides parallel subtitle data for the minicomputer as well as decoding timecode input to parallel output for the minicomputer. There is also a mixed syncs output. PN3A/53E. Sub-units UN23/670, UN23/671, UN23/672, UN23/673, CD3/530, PS2/187D, PS2/187H. DD 1981. DDHB 7.293(81).

CD030541 CD3M/541 DPCM Decoder. Used in the 68 Mbit/s transmission to generate a 10-bit decoded signal from the 6-bit DPCM signal provided by CD2M/525. Uses three-dimensional prediction and includes provision for dealing with field-interval signals e.g. ICE or Teletext. Power requirements 240V AC at 75VA. PN3A/54; PN3A/53H and PCB term panel. Parent equipment not yet known. Sub-units CD3/542, UN25/566, UN26/567, UN13/542, UN14/543 and others. DD 1982.

CD030542 CD3/542 Decoder. Used in the CD3M/541 DPCM decoder to decode the incoming 6-bit samples into 10-bit quantised differences. Power requirements +5V at 0.6A, -5V at 0.5A. BMM 4U Unsupported Card. Parent equipment CD3M/541. DD 1982.

CD030543 CD3L/543 Subtitle Display Decoder. This equipment is intended for the monitoring and/or preparation of teletext subtitles. It accepts video in, and V24 subtitle data in serial ASCII. Boxed teletext subtitles are inserted into the RGB and encoded video outputs. A Mixed Sync. output is also provided. Power requirements 240V a.c. mains. PN3A/53C. Sub-units UN26/46, UN26/572, UN27/507, PS2/187H. DD 1982.

CD030544 CD3/544 Error Corrector Decoder. The unit, in conjunction with unit CD3/545, decodes the Reed-Soloman (63, 59) code, interleaved six ways. Input and data output are in the form of 6-bit words, with 11.456MHz clock and a frame-marker pulse. The unit derives another 6-bit output of syndrome information from the input data. All input and output data are at TTL levels. The unit forms part of 68 Mbit/s demultiplexing equipment CD4/505. Power requirements +5V at current to be advised. 4U solderwrap card with 'J' width front panel. Parent equipment CD4M/505. RD 1982.

CD030545 CD3/545 Error Corrector Decoder. The unit, in conjunction with unit CD3/544, decodes the Reed-Soloman (63, 59) code, interleaved six ways. Data input and output are in the form of 6-bit words, with 11.456MHz clock and a frame-

marker pulse, plus another 6-bit input of syndrome information from unit CD3/544. The output includes error status information. All input and output data are at TTL levels. The unit forms part of 68 Mbit/s demultiplexing equipment, CD4M/505. Power requirements +5V at current to be advised. 4U solderwrap card with 'J' width front panel. Parent equipment CD4M/505. RD 1982.

- CD030546 CD3M/546 Digital PAL Decoder. This unit digitally decodes a composite PAL signal and outputs digital Y, U and V signals together with analogue R G B and sync signals (for monitoring purposes). An output of the standard EBU parallel digital video multiplexed signal is also provided. The decoder separates the chrominance and luminance information using field delay combing techniques. The performance of this decoder is suitable for CMAC recoding and Standards Conversion. Power requirements 240 V ac mains at 750 W approximately. 2 x PN3/54. EDI 10497(P)AUG84. DDHB 1.202(85)Part I. DD 1983. DDMI 1.290(86) Part I.
- CD030547 CD3/547 Pal Decoder. S-Pal decoder providing YRGB outputs at 1 V standard level. Used in conjunction with OS1/525. Power requirements +12 V, +5 V, -5 V, -12 V. 2U unsupported card. Parent equipment MN6M/513. DD 1984. HB 1.005(86).
- CD030548 CD3/548 DPCM Decoder Processing Unit. Used in the production version of the '68-PAL' vision decoder. Adds the predicted signal to the difference input to produce the decoded output. Power requirements +5V, 2A; -5V, 3 A. 6U unsupported printed board. DD 1984.
- CD030549 CD3S/549 V.I.T.C. Reader. Reads vertical interval timecode, which is converted to a serial E.B.U. Timecode waveform plus a 9600 baud serial output consisting of decoded time and user bit data. Power requirements 240 V, 30 W. Termination Panel: PA20/536. MI 7.554(86). EDI 10538(1) MAY 86. DDHB 7.338(86). DD 1984.
- CD030550 CD3S/550 Datacast Decoder. This unit extracts a selected Datacast service from a 1 V, 75 Ω video input and decodes it to an RS232 output stream for connection to another device. The unit is set up through the RS232 interface. Power requirements +5.0 V, 200 mA; +12 V, 30 mA; -12 V, 30 mA. Parent equipment RC1S/515. Sub-units UN3/79. DD(1) 1986. HB V.1039(87). HB V.1040(87).
- CD030551 CD3/551 Sound-In-Vision Decoder. The unit decodes the pulse with modulated sound in the video porch before the line sync pulse. It also remakes the conventional sync pulse train and relays H.F. sound carriers. Power requirements: mains. 1 U x 19" x 6 ". TCPD 1986.
- CD030552 CD3L/552 Parallel Interface Decoder. This equipment generates analogue YUV or RGB outputs from a bit-parallel word-serial digital video input conforming to CCIR Rec. 656. The equipment also produces a feed of analogue mixed syncs. Power requirements 240 Vac. Termination Panel PA20/542.

Sub-units CO9/510A, UN16/548, GE5S/517, AM23/521D. D & ED (V) 1987.

CD030553 CD3/553 Timecode Decoder. This unit comprises both a longitudinal, and a vertical interval, timecode decoder: it is intended to interface with the UN26S/92 microcomputer. It forms part of the VTR interface and edit controller of the VANTAGE Editing System. Power requirements $\pm 12V$, $+5V$. 6U Eurocard. Parent equipment PA1M/588, PA1M/589. D&ED (C) 1987.

CD040006 CD4M/6 6336kHz Bitstream Splitter. To convert parts of the PCM 6336kHz bitstream to either 3 x or 2 x 2048kHz at HDB 3. Power requirements Mains. PN3/55. Sub-units PS2/194A, CD4/7. DD 1981. DDMI 6.407(83). DDHB 6.231(83).

CD040007 CD4/7 6336kHz to 2048kHz Encoder. To convert parts of the PCM 6336 bitstream to either 3 x or 2 x 2048kHz at HDB 3. Power requirements $-12V$, $+12V$, $+5V$. CH1/65D. Parent equipment CD4M/6. DD 1981. DDMI 6.395(83). DDHB 6.231(83).

CD040008 CD4M/8 6336kHz Bitstream Re-assembler. To divide the 8448kHz bitstream at HDB 3. Either 3 x or 2 x 2048kHz are used internally to re-assemble the 6336kHz Bitstream. Power requirements Mains. PN3/54. Sub-units 2 x PS2/194A, CD4/9, 4 x CD4/10, CD4/11. DD 1981. DDMI 6.401(83). DDHB 6.233(83). DDHB 6.233(83).

CD040010 CD4/10 2112kHz to 2048kHz Converter. To convert an output from the CD4/9 at 2112kHz to 2048kHz. Power requirements $-12V$, $+12V$, $+5V$. 2U Unsupported PCB. CD3M/8. DD 1981. DDHB 6.234(83).

CD040011 CD4/11 2048kHz to 6336kHz Assembler. To convert either 3 x or 2 x 2048kHz bitstreams to a 6336kHz bitstream similar to the output of a PCM coder type BA1/4. Power requirements $-12V$, $+12V$, $+5V$. CH1/65D. Parent equipment CD4M/8. Sub-unit FL4/71. DD 1981. DDMI 6.397(83). DDHB 6.232(83).

CD040012 CD4/12 8448 kbit/s NRZ Transcoder. The purpose of this unit is to regenerate an 8448 kbit/s NRZ bitstream and to lock a 16.896MHz oscillator to provide an 8448kHz clock. It also provides four outputs at 8448 kbit/s NRZ for the four tributary cards, CD4/10. A further output at 8448 kbit/s HDB3 is also available. Power requirements $+12V$, $-12V$, $+5V$. CH1/65C. Supersedes CD4/9. Parent equipment CD4M/8. DD 1982. DDMI 6.398(83). DDHB 6.235(83). DDHB Issue 2 (86).

CD040013 CD4M/13 Telefunken MX80 to EBU Transcoder. The equipment consists of a 4 U crate containing about five 4 U cards to convert standard EBU serial data into a form the MX80 digital tape recorder can use. This happens in the record and playback directions. Power requirements 240 V ac. PN3/54. DD(3) 1985.

CD040014 CD4/14 8448kbit/s HDB3 Transcoder. This unit is an addition to the CD4/12 (8448kbit/s NRZ transcoder). It is only required when the 8448kbit/s input signal to the CD4/12 is

in HDB3 format. Its purpose is to regenerate data and clock from a 8448kbit/s HDB3 signal. After it has been fitted to the CD4/12, the CD4/12 will become CD4/12A. Power requirements +5V and $\pm 12V$. Printed circuit board 230mm x 150mm. Parent equipment CD4/12. DD 1984.

- CD040015 CD4/15 8-Channel Multiplex Transcoder. Intended for TV Outside Broadcast communications. 8-channel time slot signalling system where every channel can be dedicated as send or receive. Operates unbalanced down an audio pair. Mounted on 0.6" width front panel for 3 U high racking. Power requirements $\pm 15 V$. 100 mm x 220 mm. Chassis extender CH4/7. SCPD 1985.
- CD040016 CD4/16 Digital Transcoder. This unit replaces the C08/9 (or C08/10) in a NICAM 3 Coder CD2M/17, so that digital audio samples may be transferred directly to the coder, from a C01M/15 EBU to NICAM 3 Converter. It also converts 2's complement code to "sign and magnitude" code. Power Requirement +15 V, 500 mA; -18 V, 10 mA. CH1/79. Chassis extender CH1A/52. Parent equipment CD2M/17. DD(3) 1986.
- CD040017 CD4S/17 NICAM 3 Signalling Combiner. Accepts two independent RS232C serial inputs and 16-bit parallel input, and converts them to an 8-bit parallel packet multiplex for transmission by NICAM 3 coder. Requires CD4S/18 to decode. Power requirements +5 V. Unsupported 4 U BMM card, A-width. Chassis extender CH4/5. DD(6) 1985. HB A.1026(87). MI A.1018(87).
- CD040018 CD4S/18 NICAM 3 Signalling Splitter. Accepts 8-bit parallel packet multiplex from NICAM 3 decoder (generated by CD4S/17) and converts back to two RS232C outputs and a 16-bit parallel output. Power requirements +5 V. Unsupported 4 U BMM card, A width. Chassis extender CH4/5. DD(6) 1985.
- CD040019 CD4M/19 Digital Input Co-ord Combiner. The inputs to this unit are one EBU serial digital stereo programme signal, and one EBU - Serial - Digital signal that carries Co-ord channel information in its auxiliary data bits. The unit combines the programme and Co-ord information into one EBU - Serial - Digital output. Power requirements 240 V a.c. Mains. BBC Chassis Code PN3/54. Sub-units: PS4/18A, 2 x C010S/12, C011S/6. DD(3) 1986.
- CD040020 CD4/20 Remote 8-channel Multiplex Transcoder. Intended for TV Outside Broadcast communications. 8-channel time slot signalling system where each channel can be dedicated as sent or receive. To be used with CD4/15 at the remote end of a circuit. Operates unbalanced down an audio pair. Power requirements $\pm 15 V$ or +15 V. PCB: 100 mm x 80 with 6 Flying Molex Connectors. SCPD 1986.
- CD040021 CD4L/21 RDS Transmitter. The CD4L/21 is a loose assembly of units which is used to generate a 57 kHz carrier modulated with Radio Data information. This information is derived from a selected source which can be either a NICAM signalling port, a local terminal, an RBS-derived multiplex signal, or a default set of data together with a local feed of time

information.

Option 0 includes all sub-units.

Option 1 excludes the RBS Data Converter (CD4S/23) for applications where RBS update is not required.

Option 2 excludes the RBS Data Converter and the NICAM Data Splitter (CD4S/18) for applications where only opt-out or default information is required. Power requirements +5 V, 3 A; ± 12 V, 0.15 A. Termination Panel PA20/37. BBC Chassis code: Designed to fit into half a 4U 19" rack. Sub-units: MD2/1, CD4S/22, CD4S/23, CD4S/18, PA20/37. D & ED(A) 1986.

CD040022 CD4S/22

Radio Data Assembler. This forms part of the RDS Transmitter equipment. It accepts update data from a number of sources and converts this into a Radio Data bitstream as defined in EBU Spec. No. 3244-E. Power requirements 5 V, 0.5 A. Termination panel: PA20/37. BBC chassis 4U Unsupported Card. Chassis Extender CH4/5. Parent equipment CD4L/21. D&ED(A) 1986. TM A.1030(87).

CD040023 CD4S/23

RBS Data Converter. This unit accepts a feed of stereo multiplex signal complete with RDS signalling, usually from an RBS receiver. It then demodulates the RDS information and converts this into a data format suitable for feeding the RDS Data Assembler. Power requirements 5 V, 0.5 A. Termination panel PA20/37. BBC chassis 4U Unsupported Card. Chassis Extender CH4/5. Parent equipment CD4L/21. D & E D(A) 1986.

CD040024 CD4M/24

AES/EBU Bitstream Regenerator. This equipment will regenerate an AES/EBU 48 kHz sampling digital audio bitstream. Several synchronous bitstreams can be regenerated using more C010S/12. Power requirements 240 V ac. MP2/34. Sub-units: C010S/12, C011S/6, PS4/18A. D & ED 1986.

CD040504 CD4M/504

68 Mbit/s Multiplexing Equipment. The equipment asynchronously multiplexes together digital video and other signals to form a 68 Mbit/s signal. The input bit rates are: 53.2 Mbit/s, video; 676 kbit/s, (tv) sound; and 8448 kbit/s, "radio" (for further sound channels and telephony). The use of a Reed-Solomon error corrector is optional; when it is not used, two further "auxiliary" 2048 kbit/s signals may be accommodated. Units from this and associated demultiplexing equipment CD4M/505 may be combined in various ways for re-multiplexing applications. PN3/54. Sub-units CD2/527, UN26/574, GE2/642, UN26/573, UN26/575, UN26/576, UN26/577, UN26/583 UN26/585. RD 1982.

CD040505 CD4M/505

68 Mbit/s Demultiplexing Equipment. The equipment demultiplexes a 68 Mbit/s signal. The output bit rates are: 53.2 Mbit/s, video; 676 kbit/s, (tv) sound; and 8448 kbit/s, "radio" (for further sound channels and telephony). The use of a Reed-Soloman error corrector is optional; when it is not used two further "auxiliary" 2048 kbit/s signals may be available. Units from this and associated multiplexing equipment CD4M/504 may be combined in various ways for re-multiplexing applications. PN3/54. Sub-units CD3/544,

CD3/545, GE2/643 A-D, MN8/505, UN26/578, UN26/779 UN26/580, UN26/581, UN26/582, UN26/583. RD 1982.

CH010076 CH1/76 Sound Control Desk Chassis used on Radio Continuity suites. 260mm x 320mm x 300mm. DD 1977. DDHB 3.232 (79). DDTM 3.209(78), 3.227(79).

CH1/76A-D Sound Control Desk Chassis used on Radio Continuity suites. CH1/76 basis chassis, CH1/76A basis chassis including lacing bar subframes, CH1/76B basis chassis including 3U card frame, CH1/76C basis chassis including 4U card frame, CH1/76D basic chassis including 2U card frame. 260mm x 320mm x 300mm. DD 1978. DDMI 3.667(79). DDHB 3.232(79). DDTM 3.209(78).

CH010077 CH1/77 Sound Control Desk Chassis used on Radio Continuity suites. 260mm wide x 225mm high x 300mm deep. DD 1977. DDHB 3.232(79). DDTM 3.209(78), 3.227(79).

CH1/77A-D Sound Control Desk Chassis used on Radio Continuity suites. CH1/76 basis chassis, CH1/76A basic chassis including lacing bar subframes, CH1/76B basic chassis including 3U card frame, CH1/76C basic chassis including 4U card frame, CH1/76D basic chassis including 2U card frame. 260mm wide x 225mm high x 320mm x 300mm deep. DD 1978. DDMI 3.667(79). DDMI 3.667(79)DDHB 3.232(79). DDTM 3.209(78).

CH010078 CH1/78 Band II Amplifier Chassis. To house Band II Amplifier, Splitter and Combiner Units. 'A' version has 3 I/Ps and 3 O/Ps; 'C' version has 2 I/Ps and 2 O/Ps; 'D' version has 1 I/P and 1 O/P. DD 1979.

CH010079 CH1/79 High Speed Wire-Wrap Chassis. This chassis is intended for wire-wrapping circuits by hand or machine. It may be used to produce either breadboards or the final production units where circumstances permit. The printed board conforms to the standard outline of a 4U BMM unsupported card and is complete with handle and a one piece screen which may be used for card coding 'like a coding comb'. The use of the card is the same as the CH1/75 A but is more suited to fast logic purposes and higher packing density. PN1/29J. DD 1979. DDMI 8.627(81). EDI 10411(1)JUL87.

CH010080 CH1/80A Replacement for CH1/80. Mounts 1-4 equalisers type EQ5/540 and EQ5/550 or delay line mountings MP1/3 and MP2/20 or direct mounting of 2 490ns delay lines. 4U unsupported PCB with J width panel. No termination panel as PCB is deeper than normal BMM. MUSA connectors are mounted on PCB. 4U J width, depth 312mm approx. Supersedes CH1/80. DD 1981. DDMI 8.637(82). DDHB 8.376(82).

CH010081 CH1/81A Equaliser Chassis. Replacement for CH1/81. Mounts 1 or 2 equalisers type EQ5/540 and EQ5/550 or delay line mounting MP1/3, MP2/20 and MP2/23 or direct mounting of a 490ns delay line. 2U unsupported pcb with J width panel. No termination panel as pcb is deeper than normal BMM. Musa connectors are mounted on pcb. 2U J width, depth 312mm approx. Supersedes CH1/81. DD 1982. DDMI 8.643(82). DDHB 8.383(82)

CH010082	CH1/82A,B,D	Chassis. 3U high (5.25") modules for use with PN3/58, in A, B and D versions, at SCPD's request. Supersedes CH1/12 A-D series chassis. ED 1980.
CH010082	CH1/82J	Chassis. 3U module for use with PN3/58 in 'J' width version. Equipment superseded: CH1/12. DD(4) 1986.
CH010083	CH1/83	Chassis. Unequipped chassis originally for use in the Radio Continuity Studio Desk front panel size 260mm x 150mm. Parent equipment EP10/18. DD 1980.
CH010084	CH1/84A,B	Chassis. 3U BMM Phototype card (Low speed Analogue version). Similar to 4U version CH1/75 A&B. 'A' version wire wrapped connections. 'B' version solder connections. 3U unequipped PCB with coding comb and handle. DD 1982.
CH010085	CH1/85	Wire Wrap Chassis. Unsupported 5U BMM Card with large array of holes on a 0.1" square grid for wire-wrap prototyping. Includes a +5V 'Ring Main' and distributed decoupling. 5-U Unsupported Card. DD 1984.
CH010086	CH1/86	Chassis. RF Chassis to fit PN3/54, consisting of front and back aluminium alloy panels separated by lengths of aluminium alloy extrusion with two side screens. Option for gasket between housed PCB and extrusion to provide low impedance earth connection. H = 178 mm W = 31.6 mm. DD 1984.
CH010086	CH1/86A	Chassis. As CH1/86K Chassis, but with a 'BMM' 'A' width front panel. H = 178 W = 52.85. DD(5) 1986.
	CH1/86K	Chassis. RF Chassis to fit PN3/54, consisting of front and back aluminium alloy extruded panels separated by lengths of aluminium alloy extrusion with two side screens. Gasket seals on front and rear panels to reduce RFI Gasket material between housed PCB and extrusion to provide low impedance earth connection. H = 178 W = 31.6mm. CH1/86. DD(5) 1985.
CH010087	CH1/87A	Digital Video Wire-Wrap Chassis. This is an equipped pcb for wire-wrap prototyping, mainly for digital video. It incorporates standard power and clock pin allocations as per DDTM 1.184(84), and provides a fully-gridded component-side ground plane, uncommitted power distribution, circumferential 0.1 inch grid area, and accommodation for about eighty 14 or 16 pin DIL IC's. 4U BMM unsupported card with 2 x 56 way edge-connectors. D&ED (V) 1987.
	CH1/87B	Digital Video Wire-Wrap Chassis. As for CH1/87A, but including delayed start and $\pm 12V$ circuitry, also -5.2V and balanced clock-input circuitry. D&ED (V) 1987.
	CH1/87C	Digital Video Wire-Wrap Chassis. As for CH1/87B, but including wire-wrap pins fitted to the edge connector. D&ED (V) 1987.
CH010088	CH1/88 & A-D	Sound Control Desk Chassis. Chassis used on radio continuity suites. Based on the CH1/77 series, this unit is a half-width chassis 130 mm wide x 225 mm high x 300 mm deep. The only ones so far produced include 3 U card frames. CH1/88 Basic chassis

CH1/88A	"	"	including lacing bar subframes
CH1/88B	"	"	" 3 U card frame
CH1/88C	"	"	" 4 U card frame
CH1/88D	"	"	" 2 U card frame

SCPD (RSS) 1985.

CH010089 CH1/89 6 U Digital Wire Wrap Chassis. Eurocard, double height, triple depth, wire-wrap board, for prototyping digital video. Contains soft-start circuit for +5 V and clock receiver for ECL to TTL. Eurocard, double height, triple depth. DD(8) 1985.

CH040001 CH4/1A,B ISEP Extender Board(s). Printed circuit board's that act as extender board for 3U high ISEP 254mm deep boards. 1 printed circuit board will extend an ISEP board with 1 plug whilst the 2nd printed circuit board, bolted to the 1st, provides a double extender board. Monitor points are provided on the printed circuit boards to enable quick location of pin numbers on plugs. It also incorporates a support assembly for the extended board. SCPD 1978.

CH040002 CH4/2 Extender Board. Short extender, initial purpose to work on option cards in GE6M/540. 53mm x 170mm. DD 1978. DDMI 9.258(80).

CH040003 CH4/3 Extender board for 3U x 254mm long ISEP using G07 connector. SCPD 1979.

CH040004 CH4/4 Chassis Extender. 112-way extender card for use with NICAM 3 coder CD2M/17 and decoder CD3M/33. Fuses are fitted in the three DC lines (+18v, +5v, -18v) and an LED displays the status of the fault bus line. DD 1981.

CH040005 CH4/5 4U BMM Extender. 4U BMM Chassis Extender for use with unsupported cards fitted with 112 x 0.1" pitched gold plated board edge contacts. This extender has the following advantages compared to the CH1A/52.

1. Lower cost.
2. Higher current carrying capability.
3. More robust.

Supersedes CH1A/52. EDI 10487(1)FEB 84. DDMI 1.253(82). EDI 10487(1)FEB 84. DD 1981.

CH040006 CH4/6 UN10/47 Chassis Extender. An Extender, specifically for the UN10/47 consists of a CH1/65B with the same plugs as the UN10/47 with approx. 1 metre of cables to an Eddystone box having the sockets to take the UN10/47. Power requirements: the extender will have indicators to show that mains are being carried to the unit. DD 1982.

CH040007 CH4/7 96 Way Euro-connector Extender. First used for Outside Broadcast communications in television. 3U high Eurocard extender for 100mm x 220mm Eurocard modules using 96 way connector. Disconnect and monitoring on each track. Supersedes CH1/70. SCPD 1983.

CH040008 CH4/8 Flexible Euro-connector Extender. First developed for Outside Broadcast communications in television. This extender permits 3U high Eurocard PCB units having 64 or 96

way Euro-connectors to be remotely serviced from racking by up to 1 metre. Disconnect and monitor points are available on each track. 100mm x 220mm Eurocard. SCPD 1983.

CHO40009 CH4/9	2U BMM Chassis Extender. 2U BMM chassis extender for use with unsupported cards fitted with 44 x 0.1" pitched gold plated edge contacts. Similar to CH4/5. Supersedes CH1A/56. DD 1983. DDMI 1.256(83). EDI 10487(1) FEB 84.
CHO40010 CH4/10	3U BMM Chassis Extender. 3U BMM chassis extender for use with unsupported cards fitted with 80 x 0.1" pitch gold edge contacts. Similar to CH4/5. Supersedes CH1A/57. DD 1983. EDI 10487(1) FEB 84.
CHO40011 CH4/11	5U BMM Chassis Extender. 5U BMM chassis extender for use with unsupported cards fitted with 148 x 0.1" pitch gold plated edge contacts. Similar to CH4/5. Supersedes CH1A/58. DD 1983. DDMI 1.258(83). EDI 10487(1) FEB 84.
CHO40012 CH4/12	3 U Chassis Extender. This chassis extender plugs into the frame PN3/58 and enables the CH1/82 series of chassis (except J) to be correctly connected and supported whilst outside the frame. Power requirements 240 V ac. DD (4) 1985.
CHO40013 CH4/13	6U Chassis Extender. Chassis extender for 6U Digital Video cards. Not general purpose due to connectors and dedicated power tracks. DD(8) 1986.
CHO40014 CH4/14	Chassis Extender. Extender for CH1/86A chassis. Co-axial links may be fitted as an option, to extend co-axial lines as well as the standard 15-way 'D' connector. Originally drawn for the MD2/1 Radio Data Modulator. D&ED (A) 1987.
CO010010 CO1/10	Serial to Parallel Converter. Unit converts incoming serial Data to parallel form and outgoing parallel Data to serial form. Also detects certain ASCIT characters used to control exchange of data with Monitoring and Information Centre visual display unit. Data rates incoming 110 Baud, outgoing 977 Baud. 4U unsupported card with J size front panel. DD 1977.
CO010011 CO1/11	Control Signal Converter. Interfaces EAGLE to its control panels. The master panel selects which of the other panels has control. This card interfaces the serial communications between the selected panel and the I/O unit. It also transmits the serial data to all panels to drive the lamps. Power requirements 5V. CH1/79. Parent equipment EP5M/517. DD 1982. DDHB 7.307(82).
CO010012 CO1/12	Monitor Interface Converter. Contains converters for 12V CMOS to TTL and TTL to Relay contacts. Power requirements +5V. 4U unsupported card with PN1/29J panel. Parent equipment EP1M/31. DD 1982.
CO010013 CO1/13	F/V Converter. This unit receives a 2 TONE input, one fixed, the other variable. The d.c. output is proportional to the difference of the 2 tones. Power requirements +24V

or $\pm 12V$. 4U unsupported PCB with PN1/29J front panel assembly. Parent equipment TM1M/4, RC1M/28. DD 1982.

CO010014 C01/14 V/F Converter. This unit uses A/D converter to vary the division ratio of a driver. The divider is added to a fixed tone. The d.c. input is thereby converted into a 2-tone output, one fixed and one proportional to the input. Power requirements +5V, -5V and -12V. 4U unsupported PCB with PN1/29J front panel assembly. Parent equipment RC1M/28. DD 1982.

CO010015 C01M/15 EBU to NICAM 3 Interface. Converter taking two channels of digital audio from the studio standard serial interface sampling at 48 kHz. It provides parallel outputs sampled at 32 kHz, with CCITT J17 pre-emphasis, suitable for connection to a modified NICAM 3 coder. Power requirements 240 V ac. 4 U BMM full-width crate. Sub-units FL1S/55, C010S/12, FL1S/56, UN23S/170, PS4/18A. DD(3) 1985. DDHB 3.311.

CO010016 C01/16 Optical Fibre to RS422 Interface. This unit has been designed specifically for use with the O.B. Audio Equaliser (RAVEN). Power requirements 240 V ac. CH1/82B. DD 1984. DDHB 6.286(86).

CO010017 C01S/17 Transducer Interface. This programmable card carries most of the electronics needed by consoles such as the DK4S/45 DIGITAL MIXER CONSOLE. It takes input from potentiometers and switches, output to LED's or lamps and passes information to the EQ11SM/12 DIGITAL AUDIO PROCESSOR or similar, via a serial link. It can also accept commands/information from the EP11SM/12. Power requirements 0 V, +5 V and $\pm 12 V$ from the DK4S/45. PCB: 4U BMM Unsupported Card. Chassis extender CH4/5. Parent equipment DK4S/45. D & ED(A) 1986.

CO010018 C01M/18 EBU to Nicam Interface. Equipment to convert from EBU/AES to NICAM 3 digital audio formats. It changes the sample rate from 48 to 32kHz, provides CCITT J17 pre-emphasis and limiting, and introduces the required inter-channel time delay. Power requirements 240Vac. 2 x PN3/54. Sub-units CD2M/17 (modified), CD4/16, UN23S/170, C010S/12, AM6S/31 and others. Supersedes C01M/15. D&ED (A) 1987.

CO010019 C01M/19 32/48kHz Digital Audio Converter. This unit performs CCITT J17 de-emphasis, 15.625 μ sec time alignment, and 4:3 sample-rate conversion on a 32kHz AES/EBU format stereo digital audio signal, such as is provided by the C011S/8 'NICAM-EBU Output Unit'. It produces a 48kHz simultaneously-sampled, un-emphasised signal, also in the AES/EBU serial format. Power requirements 240Vac. PN3/54. D&ED (A) 1987.

CO010509 C01/509 Tarif Control Converter. Accepts control voltages from TARIF control units UN1/627, PA6/514 etc., or from TARIF TWO control panels and produces control voltages for TARIF TWO (EP6L/509). Mains powered CH1/64A. DD 1976. DDMI 7.399(77). DDHB 7.232(77).

C01/509A Tarif Control Converter. Similar to C01/509 with master gamma control added. For use with telecine channels

equipped with colour grade or machine tariff. Master gamma control functions only when input is from Tarif 1 control panel. Power requirements 210V to 260V a.c. DD 1979.

C0010510	C01/510	Input Interface Unit which converts $\pm 60\text{V}$ -12V signals into logic levels (12V). Part of EP1M/546. PN1/2 9J. TX 1977.
C0010511	C01/511	Output Interface which converts logic output (12V) into $\pm 12\text{V}$ -60V signals to drive transmitter indications and auxilliary outputs. Part of EP1M/546. TX 1977.
C0010512	C01/512	Contractor Interface which converts logic outputs to d.c. contractor drive levels (up to 80V at 4A). Part of EP1M/546. CH1/64A. TX 1977.
C0010513	C01L/513	Tarif Control Converter. Consists of Tarif control converter, C01/509 together with rear connector suitable for mounting in PN3/54. DD 1977. DDMI 7.400(77). DDMI 7.232(77).
C0010514	C01S/514	Digital YUV to RGB Matrix. This unit accepts digital parallel Y, U and V data and converts them into digital parallel RGB signals. Power requirements +5 V and -5 V. 4 U BMM unsupported card. DD 1985.
C0020019	C02/19B	Frequency Converter. Frequency Converter 105MHz to final frequency for use in Radio-Link Transmitter TM3M/8B. Similar to C02/19A with dual frequency operation at e.g. 427.8125MHz and 446.5625MHz RF output. Power requirements +10V d.c. PCB 250mm x 145mm. Parent equipment TM3M/8B. DD 1983. DDMI 5.435(84).
	C02/19C	Frequency Converter. Frequency converter 105MHz to final frequency for use in Radio link transmitter TM3M/8D. Similar to C02/19A and C02/19B. Power requirements +10V d.c. PCB 250 x 145mm. Parent equipment TM3M/8D. DD 1983. DDMI 5.435(84).
C0020020	C02/20	Frequency Converter. Converts incoming RF signal from UHF Band IV to standard 10.7MHz IF. Contains local oscillator, multiplier, RF amplifier and mixer. Used in RC4M/8. Printed circuit board approximately 100mm x 145mm, fits across BMM chassis. DD 1977. DDMI 5.343(77).
	C02/20A	Frequency converter, receive frequency to 10.7MHz for use in radio link receiver RC4M/8A identical to CO 2/20 but with additional facility for switching between two local oscillators to change receive frequency. Power requirement $\pm 12\text{V}$ d.c. Printed card 145mm x 100mm. Sub unit OS2/49A. DD 1978.
	C02/20B	Frequency Converter. Received frequency to 10.7MHz IF. Similar to C02/20A switching between two local oscillators to receive frequencies e.g. 427.8125MHz and 446.5625MHz. Power requirements $\pm 12\text{V}$ d.c. PCB 100mm x 145mm. Parent equipment RC4M/8B. DD 1983. DDMI 5.431(83).
C0020021	C02/21	Band II VHF Frequency Converter. Crystal tuned to selected input frequency (88-108MHz) and converted to 10.7MHz intermediate frequency. Original use as front end unit for RC5/9 Band II Receiver. Power requirements +18V d.c. and -

5.2V d.c. CH1/64 printed board with runners and screen.
DD 1978. DDMI 5.376(80).

C0020022	C02/22	Frequency Synthesiser. Provides a frequency selected by external program to drive the Technics SP10 turn table. Power requirements +5V 300mA. 2U unsupported card. Parent equipment RP2/10. DD 1978.
C0020023	C02/23A	VHF Frequency Converter. Same as C02/23 but with improved layout. Power requirements same as C02/23. Dimensions same as C02/23. Supersedes C02/23. Parent equipment TM4L/1. DDMI 5.373(79). DD 1979.
C0020024	C02/24	Band II Frequency Converter. Accepts a 10.7MHz signal from an MD3/13A and converts it to a frequency in the range 87.5MHz to 104.5MHz. Input level -10dBm. Output frequency is determined by choice of crystal frequency. Output power can be set in range 250mW-1W. If option 1 is selected output power can be set in range 1W-4W. Power requirements 12-15V at 500mA. STD. BMM 4U printed board. DDMI 5.386 DD 1980.
	C02/24A	Band II Frequency Converter. Accepts 10.7MHz signal from an MD3/13A and converts it to a frequency in the range 87.5 to 104.5MHz. Input level -10dBm. Output frequency is determined by choice of crystal frequency. Output power can be set in range 250mW-4W. Power requirements 12-15 volts at 500mA. BMM 4U printed Board. Supersedes C02/24 option 1. DD 1980.
C0020025	C02/25	Frequency Converter. Converts RC4M/8A to receive signals on 870MHz approximately. Power requirements +12 volts DC at 90mA. Printed Circuit Board 133 x 86mm. Parent equipment RC4M/8 and RC4M/8A. DD 1982.
C0020026	C02/26	UHF Frequency Converter. Transmit frequency converter module, for converting a 105MHz FM IF signal to the 870-970MHz Band. Part of TM3M/8B. Power requirements 12V DC. 250mm x 145mm pcb. Parent equipment TM3M/8C. DD 1983.
C0020027	C02/27	Frequency Converter. Down conversion from UHF channel to an I.F. of 40.75 MHz vision carrier. Provides output for I.F. amplifier AM14/565. Power requirements ± 12 V. CH1/86. Parent equipment DM1M/506. DD 1984.
C0020028	C02/28	Frequency Converter. Provides 1 kHz and 440 Hz sinewaves from a 5 MHz input. Power requirements ± 12 V. CH1/65A. Parent equipment PA1M/135. DD 1984.
C0020029	C02/29	2.912 MHz Up-Converter. This converter is for use as part of the Digital Stereo Sound with Terrestrial Television Modulator. The unit takes the incoming 2.912 MHz modulated carrier signal, and mixes it with a local oscillator signal at 9.464MHz to give a modulated carrier signal at the required intercarrier frequency of 6.552 MHz. The 9.464 MHz local oscillator signal is generated on-board, using a voltage-controlled oscillator. Mixing is performed using a Hatfield Mixer (Type 1755). Band-pass filtering is provided to remove the local oscillator and 12.376 MHz upper image signals. The output carrier signal at 6.552

MHz is at a signal level of 1 V peak-peak (75 Ω). Power requirements +5 V, $\pm$ 12 V. CH1/64A. Parent equipment MD4SM/6. Chassis extender CH1A/43. RD 1987.

- C0020030 C02/30 6.552 MHz Up-Converter. This converter is for use as part of the Digital Stereo Sound with Terrestrial Television Modulator. The unit takes the incoming PSK-modulated, 6.552 MHz carrier signal, and mixes it with a local on-board oscillator to frequency-shift the carrier signal to a transmitter IF of either 32.348 MHz or 30.948 MHz. The local oscillator can either be generated within the unit by a crystal oscillator circuit at 38.9 MHz or 37.5 MHz, or by using an external signal generator. Band-pass filtering removes the unwanted upper image and carrier components, to leave a 30.948 MHz or 32.348 MHz output signal. All signals are 1 V peak-peak (75 Ω). Power requirements $\pm$ 12V. CH1/64C. Parent equipment MD4SM/6. Chassis extender CH1A/43. RD 1987.
- C0020031 C02/31 TFM Receive Mixer. The unit accepts a TFM carrier between 7.5MHz and 70MHz, and provides a filtered output at 7.5MHz. Power requirements +5V, +12V. CH1/86K. Parent equipment RC2L/5. D&ED (RF) 1987.
- C0020032 C02/32 TFM Transmit Mixer. The unit accepts a 7.5MHz TFM carrier, and produces a TFM carrier between 15MHz and 70MHz as selected by internal switches. Power requirements +5V, +12V. CH1/86K. Parent equipment TM2L/7. D&ED (RF) 1987.
- C0020552 C02/552 Frequency Converter to derive PAL colour subcarrier from a 5MHz signal. CH1/64. DD 1975. DDMI 1.195. DDHB 1.129. EDI 10292(1)DEC76.
- C0020554 C02/554 UHF Converter. This unit has been designed to replace the C02/542 which now has many redundant components. It is a direct replacement of this unit which is used in the RC5M/501 and RC5M/502 Rebroadcast receivers. Includes the AM14/556, UHF Amplifier. CH1/12. DD 1976. DDMI 5.323.
- C0020556 C02/556 5MHz/NTSC Frequency Converter. From an input of 5MHz (stable) frequency produces outputs of colour subcarrier and twice line frequency for use in producing NTSC coded signals. Power requirements 230V AC. CH1/64A. Supersedes GE1M/530. DD 1983.
- C0020557 C02/557 Sound Frequency Converter. Converts extracted sound carrier at 34.75MHz, to 6MHz inter carrier sound signal for demodulation by DM3/505. Power requirements $\pm$ 16V at 100mA. Parent equipment RC5/503. DD 1984.
- C0020558 C02/558 Input Frequency Converter. Used in the RC5M/503 in conjunction with the OS3/512 to convert an incoming band IV or V signal to the IF of 40.75 MHz. Comprises a variable gain amplifier followed by an image cancelling mixer and IF amplification. Power requirements +16 V dc. CH1/86.PCB 108 x 60 mm. Parent equipment RC5M/503. DD(5) 1985.
- C0040002 C04P/2 Timecode Offset Unit. Accepts EBU timecode over a wide range of frame rates and adds or subtracts a fixed time

from the time information in the code. A set of thumbwheels on the unit defines the offset time. Power Requirements: 240V a.c. 6 watts maximum. CS2/23C. Codes of sub-units CD3/530, UN1/729 - 3 off CD2/517, PS2/18 7A. DD 1977. DDMI 7.449(80). DDHB 7.236(77). EDI 10339(2)SEP79.

- C0040003 C04/3 Clock Unit deriving time and data from M.S.F. Rugby transmissions. Facilities are also provided to give stop watch and alarm clock facilities. Requires a 60kHz receiver and L.C.D. display drive units for complete lock used in Monitoring and Information Centres. Power requirements $\pm 12V$, +5V. CH1/64J. Parent equipment PA1 M/101. DD 1978.
- C0040004 C04/4 Address Converter. Derives store address for current part of display for Monitoring and Information Centre VDU. Power requirements +5V d.c. CH1/64J. Parent equipment UN12M/5. DD 1978.
- C0040005 C04/5 Store Address Unit. Derives store address from cursor positioning for Monitoring and Information Centre VDU's. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/5. UN12M/6. DD 1978.
- C0040006 C04/6 Input/Output Interface Unit. This unit is a general purpose I/O interface for a Z80 microcomputer. It provides three RS232 (V24) serial interfaces (bi-directional) with baud rate selectable under software control plus 24 bits of TTL compatible parallel I/O. Power requirements +12V, +5V, -12V. 4U BMM unsupported card with 57 way double sided edge connector and PN1/29J panel. DD 1979. DDHB 2.461(82).
- C0040007 C04/7 Converter Unit. MACS:- A box containing a UN23/33 processing unit programmed to perform Murray to ASCII code conversion. Input is 7 1/2 unit code at 50 or 75 band, V28 or RS-232-C or 80-0-80V. Output is 11 unit code at 110 or 300 band, V28 or RS-232-C. Device control characters are inserted before and after each message to operate an Extel Mini Floppy Disk. Two separate channels may be operated simultaneously at different input speeds. Internally generated test messages may be provided. Power requirements 250V 3W approximately. Plastic box 210mm x 120mm x 70mm. Sub-units UN26/33. DD 1980.
- C0040008 C04/8 Sender I/O Interface 'A'. Decodes up address bus signals to provide data output on relay contacts and data inputs through opto-couplers. General purpose unit for the selection of programme source, aerial array, audio monitoring, clock display drive or frequency monitoring, in the control of HF Senders. Power requirements +5V. CH1/64J. DD 1980.
- C04/8A Sender I/O Interface A. As C04/8 but with the PCB drilled so that data outputs A0 to A7 are normally open relay contacts (they are normally closed on the C04/8). Power requirements +5V. 4U unsupported card with J width front panel. Parent equipment PA6M/114, PA6M/141. DD 1982.

C0040010 C04/10	Sender I/O Interface 'C'. Decodes μ P address bus signals to provide data outputs on relay contacts and data inputs through opto-couplers. Relay contacts and rear connections arranged to suit the control circuits of HF senders and the Array mode selection of selected aerials. Power requirements +5V. CH1/64J. DD 1980.
C0040011 C04/11	ender I/O Interface 'D'. Decodes μ P address signals to provide data outputs on relay contacts and data inputs through opto-couplers, or TTL logic circuits. Provides Alarm-Standby c/o facilities and accepts frequency measurement data in multiplexed BCD code. Power requirements +5V. CH1/64J. DD 1980.
C0040013 C04/13	Code Converter. Interfaces to a Hewlett-Packard Frequency Synthesiser, with IEEE 488 (HPIB) Bus interface, with input and code conversion facilities so that the combination can be driven from an automatic control system. A LED display of frequency is given on the front panel so that this unit can also be used as an indicator for use with manually toned synthesisers. Power requirements Mains 240V. 2U Case Bay Mounted (Elma Case). Sub-unit UN26/40. DD 1980.
C0040014 C04S/14	Data Interleaver. The unit uses an intel 8085 micro-processor to interleave up to 4 serial data inputs from automatic fault reporters into a single serial data output for further transmission to monitoring centres. Power requirements 5 volts DC approx. 1 Amp. CH1/63B (Chassis fof CH1/63 with 'A' width front panel as on CH1/12A). Parent equipment TM1M/1A or TM1M/1C. DD 1980. DDMI 2.461(83). DDHB 2.482(83). DDHB 2.482(83).
C0040015 C04/15	IEEE - 488 Interface. Interface unit to implement the IEEE - 488 (HPIB) interface on the ZEUS Z80 microcomputer system. Supports Talker, Listener and Controller functions to IEEE std. 488-1978. ZEUS bus compatible on W-side of edge connector. Power requirements +5v. CH1/64J. Parent equipment PA6/108. DD 1981.
C0040016 C04/16	Time Code Converter. Used to convert the output of an Ampex AVR2 Timer to EBU Time Code. Time Code frame rate follows the timer output rate. The Converter will fit into the AVR2 timer crate in place of the Ampex character generator. Power requirements from Ampex AVR2 Timer. PCB 170mm x 230mm. DD 1982.
C0040017 C04/17	Sender I/O Interface E. Decodes ZEUS microprocessor bus signals to provide data outputs on relay contacts and data inputs through opto-couplers. Relay contacts and opto-couplers share common rear connections to suit array mode selection at HF transmitting stations. Power requirements +5V. 4U unsupported card with J width front panel. Parent equipment PA6/141 HF Sender Controller. DD 1982.
C0040018 C04/18	Subtitle Converter. This unit transcodes subtitle data from American caption disks onto BBC title disks (Program 6). Power requirements 240V AC 4A max. 19" Rack Mounting, 3U+4U depth (max) 380mm. Sub-units RD3M/1A, UN23/148. DD 1982.

C0040019 C04/19	Program Format Converter. This unit comprises the RD3M/2 5¼" floppy disc drive crate and a modified PA6M/108 Zelda system. It converts data stored on discs written in the BBC Microcomputer format into a high quality serial output at 1200 baud for audio mastering of cassettes. Power requirements 240V a.c. ±10% at less than 120VA. Sub-units RD3M/2, PA6M/108 modified comprising C010/2 modified, C04/6, UN26/31, UN27/13 GE8/505, UN27/1 (2 off), PS2/187G, PS4/9A (2 off). DD 1982.
C0040020 C04/20	Opto-Isolated Input Unit. Zeus microprocessor system compatible card providing 32 opto-isolated inputs arranged as 6 groups of 4 and 4 groups of 2. Each of the 10 groups has a separate common return to allow interfacing to a wide range of equipment. The polarity of signal required to switch each input is determined by links on the card and may be changed as desired. The card used a total of 8 port addresses and can be configured to generate Z80 style mode 2 interrupts on changes of state on the inputs. Power requirements +5V. 4U unsupported card with double sided 57 way edge connector and J width CH1/64 front panel. Parent equipment Various (G.P. 'ZEUS' unit). DDHB 2.503(85). EDI 10533(1)SEPT 85. DDHB 2.503(85). EDI 10533(1)SEP 85. DD 1984.
C0040021 C04/21	Manual Control Panel Input. Connects revertive data from TCPD units relating to sender control, aerial control and alarms to Manual Control Panel Processor, C010/10. Power requirements 5V. 4U Card 180mm Long. 4U Card 180mm Long. DD 1984.
C0040022 C04/22	Manual Control Panel Output. Interface between microprocessor and TCPD Sender Control logic, serial and program switching equipment. Has 64 latched outputs with Darlington drivers. Power requirements 5V. 4U card 180mm long. DD 1984.
C0040023 C04/23	Synthesiser Interface Keyboard. Provides data entry to Synthesiser Interface for Manual Control. Power requirements +5 V. 110 mm x 90 mm approx. double sided pcb Parent equipment PA1/130. DD 1984.
C0040024 C04/24	Synthesiser Interface I/O. Provides parallel input and output for synthesiser interface processor (UN26/66 as per manual control panel processor) to control UN21/58 relay and revertive unit. Power requirements +5 V. 4U card 180 mm long. Parent equipment PA1/130. DD 1984.
C0040025 C04/25	Serial I/O Unit. This is a unit in the Zeus range, similar to the C04/6 but mechanically shorter; it will fit behind the front panel of a UN26/31 CPU, and so is best suited for applications where space is at a premium. The unit provides 3 serial I/O channels, selectable to RS232 or RS422 signal levels, and is programmable to baud rates up to 9600. Power requirements + 5 V, 1 A; ±12 V, 100 mA. 4U BMM unsupported card, length 200 mm. DD 1985.
C0040026 C04/26	TTL/Econet Converter. Converts TTL signals to Econet. Links provide selectable logic sense of Clock, Transmit and

Receive data and hand shake signals. Power requirements +5 V. 4 U unsupported card. J width. DD 1984.

C0040027 C04/27 Miscellaneous I/O Unit. A Zeus bus-compatible card which provides Opto-Isolated Inputs, Relay outputs, a VART and RS232 interface. An on-board crystal oscillator can be locked to an external 1 MHz reference and is divided down to produce 0.1 Hz non-maskable interrupts. Power requirements +5 V; ± 12 V. 4 U unsupported card with J width Front Panel. Parent equipment MN8SM/5. Chassis extender CH4/5. DD(2) 1985.

C0040028 C04/28 Dual HEX Converter. Converts hex inputs to 'one of twelve' outputs on codes 1-12. Inputs are ± 7.5 V, 12 V, outputs ± 7.5 V CMOS. Also using the hex inputs, two sets of twelve ± 7.5 V CMOS inputs are multiplexed to two lamp drives. Four balanced to unbalanced audio amplifiers are included on the card. Power requirements ± 15 V; 25 V unreg. 222 x 100 mm with D1N41012 96-way connector. SCPD 1985.

C0040029 C04/29 Digital Audio Bus Phase Converter. The unit allows the selection of any two input phases to any two other output phases of the D.D. digital audio multiphase bus (see D.D. Tech. Mem. 3.291(84)). The phase selection is by thumbwheel switches. Power requirements +5 V. 4 U unsupported printed board with 'A' width Front Panel. Chassis extender CH4/5. DD (3) 1985.

C0040030 C04/30 M.S.F. Clock Decoder. Provides parallel TTL clock data to Video Watermarking Generator GE7/512 by decoding slow M.S.F. Rugby clock data. Supplies power to the remote M.S.F. receiver unit. Power requirements: 240 V a.c. Termination Panel: PA20/36. BBC Chassis Code: CH1/12B. RD 1986.

C0040031 C04SM/31 Network Bridge. Interfaces the HF Transmitter Control System (EP1S/42) data networks to either:-
a. The system fileserver
or
b. modem equipment, according to the sub-units fitted and customising. Power requirements 24 V. PN3/54. Parent equipment EP1S/42. Sub-units: PS5/9A, C010S/11, UN26/93. D & ED (C) 1986.

C0040032 C04S/32 Nicam/EBU Clock Converter. This unit derives a master synchronising signal from the Nicam 3 Coder system clock. This is fed to all relevant equipment involved in the digital continuity suite and allows completely synchronous operation from external (digital) sources to the Nicam coder. The output is a standard EBU/AES digital audio bitstream generated from an internal 6.144 MHz clock, phase locked to the incoming Nicam system clock, this being a nominal 16.384 MHz at TTL levels. Power requirements 240 V ac. 4U PCB in a 1U standard crate. D&ED (A) 1987.

C0040033 C04/33 Spool Number Converter. This equipment incorporates a commercially-available bar-code reader, which converts the output of a bar-code pen (used to scan bar-coded spool numbers) in to ASCII characters. These are then fed, via

an RS232 output, to the microcomputer which forms part of the VANTAGE VTR Interface. Power requirements $\pm 12V$, $+5V$. 3U Eurocard. Parent equipment PA1M/588. D&ED (C) 1987.

- C0040510 C04/510 ICE Natlock Converter. Similar to C04/507 but modified to take thumbwheel switch to select Natlock Channel and two additional L.E.D.'s. Power supply changed from PS2/119A to PS2/120A. Power requirements 240V. CH1 /46B. Equipment superseded C04/507. SCPD 1978.
- C0040511 C04/511 Palatype Data Converter. Converts the output from a 'BBC' Palatype keyboard to RS232 data suitable for input to a computer for Palatype to English conversion. Power requirements 5V 1A $\pm 12V$ 200mA. Unsupported 4U BMM card. DD 1979.
- C0040512 C04/512 Digital Code Converter. This board converts 10 serial NRZ data streams at TTL levels, into 10 serial Millar squared encoded data streams at differential MECL levels. It interfaces directly with the Ampex DM 331 disc drive unit. Obtains data from the main encoder multiplex boards of the data path circuits to the drive. Power requirements 250mA at $+5V$ 2.2A at $-5V$. 4U BMM unsupported board. Parent equipment PA1M/580. RD 1981.
- C0040513 C04/513 Digital Code Converter. This board receives Miller squared encoded data at 30MHz, in the form of differential MECL pulses. From this it recovers a 30MHz data clock and uses this to decode the Miller squared data back into NRZ form. This data is then checked for line synchronisation words to generate a line synchronisation pulse for control of other systems. Finally the board contains a re-timing circuit to synchronise the NRZ data stream to the system 15mHz clock. Power requirements 1.4A at $+5V$, 250mA at $-5V$; 50mA at $+12V$, 50mA at $-12V$. 4U BMM unsupported card. Parent equipment PA1M/580. RD 1981.
- C0040514 C04/514 Signalling Level Converter. The unit is designed to function as a part of the RP3/513 to enable non TTLK compatible digital inputs to be accepted, and non TTL outputs to be generated. This enhances the interfacing of the RP3/513 to Tarif equipment. A simple field sync detector is also included for interface timing. Power requirements $+5V$ DC $+12V$ DC. 305mm L x 85mm W Single-sided, been designed to fit into Intel iSBC 655 chassis. Parent equipment RP3/513. DD 1982.
- C0040515 C04/515 Decoder Insertion Signal Converter. Accepts 2Fsc 6-bit data and reconstitutes insertion line data signals by unpacking and re-quantising at 4Fsc. Power requirements $+5V$, $-5V$. 4U unsupported card. Parent equipment CD3M/541. DD 1982.
- C0040516 C04/516 Coder Insertion Signal Converter. Accepts a 4Fsc digitised video input and converts insertion data signals from selected lines to 2Fsc 6-bit format by re-quantising and packing. Power requirements $+5V$, $-5V$. 4U unsupported card. Parent equipment CD2M/525. DD 1982.

C0040517 C04/517	Burst Locking Converter. The function of this converter is to 1. Derive a Frequency Control signal to phase lock local subcarrier to incoming burst. 2. Generate a local PAL switch (VAS) waveform, locked to that of the incoming coded signal. 3. Detect a monochrome input signal (i.e. Colour Kill). Power requirements +5.35 V, 1.2 A; -5.2 V, 50 mA. PCB: 4 U unsupported PCB with 57 way double-sided edge. Parent equipment CD3M/546. DD 1983.
C0040518 C04S/518	V.I.T.C. Converter. Unit converts longitudinal timecode to vertical interval timecode and in-vision characters. Additional input for User Bit data to be inserted in the timecode. Characters can be moved up and down the screen and can be of two sizes and can be switched off. The VITC can be on or off and the allocated line can be selected. Power requirements 240 V, 25 W. CH1/64A. Termination Panel: PA20/537. DD 1984. DDMI 7.533(85). DDHB 7.328(85).
C0050005 C05/5	Converts d.c. voltages from a control panel to logic levels which may then be presented to a scanning system. The input voltages may have a range of values which are accommodated by F.O.T. resistors within the unit. The polarity of the input voltages are allowed for by means of optional links. Power requirements +5V. CH1/6 3. DD 1977.
C0050006 C05/6	Store Buffer Unit for main Monitoring and Information Centre store. Unit buffers TTL interface levels to store MOS levels and also provides facilities to aid store searching. Power requirements 15V d.c. BMM unsupported card with front panel. Parent equipment PA1M/101. DD 1977.
C0050007 C05/7	Store Buffer Unit to buffer a number of UN1/176 store units into the bus structure of the 8080 Microprocessor unit. Unit converts current drive capacity. Power requirements 5V d.c. CH1/64J. DD 1978.
C0050008 C05/8	Studer B62 Interface Unit. The unit is used in the RD4L/506 Timecode Tape Synchroniser and provides the appropriate drive voltages for a Studer B62 Tape Machine. Power requirements +12V, -12V. 4U BMM unsupported card. Parent equipment RD4L/506, RD4L/507. DD 1978. DDMI 7.426(79). DDHB 7.257(79).
C0050009 C05/9	Studer A80 Interface Unit. The unit is used in the RD4L/506, Timecode Tape Synchroniser and provides the appropriate drive voltages for the Studer A80 machine. Power requirements +12V, -12V. Parent equipment RD4L/506, RD4L/507. DD 1978. DDMI 7.427(79). DDHB 7.256(79).
C05/9A	Studer A80RC Interface Unit. Modified version of C05/9 to interface with Studer A80RC. Power requirements +12 V, -12 V. 4U unsupported printed board. Parent equipment RD4L/506, RD4L/507. DD 1982.

C0050010 C05/10	Studer B67 Interface Unit. Converts synchroniser control voltages to those suitable for driving a Studer B67 tape machine. Power requirements $\pm 12V$. 4U BMM unsupported card. Parent equipment RD4L/506 or RD4L/507. DD 1978. DDMI 7.494(82). DDHB 7.258(79). DDHB 7.296(82).
C0050011 C05/11	JVC CR8500 Interface Unit. This unit is used in the RD4L/508 Timecode Tape Synchroniser and provides the appropriate drive voltages to control a JVC CR8500 Interface Unit. Coding bar slots to be 1, 13, 41. Power requirements $\pm 12V$, $-12V$. Parent equipment RD4L/506. DD 1979. DDHB 7.259(79), 7.275(80).
C0050012 C05/12	Transport Control Interface, Ampex VPR2. The unit is used in the EP10M/501 and EP10M/502, Edit Machine Control Equipments. It contains logic circuitry and Interface Circuits to drive the Transport functions of an Ampex VPR2. Power requirements $\pm 12V$. 4U BMM unsupported card. DD 1980.
C0050013 C05/13	Playback Preview Interface, Ampex VPR2. The unit is used in the EP10M/502, Playback Machine Control Equipment. Contains output interface circuitry to drive the preview functions of the Ampex VPR2 machine. Power requirements $\pm 12V$. 4U BMM unsupported card. DD 1980. DDMI 7.469(81).
C0050014 C05/14	Edit Control Interface, Ampex VPR2. The unit is used in the EP10M/501, Edit Machine Control Equipment. Contains output interface circuitry to drive the edit functions of an Ampex VPR2 machine. Power requirements $\pm 12V$. 4U BMM unsupported card. DD 1980. DDMI 7.466(81).
C0050015 C05/15	Transport Control Interface, Ampex AVR2. The unit is used in the Edit Control System RD4M/509 when controlling Ampex AVR2 machines. This card is fitted to the EP10M/502 (Edit machine Control) and the EP10M/502 (Playback machine Control). Power requirements ± 12 volts. 4U BMM unsupported card. Parent equipment EP10M/502. DD 1981. DDMI 7.493(82).
C0050016 C05/16	Preview Control Interface, Ampex AVR2. The unit is used in the Edit Control System RD4M/509 when controlling Ampex AVR2 machines. This card is fitted to the EP10M/502 (Playback machine control). Power requirements ± 12 volts. 4U BMM unsupported card. Parent equipment EP10M/502. DD 1981. DDMI 7.492(82).
C0050017 C05/17	Edit Control Interface, Ampex AVR2. The unit is used in the Edit Control System RD4M/509 when controlling an Ampex AVR2 as an Edit machine. It is used in the EP10M/501 (Edit machine control). Power requirements ± 12 volts. 4U BMM unsupported card. Parent equipment EP10M/501. DD 1981.
C0050018 C05/18	Store Buffer Unit. For use in MIC's (Monitoring and Information Centres) replacement for existing unit C05/6 when UN27/12 RAM cards are to be used. Power requirements $+5V$ at $200mA$. 4U Card. Parent equipment PA1M/101. DD 1981.

C0050019 C05/19	Line Voltage Converter. Unit to convert between differing data line interface standards. Input may be any voltage between 4V and 80V (it is isolated to 1kV relative to unit output), balanced or unbalanced; output may be 3-0-3, 6-0-6 or 12-0-12 volts balanced or unbalanced. Nominal standards are 80-0-80 telegraph, RS232C, RS22C, RS423C, V28, X11 and X12. At data rates up to 9600 baud. Power requirements ± 15 Volts. Unsupported 3U card with J size Front Panel. DD 1981.
C0050020 C05/20	Line Voltage Converter. Stand alone version of C05/19 mains powered. Power requirements 250V a.c. Diecast Box. DD 1981.
C0050021 C05/21	Studer A800 Interface Unit. This unit is used in the Time Code Synchronisers RD4L/506 or RD4L/507. It converts signals from the Synchroniser to those suitable for driving a Studer A800 machine. Power requirements +12, -12V from Synchroniser. Parent equipment RD4L/506 or RD4L/507. DD 1982. DDHB 7.307(82). DDMI 7.503(82).
C0050022 C05/22	Voltage Converter. This unit is a 4U BMM version of C05/5 which is imperial size, and caters for 15 channels. Opto-couplers are used to obtain isolation between the 50V control system and TTL integrated circuits. Power requirements +5V. 4U unsupported PCB with PN1/29J front panel assembly. Parent equipment TM1M/4.
C0050023 C05/23	Synthesiser Interface Coupler. Takes a sample of RF from a looped through feed, amplifies and divides it by 10 for use with the Synthesiser Interface Frequency Counter MN7/2. Power requirements +5 V. Diecast Box, 111.1 mm x 60.3 x 32.6 mm. Parent equipment PA1/130. DD 1984.
C0050024 C05/24	ADZE Line Drive Unit. Converts ADZE card serial terminal ports to RS232 levels for use with serial terminals and development systems. Power requirements +5V. 80 x 100 mm PCB in Eddystone Box Size EDD30. DD 1984.
C0050025 C05/25	TTL to CMOS Converter. Converts TTL level outputs from UN23/152 to C.M.O.S levels for interfacing to a Probel matrix first used in EP1M/38A as part of EP5/519 TK FPPA mixer. Power requirements +5 V, +12 V. CH1/79. Parent equipment EP1M/38A. DD 1984.
C0050026 C05/26	Editrace Interface II. Supplementary interface for RD4/509 to enable the control of both the EDIT and PLAY machine transports from a single control panel. Power requirements 5 V, ± 12 V. Parent equipment RD4/509. DD 1984.
C0050027 C05/27	Marconi B6127 Remote Control Interface. Remote control interface unit for Marconi 500 kW HF transmitters, fitted into the memory unit of the transmitter. Power requirements +12 V. 272 x 108 mm. DD 1985.
C0050028 C05/28	Matrix Display Interface Unit. Accepts 24 V logic states and converts these to suitable drives to L.E.D. displays.

Power requirements +5 V. PCB: 158 mm x 156 mm. Parent equipment PA1/139. D & ED(C) 1986.

C0050503 C05/503 Editrace Interface Unit. The unit is used in the Editrace equipment, RD4L/510. It converts logic levels and provides some processing between the UN26/46 and the controlled Ampex VPR2 machines. Power requirements +5 volts, +12 volts, -12 volts. BMM 4U unsupported card. Parent equipment RD4L/510. DD 1981. DDMI 7.498(82)

C0050505 C05/505 ECL to TTL Converter. The unit converts balanced digital inputs of clock and data from ECL levels to TTL levels, and latches the data with clocks. The C05/505 forms part of the 68 Mbit Transmission System. Power requirements +5V, -5V d.c. 4U 'J' width unit with 57-way double-sided edge connector. DD 1982.

C0050506 C05/506 ANIMACE Interface Unit. Used in 'ANIMACE' (Animation Control Equipment) RD4L/512. Converts signals from microcomputer card to those suitable for driving the controlled equipment. Parent equipment +12V, -12V, +5V. 4U BMM, unsupported card. Parent equipment RD4L/512. DD 1982. DDMI 7.514(84).

C0050507 C05/507 Studer Machine Interface Unit. The unit is part of a Timecode Synchroniser RD4L/511 and is used to interface the Synchroniser to four Studer machines: A80, A800, B67, A810. Power requirements +5V, +12V, -12V from synchroniser. 4U unsupported card. Parent equipment RD4L/511. DDMI 7.517(84). DD 1983.

C0050508 C05/508 RGB TTL to MECL Converter. To convert digital RGB and syncs at TTL levels into RGB and syncs at balanced MECL levels on EBU standard. Power requirements +5 V, -5 V. 4U unsupported card. Parent equipment CD3M/546. DD 1984.

C0060511 C06/511 SECAM-PAL Transcoder. Accepts signals on either SECAM or Pal standards and produces a Pal coded output. Includes a field store synchroniser to correct variations in SECAM line frequency, and produce an output synchronous with local reference pulses. Power requirements mains 230-260v approx. 500W. BMM mounted in bay type FW2/4. DDHB 1.162(82). DD 1981.

C0060512 C06/512 PAL-PAL Transcoder. This equipment is a simplified version of the Secam-PAL Transcoder C06/511. Its input is a PAL video signal and its output is a PAL video signal synchronised to a reference pulse chain. Power requirements mains. 3 PN3/54 + 2U Commercial PAL Decoder. Sub-units C08/509, GE4/571, UN23/683, UN23/678, UN23/684, GE7/506, UN26/556, C09/506, CD2/522B, PS4/11. EDI 10515 (1)FEB 85. DDHB 1.162(82). DD 1983.

C0080004 C08/4A Analogue to Digital Converter. Similar to C08/4 but modified to enable unit to be used in PCM coder monitor. Imhof 3CDX. Parent equipment BA1/4. DD 1979.

C0080007 C08/7 Analogue to Digital Converter. Selects any one of 8 analogue inputs, using a 3-bit address code. The analogue

signal is converted to a 9-bit binary word which is held in a temporary store. A 10-bit BCD input is recorded in binary and can be loaded as an alternative input to the store. The stored word is then transferred to an output latching circuit that allows two 8-bit parallel outputs in sequence, comprising the 9-bit word from the store, the 3-bit address code, and 2 sequence-identifying bits. Power requirements +5V, $\pm 12V$. CH1/64J. DD 1979.

- C0080008 C08/8 NICAM 3, 13-bit ADC. Audio analogue to digital converter for use in NICAM 3 coders. Similar circuit to C08/1 but modified for parallel output and NICAM 3 bus interface. Power requirements +5V, +18V, -18V. CH1/64J. Parent equipment CD2M/17. DD 1980. DDMI 2.468(83).
- C0080009 C08/9 NICAM 3 Floating Point ADC. Audio analogue to digital converter for use in NICAM 3 equipment. It converts an analogue audio signal into a 16-bit PCM signal at a sampling rate of 32kHz. Output is a 16-bit parallel word in sign + magnitude form. Power requirements +5V 700mA, +18V 150mA, -18V 200mA. CH1/64J. Parent equipment CD2M/17. DDMI 6.363(83). DDHB 6.208(83). RD/DD 1980.
- C0080010 C08/10 NICAM 3, Successing Approximate ADC. Audio analogue to digital converter for use in NICAM 3 coders. Uses commercial hybrid modules. Power requirements +5V at 350mA, +18V at 100mA, -18V at 85mA. CH1/64J. Parent equipment CD2M/17. DDHB 6.209(83). EDI 10506(1)JUL 85. DDMI 6.364(80). DD 1980.
- C0080011 C08/11 Analogue-to-Digital Converter. Converts a zero volume audio signal to 8-bit A-law coded digital samples. Sampling frequency is 16kHz, audio bandwidth 3.25kHz or 6.5kHz (selected by a logic input). The unit also generates master timing signals and row-address count for the RD1M/1. Power requirements +5V, $\pm 18V$. Unsupported BMM 4U card. Parent equipment RD1M/1. DD 1982. DDMI 6.410(83).
- C0080012 C08/12 Monitor Analogue-to-Digital Converter. Multiplexed (16) input ADC unit for use in Transcoder Monitor. Some inputs fitted with negative to positive inverters, some with current sources for use with thermistor probes. Power requirements +5V +12V -5V d.c. 4U unsupported card with PN1/29J panel. Parent equipment EP1M/31. DD 1982.
- C0080013 C08/13 Stereo 16-bit Analogue to Digital Converter. Studio standards 16-bit audio analogue to digital converter conforming to digital audio multiphase bus DDTM 3.291(84). It converts two audio channels at sampling rates up to 48 kHz and outputs a two's-complement code. Power requirements 5 V, 600 mA; $\pm 18 V$, 150 mA. 4 U pcb. Chassis extender CH4/5. DD(3) 1985.
- C0080014 C08/14 LSI NICAM 3 Successive Approx. ADC. Accepts two audio inputs (6 V peak corresponds to maximum coding range.) and sync 32 kHz reference. Provides two 14-bit parallel data outputs. Power requirements +5 V, 600 mA; +18 V, 80 mA -18V, 110 mA. Unsupported BMM 4U card. DD 1984.

C0080015 C08/15 L.S.I. NICAM NRZ/HDB3 Interface.
Inputs:
 1) 676 kb/s NRZ data and clock (T.T.L.) or
 2) 676 kb/s HDB3, 4.7 V or 500 mV p-p amplitude.
Outputs:
 1) 676 kb/s NRZ data and clock; from input 1) or transcode from input 2).
 2) HDB3 transcoded from input 1) logic selectable to be 400 mV or 4.7 V p-p amplitude. Power requirements +18 V, 130 mA; +5 V, 70 mA; -18 V, 100 mA.
 Manufactured by Pye T.V.T. Ltd.
 DD 1984.

C0080016 C08/16 Analogue to Digital Converter. This unit converts audio at zero programme level to an 8-bit A-law coded digital form, sampled at 8 kHz. Bandwidth is restricted to 3.4 kHz. Input is balanced via a front panel PO 316 jack socket. Also has the facility to play back the encoded audio via another PO 316 jack socket for headphone monitoring. Used in the RD1SM/2 (SATIRE). Requires two handshake lines. Power requirements 5 V at 250 mA; ± 15 V at 100 mA; 3U unsupported wirewrap card with 'A'-width Front Panel (CH1/84). Parent equipment RD1SM/2. DD 1985.

C0080017 C08/17 Audio Analogue to Digital Converter. This unit forms part of the Digital Stereo Sound with Terrestrial Television Coder, but can also be used in other applications; for such use, the output code can be binary, 2's complement or sign-magnitude, selectable by internal switches. Power requirements +5V, ± 15 V. 4U unsupported p.c.b with PN1/29J front panel. Chassis extender CH4/5. Parent equipment CD2SM/39. RD 1987.

C0080018 C08/18 Electra-Sony Analogue to Digital Converter. This unit accepts the analogue shuttle/slow and TSO control voltages from the RD4/509 (ELECTRA) editing system, and produces an equivalent digital 8-bit word for each analogue value. Power requirements +5V, ± 12 V. 4U unsupported pcb. Chassis extender CH4/5. Parent equipment C011P/7. D&ED (C) 1987.

C0080503 C08/503 Converter, provides adjustable 'out of limits' trigger pulse and 3.5 digit B.C.D. from an input up to 2 00V d.c. For use with RD5/501. CH1/64A chassis. DD 1977.

C0080504 C08/504 Video Analogue to Digital Converter. A rack mounted version of the C08/501 including a vent above the C 08/501 to allow equipment heated air to escape at the rear and air to enter to cool equipment mounted above. DD 1978.

C0080505 C08/505 8 Bit High Speed Video ADC. Inputs: (1) Video 1V p-p high impedance; (2) Mixed sync 2V p-p ± 6 dB high impedance; (3) Clock TTL balanced or unbalanced 2-20MHz. Outputs: (1) 8bit parallel NR2 (true or inverted) or offset 2's complement (true or inverted); (2) Clock. This unit has an input clamp and the clamp pulses may be derived from the incoming video via an on board sync separator on an external feed of mixed syncs. Power requirements +15V ± 0.75 V, -3V at 90mA; -15V ± 0.75 V, +3V at 450mA; +5V ± 0.25 V

at 250mA. PN1/29J (4U BMM card with front panel). DD 1979.

C0080506 C08/506 Analogue to Digital Converter. Analogue to Digital conversion of video signals, includes video low pass filter and black level stabilisation. Video input 1V p-p into 75Ω. Data output 8 bits, maximum sampling frequency greater than 20MHz. Power requirements +15V, 150mA; +12V, 100mA; -12V, 500mA. PB1/29J. RD 1979.

C0080507 C08/507 Analogue to Digital Converter. This unit forms part of the ME3M/502 Television Waveform Analyser. Its function is to sample video signals by means of 48 separate sample and hold circuits. These samples are then converted into 10-bit binary codes by a slow speed ADC. The unit requires the C08/508 to control the position and width of the samples. Power requirements +12V, -12V, +5V. 4U unsupported card with 57-way edge connector. DDMI 9.301(83). DD 1980.

C0080508 C08/508 ADC Control Unit. This unit forms part of the ME3M/502 Television Waveform Analyser. Its function is to produce sample pulses to drive two separate C08/507 ADC units. The samples can be programmed in both width and position. Power requirements +5V. 4U unsupported card with 57-way edge connector. DD 1980.

C0080509 C08/509 Analogue-to-Digital Converter. This unit is very similar to the C08/506. It differs from that unit in its power connections. It is not equipped with a low pass filter, although space is provided. Power requirements +5V, 250mA; +12V, 600mA. Unsupported 4U card with 'J' width front panel. DD 1981. EDI 10401(1) OCT 85. DDHB 1.195(85). DDMI 1.263(85).

C0080510 C08M/510 ADC and Pre-Filter. The unit which forms part of the Sub Nyquist PAL distribution system, takes in a standard level composite waveform and converts it into 10-bit parallel digital words at emitter coupled logic levels. Internally 8-bit samples at 4fsc are digitally comb filtered to give an output sample stream at 2fsc. A separate unfiltered data path is incorporated to allow undistorted transmission of field interval signals. Power requirements 240V a.c. at approx 150W. PN3/54. Parent equipment used in conjunction with other units of the 68 PAL System. C05/504, C08/509, FL1/533 4, GE7/507 GE2/627A, PS4/18A 2, UN14/544, UN23/688. DD 1982. DDHB 1.176(83).

C0080511 C08/511 8-Bit High Speed ADC. Bandwidth of 20MHz, mounted as sub board on a 4U card, incorporating balanced ECL clock and data input with separate ground planes. Power requirements -5.2V at 800mA, +15V at 150mA, -15V at 300mA. 4U unsupported card with 'J' width front panel. RD 1983.

C0080512 C08S/512 Triple Video Analogue to Digital Converter. The C08/512 accepts 3 analogue video feeds, and digitises each to 8-bit precision. The video feeds may be RGB, YUV or PAL. The anti-alias filters are installed to suit the application, and the pre-ADC clamps are switchable. A PROM in each

output data stream optionally allows codes 00 and FF (HEX) to be either excluded from the conversion range or programmed for non-linear transfer functions. An output multiplexer is provided to enable use with an ancillary multiplex/driver unit. Power requirements +12 V, 0.3A; -12V, 0.3A; +5V, 1A; 5.2V, 1.2A. PN1/29J. DD 1985. HB V.1052(87).

- C0090005 C09/5 Digital to Analogue Converter. 10 bit input. Output has a bandpass filter centered on 526.5kHz. Power requirements ± 15 V, 5V. CH1/64J. Parent equipment TM4M/3. DD 1978.
- C0090006 C09/6 NICAM 3, 13-bit DAC. Audio digital to analogue converter for use in NICAM 3 decoder. Similar circuit to C09/1 but modified for parallel output and NICAM 3 bus interface. Power requirements +5V at 420mA, +18V at 100mA, -18V at 135mA. CH1/64J. Parent equipment CD3M/33. DD 1980.
- C0090007 C09/7 NICAM 3, floating point ADC. Audio digital to analogue converter for use in NICAM 3 equipment. The converter accepts 16-bit PCM signals in parallel sign + magnitude form, at a sampling rate of 32kHz. Output is a 10V p-p analogue signal at low impedance. Power requirements +5V 600mA, +18V 60mA, -18V 100mA. CH1/64J. Parent equipment CD3M/33. RD 1980.
- C0090008 C09/8 NICAM 3 Successive Approximately, D.A.C. Audio digital to analogue converter for use in NICAM 3 decoders. Uses commercial hybrid modules. Power requirements +5V at 180mA, +18V at 70mA, -18V at 100mA. CH1/64J. Parent equipment CD3M/33. DD 1980. DDHB 6.219(83).
- C0090009 C09/9 Stereo 16-Bit Digital to Analogue Converter. Studio standard 16-bit audio digital to analogue converter conforming to digital audio multiphase bus DDTM 3.291(84). It accepts a two's-complement code and outputs two analogue channels at sampling rates of up to 48 kHz. Power requirements 5 V, 400 mA; ± 18 V, 100 mA. 4 U pcb. Chassis extender CH4/5. DD(3) 1985.
- C0090010 C09/10 Stereo Digital to Analogue Converter. 16 bit stereo digital/analogue converter accepting data from GE7S/16, Digital Tone Generator providing two balanced line-driving outputs and a headphone monitoring output. Used in GE1SM/20, Stereo Tone Sequence Generator. Power requirements ± 15 V at 250 mA, 5 V at 100 mA. 3U printed circuit board. Parent equipment GE1SM/20. DD 1984.
- C0090011 C09/11 HDB3 to NRZ Converter. This unit converts HDB3 coded signals back to NRZ data. It is used in conjunction with a Bit Error Rate Counter ME6/4 and HDB3 Test Generator GE4/18 to test digital links. Power requirements 240 V ac. Housed in Eddystone Box 188 x 120 x 81 mm. DD 1985. DDTM 5.180(85).
- C0090012 C09S/12 Audio Digital to Analogue Converter. This unit forms part of the Digital Stereo Sound with Terrestrial Television Decoder, but can also be used in other applications; for such use, the input code can be binary, 2's complement or

sign-magnitude, selectable by internal switches. Power requirements +5V, $\pm 15V$. 4U unsupported p.c.b with PN1/29J front panel. CH4/5. Parent equipment CD3SM/54. RD 1987.

C0090013 C09/13



6 Channel NICAM II. This board converts 6 pairs of digital audio streams (in the Philips inter-chip CD format) to 18 electronically-balanced audio outputs (2 from each of the streams designated 'A', and one from each stream designated 'B'). An audio comparator is fitted between the 'A' and 'B' outputs of each of the 6 channels, to provide a simple check that the DAC card is working correctly. Power requirements $\pm 18V$, +5V. 6U triple depth Eurocard (280mm). Parent equipment CD3M/58. Chassis extender CH4/13. D&ED (A) 1987.

C0090504 C09/504

Digital to Analogue Converter. Digital to analogue conversion of video signals, includes video low pass filter and sign x/x equaliser. 3 video outputs 1V p-p into 75 Ω . Data input 8, 9 or 10 bits; Maximum sampling frequency greater than 20MHz. Power requirements +12V, 200mA; -12V, 500mA. 4U BMM unsupported card with 'A' width front panel. Parent equipment C08/506. SCPD 1979.

C09/504A-G

Digital to Analogue Converter. A video DAC that will provide digital to analogue conversion of video signals, 3 analogue video outputs of 1 V p-p into 75 Ω from a data input of 8, 9 or 10 bits. The maximum sampling frequency is greater than 20 MHz, the sampling frequency can be varied by use of alternative L.P.Fs and SIN x/x equalisers. The sampling frequency of the converters is:

C09/504A	12 MHz	C09/504E	14.78 MHz
C09/504B	8.87 MHz	C09/504F	13.5 MHz
C09/504C	13.3 MHz	C09/504G	11.648 MHz
C09/504D	17.74 MHz		

Power requirements +12 V 200 mA, -12 V 500 mA. 4 U unsupported pcb with PN1/29J Front Panel. Chassis extender CH4/5. RD 1986.

C0090505 C09/505

RGB Digital-to-Analogue Converter. The unit consists of three totally separate and identical 8-bit Digital-to-Analogue Converters: The unit is capable of conversion rates in excess of 20MHz and is primarily intended for decoding quantised RGB data in colour graphics equipment. The data and clock inputs are to TTL circuits. A TTL level video blanking input has been provided. There is no on-card post filtering, however 75 Ω impedance connections are available for external filters together with 75 Ω video output stages. Front panel controls are provided to set video gain and clock bias levels. Power requirements +12V 250mA approx. -12V, 1.2A approx, +12V 300mA approx. 4U unsupported BMM card fitted with a PN1/29J front panel. DD 1980. EDI 10451(1)FEB82. DDMI 8.629(81).

C0090506 C09/506

Digital-to-Analogue Converter. This unit is very similar to the C09/504. It differs from that unit in its power input connections and in its provision for a balanced clock input. It is not equipped with low pass filter or (sin x)/x equaliser, though space is provided for these. Power requirements +12V at 160mA; -12V at 450mA.

Unsupported 4U card with 'J' width front panel. DD 1981.
EDI 10402(1) AUG 85. DDMI 1.260(84). DDHB 1.190(84).

C0090508 C09M/508

DAC and Post Filter. The unit, which forms part of the Sub Nyquist PAL distribution system, takes in 8-bit digital words at emitter coupled logic levels, and converts them into a standard level composite video waveform. Internally 8-bit samples at 2fsc are digitally comb filtered to give an output sample stream to the DAC at 4fsc. A separate unfiltered data path is incorporated to allow undistorted transmission of field interval signals. Power requirements 240 V a.c. at approx. 150 W. PN3/54. Parent equipment used in conjunction with other units of the 68 PAL System. Sub-units C09/506, C05/505, FL1/533 x 4, PS4/18A x 2, UN14/544, UN23/689, UN23/688, UN26/584. DD 1982. DDHB 1.177(83).

C0090509 C09/509

YUV Video D.A.C. Triple DAC unit for 8-bit digital YUV data. Uses similar circuitry to the C09/506, but with TTL level inputs. Three 75 Ω outputs from each channel. Full filtering and $\sin x$ equalisation is included.

x

Power requirements +12 V at 350 mA +5 V at 50 mA - 12 V at 300 mA -5 V at 400 mA. PN1/44. DD 1984. DDHB 8.420(84).

C09/509A

RGB Video D.A.C. Identical to the C09/509 except that different types of low-pass filters are fitted which makes it suitable for RGB 8-bit digital video signals. Power requirements +12 V at 350 mA, +5 V at 50 mA, -12 V at 300 mA, -5 V at 400 mA. PN1/44. Chassis extender CH4/5. DD(8). 1985.

C0090510 C09/510&510A

Triple Video D.A.C. The C09/510 is a triple DAC unit for 8-bit digital YUV data. The unit uses similar circuitry to the C09/509, but has an ECL balanced clock receiver and additional circuitry to add shaped mixed syncs to the Y output from a TTL level mixed syncs input. Three 75 Ω outputs are available from each channel which are filtered together with $\sin x$ correction.

x

The C09/510A is identical to the C09/510 but has three wide band filters making it suitable for RGB use. Power Requirements +12 V; -12 V; +5 V; -5 V. PN1/44. Chassis extender CH4/5. DD(1) 1985.

C0090511 C09/511

Triple Video D.A.C. Triple Video D.A.C. provides 10-bit D to A conversion of either YUV, YC, or RGB video data and employs plug-in filters to accommodate narrow or wideband channels as required. A plug-in matrix sub-board provides for all signal conversion requirements with both pre-and post-matrix signals being available as 75 Ω outputs. The unit also delivers mixed syncs (2 V p-p into 75 Ω) generated from a TTL level MS input, and can optionally insert syncs into the Y or G output. Power requirements ± 12 V, 600 mA; ± 5 V, 200 mA. Termination panel PA20/540. BBC Chassis 6-U card. Parent equipment EP5M/524. D & ED(V) 1986.

C0090512 C09/512

Triple Video D.A.C. Three channel DAC. All channels clocked at 13.5 MHz with 6.75 MHz filters. Power

requirements: +5 V, +12 V, -5 V, -12 V. Chassis code: 4 U unsupported pcb. Chassis extender: CH4/5. Parent equipment GE6SM/571. D & ED (V) 1986.

C0100001 C010/1 Time Selector Drive Converter. Converts time information on 5 pairs into form to drive pinboard selection units. External strap changes from 5 to 15 minutes advance. Power requirements 5V d.c. 0.2A. CH1/64B. DD 1978.

C0100002 C010/2 Floppy Disk Interface Unit. This unit interfaces a Calcomp type 142 Flexible Diskette Drive to a Z80 microcomputer bus. It utilises an LSI disk controller I.C. which provides facilities for track selection and reading or writing selected tracks or sectors, under program control. It is compatible with disks using the IBM3740 soft-sectoring format. Power requirements +12V, +5V, -12V. DD 1979. DDHB 2.469(82).

C0100003 C010/3 NICAM 3 Serial to Parallel Converter. The function of this unit is to accept data from a demultiplexer and present it to the NICAM3 bus under command of its UN27/10B. Power requirements 5V. CH1/64J. Parent equipment CD3M/33. DD 1980. DDMI 6.376(80). DDHB 6.215(83).

C0100004 C010/4 Serial-to-Parallel Converter. This unit has two serial inputs and two serial outputs, each nominally to RS422C standard. Data from the inputs and for the outputs is obtained from an 8-bit parallel data bus which conforms to the BBC micro-processor standard. One pair of serial connections is nominally coded to HDLC at 2400 bits/second, the other pair uses start-stop coding at 300 bits/second. Also provided are sockets for up to 12K bytes of ROM and three counter-timers. Power requirements 5V DC. CH1/64J. DD 1981.

C0100005 C010/5 Serial-to-Parallel Converter. The unit performs serial-to-parallel conversion at 50 baud rate. It detects the 16-bit input as 2 x 8 bit-words. Error detection circuits indicate bit error and signal breaks. For signal breaks the output are cleared at zero. Power requirements +5V. 4U unsupported PCB with PN1/29J front panel assembly. Parent equipment RC1M/28. DD 1982.

C0100006 C010/6 Minute Pulse Drive Converter. This provides decoded minute time pulses which reset and trigger the oscillator of the GE2/15 Tone Burst Generator. It accepts time information on five pairs from the GFE7/6 clock system and outputs a TTL complementary signal. Power requirements +5.0 volts at 150mA. CH1/65B. DD 1983.

C0100007 C010S/7 Data Converter. Provides two serial input-output ports at variable signalling rates through link-selectable line drivers and receivers operating at voltage levels conforming to RS422 or RS232 standards. Various message protocols are selectable in software. The unit connects to a ZEUS bus and services the serial input-output requirements by interrupt control of message transfer to and from the main processor. Power requirements ± 5 V. CH1/64J. Parent equipment EP1M/28, EP1M/29. DD 1983.

CO100008 CO10/8	MX80 Serial to Parallel Converter. Converts serial data from MX80 to parallel data bus on main crate. Power requirements 5 V at 0.5 A. 4U unsupported card. Parent equipment CD4M/13. DD 1983.
CO100010 CO10S/10	Manual Control Panel Serial Port. Converts serial to parallel and parallel to serial data for use by the manual control panel processor, UN26S/66. Power requirements 5 V. 4U Card 180 mm long. DD 1984.
CO100011 CO10S/11	Triple Serial Transceiver Unit. Provides for transmission and reception of data serially between a host microprocessor system and three remote locations simultaneously. One channel operates at up to 38,400 Bd. Operational modes are selected under software control by the host microprocessor. Compatible with 'ZEUS' microprocessor system. Data outputs conform to RS232 and RS423 standards (selectable). Power requirements +5 V, +12 V, -12 V. 4U 'J' width unsupported pcb. Parent equipment EPlS/42, various (G.P. 'ZEUS' unit. DD 1984.
CO10S/11A	Triple Serial Transceiver Unit. The unit provides all of the functions of, and is externally compatible with, the CO10S/11. The CO10S/11A features a number of hardware and software changes to improve performance. The unit provides 3 independent full-duplex serial channels (RS232, RS422, RS423 selectable) for use by a host microprocessor system. Each channel can work at between 50 and 38400 baud, synchronous or asynchronous. One channel supports signals necessary for connection to a modem. The unit is compatible with the Zeus microprocessor system. The CO10S/11 software (P3842) is not compatible with the CO10S/11A. Power requirements +5V, ±12V. 4U unsupported board with PN1/27J front panel. Chassis extender CH4/5. Supersedes CO10S/11. Parent equipment CO4SM/31. D&ED (C) 1987.
CO100012 CO10S/12	EBU Serial to Parallel Converter. This card converts serial coded EBU data to a parallel form suitable for the multiphase digital audio bussing system. Power requirements 5 V at 2 amps max. Selection of phase on system. 4U unsupported board. DD 1984. DDHB 3.324(85).
CO110001 CO11/1	Switch State Converter. This unit is a 3U BMM logic card for multiplexing the state of 48 switches and transmitting the information down three data and four address busses to an identical unit programmed to act as a demultiplexer. Clock and address counter are on card. Power requirements +6V, 0, -6V 30mA. 3U BMM. Parent equipment PA6/86. DD 1978.
CO110002 CO11/2	NICAM 3 Parallel to Serial Converter. The function of this unit is to accept data from the NICAM 3 bus in parallel form and to put it out in an aerial form as timed by a shift pulse stream. Power requirements 5V at 550mA, -18V at 2mA. CH1/64J. Parent equipment CD2M/17. DD 1980. DDMI 6.370(80). DDHB 6.214(83).
CO110003 CO11/3	Parallel-to-Serial Converter. This unit converts 16 inputs to serial output. To allow word identification, framing

bits are added to each 8-bit word. A built-in clock generator runs at 50 baud and the state of all 16 inputs is transmitted to 40-bits. To allow error detection, redundancy is added. Power requirements +5V. 4U unsupported PCB with PN1/29J front panel assembly. Parent equipment TM1M/4. DD 1982.

- C0110004 C011/4 MX80 Parallel to Serial Converter. To correct parallel data from local crate bus to serial format to record on MX80 digital tape recorder. Also contains phase locked loop to synchronise recorder to digital crate. Power requirements 5 V at 2 A. 4U unsupported card. Parent equipment CD4M/13. DD 1983.
- C0110005 C011/5 EBU Parallel to Serial Converter. Converts and formats parallel data from local data bus to EBU "Biphase Mark" serial code. (Phase locked to the C010/9) Stereo system transmits two channels A & B. Power requirements 5 V at <1.5 A. 4U unsupported card. Parent equipment CD4M/13. DD 1983.
- C0110006 C011S/6 EBU Parallel to Serial Converter. This card converts parallel data from the multiphase digital audio bus to serial EBU data. The card accepts any two channels from the 64 phase bus. Power requirements 5 V, 2 A max. 4 U unsupported card. Chassis extender CH1A/43. DD(3) 1985. DDHB 3.334(86).
- C0110007 C011P/7 Electra-Sony Parallel to Serial Converter. This unit converts the incoming parallel commands from the RD4/509 (ELECTRA) editing system into serial commands, in accordance with the Sony serial protocol. It also reads all relevant serial VCR tallies, and converts them into parallel form for returning to the editing system. Power requirements 240V ac. CS2/23B. Sub-units PS2/184, C08/18, UN26S/71. D&ED (C) 1987.
- C0110008 C011S/8 NICAM-EBU Output Unit. This unit generates a serial output of linear PCM from a NICAM decoder, CD3M/33. The output is to the AES/EBU standard for serial digital audio, with a 32kHz sample rate. Power requirements +5V. 4U unsupported pcb. Parent equipment CD3M/33. Chassis extender CH4/5. D&ED 1987.
- C0110501 C011/501 Parallel-to-Serial Converter. This board receives data in 8-bit words at 12MHz through two 8-bit data buses, under the control of a separate control bus. This data is stored in a Read/Write memory until required by the output stage. Data leaves the board in a single serial stream at 15MHz. The order of the bits being determined by a separate control bus so that any bit of an 8-bit word can be sent at any one time. Line Synchronisation Words, Line Addresses and Error Protection Information are also generated and added to the serial stream as required. Power requirements 1.2A at 5V. 4U BMM unsupported card. Parent equipment PA1M/580. RD 1981.
- C0110502 C011/502 280MBit/s Multiplexer. Accepts two 8-bit parallel data feeds from vide A-D converters and generates a 280Mbit/s

serial bitstream. Power requirements +5V at 100mA -5V at 1.5A. BMM unsupported card with 'A' width front panel. Parent Equipment TM1M/504. DD 1982.

CO110503 CO11S/503	Digital Video Multiplexer. This unit produces a multiplexer digital video output signal which conforms to EBU Tech 3246 from separate inputs of Y, C _B and C _R multiplexed, and TRS data streams. It also has the facility to produce colour bar test signals which can be remotely switched to the output. Power requirements -5.2 V and +5.0 V. BBC chassis: Unsupported 4U card with PN1/29J front panel. Chassis Extender CH4/5. DD(1) 1986.
CS020024 CS2/24A-D	Carrying Cases which are 2U high versions of the CS2/23 slightly modified. They will carry modules of the CH1/65 series from 1-4 width according to suffix letter. DD 1977. DDMI 1.241(79).
CS020025 CS2/25A-D	This series of carrying cases is designed for the CH1/64 or similar 4U high chassis. They incorporate additional mechanical protection over previous cases, and each comes equipped with a rear bracket and a front cover for transit purposes. DD 1978. DDMI 1.241(79).
CS020026 CS2/26A-H	Carrying case provides protection for equipment contained in BMM standard chassis. 2U version in 8 sizes corresponding to widths A-H. DD 1978.
CS020027 CS2/27A-H	Carrying case providing protection for equipment contained in BMM standard chassis. 4U version in 8 sizes corresponding to widths A-H. DD 1978.
CS020028 CS2/28	Screened Case. To house Line Protection Unit FL4/84. Sub-unit FL4/84. TCPD 1987.
CT010005 CT1/5	Plinth Cabinet. This cabinet or plinth is intended for support the RP2/10 at the normal operating level when standing on the floor. It is made entirely of wood and measures approximately 480mm wide x 640mm deep x 680 mm high. DD 1979.
CT010006 CT1/6	General Purpose Cabinet. Cabinet approximately 750 x 600 x 150mm with two internal partitions to divide the interior into three sections. Complete with three blank panels. Designed as a general purpose cabinet for power distribution in Radio Outside Broadcast vehicles. SCPD 1981.
CT010007 CT1/7	Technical Distribution Cabinet. Technical cables distribution box housing 60 Krone IDC connection strips, giving 540 signal pairs and 6 multiple earth terminations. Fitted with noise-free earth busbar. Mounted in steel cabinet 575 mm x 575 mm x 150 mm, with hinged door and rubber membrane cable glands. (NOTE connection strips supplied loose for on-site installation). Supersedes BX3/6. SCPD 1985.
CT010008 CT1/8	Equipment Cabinet. Housing for 2 Picture Monitors, Video Cassette Recorder and printer. Part of RECAP Live

Subtitling Equipment, EP1S/522. Parent equipment EP1S/522. D&ED (C) 1986. MI C.1091(88).

CT030016 CT3/16

Desk Cabinet. This cabinet is made of wood and measures approximately 480mm wide x 230mm high x 540mm deep. It houses a record turntable unit together with control panel and amplifiers. Parent equipment RP2/10. DD 1978. DDMI 3.718(83).

CT040010 CT4/10A

Loudspeaker Cabinet. Similar to CT4/10 but manufactured to metric dimensions to mount 34mm tweeter loudspeaker unit and 200mm Bass/Mid-range loudspeaker unit, both 8 ohms impedance. Supersedes CT4/10. Parent equipment LS3/4C. DD 1981. DDMI 3.711(82)

CT040016 CT4/16

Loudspeaker Cabinet, LS5/9. Teak faced Birch plywood Cabinet for LS2/12 and LS2/14 Loudspeakers. Cabinet size: 458 x 278 x 273 mm. Parent equipment LS5/9. DD 1982. DDHB 3.718(83).

DK010007 DK1/7A	Linking Desk. Modified DK1/7. Accepts inputs from 2 tape machines, one gram, one cassette player (stereo) and has an auxilliary jack input. Produces zero level mono outputs for tape machine or cassette recording. Free standing case. Power requirements mains. Approx. 510 x 300 x 240mm. SCPD 1983.
DK020024 DK2/24	Radio Continuity Cubicle Control Desk. Associated with Studio Control Desk DK4/31. DD 1978.
DK020025 DK2/25	Radio Continuity Cubicle Desk. Cubicle desk for control cubicle of London Continuity Suite. Similar to cubicle desk for Regional Continuities DK2/24. Power requirements ± 12 volts, ± 12 volts Lamp; ± 6 volts, -50 volts. Parent equipment EP10/19. Sub-units PA6/77, 78, 79, 80, 81, 83, 85, 90. DD 1981.
DK040023 DK4/23	General Purpose Studio Desk, designed for monophonic operation at Bush House. Up to 23 sources can be routed to 11 channels by rotary selection switches. Each channel can be switched to the main control directly or via either of two groups. Wooden carcass containing metal fittings for units. DD 1975.
DK040026 DK4/26A-C	Commercial general purpose sound control desk to BBC requirements. Can be equipped for mono, or stereo working as required. Designed as general replacement for Type 'A' and Type 'B' equipment for use in general purpose radio studios. Comprehensive facilities, including 10 channels and up to 4 outside sources. Suffix 'A' for desks made by Audix, Suffix 'B' for desks made by Neve, Suffix 'C' for desks made by Calrec. Modular construction. SCPD 1977.
DK040027 DK4/27A-C	Commercial general purpose sound control desk to BBC requirements. Can be equipped for mono, or stereo working, as required. Designed as general replacement for Type 'A' and Type 'B' equipment for use in general purpose radio studios. Comprehensive facilities, including 16 channels and up to 10 outside sources. Suffix 'A' for desks made by Audix, Suffix 'B' for desks made by Neve, Suffix 'C' for desks made by Calrec. Modular construction. SCPD 1977.
DK040028 DK4/28A-C	Commercial general purpose sound control desk to BBC requirements. Can be equipped for mono, or stereo working as required. Designed as general replacement for Type 'A' and Type 'B' equipment for use in general purpose radio studios. Comprehensive facilities, including 16 channels and up to 4 outside sources. Suffix 'A' for desks made by Audix, Suffix 'B' for desks made by Neve, Suffix 'C' for desks made by Calred. Modular construction. SCPD 1977.
DK040029 DK4/29	OB Sound Desk. Provides comprehensive facilities for 5 commentators and a clean effects circuits. Includes sound mixing, telephone, talkback, identification and signalling facilities. Works in conjunction with DK4/30 and 5 UN3/58. Initial equipment to be produced by Glen Sound Services to BBC Outline Specification TV.286. SCPD 1977.

DK040030 DK4/30	Works in conjunction with OB Sound Desk DK4/29 and provides extension facilities for Presentation Assistant to monitor and communicate with 5 commentators. Initial equipment to be produced by Glen Sound Services to B BC Outline Specification TV.286. SCPD 1977.
DK040031 DK4/31	Radio Continuity Studio Control Desk associated with DK2/24 Cubicle Control Desk. DD 1978.
DK040032 DK4/32A	Producer Operated Sound Studio Desk for use by non-technical personnel in external services. Provides record/edit facilities for two microphones, one outside source and up to three tape machines. Usual monitoring pre-hear and remote tape start facilities. Housed in free standing commercial case plus separate equipment cabinet. 520mm x 310mm approximately. SCPD 1979.
DK4/32B	Producer Operated Sound Studio Desk. Similar to DK4/32A but includes a pre-transmission test module to provide transmission facilities. Housed in free standing commercial case plus separate equipment cabinet. Case 490mm x 520mm x 310mm approximately. SCPD 1979.
DK040033 DK4/33A-C	General Purpose Studio Desk, Mark 2 (Sound). Built commercially to BBC specification. 24 channels, 4 stereo groups, 2 stereo echo returns, 2 outside sources. Comprehensive monitoring and talkback facilities. This desk is designed to replace type 'A' and type 'B' equipment as used in drama studios. Design is based on DK4/26, DK4/27 and DK4/28 family of desks. Suffix 'A' for Audix desks; Suffix 'B' for Neve desks; and Suffix 'C' for Calrec desks. Power requirements 240V a.c. approximately 400W. Sub-units ME12/10A, ME12/10B, ME12/9G, AM6/17, UN10/12, GE1/8A and GE1/8B. SCPD 1979.
DK040034 DK4/34A-C	General Purpose Studio Desk, Mark 4 (Sound). Built commercially to BBC specification. 24 channels, 3 stereo groups plus independent, 1 stereo echo return, 10 outside source handling. Comprehensive monitoring and talkback facilities. Designed to replace larger type 'A' and type 'B' equipment. Design is based on DK4/26, DK4/27 and DK4/28 family of desks. Suffix 'A' for Audix desks; Suffix 'B' for Neve desks; and Suffix 'C' for Calrec desks. Power requirements 240V a.c. approximately 400W. Sub-units ME12/10A, ME12/B, ME12/9G, AM6/17, UN10/12, GE1/8A, and GE1/8B. SCPD 1979.
DK040036 DK4/36A-C	General Purpose Studio Desk Mk.3A (Sound). General purpose sound control desk built commercially to BBC specification. Format: 24 channels, 3 stereo groups and independent, 1 stereo echo return, 14 outside source handling (when used with T.O.'s desk). Comprehensive monitoring and talkback facilities. Designed to replace the larger type 'A' and type 'B' desks as used in News and Current Affairs Studios. The design is similar to DK4/34 with a re-arranged layout and some new modules. Other desks in the family are DK4/26, DK4/27, DK4/28 and DK4/33. Code Suffix 'A' Audix Desk; 'B' Neve desk; 'C' Calrec desk. Power requirements 240V a.c. 400W approximately. Sub-units ME12/10A,

ME12/10B, ME12/9G, AM6/17, UN10/12, GE1/8A and GE1/8B.
SCPD 1981.

- DK040037 DK4/37A-C General Purpose Studio Desk Mk.4A (Sound). General purpose sound control desk built commercially to BBC specification. Format:- 12 channels into a main (Stereo) output, 3 outside source handling, comprehensive monitoring and talkback facilities. Designed to be used as a 'one-man' operated desk in small studios. The design is based on the G.P. family of desk (DK4/26, DK4/27, DK4/28, DK4/33 and DK4/34). Code Suffix 'A' Audix desk; 'B' Neve desk; 'C' Calrec desk. Power requirements 240V a.c. approximately 350W. Sub-units ME12/10A, ME12/10B, ME12/9G, AM6/17, UN10/12, GE1/8A and GE1/8B. DD 1980.
- DK040038 DK4/38A MD4D (SOUND) General Purpose Studio Desk. General purpose Sound Control desk built commercially to BBC Specification format 30 Channels, 4 Stereo Groups, 1 Stereo Echo Return, Sub-mix input, comprehensive monitoring and talkback facilities. Designed to suit requirements in Radio Drama Studios. The design is similar to the DK4/34 using already existing module designs, Other desks in this family are DK4/26, 27, 28, 33, 34, 35, 36 and 37. Code Suffix. 'A' for Audix Desks. 'B' for Neve Desks. 'C' for Calrec Desks. Power requirements 240v ac, approx 400w. Sub-units ME12/10A, ME12/10B, ME12/9G, AM6/17A, UN10/12, GE1/8A. SCPD 1981.
- DK040039 DK4/39 Radio Continuity Studio Control Desk. Studio desk for studio part of London Continuity Suite. Similar to desk for Regional Continuities DK4/31. Power requirements $\pm 12v$, $\pm 6v$ and $+12$ volt lamps. Parent equipment EP10/19. Sub-units PA6/72 and PA6/127. DD 1981.
- DK040040 DK4/40A-C General Purpose MK4CF (SOUND) Studio Desk. General Purpose Sound Control Desk built by commercial companies to BBC Spec. Format: - 24 Channels, 3 Stereo Groups + Independent, 1 Stereo Echo Return, 12 Clean Feeds (4 x TCBU + 8 x OS). Comprehensive monitoring and talkback facilities. Designed to cater for regional needs of handling outside sources and local contributions, with emphasis on its multi-role ability (i.e. can be used for Drama, News and Current Affairs, etc.). The design uses modules from its related GP desks (DK4/26, 27, 28, 33, 34, 35, 36, 37 and 38). Code Suffix: 'A' for Audix desks. 'B' for Neve desks. 'C' for Calrec desks. Power requirements 240V AC approx. 400w. Sub-units ME12/10A, ME12/9G, UN10/12, GE1/8B, UN20/23, ME12/10B, AM6/17, GE1/8A, UN23/144. SCPD 1981.
- DK040042 DK4/42A-C General Purpose Sound Studio Desk MK1A/4. General Purpose Sound Control Desk, built commercially to BBC Specification. Format: 16 channels, 2 stereo groups + independent. 2 stereo echo returns, 10 outside source handling, comprehensive monitoring and talkback facilities. Designed originally for use in Bush House. Based on E.D MK 1A (DK4/27) and MK 4 (DK4/34), but with extras (i.e. additional ringmain, delayed throwback etc). Code suffix: "A" - Audix desk, "B" - Neve, "C" - Calrec. Power requirements 240 V approx. 400 W. Sub-units ME12/10A,

ME12/9G, UN10/12, GE1/8B, ME12/10B, AM6/17, GE1/8A. SCPD 1984.

- DK040043 DK4/43A-C General Purpose Sound Desk MK5. General Purpose Sound Desk, built commercially to BBC Specification. Format: 16 channels, 2 stereo groups and independent, 2 stereo echo returns, 10 outside sources, comprehensive monitoring and talkback facilities. Based on Mark 1A/4 but without Bush House extras. Intended as a replacement for Marks 1, 1A, 2 and 2D in Broadcasting House. Code suffix; "A" - Audix desks, "B" - Neve, "C" - Calrec. Power requirements 240 V approx. 400 W. Sub-units ME12/10A, ME12/9G, UN10/12, GE1/8B, ME12/10B, AM6/17, GE1/8A. SCPD 1984.
- DK040044 DK4/44
DK4/44A Conductor's Desk. Conductor's talkback and monitoring unit. Used in installations using AM10/21 Headphone Monitoring Amplifiers. Provides two-way communication between a conductor or musical director and the producer or operator in the sound control cubicle and allows the conductro/MD to listen to the studio output or the cues sent to the AM10P/21s. An additional stereo input is overpluggable on a pair of PO jacks on the rear of the case. Units suffixed A have a modified pendant telephone fitted to allow private conversation. Mounted in a sloping front steel case with removeable front and bottom panels. Connections by a Varicon 38 way fixed plug. Power requirements 24 V dc at 250 mA Max. Sub-units AM10/20A, AM10/20C. Radio Engineering Services 1985.
- DK040045 DK4S/45 Digital Audio Mixing Desk. A small portable audio mixer containing faders and other controls to function in conjunction with the EP11SM/13 to provide three channels of mixing facilities in the digital audio domain. Power Requirements: +5 V; ±18 V. Sloping front box approx 300 x 400 x 150mm. Parent equipment EP11S/12. DD(3) 1986.
- DK040046 DK4S/46 Digital Audio Mixing Desk. A small portable console containing faders and other controls to function in conjunction with the EP11SM/13 to provide three stereo channels of mixing facilities in the digital audio domain. Power requirements: +5 V; ±18 V Chassis: Sloping front box approx. 300 x 400 x 180mm. Parent equipment EQ11S/12. D & ED (A) 1986.
- DK040047 DK4S/47 Digital Audio Mixing Desk. A small portable console, providing faders and ancillary controls for the mixing of three audio channels (2 digital and 1 analogue) under the overall control of a main fader. The electronic units are contained in the associated processing equipment EP11SM/15. Power requirements +5 V, ±12 V (from EP11SM/15). Desk top console, 420 mm x 300 mm x 175 mm. Chassis extender CH1A/52. Parent equipment EP11S/14. D & ED (A) 1987.
- DK050501 DK5/501 Subtitle Preparation Desk. The Desk is to be used for the preparation of subtitles for TV programmes on videotape. It consists of a pair of equipment consoles approximately 730mm high linked by a horizontal panel. The subtitling equipment is housed in the two consoles and the associated

QWERTY keyboard and video monitors are mounted on the panel. 2280mm (L) x 900mm (W) x 730mm (H) approx. DD 1982. DDMI 7.505(83).

DK050502 DK5/502 Cinemascope Data Preparation Desk. The DK5/502 is the operator's desk for Cinemascope Data Preparation. It houses a D.E.C LSI1123 Minicomputer, a 4 U equipment panel and control and indicator panels. The desk is constructed mainly of square-section aluminium tube, is mounted on castors and contains a mains distribution panel with four standard 13 A sockets. Power requirements 240 V ac. Length 1260 mm, depth 600 mm, height 785 mm. Parent equipment EP1S/553. DD(7) 1985. MI 7.542(86).

DK050503 DK5/503 Real Time Subtitling Desk. Desk and separate equipment trolley to house live subtitling equipment EP1S/552. Parent equipment: EP1S/552. Sub-units: PA6/156. DD(3) 1986.

DM010002 DM1/2C PSK Demodulator. 27.1kHz version of DM1/2. DD 1978.

DM010004 DM1/4 FM Demodulator containing a high level FM detector, tunable over Band II with an audio output amplified to a level suitable for driving headphones. Requires -24V or -50V. Diecast box 114mm x 64mm x 30mm. DD 1977. DDMI 5.332(77). DDHB 5.126(77). EDI 10326(1)OCT77.

DM010005 DM1/5 76kHz DPSK Demodulator. This unit accepts a 10V p-p 76kHz squarewave with 4-phase differential phase shift keying modulation ($\pm 90^\circ$). The signal is demodulated using a carrier recovery technique and serial data and clock outputs are provided. The unit is intended to be used with the AM6/19 limiting amplifier. CH1/63. DD 1977.

DM010006 DM1/6 A.M. Demodulator to monitor the modulation and carrier level of A.M. transmitters. Power requirements 24V to 50V d.c. Diecast box. DD 1977. DDMI 5.352(78). DDHB 5.133(78).

DM010506 DM1M/506 T.V. Transmitter Demodulator. Demodulates the output of a U.H.F. transmitter for quality monitoring purposes. Power requirements 240 V ac $\pm 6\%$. Supersedes DM1M/501. Sub-units AM5/540, AM21/507, CO2/27, MN5/506, DM2/515, DM3/506, DM4/502, FL2/568, OS3/512. DD 1984.

DM020001 DM2/1 AF Tone Detector Rejector. The unit accepts an audio signal, it detects a tone and gives a c/o relay output, it rejects the tone and passes the audio out to line. Power requirements 240V mains or 24V or 30V. CH1/64A. TCPD 1982.

DM020002 DM2/2 23/76kHz Detector Rejector. The unit accepts a stereo multiplex signal, detects 23 and 76kHz signals and provides a c/o relay contact output. The two signals are also cancelled out of the multiplex signal. With 19kHz pilot tone applied then the 23kHz detector and rejector are muted and relay contact c/o output provided. Power requirements 240V mains or $\pm 12V$ or $\pm 15V$. CH1/64A. TCPD 1982.

DMO20003 DM2/3	AF Tone Detector Rejector. The unit accepts an audio signal, it detects a tone and gives a C/O relay output, it rejects the tone/tones and passes the audio out to line. Tone may be added after the filter and the detector may be arranged to detect the output tone. Power requirements 24V or +12V -12V. CH1/65A. TCPD 1982.
DMO20004 DM2/4	AF Tone Detectors. The unit has an AF buffer stage followed by two tone detectors with front panel indication and rear connector changeover contacts. Power requirements $\pm 12V$ or 24V at 80mA. CH1/65A. TCPD 1983.
DMO20512 DM2/512	Chrominance Demodulator. This unit forms part of the ME3M/502 TV waveform analyser. It provides a demodulated chrominance signal for the measurement of differential gain. Power requirements +5V, +12V, -12V. BMM 4U card. Parent equipment ME3M/502. Sub-units FL4/590, FL2/566. DD 1981. DDMI 9.315(83).
DMO20513 DM2S/513	Chrominance Demodulator. This unit digitally demodulates PAL chrominance into its U and V components. It requires digitised inputs of chrominance and subcarrier phase. Intended for 13.5 MHz digital video operation. Power requirements (approximate) +5 V, 2 A; -5 V, 0.1 A. 4 U unsupported PCB, with 57-way double-sided edge connector. Parent equipment CD3M/546. DD 1985.
DMO20514 DM2/514	Vision Demodulator. Used in the RC5M/503 to demodulate the 40.75 MHz vision signal and to provide 40.75MHz carrier lock OS3/512. Power requirements ± 18 V dc. CH1/86. Parent equipment RC5M/503. DD(5) 1985.
DMO20515 DM2/515	Vision Demodulator. Synchronous vision demodulator operating on shaped I.F. with vision carrier frequency at 40.75 MHz. Power requirements ± 12 V +5 V. Parent equipment DM1M/506. DD 1984.
DMO30005 DM3/5	Tone Demodulator. This unit is part of the EP2M/8, audio line signalling system. This unit accepts programme and tones and separates these. The presence of an individual tone is detected and this drives external logic to perform a switching function. CH1/65C. DD 1977. DDMI 6.319(78).
DM3/5A	G.T.S. Tone Demodulator. This unit is used to decode a Greenwich Time Signal (G.T.S.) information that has been transmitted 'above' a sound programme circuit. The signalling consists of one tone that has been switched with G.T.S. and at all other times is off. Another tone spaced 200Hz away is used for monitoring the condition of the transmission circuit for level or complete failure. To convert from a DM3/5 to DM3/5A a board 3 has to be added. The tone frequencies and programme bandwidth can be altered by changing a filter (FL4/65A-L) contained in both MD3/10 and MD3/10A. Power requirements +12V at 195mA, -12V at 140mA, +5V at 400mA. CH1/65C. Parent equipment EP2M/8. DD 1979. DDMI 6.354(80).
DMO30006 DM3/6	4-phase DPSK Demodulator. This unit is part of the EP2M/8, Audio line signalling receive equipment. The unit accepts a 4-phase DPSK modulated signal from the DM3/5. It

demodulates this signal and the resultant bitstream is used to perform external switching functions. CH1/65C, 64-way G06 back connector. DD 1977. DDMI 6.350 (80).

DM030007 DM3/7A,B Frequency Demodulator for use in VHF Stereo Systems. Demodulates 2nd IF output from AM21/4. 'A' version 1MHz IF. 'B' version 1.6MHz IF. CH1/26A. DD 1977.

DM030008 DM3/8 FSK Demodulator. A 3-tone FSK demodulator intended to operate in conjunction with the MD3/12 or signals from Fault reporters TM1M/1 and TM1M/2. +5V, -12V, 0V. CH1/63. DD 1977.

DM030009 DM3/9 FSK Demodulator. Circuit came as DM3/8 except for pin outs. Tape master circuit of DM3/8. CH1/63 chassis transferred to PN1/29J. Power requirements +5V, -5V or -12V, CH1/64J. Parent equipment PA1M/103. DD 1978. DDMI 2.443(80). DDHB 2.444(80).

DM030010 DM3/10 FSK Demodulator. 150 baud FSK Demodulator for use with MIC Dissemination Data. Power Requirements +5 V; -12 V. 4 U Unsupported PCB with 'J' width Front Panel. Chassis extender CH4/5. Parent equipment PA1M/103 & PA1M/104. DD(2) 1986.

DM010007 DM1/7A & B Phase Demodulator. A version: Derives 50 Hz data and clock pulses from a 23 kHz phase modulated sound subcarrier. B version: Derives 50 Hz data and clock pulses from a 19 kHz phase modulated sound subcarrier. Power requirements +5 V, ±12 V. 4 U unsupported board with front panel. Chassis extender CH4/5. DD(2) 1986.

DM030506 DM3/506 Sound Frequency Demodulator. Demodulates mono sound from I.F. input of 34.75 MHz. Has auxiliary outputs of 6 MHz for deviation meter, 6.55 MHz for digital sound and non-de-emphasised sound for tone detectors. Power requirements ±12V +5V. Parent equipment DM1M/506. DD 1984.

DM040001 DM4/1 DPSK 75kHz Demodulator. This unit accepts a 1V p-p stereo multiplex signal with a 76kHz differential phase shift keyed (by the data) subcarrier added at -30dB with reference to 1V p-p. The DPSK signal is demodulated using a carrier recovery technique and serial data and clock outputs are provided. Data rate options of 50, 110 and 160 band are covered by the use of different values of resistor and a 3 way wire link. Power requirements +12V, +5V, -12V d.c. PN1/29J 4U unsupported board. DD 1979. DDMI 2.450(81).

DM040002 DM4L/2 Band II Phase Demodulator. For use with a pair of TM4M/5 drive equipments. The phase comparator senses the difference in phase between the two halves of the output transmitter and delivers a suitable correction voltage to the TM4M/5 to minimise any phase error. Power requirements 50mA maximum (constant current feed internally regulated to 9V). CH1/64A and Termination Panel PN3A/53A. DD 1979. DDMI 5.382(80). EDI 10389(1)MAY80.

DMO40003 DM4/3 Band II Phase Demodulator. This unit is a sub-unit of DM4L/2. Power requirements 100mA maximum at 12 -15V. CH1/64A. DD 1980. DDMI 5.382(80).

DMO40004 DM4/4 Audio Polarity Detector. Part of TE1/45, Audio Polarity Tester. Indicates unambiguously presence and polarity of test signal by lamps and audible warning device. Powered when plug is inserted in input jack. Power requirements Battery, 9V PP3 type. Plastic case 120 x 65 x 40mm. Parent equipment TE1/45. DD 1983. DDMI 9.325(84). DDHB 9.203(84).

DMO40005 DM4/5 676 kbit/s PSK Demodulator. Demodulates a +5dBm 70MHz carrier bearing PSK data into two quadrature baseband signals, suitable for decoding by a CD3/46. The 70MHz signal must be band-pass filtered before input to this unit. Intended for use with CD2/28, MD4/2 and CD3/46 as part of CML link PML15. Power requirements +5V 500mA; -15V 150mA. Unsupported P.C.B. 9" x 5" approx. DD 1983. DDMI 5.444(84). EDI 10500(1)JAN 85. EDI 10500 (1) JAN 85.

DMO40006 DM4/6 2048 kbit/s PSK Demodulator. Demodulates a 7.5 MHz carrier bearing PSK data into two quadrature base band signals. Suitable for decoding by a CD3/43 decoder. Intended for use with CD2/31, MD4/5 and CD3/48. Power requirements +5 V, 600 mA; -5 V, 130 mA. 4U PCB mounted in a CH1/64A chassis. Parent equipment RC2L/4. DD 1985. EDI 10518(1)JUL85. DDMI 5.458(85).

DMO40008 DM4M/8 D.S.S.T.TV Demodulator. The Digital Stereo Sound with Terrestrial Television (DSSTTV) Demodulator accepts a quadrature-phase-shift-keyed (QPSK) modulated carrier at an IF of 6.553MHz, and demodulates the signal to recover a serial binary data-stream and associated clock signal at 728kbit/sec. The unit demodulates the input signal to recover I & Q phase-axes data at symbol-rate (twice bit-rate). The I & Q data are passed on to clock-recovery and decoder circuits, which reform the serial bit-stream at 728kbit/sec, and recover the clock signal for optimum data sampling. These clock data-signals are available as TTL outputs, ready for the 728kbit/sec Decoder (CD3SM/54). Power requirements 240Vac. PN3/54. Sub-units PS2/205B, PS2/205G, CD3/55, DM4/9, FL2/32, ME4/3, UN26/97. RD 1987.

DMO40009 DM4/9 QPSK Demodulator. This unit forms part of the Digital Stereo Sound with Terrestrial Television Demodulator. The demodulator recovers data signals from the two orthogonal I & Q phase-axes of the quadrature-phase-shift-keyed digital sound signal. A reference carrier signal used for demodulation is recovered from the filtered 6.552MHz IF input signal, using the technique of baseband remodulation with Costas loops. The demodulated I & Q data waveforms are available for processing by other units within the demodulator. Power requirements +12V (240mA), -12V (180mA). CH1/64A. Chassis extender CH1A/43. Parent equipment DM4M/8. RD 1987.

DMO40010 DM4/10 2048kbit/sec TFM Demodulator. This unit demodulates a 7.5MHz carrier, bearing TFM data, into two quadrature

basedband signals, to be decoded by CD3/56. It is intended for use with CD2/40, MD4/8 and CD3/56. Power requirements $\pm 5V$. CH1/86K. Parent equipment RC2L/5. Supersedes DM4/10. D & ED (RF) 1987.

DM040011 DM4/11

RDS Demodulator. This unit forms a Radio Data Demodulator, and is used in conjunction with a CD4S/23 RBS Data Converter to form a complete Radio Data Receiver. The unit is built on a printed circuit board that is designed to sit 'piggy back' on the CD4S/23. Power requirements $+5V$, $\pm 12V$. 151mm x 205mm. Parent equipment CD4S/23. D&ED (RF) 1987.

DM040012 DM4/12

6.552MHz QPSK Demodulator. This unit, based on a Toshiba demodulator IC, takes in a 6.552MHz QPSK signal, and produces one output each (plus monitoring) of derived data and clock bit-stream at a rate of 728kbit/sec. It forms part of the Digital Stereo Sound with Terrestrial Television Equipment. Power requirements $+12Vdc$. CH1/64A. Parent equipment CD3SM/57. Chassis extender CH1A/43. D&ED (L) 1987.

DM040501 DM4/501

Phase Demodulator and Burst Locked Oscillator. Demodulates subcarrier of test waveforms for measurement of differential phase. Produces analogue output of phase and is self-calibrating under microprocessor control. Power requirements $+5V$, $+12V$ and $-12V$. BMM 4U card. Parent equipment ME3M/502. DD 1980.

DM040502 DM4/502

Vision Phase Demodulator. Provides phase demodulated output of vision carrier for monitoring incidental phase modulation of vision carrier. Power requirements $\pm 12V$. CH1/86. Parent equipment DM1M/506. DD 1984.

EP010024 EP1/24A Control and Indication Panel for Band II Transmitters. The system indicated the transmitter state in mimic diagram form, generates alarms on fault conditions, provides an output suitable for driving a TM1M/1, and controls the transmitter drive selection. Power requirements mains. Sub-units PA6M/97A, PA6M/97B and PA1/107. DD 1979.

EP010025 EP1M/25 Automatic Polarity Comparator Equipment. The function is to compare automatically the polarity of two monophonic audio signals which have travelled to the point at which comparison is to be made, over different (true frequency) routes, from a common source. Power requirements from Stabilised Power Supplier PS2/163. +25V, +12.5V. PN3/55. Sub-units MN1/22, PS2/163, and optional others UN14/12, UN14/25. DD 1980.

EP010026 EP1/26 Tape Control Equipment. Equipment provides comprehensive repro and record facilities for up to 10 tape machines/grams with full monitoring. Consists of: Monitor Panel (to be coded PA6/119), Repro Select Panel (to be coded as PA6/120), Record Select Panel (to be coded PA6/121), Additional Record Select (panel to be coded PA6/122). Power requirements 12 watts at 250V Monitor Panel PA6/119 only. Sub-units PA6/119, PA6/120, PA6/121, PA6/122. SCPD (SSRU) 1981.

EP010027 EP1SM/27 Software Development Equipment. Software development system based on the Z80 ZEUS system. 32K RAM expandable to 48K; dual 8" floppy disk drives; 16K firmware including disk operating system, Z80 assembler, editor, monitor; 80 x 24 memory-mapped VDU; RS232 and parallel I/O; single-step and breakpoint facility; can support CP/M. Supplied with picture monitor, keyboard, printer and 48K of system utilities. Power requirements 240V ac mains. 2 x PN3/54. Sub-units PA6M/108, RD3M/1. DD 1981. DDHB 2.464(82) Part 1. DDHB 2.465(82) Part 2. EDI 10418 (1) SEPT 81. DDHB 2.466(82), 2.467(82).

EP010028 EP1M/28 Masthead Control Terminal. Accepts 8-bit parallel binary inputs which are processed to provide FSK tones to line in serial form. Accepts a similar serial input which is converted to 8-bit parallel binary output. Power requirements 240V AC. PN3/54. Sub-units CD3/35, UN26/20, DM3/9, MD3/14. DD 1981. DDHB 2.464(82) part I, DDHB 2.465(82) Part II.

EP010029 EP1M/29 Masthead Control Terminal. Accepts single bit binary inputs from the Masthead Indication Equipment EP1M/30 and processes these bits to provide an output to line of FSK tones. Similarly accepts an input of FSK Tones which are converted to 8-bit parallel binary outputs. Sections of the unit receive a battery-maintained supply from the Indication Equipment Power requirements 240V AC and +5V DC. PN3/54. Sub-units UN21/49, CD3/41, CO8/7, UN26/20, CD3/42, DM3/9, MD3/14. DD 1981.

EP010030 EP1M/30 Masthead Indication Equipment. Provides Data Selection from up to 256 inputs using address codes from the Masthead Control Terminal (2), EP1M/29. Contains a battery-

maintained power supply for use with the Masthead Control Terminal (2), EP1M/29. Power requirements 240V AC. PN3/54. Sub-units CD2/25, PS2/267. DD 1981.

EP010031 EP1M/31 Transcoder Monitoring Equipment. Monitors status of two transcoders. Checks voltages and temperatures. Gives warning and Alarms. Outputs video display for each Transcoder. Power requirements 240V AC. PN3/54. Sub-units PS2/187H, PS4/9A, GE8/505 x 2, UN27/1, UN26/31, UN23/130 x 2, CO1/12, CO8/12. DD 1982. DDHB 1.171(82).

EP010032 EP1M/32 Switching Command and Acknowledgement Equipment. Takes command instructions from a control panel and translates these commands to implement a pattern of waveguide switching appropriate to the command. Receives acknowledgements of the waveguide switch positions and converts these switch patterns to a light display on the panel consistent with the issued command, or with an acknowledgement failure, gives error indications. Power requirements 240V AC, 70 VA max. PN3/54. DD 1982.

EP010033 EP1P/33 Data Distribution Terminal Equipment. Data Terminal for Transmission Department Maintenance Teams. Receives 75kHz FSK Data from B II Carrier or Line-Data. Produce printout data relative to the teams area on request. Microprocessor Based System. Power requirements 240 AC mains. Reduced PN3/54 with Plastic Cheeks and Carrying Handles. Sub-units PS2/184, DM4/1, UN26/52, UN27/7 (2 off). DD 1982. DDMI 2.474(83). DDHB 2.500(84). DDTM 2.512(86) (Software).

EP010035 EP1M/35 Monitoring and Control Equipment. 19 inch 4U rack housing a Zeus based system for the monitoring and control of a suitable operational panel. The unit takes up to 144 momentary action switch inputs, 6 keyswitch inputs, 12 clock inputs to 10 bit counters and 6 clock inputs to 8 bit counters. Buffered I/O to remote units is provided. Power requirements 240V a.c. PN3/54. Parent equipment EP5/52 and EP5/519. Sub-units 2 x PS4/18A, UN26/31, UN27/7, UN27/1, UN26/58, UN23/130, 2 x UN23/153, 3 x UN23/155, 3 x UN23/156. DD 1983.

EP1M/35A Monitoring and Control Equipment. 19 inch 4U rack housing a ZEUS based system for the monitoring and control of an operational panel. The unit takes up to 144 momentary action switch inputs, 6 keyswitch inputs, 12 clock inputs to 10 bit counters and 6 clock inputs to 8 bit counters. Buffered I/O to remote units is provided. Power requirements 240 V ac. PN3/54. Parent equipment Effects Workshop Equipment EP5/520. Sub-units 1 x PS4/18A, UN26/31, UN27/7, UN27/1, UN23/130, 2 x UN23/153, 2 x UN23/155, 2 x UN23/156. DD 1983.

EP1M/35B Monitoring and Control Equipment. As per EP1M/35A but sub-units customised for use with EP5/521 Effects Mixing Equipment. Power requirements 240 V ac. PN3/54. Parent equipment EP5/521. Sub-units PS4/18A, UN23/153 x 2, UN23/155 x 2, UN23/156 x 2, UN26/31, UN26/59, UN23/130, UN27/1, UN27/7. DD 1984. DDHB 8.425(84).

EP010036 EP1/36 Electralog Interface. The Electralog Interface provides an interface between Electra (RD4/509) and the Electralog

Computer (EP1/37). It also provides power for two control panels (UN3/76 and UN3/77) and is itself a control panel for disc functions. Power requirements AC mains. Parent equipment RD3/501. DD 1983.

EP010037 EP1/37

Electralog Computer. The Electralog Computer comprises unmodified commercially available equipment. It forms both the control and the storage elements of the ELECTRALOG system. Power requirements AC mains. Parent equipment RD3/501. DD 1983.

EP010038 EP1M/38

Analogue Control Equipment. 19" 4U rack housing a Zeus based analogue control system. Analogue outputs: 32 off -5V to +5V, 9 off -9V to 0V. Digital outputs: 128 off buffered TTL. Power requirements 240V a.c. PN3/54. Parent equipment EP5/519, EP5/520. Sub-units PS4/9A, PS2/187G, 8 x UN23/152, UN23/154. DD 1983. DDHB 8.407(83) Part 3.

EP1M/38A

Analogue Control Equipment. 19" 4U rack housing a Zeus based analogue control system. Used to drive all the units associated with the A-B Roll TK Programmable Mixer. Analogue outputs:- 24 off -5 V to +5 V, 9 off -9 V to 0V. Digital outputs:- 80 off buffered TTL
16 off relay closure.

Power requirements 240 V ac. PN3/54. Parent equipment EP5/519 A-B Roll TK PPA. Sub-units PS4/9A, PS2/187G, UN23/154, UN23/152 X 6, UN23/163, UN21/59. DD 1984.

EP1M/38B

Analogue Control Equipment. Similar to EP1M/38 but having 4 off UN23/152. Sub-units customised for use with EP5/521 effects mixing equipment.

19" 4U rack housing a Zeus based analogue control system.

Analogue outputs:- 16 off -5 V, 9 off -9 V to 0 V.

Digital outputs:- 64 off buffered TTL.

Power requirements 240 V ac. PN3/54. Parent equipment EP5/521. Sub-units PS4/9A, PS2/187G, 4 x UN23/152, 1 x UN23/154, 1 x UN23/163. DD 1984.

EP010039 EP1M/39

Base Station Memory Equipment. Z80 Computer system designed as event store for effects workshop equipment. Power requirements 240V mains. 4U crate. Parent equipment EP5/520. Sub-units CD3/39, UN26/31, UN27/24, UN23/130, PS4/18A, CO4/6, UN27/1, GE8/505, UN26/59, CO10/2. DD 1983. DDHB 8.419(84).

EP1M/39A

Base Station Memory Equipment. Zeus type memory system for TC3 μ FX system. Interfaces with EP1M/35 and RD3M/1. Hardware identical to EP1M/39 but different proms fitted, therefore different function. Can not be user customised. Power requirements mains powered. PN3/54. Sub-units CD3/39, CO4/6, CO10/2, UN26/31, UN27/1, UN27/4, (x 2), GE8/505, UN23/130, UN26/59 (x 2), PS4/18A. DD 1984.

EP010040 EP1M/40

PCM Test Equipment. This equipment comprises a 5U frame containing existing units of various sizes to provide special test facilities during the expansion of the PCM distribution system. Power requirements 240V A.C. 50Hz. 5U, BMM-like special. Sub-units PS2/194 (X2), CD4/7, GE4/10, GE7/1. DD 1983.

EP010041 EP1M/41 A-B Roll Base Station. Zeus-type crate to be used on base memory system for A-B Roll TK Programmable Mixer, designed to interface with panel supervisor and RD3M/1. Power requirements mains. PN3/54. Sub-units CO4/6, CO10/2, UN26/31, UN27/1, UN27/24, (4 off) UN26/62, GE8/505, UN23/130, UN26/59, PS4/18A. DD 1984.

EP010042 EP1S/42 H.F. Transmitter Control System. Basic Control System for H.F. stations providing control, monitoring, ATE interface and remote operation. Power requirements: 240 V ac, +24 V dc. PN3/54 and other 1 U and 4 U 19" panels. Sub-units: AM4/26, AM4/530, MN8SM/5, MN8SM/6, PA1S/136, PA6SM/159, RD3M/1. D & ED (C) 1986.

EP010043 EP1/43 Studio Audio Pattress. An assembly of three audio pattress panels hinged on a steel box with bottom cable access. First used G.P. Radio Studios. Power requirements -50V. Box 580H x 280W x 125D. Sub-units PA1/132, PA1/133, PA1/134. SCPD RSS 1984.

EP010044 EP1/44 Studio Mains and Video Pattress. An assembly of three pattress panels hinged on a steel box with top cable access. Firs used G.P. Radio Studios. Power requirements 240 V ac. Sub-units PA9/27, PA9/28, PA1/581A-D or PA1/582A-D. SCPD RSS 1984.

EP010045 EP1M/45 Control and Indication Equipment. Encodes commands from pushbutton panels of Swains Lane to Crystal. Palace remote control system prior to action by EP1M/28 Control Terminal 1. Also provides display information to some of the pushbutton panels. Power requirements +5 V at 1.25 A. PN3/54. CD2/24 (11 off), CD2/27, CD3/30, CD3/31 (2 off), CD3/32. DD 1984.

EP010046 EP1M/46 Control Terminal 1. Controls operation of associated push button panels and on entry of a command communicates this via a modem to a remote terminal via a 4-wire B.T. link. Information returning from the remote terminal is also handled and passed to the push button panel displays. Power requirements 176-264 V ac 50 VA mas. PN3/54. Sub-units PS4/18A, CO10S/7, UN26/31, UN27/12, UN27/1, UN23/130, CD3/35, 4xCD3/37, UN21/49, UN23/146. DD 1984.

EP010047 EP1M/47 Control Terminal 2. Receives information via a 4-wire B.T. link from a push button control terminal. This information is sent to the equipment to be controlled. Revertive information from the controlled equipment is returned via this terminal and onwards via the 4-wire B.T. link to the push button control terminal display. Power requirements 176-264 V ac 50 VA max. PN3/54. Sub-units PS4/18A, PS2/267, 2 x CO8/7, CD3/42, CO10S/7, UN26/31, UN27/12, UN27/1, UN23/130. DD 1984.

EP010048 EP1M/48 Revertive Input Equipment. Receives revertive information from switched equipment and passes it onto an associated control terminal for processing and onwards to a push button control terminal display via a 4-wire B.T. link. Power requirements +5 V 615 mA. PN2/54. Sub-units 4 x CD2/25, UN23/146, UN12/22, UN23S/166. DD 1984.

EP010049 EP1M/49 Device Control Equipment. Controls external equipment from commands sent by an associated control terminal which have been received via a 4-wire B.T. link from another command control terminal. Power requirements +5 V 880 mA, +24 V 55 mA. PN3/54. Sub-units PS2/187, 5 x UN21/49, 2 x CD3/41, CD3/31. DD 1984.

EP010050 EP1S/50 Remote Control Equipment. Equipment to remotely control a satellite earth station to EBU requirements. Equipment consists of Intel multi-bus units and one BBC-designed board. Control is by keyboard and VDU screen. Power requirements 240 V ac. 2U high rack. Sub-unit UN23/167. DD 1984. HB 2.511(86).

EP010051 EP1S/51 Daventry Transmitter Control System. Automatic Control System for all the transmitting equipment at Daventry H.F. station which is capable of remote operation. The system also provides extensive station monitoring facilities and may be operated remotely. Power requirements: 240 V a.c., +24 V dc. PN3/54 and other 1 U and 4 U 19" panels. Sub-units: EP1S/42, PA1S/130, PA6SM/160. D & ED (C) 1986.

EP010052 EP1M/52 Limiter Insertion Equipment. Crate of 4 Limiting Amplifiers AM6/27 with associated power supplies and clock generator. Intended as independent unit for inserting AM6/27 limiters into either a studio chain or transmitter chain of equipment. Power requirements 240 V ac. 4 U BMM crate, PN3/54. Sub-units PS2/275, AM6/27, GE7/17. DD 1985.

EP010053 EP1M/53 MIC Output Peripherals Equipment. Rack containing output peripherals for MIC Main Store. Power requirements 9 V dc semi-regulated. 4 U BMM rack PN3/54. Supersedes PA1M/99, PA1M/100. Sub-units UN27S/24, UN26S/78, UN26S/79, UN26S/80, UN26S/81, UN26S/82, UN21/41, UN26S/83. DD (2) 1985.

EP010054 EP1/54 Needletimer. Device designed to time the 'On Air' duration of Grams, C.D. players, etc. to enable the accurate calculation of 'needletime' payable. The device has continuity/studio inputs each having 2 'On Air/In Network' inputs and 10 lines of which 6 can be selected by a patch panel and timed when the appropriate continuity/studio is broadcasting. Each input is optically isolated and requires 5-50 V at $\approx$ 3 mA. A further interface may be required with the continuity/studio circuits to achieve this. The output from the device is in RS423 ASCII format and the input/time channel names are stored in EPROM. An alarm is provided to cover software/hardware failure. Power Requirements 240 V ac, 10 VA. 3 U Eurocard Chassis. Recording Systems, Radio Engineering Services 1986.

EP010055 EP1SM/55 Control Panel Supervisor. 19" 4 U rack housing a Zeus based system for the monitoring and control of a suitable control panel. The unit takes up to 96 switch inputs and 12 clock inputs to counters with room for expansion. Buffered serial I/O, parallel outputs and a VDU output are provided. Power requirements 240 V a.c. BBC Chassis Code

PN3/54. Parent equipment EP5M/524. Sub-units 2 x UN23/155, 2 x UN23/156, 2 x UN23/153, UN26/31, 2 x PS4/18A, UN27S/24, GE8/505, CO4/6. DD(8) 1986. HB V.1062(87).

- EP010057 EP1S/57 Hong Kong Transmitter Control System. Automatic Control System for all the transmitting equipment at Hong Kong H.F. Station which is capable of remote operation. The system also provides extensive station monitoring facilities and may be operated remotely. Power requirements: 240 V ac, +24 V dc. PN3/54 and other 1 U and 4 U 19" panels. Sub-units: EP1S/42, PA1/114, PA1/139A, PA6SM/160, PA9/29, PA9/31, PA9/32. D & ED 1986.
- EP010058 EP1S/58 Seychelles Transmitter Control System. Automatic Control System for all the transmitting equipment at Seychelles H.F. station which is capable of remote operation. The system also provides extensive station monitoring facilities and may be operated remotely. Power requirements: 240 V ac, +24 V dc. PN3/54 and other 1 U and 4 U 19 " panels. Sub-units: EP1S/42, PA1/114, PA1/139, PA6SM/160, PA9/29, PA9/31, PA9/32. D & ED(C) 1986.
- EP010059 EP1S/59 Rampisham Transmitter Control System. Automatic Control System for all transmitting equipment at Rampisham H.F. station which is capable of remote operation. The system also provides extensive station monitoring facilities and may be operated remotely. Power requirements: 240 V ac, +24 V dc. PN3/54 and other 1 U and 4 U 19" panels. Sub-units EP1S/42, PA1S/130, PA6SM/160. D & ED(C) 1986.
- EP010060 EP1P/60 Radio Mic. Receiver Equipment. Free standing case for up to 2 off RC4P/10 Receivers. The case also contains audio line sending transformers. The receivers can be used singly or as a pair for diversity operation. It can be supplied with 0, 1, or 2 RC4P/10 Receivers (options 0, 1, 2). The equipment can be powered from either an EP1MP/61 direct from an external PSU PS4/50. Power requirements +24 V d.c. Case 133 mm H x 77 mm W x 384 mm D. Sub-units RC4P/10. D&ED 1986.
- EP010061 EP1MP/61 Radio Mic. Receiver Equipment. Free standing case for mounting up to seven RC4P/10 Receivers that can be used singly or as pairs for diversity operation. It can be supplied with 0 to 7 RC4P/10 Receivers (options 0-7). The case also contains audio line sending transformers. The audio output from each receiver can be monitored by an Audio Monitor MN4/16 and power can be supplied by an external PSU PS4/50. Power requirements +24 V d.c. Free standing 4 U high case. Sub-units RC4P/10, MN4/16, PS4/50. D & ED (RF) 1986.
- EP010062 EP1/62 Needle-Time Logging Equipment. This equipment automatically logs the on-air time of records. It includes a bar code reader, processor board, interface and real-time clock. Also, it has the option of a line driver, mounted in a die-cast box (AM7/31). Power requirements 240Vac. 2U high, 19" wide box. D & ED (S) 1987.

EP010063 EP1L/63	Transmitter Inhibiting Equipment. This equipment allows executive inhibition of VHF transmitters. It comprises a 4U high, 'C'-width printed circuit board and two plug-in sub-units, and requires a PN3/54 rack for mechanical support. Sub-units, MN1/33, SE1/12. TCPD 1987.
EP010516 EP1SM/516	Control Panel Supervisor. 19" 4U rack housing a Zeus-based system for the monitoring and control of a suitable control panel. The unit takes up to 96 switch inputs and 12 clock inputs to counters, with room for expansion. Buffered serial I/O, RS422 parallel I/O and a VDU output are provided. Designed for the TC5 Graphics Digital Combiner. Power requirements: 240 V ac. Chassis code: PN3/54. Sub-units 2 x UN23/155, 2 x UN23/156, 2 x UN23/153, UN26/31, 2 x PS4/18A, GE8/505, CO4/6, UN26/58, UN26/89. D & ED (V) 1986.
EP010535 EP1M/535	Video Digital Equipment, comprising 8 bit p.c.m. video coder and decoder with ancillary units. RD 1975.
EP1M/535A	Video Digital Equipment. The equipment is an eight-bit PCM video coder and decoder with ancillary units. The equipment is identical to the EP1M/525. Apart from that the digital signal outputs on new units will be through 25-way cannon 'D'-type connectors. The 'A' suffix to the code identifies the new units from the original units and these will retain outputs on 19-way Plessey 159 connectors. Sub-units UN23/641, CO9/503, UN26/520, PS2/197, PS2/148, PS2/144, UN26/524, GE1/590, GE4/557, OS1/522, UN9/599, GE2/633, GE2/626, GE2/625, and CO8/502. RD 1979.
EP010537 EP1M/537A	VTR Editing Equipment (EDIMACE). This equipment is a modified version of the EP1M/537 and includes an additional rear panel socket, wired to give time display information at the output. It is intended to be used with the PA6/538. DD 1977. DDTM 7.226.
EP010540 EP1/540	UHF low noise pre-amplifier similar to EP1/539 but giving 15dB gain from an Avantek amplifier type UA441. TCPD 1976.
EP010546 EP1M/546	Klystron Amplifier Solid State Control Equipment. This is a general purpose design intended to replace obsolescent relay equipment. Contains CO1/510, CO1/511, CO1/512, UN23/644 and UN23/645. PN3/54. TX 1977.
EP010549 EP1M/549	Apology Caption Equipment. Contains two UN26/534 Processors which normally provide apology captions to the A and B chains of a transmitter P.I.E. Bay. 1U chassis size. The two UN26/534 cards are arranged side by side in a horizontal position and are a slide fit from the rear. DD 1977.
EP010550 EP1M/550	Telecine Control Equipment. The Telecine Control Rack is a constituent part of the CINETRACE system. Telecine control and Frame Combing functions are up-dated every frame. Power requirements 240V AC, $\pm 18V$ unregulated, +8V unregulated. PN3/58. Parent equipment RP3/514. Sub-units AM1/59, GE1/601, PS2/288, UN26/54. DD 1982.

EP010551 EP1/551 CEEFAX Subtitle Preparation Equipment. Equipment to prepare subtitles for the CEEFAX service for the deaf and hard of hearing. Titles are prepared using a QWERTY keyboard and video monitor, video and sound being generated from a VCR. The subtitle timing data and text are stored on an 8" floppy disc. Power requirements 240V a.c. mains 5A. Sub-units DK5/501, RD4L/513, PA1/127. DD 1982. DDMI 7.506(83).

EP010552 EP1S/552 Real Time Subtitling Equipment. Enables ceefax subtitles to be prepared for live TV programmes. Power requirements 240 V ac 5 A. DD 1983. MI C.1010(87).

EP010553 EP1S/553 Cinemascope Data Preparation Equipment. Equipment for the preparation of data to define the position of a wide screen film which will be displayed by a standard 4 x 3 TV format during subsequent transmission. Power requirements 240 V ac, 500 W. Sub-units GE6/556. DD 1984. DDHB 7.336(86). DDMI 7.545(86).

EP010554 EP1S/554 Cinemascope Replay Control Equipment. Equipment to provide Telecine "patch" control during the transmission of Wide Screen Films. Power requirements 240 V, ac 500 W. DD 1984. DDHB 7.336(86). MI 7.552(86).

EP010555 EP1/555 Coded TARIF Processing Equipment. Provides conventional 'TARIF' colour correction of a PAL signal using a Decoder, TARIF TWO (EP6L/509), and Coder (CD2L/522). An SPG genlocked to incoming video provides all necessary synchronising waveforms. All equipment is contained in 13U of rack space and mounted on a mobile trolley. Power requirements 240 V ac. 13U (4U and 3U Crates + 4 x 1U Crate + 2U Jackfield x full width. Sub-units EP6L/509, CD2L/522, GE6/560. DD 1985.

EP010556 EP1M/556 Receiver & Video Distribution Equipment. A 4U Mainframe with 2 CHIA/35A Chassis Adaptors containing 6 AM4/530 DA's, each with a PA20/504B Termination Panel, and 2 RC1/23 60 kHz Rugby Receivers powered by 2 PS5/9 DC to DC Convertor Power Suppliers. Used as part of H.F. Transmitting Station Automation Equipment to distribute to video displays, station status information and receive Rugby time information. Power requirements 240 V ac, +24 V dc. Chassis code: PN3/54 Plus CH1A/35B. Sub units: AM4/530 (6 off), RC1/23 (2 off), PS5/9 (2 off), PA20/504A (6 off), D & ED (C) 1986.

EP010557 EP1/557 VANTAGE Editing Equipment. This is a fully comprehensive VT edit control system. It comprises an Edit Panel (PA6/177), one or two Playback Panels (PA6/178), an Edit Controller rack (PA1M/589), a VTR Interface rack (PA1M/588), and a PC-based Edit Decision Management System. Power requirements 240Vac. Sub-units PA1M/588, PA1M/589, PA6/177, PA6/178. D&ED (C) 1987.

EP020007 EP2M/7 Audio Line Signalling Equipment, Send. This equipment is used to provide signalling information 'above' sound programme circuits. This signalling consists of two tones spaced 200Hz apart in the band 6-16kHz. For ex ample, the

tones could be 6.6kHz and 6.8kHz; 7.6kHz and 7.8kHz etc. up to 16.6kHz and 16.8kHz. The tone frequencies and programme bandwidth can be altered by changing a filter (FL4/64A-L) contained in the MD3/10. Power requirements 210-260V a.c. at 6W. 2U 482mm BMM sub rack. Sub units PS2/194A, ME3/10 and FL4/64A-L. DD 1979.

EP2M/7A

Audio Line Signalling Equipment, Send. This equipment is used to provide signalling information 'above' sound programme circuits. The signalling consists of two tones spaced 200Hz apart in the band 6-14kHz. For example the tones could be 6.6kHz and 6.8kHz; 7.6kHz and 7.8kHz etc., up to 14.6kHz and 14.8kHz. The 'upper' tone e.g. 7.8kHz can be used as a carrier and modulated by differential phase shift keying (dpsk). The 'lower' tone e.g. 7.6kHz could be used for security. The tone frequencies and programme bandwidth can be altered by changing a filter (FL4/64A-L) contained in the MD3/10. Power requirements 210-260V a.c. at 12W. 2U 482mm BMM sub rack. Sub units PS2/194A, ME3/10 + FL4/64A-L and MD3/11. DD 1979.

EP2M/7B

Audio Line Signalling Equipment, Send. This equipment is used to provide two separate pairs of signalling information 'above' sound programme circuits. The signalling, that is generated independently for each tone pair, consists of two tones spaced 200Hz apart in the band 6-16kHz. For example, the tone pairs could be 6.6kHz and 6.8kHz; 7.6kHz and 7.8kHz etc., up to 16.6kHz and 16.8kHz. The separate pairs of tone frequencies and programme bandwidth can be altered by changing the filters (FL4/64A-L) in each separate MD3/10. Power requirements 210-260VA at 12W. 2U 482mm BMM sub rack. Sub-units PS2/194A, MD3/10 + FL4/64A-L. DD 1979.

EP2M/7C

Audio Line Signalling Send Equipment. This equipment is used to provide two tones of signalling information 'above' sound programme circuits. The signalling that is generated consists of two tones 200Hz apart in the band 6-16kHz. For example, the tone pair could be 6.6kHz and 6.8kHz; 7.6kHz and 7.8kHz etc. up to 16.6kHz and 16.8kHz. The pair of tone frequencies and programme bandwidth can be altered by changing the filter (FL4/64 A-L) in the MD3/10. An AM6/18 limiter or AM7/12 amplifier can be used and remote switching of the limiter is possible by the inclusion of a relay/opto-isolator unit. Power requirements 210-260V 6W. Sub-units PS2/194A, MD3/10, AM7/12, AT2/18, UN21/46, AM6/18. DD 1981.

EP020008 EP2M/8

Audio Line Signalling Equipment, Receive. This equipment is used to decode signalling information that has been transmitted 'above' a sound programme circuit. The received signalling should consist of a tone pair spaced 200Hz apart in the band 6-16kHz. For example, the tone pair could be 6.6kHz and 6.8kHz; 7.6kHz and 7.8kHz etc., up to 16.6kHz and 16.8kHz. The equipment can be altered to accept a different tone pair by changing local oscillators and programme filter (FL4/65A-L) contained in the DM3/5. Power requirements 210-260V a.c. at 6W. 2U 482mm BMM sub rack. Sub units PS2/194A, DM3/5 and FL4/65A-L. DD 1979.

EP2M/8A

Audio Line Signalling Equipment, Receive. This equipment is used to decode signalling information that has been transmitted 'above' a sound programme circuit. The

received signalling should consist of a tone pair spaced 200Hz apart in the band 6-14kHz. For example, the tone pair could be 6.6kHz and 6.8kHz; 7.6kHz and 7.8kHz etc., up to 14.6kHz and 14.8kHz. The upper received tone would have been modulated by differential phase shift keying (dpsk). The 'lower' received tone e.g. 7.6kHz would be used for security. The local oscillators and programme bandwidth can be altered by changing two filters, FL4/65A-L contained in the DM3/5 and FL2/21A-L contained in the DM3/6. Power requirements 210-260V a.c. at 12W. 2U 482mm BMM sub rack. Sub units PS2/194A, DM3/5 + FL4.65A-L and DM3/6 + FL2/21A-L. DD 1979.

EP2M/8B

Audio Line Signalling Equipment, Receive. This equipment is used to decode two separate pairs of signalling information that have been transmitted above two sound programme circuits. The received signalling should consist of two tone pairs spaced 200Hz apart in the band 6-16kHz. For example, the tone pairs could be 6.6kHz and 6.8kHz; 7.6kHz and 7.8kHz etc., up to 16.6kHz and 16.8kHz. The equipment can be altered to accept different tones by changing local oscillators and programme filters (FL4/65A-L) contained in the separate DM3/5's. Power requirements 210-260VA at 12W. 2U BMM sub rack. Sub units PS2/194A, DM3/5 + FL4/65A-L. DD 1979.

EP020009 EP2P/9

Sound Multiplex Transceiver. This equipment will simultaneously multiplex and demultiplex a number of control/telephony channels and narrow-band music channels over an audio bearer of 15 kHz bandwidth. The telephony channels may be used in a 4-wire or a 2-wire mode. In the 2-wire Linesman mode and push button MF telephones may be used directly without additional units. This design is intended to replace the obsolescent EP2M/3 (Receiver) and EP2M/4 (transmitter). Power requirements 240V ac (100 VA) or 20-45V dc (100W). 4U rack mounting C/N case. Supersedes EP2M/3 and EP2M/4. DD 1984.

EP020502 EP2M/502B

OB Vision Carrier Equipment. This equipment receives a combined baseband and carrier signal. Both channels having video bandwidths, the baseband being d.c. to 5.5MHz; the carrier channel being 8.5MHz to 15.5MHz for vestigial side-band operation. The cable equalisation for a maximum 7.5Km with 9.5mm coaxial cable is equalised in the EP2M/503. Power requirements 220Vac to 260Vac at < 200mA. 7" Imhof-Bedco CDX. Sub-units FL1/520A, EQ13/503, EQ4/505, FL1/521, DM2/510, EQ5/529, PS2/131, EP2M/503, IN6/507. DD 1982.

EP020503 EP2M/503

Vision Carrier Equaliser Equipment. This equipment is used in conjunction with the EP2M/502, Vision Carrier Equipment. It equalises the vision carrier signal that is in the band 8.5MHz to 15.5MHz when used on coaxial cables of defined characteristics. This unit is the EQ4/508. It also houses a PA20/525 this being a termination panel for the incoming cables. Power requirements +12V at 50mA, -12V at 50mA. 2U BMM Frame, PN3/55. Sub-units EQ4/508, PA20/525. DD 1981. DDHB 6.198(82).

EP020504 EP2S/504

Digital Video Multiplexer. This unit produces a multiplexer digital video output signal which conforms to

EBU Tech 3246 from separate inputs of Y, C_B and C_R multiplexed, and TRS data streams. It also has the facility to produce colour bar test signals which can be remotely switched to the output. Power requirements -5.2 V and +5.0 V. BBC Chassis Code: Unsupported 4U card with PN1/29J front panel. Chassis Extender CH4/5. DD(1) 1986.

EP040005 EP4M/5 Data Recording Equipment. Floppy disk data recorder controller. This equipment provides all the electronics and power supplies to interface a Calcomp 140 floppy disk machine to an ICL 7181 VDU. 8 4U unsupported cards and 2 CH1/64B in PN3/54. DD 1976.

EP040503 EP4/503 "Cossack" Electrorlp Sub-titling Equipment. Records and replays electronically generated sub-titles synchronously with films. Contains a mini computer and dual drive floppy disk together with a keyboard and printer to instruct the computer. DD 1975. DDTM 7.219 7.268(79). DDHB 7.219(76).

EP050013 EP5/13 Sound Equipment for Remote Television Studios. Complete sound installation for unattended television studios. Contains 2 MIC.AMPS., 2 limiters, 2 Line AMPS, 1 PPM+AMP, 1 tone generator, and 2 power suppliers. Also simple monitoring facilities. All contained in one table top unit (which could also be rack mounted). SCPD 1979.

EP050015 EP5M/15 Equipment for Radio Continuity. Frame containing Audio Switches SE2/11, Voltage controlled amplifier AM 5/31 and Line drive amplifiers AM7/19. Power requirements +12V, 0, -12V; +6V, 0, -6V. 4U nesting box BMM. Parent equipment EP10/18. DD 1979. DDHB 3.255(82).

EP5M/15A Radio Continuity Equipment. 4U card frame mounting the group switching and pre-hear circuit cards for the London Continuity desk. Similar to EP5M/15 but with additional PH inputs. Power requirements ±12.5 volts, ±6 volts. PN3/54. Parent equipment EP10/19. Sub-units MX3/5, SE2/11, AM7/19. DD 1981. DDHB 3.255(82).

EP050016 EP5M/16 Channel Grouping Studio Equipment. 4U chassis mounting the circuit boards for the channel grouping and clean feed switching. Power requirements ±12 volts, ±6 volts. 4U Panel PN3/54. Parent equipment EP10/19. Sub-units SE2/11, MX3/4, MX3/5. DD 1981. DDMI 3.699(81). DDHB 3.267(82).

EP050017 EP5M/17 Continuity Output Studio Equipment. 4U chassis mounting the circuit boards for the continuity output switching and the GTS and Tone insertion switching. Power requirements ±12 volts, ±6 volts. PN3/54. Sub-units AM5/31, SE2/11. DD 1981. DDMI 3.700(81). DDHB 3.268(82).

EP050018 EP5M/18 Continuity Clean Feed Equipment. 4U chassis mounting the circuit boards for the continuity clean feed switching. Power requirements ±12 volts ±6 volts. 4U Panel PN3/54. Parent equipment EP10/19. Sub-units SE2/11, MX3/3, MX3/4, MX3/5. DD 1981. DDHB 3.275(82).

EP050019 EP5M/19 Radio Continuity Equipment. Frame Containing:
 Audio Switches SE2/11
 Stereo/mono Converters, MX3/3

Clean Feed Cards MX3/4
 Line Drive Amps. AM7/19
 Power requirements +12V, 0, -12V; +6V, 0, -6V. 4U BMM
 Nesting Box. Supersedes EP5M/14. Parent equipment
 EP10/18. Sub-units SE2/11, MX3/3, MX3/4, AM7/19. DD 1981.
 EDI 10416(1) AUG 81. DDHB 3.263(82).

EP050022 EP5/22 News Contribution Equipment. For use in unattended studios
 by non-technical staff such as reporters, under control of
 the nearest Broadcasting Centre. Power requirements mains.
 3U chassis, connection panel and self-operated desk.
 Supersedes DK4/24. Sub-units DK4/41, EP5M/23, PA1/129,
 MP1/31. DD 1983. DDMI 3.736(84). EDI 10488(2)AUG 85.
 DDHB 3.306(84).

EP050023 EP5M/23 Audio and Switching Equipment. Contains the electronic
 and audio equipment for the News Equipment EP5/22.
 Consists of standard 3U BMM frame in wall mounted box.
 Power requirements mains. 3U chassis. Supersedes DK4/24.
 Parent equipment EP5/22. DD 1983.

EP050024 EP5/24A & B Headphone Protector. This unit limits the sound level
 from a pair of headphones of 600Ω impedance or more using a
 hybrid thick-film circuit. It requires no power other than
 the audio signal and is housed in a moulded nylon case to
 fit either on a P.O. 316 jack-plug or in-line with the
 headphone lead. The unit can be supplied in kit form
 installation by user departments. Stereo Version - A.
 Mono Version - B. Approx. 60mm x 32mm x 15mm. Supersedes
 EP5/20A & B. DD 1984. EDI 10480(1)MAY 84. DDTM
 3.304(84). DDHB 3.292(84). DDMI 3.731(84). DDMI
 3.732(84).

EP050025 EP5/25A & B Headphone Protector. This unit limits the sound level from
 a pair of headphones of less than 600Ω impedance using a
 hybrid thick-film circuit. It requires no power other
 than the audio signal and is housed in a moulded nylon case
 to fit either on a P.O.316 jack-plug or in-line with the
 headphone lead. The unit can be supplied in kit form for
 installation by user departments.
 Stereo Version - A.
 Mono Version - B.
 Approx. 60mm x 36mm x 15mm. Supersedes EP5/21A & B. DD
 1984. DDMI 3.731(84). DDMI 3.732(84). DDHB 3.301(84).
 EDI 10481(1)AUG 84. DDTM 3.304(84).

EP050026 EP5/26 O.S. Selection Keyboard. This is a limited qwerty keyboard
 (only Ø-9, A-2, plus clear and enter). Each numerical key
 also has an engraved associated O.S. group name. The
 keyboard is used to enter data (ASCII), to select outside
 sources. The keyboard PCB has a small keyboard buffer PCB
 connected to it. Main PCB also used in type 'D' OSSM.
 Power requirements -12 V dc at 10 mA, 5 V dc at 10 mA
 (Power taken from Master Module). SCPD, RBSS 1984.

EP050027 EP5S/27 Film-audio Synchroniser Equipment. This equipment, based
 on the MAXIM synchroniser RD4L/511 provides a full range of
 synchroniser facilities designed for post-production
 editing in film areas. Power requirements mains 240 V.

Sub-units RD4S/21, PA6S/164. DD 1984. DDMI 7.524(84).
EDI 10503(1)FEB 85.

- EP050028 EP5L/28 Studio Control Equipment. This equipment provides for remote EBU control of certain VTR facilities and control of VTR status indication. It forms part of the Record Bank Project. Power requirements 240 V ac. PN3/54. DD 1984.
- EP050029 EP5/29A & B Headphone Protector. This unit limits the sound level from a pair of mono headphones. The EP5/29A incorporates the thick-film hybrid circuit of the EP5/25B and the EP5/29B incorporates the circuit from the EP5/24B. Thus the EP5/29A is for phones <600 Ω impedance and the EP5/29B is for phones >600 Ω impedance. The case is physically smaller than the EP5/24 or EP5/25. It is for in-line mounting only. DD(3) 1986.
- EP050515 EP5L/515 Burst Phase Comparison Equipment. Compares phase of burst on reference input with that on video input and produces Natlock control signals and phased signal. Six input channels fitted. Power requirements mains. PN3A/53E. Supersedes EP5L/510. DD 1981. DDMI 1.251(81). DDHB 1.160(81). EDI 10416(1) AUG 81.
- EP050516 EP5L/516 Sequential Sync Monitor. Up to 16 video sources are sequentially scanned and the following measurements are made:-
1. Signal absent or present
2. Colour or Monochrome
3. Picture timing
4. If colour, four-field timing
Power requirements 240 V, 25 W. 3/8 of PN3/54. Sub-units GE2/641 and UN26/559. DD 1981. EDI 10472 (1) JUN 83.
- EP050518 EP5M/518 Wipe Pattern and Black Edge Equipment. The equipment provides 15 selectable wipe patterns and a moving box wipe with variable size and ratio. The equipment also contains units to provide black edge video waveforms, the type was first used in the TK A-D Roll Programmable Mixer. Power requirements mains. PN3/54 4U BMM crate. Sub-units 2 x GE1/595, UN26/546, UN26/588, UN26/589, 2 x UN14/531, UN26/521, 2 x PS4/9A, PS4/9B. DD 1983. DDHB 8.390(83).
- EP050519 EP5/519 A-B Roll TK Programmable Mixer Equipment. Film Post Production Area Programmable Mixing Equipment. Vision Mixer with event memory for Telecine A-B roll processing. Uses commercial units for Vision Matrix and Colour Synthesis. Main memory system based on ZEUS units. Vision mixing using MX5M/504. Visual effects, Wipes/Black Edge etc. using EP5M/518. Power requirements mains. PN3/54. Sub-units EP1M/35, EP1M/38, RD3M/1, MX5M/504, EP5M/518. DD 1983. DDHB 8.418(84). DDHB 8.430(85)Part 1. DDHB 8.431(85)Part 2. DDHB 8.433(85) Part 3. EDI 10509(1)MAY 85.
- EP050520 EP5/520 Effects Workshop Equipment. Vision Mixing Equipment with event memory for use in Video Effects Workshop. Main memory system using ZEUS units in EP1M/35 and EP1M/39. Vision Mixing using MX5M/504. Uses commercial Vision

Matrix and Colour Synthesizer. Power requirements mains. PN3/54. Sub-units EP1M/35A, EP1M/38, EP1M/39, MX5M/504, RD3M/1. DD 1983. DDHB 8.404(83). DDHB 8.405(83). DDHB 8.406(83) Part 2A. 8.407(83) Part 3.

- EP050521 EP5/521 Video Effects System. Vision mixing equipment with event memory for use in the effects operator's position of TV Studio Vision mixers. Uses MX5M/504 for video processing. Memory system uses ZEUS units in EP1M/35B and EP1M/39A. Interfaces to commercial vision matrix and colour synthesizer. Power requirements 240 V ac. Sub-units EP1M/35B, EP1M/38B, EP1M/39A, RD3M/1, MX5M/504. DD 1985. HB 8.419(84), HB 8.429(85) Part 1, HB 8.426(84) Part 2A, HB 8.428(85) Part 3, EDI 10508 (1) JUN 85.
- EP050522 EP5/522 Camera Interface Box. This box forms the interface between the studio floor cable and the camera. It is essentially a splitter box for mains, audio and video sources. It is a fabricated aluminium box fitted with the appropriate connectors for the above sources. 130 x 110 x 80. ED 1985.
- EP050522 EP5/522A Camera Interface Box. Similar to EP5/522 but fitted with EP-LNE mains connectors in place of XLR-LNE types. ED 1986.
- EP050523 EP5S/523 Timecode Tape Synchroniser. Electrically identical to the RD4L/511 'MAXIM' synchroniser, but using a 2 U, full-width electronics crate instead of the 4 U, 3/8 width of the RD4L/511. Power requirements 250 V ac. Supersedes RD4L/506, RD4L/507. Sub-units RD4S/21A, PA6/140. Equipment Dept. 1985.
- EP050524 EP5M/524 Digital Mixing Equipment. Digital mixer with 3 i/p channels (2 analogue 1 digital) providing mix, wipe, insert and caption effects. Analogue and digital outputs are available. Approx. 10 U of bay mounted racks. Sub-units MX5/508, UN26/73, UN26/74, UN26/75, UN26/76 plus various others. DD (8) 1985.
- EP050525 EP5M/525 Digital Mixer Analogue Sub-System. This equipment contains the majority of analogue parts of the digital mixer for TC5 Sports Graphics, and Tel. News Graphics. These parts are the line-locked Clock Generator and ADC's. Power requirements +5 V, -5 V, +12 V, -12 V. BBC chassis 4U BMM. Sub-units GE7/509, C08/512 x 6, UN26/84 x 2. D & E D(V) 1986.
- EP050526 EP5M/526 Digital Mixer Digital Subsystem. Digital mixer providing mix, wipe, insert and key effects. This equipent is used in TC5 Sports Graphics Mixer EP5/527. Power requirements: ± 5 V, ± 12 V. Chassis dimensions: 6 U bay-mounted rack. Parent equipment EP5/527. Sub-units UN23/181, UN26/73 x 2 UN26/74, UN26/75, UN26/76, GE7/18 x 2, GE7/19, MX8/505 x 2, TM1/6, RC1/31 x 2, C09/511. D & ED (V) 1986.
- EP050527 EP5/527 Digital Mixing Equipment. Complete digital mixer with 4 input channels (2 analogue and 2 digital), providing mix, wipe, insert and key effects. Analogue and digital outputs

are available. This equipment is used for Sports Graphics in studio TC5. Power requirements: ± 5 V, ± 12 V. Chassis dimensions: Approx. 10 U of bay mounted racks. Sub-units EP5M/525, EP5M/526. D & ED (V) 1986. HB V.1060(87).

EP050528 EP5M/528	Graphics Mixer Digital Processing. This rack of equipment contains the digital processing modules for the News Graphics Mixer. Power requirements ± 5 V, ± 12 V. 6U 19" rack. Sub-units UN26S/87, UN23/181, UN26/73, UN26/74, FL4/85, GE7/18, GE7/19, MX5/508, UN26/95, UN26/76, C09/511, TM1/6. Parent equipment EP5M/529. D & ED (V) 1987.
EP050529 EP5M/529	Graphics Digital Mixer. This mixer is designed to be used in the TV News Graphics area. It contains two mixer-effects systems, each of which offers full fade, mix, wipe and key facilities. Each sub-system can take an input from the other. The complete mixer requires 18U height in a 19" bay. Power requirements 240Vac. Sub-units EP5M/525, EP5M/528, PS4/49, PA6/170, PA6/171. D & ED (V) 1987.
EP060509 EP6L/509	"TARIF TWO". Telecine Processing Equipment. Provides variable lift, gain and black crush/stretch in RGB channels, also variable desaturation. Contains sub-units UN26/526, UN26/529, UN26/530, GE2/625, PS2/187G, and a back-wiring panel, occupies "c" width of PN3/54. DD 1977. DDMI 7.394(77). DDHB 7.231(77). EDI 10332(2)MAR78.
EP080006 EP8/6	Studio Communications Equipment. Miniature UHF receiver/transmitter used in television studios to provide simultaneous two way communication between floor and gallery. Portable case approximately 150mm x 100mm. DD 1976. DDMI 5.337(77). DDHB 5.120(77). EDI 10308(1)DEC 77.
EP8/6A	Studio Communication Equipment. As EP8/6 but with new input/output connectors, enlarged case to accommodate these and update of components where original obsolescent. Electrical performance unchanged. Power requirements 9 V (PP3 Battery). Similar to EP8/6 P.C.B. Supersedes EP8/6. ED 1983.
EP080007 EP8M/7	Studio Communication Equipment. Bay mounting panel containing two TM2/3 transmitters, two RC2/3 receivers and power supplier. Used in television studio for talkback and lighting communications. DD 1976. DDMI 5.339 (77). DDHB 5.120(77). EDI 10309(1)DEC77.
EP080008 EP8M/8	Studio Communication Equipment. Similar to EP8M/7 but with only one TM2/3, one RC2/3 and power supplier. DD 1976. DDMI 5.339(77). DDHB 5.120(77). EDI 10309(1)DEC77.
EP100018 EP10/18	Radio Continuity Suite includes DK2/24 Radio Continuity Cubicle Control Desk, DK4/31 Radio Continuity Studio Control Desk and Radio Continuity Announce Booth. DD 1978.
EP100019 EP10/19	London Continuity Suite. To provide continuity of broadcast in a Radio network. Comprised of Studio Desk, Cubicle Desk and associated apparatus bay. Similar to EP10/18 - Regional Continuity Suite. Power requirements 240V AC. DD 1981.

EP100501 EP10M/501	Edit Control Equipment. The equipment controls the Edit machine in a videotape editing suite. It controls the transport and edit functions of the machine and includes Interface cards so that the equipment can control different types of machines. The equipment interconnects with the Play-In machine control equipment EP10M/ 502. Power requirements 240V a.c. mains. PN3/54. Supersedes EP1M/548. Sub-units CD3/530, GE8/502, UN26/536, GE5/510, CD2/517B, UN3/575, PS2/187G etc. Total of 12 unsupported cards, 1 chassis unit, 2 power supplies. DD 1980. DDMI 7.462(81).
EP100502 EP10M/502	Playback Control Equipment. The equipment controls a Playback machine in a videotape editing suite. It controls the transport and preview functions of the machine and includes Interface cards so that the equipment can control different types of machine. The equipment interconnects with the Edit Machine Control Equipment, EP10M/501. Power requirements 240V a.c. mains. PN3/54. Supersedes EP1M/547. Sub-units CD3/530, GE8/502, UN2 6/536, GE5/510, CD2/517B, UN3/575 and PS2/187G etc. Total of 12 unsupported cards, 2 power supplies, 1 chassis unit. DD 1980. DDMI 7.473(81).
EP100503 EP10S/503	TK/VT Control Equipment. The equipment controls a single VT machine to enable transfers from TK. Insert and assemble editing functions are available for compiling the final recording. Also the unit will lock the VTR to the TK. The equipment consists of a control panel and a single electronics crate. Power requirements 20 W. Sub-units PA6/166, RD4SL/514. DD 1984.
EP100504 EP10M/504	CSO Processor Equipment. 4U BMM rack, to hold between one and eight sets of CSO Processors (UN26/523 plus PA20/513), the quantity to be defined by option number. Blank front panels fill available spaces. Power requirements 240Vac. BBC chassis code PN3/54. Chassis extender CH1A/43. Sub-units UN26/523, PA20/513. (Supp. Lab) 1987.
EP110006 EP11/6	S.M. Unit. Unit provides facilities to accept two commentators units, a telephone unit and vision monitor selectors. Power requirements 240V at 100 VA a.c. mains. PCB 3U 178mm 80 way edge connector for UECL socket. SCPD 1978.
EP110007 EP11/7	L.E.M. Unit. Unit provides communications to an on site lighting and engineering manager and includes a selector for vision feed to a monitor. Power requirements 240V a.c. mains. PCB 3U 178mm deep 80 way edge connector for UECL socket. SCPD 1978.
EP110008 EP11M/8	Remote Camera Unit to provide communications to a remote camera from a Colour Mobile Control Room. Powere requirements 240V at 150VA a.c. mains. ISEP 6U high sub rack. PCB 3U high 178mm deep. 80 way edge conector for UECL connector. SCPD 1978.
EP110009 EP11/9	Commentators Unit. First developed for Outside Broadcast communications in television. Unit provides main and spare

program microphone and headset connectors with circuits for the routing of microphones to either transmission or talkback. A visual incoming cue and button outgoing cue is provided. Three incoming talkback circuits are available with separate volume controls. A locally plugged microphone appears with a separate volume control across one of the other circuits. Supersedes EP11/5. Used with EP11/10. SCPD 1983.

EP110011 EP11/11	Commentator O.B. equipment. The 'COOBE' is a portable, 3 Mic & 1 replay input device for radio commentary at OB sites. It uses a Music & Control line as a link to the studio. Power requirements PP9 + 2 x PP3 Batteries. Equipment superseded: EP11/1. SCPD 1986.
EP110012 EP11S/12	Digital Audio Mixer. Mixing equipment to allow stereo AES/EBU digital audio channels to be mixed together and/or with one stereo or two mono analogue channels. Mixing is in the digital domain with an AES/EBU output. The equipment works with one of two control surfaces. Power requirements: 240 V ac Chassis: One 4U and purpose built console. Sub units: DK4S/45 &/or DK4S/46, EP11SM/13. D & ED (A) 1986.
EP110013 EP11SM/13&A	Digital Audio Signal Processor. This is an assembly of 4U cards, including an ADC and DAC, which provides the necessary digital audio processing for a 3 channel digital audio mixer. The 'A' version has only one digital input and no analogue clean feed output. Power requirements 240Vac. PN3/54. Parent equipment EP11S/12. Sub-units CO10S/12, CO11S/6, UN23S/183, MX3S/6, CO8/13, CO9/9, FL4/80, FL4/81, PS3/67, PS4/18A. D & ED (A) 1987.
EP110014 EP11S/14	Digital Audio Mixer. Mixing equipment, to allow two stereo AES/EBU digital audio signals and one stereo analogue signal to be mixed together. The mixed output is available in both analogue and digital formats. Power requirements 240Vac. Chassis PN3/54 and purpose-built console. Sub-units DK4S/47, EP11SM/15. D & ED (A) 1987.
EP110015 EP11SM/15	Digital Audio Signal Processor. Digital audio processing equipment, providing all the electronic units for mixing signals in the digital domain, under the control of a mixing console such as the DK4S/47. Power requirements 240Vac. Chassis PN3/54. Chassis extender CH1A/52. Parent equipment EP11S/14. Sub-units CO10S/12, CO11S/6, UN23S/183, FL4/80, CO8/13, MX3S/6, FL4/81, CO9/9, PS3/67, PS4/18A. D & ED (A) 1987.
EP150009 EP15SM/9	MCP Switching Equipment. MCP switching system. Reduced version of MIC System. 3 x PN3/54. DD 1985.
EP150010 EP15SM/10	Monitoring and Information Centre (MIC) switching system, receiving and interpreting two word instructions from MIC desk. VALID instructions are pre-set in Read Only Memory. Instructions for selecting picture monitors and loudspeaker operate internal relay matrix. 4 x PN3/54. DD 1977.

EP160501 EP16M/501J-R UHF Television Transposer receives a television signal on a channel in Band 4 or 5 and transposes it to another channel. The equipment consists of one FL2/558A-C, one AM4/527 or AM4/529, one ME15/501, up to four EP16M/502A's and up to four PS1/44's. Suffix J-M specifies an AM4/527 with 1, 2, 3 or 4 EP16M/502A's. Suffix N-R specifies an AM4/529 with up to four EP16M/502A's. Power requirements 190V to 262V a.c. 50Hz. 200W. Sub units AM4/527 or AM4/529, AM14/555, AM21/505, FL2/557, FL2/558A-C, FL2/559 or FL2/560, FL2/564, FL6/504, OS2/52 9, OS3/508, PS1/44, PS2/193. DD 1978.

EQ030018 EQ3/18A Temperature Compensation Equaliser. Used to correct variations due to seasonal temperature changes on 401b unloaded S.B. circuit. Basic correction at high temperatures. Identical electrically to EQ3/18 but fits BMM chassis. Bracket mounted on CH2/4. Parent equipment PA1M/86. DD 1978.

EQ030019 EQ3/19A Temperature Compensation Equaliser. Used to correct variations due to seasonal temperature changes on SB main circuits on PO carrier cable phantoms. Basic correction at high temperatures. Electrically identical to EQ3/19 but fits BMM chassis. Bracket mounted on CH2/4. Parent equipment PA1M/86. DD 1978.

EQ030020 EQ3/20A Temperature Compensation Equaliser used to correct for changes in loss/frequency characteristics of 40/16/1.136 SB main circuits with changes of temperature. Electrically identical to EQ3/20 but fits BMM chassis. Bracket fitted to CH2/4. Parent equipment PA1/86. DD 1978.

EQ030021 EQ3/21A Temperature Compensation Equaliser as EQ3/18B suits more recent type of 401b circuit. Bracket fitted to CH2/4. Parent equipment PA1M/86. DD 1978.

EQ030022 EQ3/22 Used for correction of effects due to seasonal temperature changes on 11.34kHz loaded S.B. music lines. CH2A/1. DD 1975. DDMI 2.235.

EQ3/22A Temperature Compensation Equaliser used for correction effects due to seasonal temperature changes on 11.34kHz loaded 5dB main lines. Electrically identical to EQ3/22 but suits BMM chassis. Bracket fitted to CH2/4. Parent equipment PA1M/86. DD 1978.

EQ030023 EQ3/23A A.F. Line Equaliser. Used for temperature correction of lightly loaded 201b Music lines. As EQ3/23 but to fit BMM chassis CH2/4. Equipment superseded EQ3/9, EQ3/23. Parent equipment CH2/4, PA1M/80. DD 1978.

EQ030026 EQ3/26 Variable Line Equaliser, superseding EQ3/12 in PA1M/85. CH1/65B. DD 1975. DDMI 6.269.

EQ030027 EQ3/27 Octave Line Equaliser, used in PA1M/85 to perform five equalisation of O.B. lines. Specially designed chassis. DD 1975. DDMI 6.265.

EQ030029 EQ3/29 O.B. Line Equaliser. This unit forms part of PA1M/90 Stereo Equaliser Panel. It provides a maximum delay of

250µs into either side of a stereo pair. The unit is passive and provides delay in 17µs steps. CH1/65B . DD 1976.

EQ030034 EQ3/34 O.B. Lie Equaliser for local lines not exceeding 16 Km in length. Simple resonant type with a choice of two inductance-capacitance ratios and a fixed frequency of 10 KHz. Loss and damping are adjustable by potentiometers on the front panel. CH1/65A. DD 1976. DDHB 6.180(80). DDMI 6.309(77).

EQ030035 EQ3/35 Dispersion Equaliser. This unit may be pre-wired to compensate for the dispersion introduced by up to 25 repeater amplifiers. The unit will be supplied unequipped so that components with values suitable for the line to be equalised may be inserted. CH1/65B. Parent equipment EP1M/23. DD 1978. DDMI 6.334(78).

EQ030036 EQ3/36 Audio Delay Equaliser. Contains filters and delay to match coder monitor to main coder path. Used with C08/4A. IMHOF 4 CDX. Parent equipment PA1/4. DD 1979.

EQ030037 EQ3/37 Temporary Circuit Equaliser. A switchable Equaliser replaces and Equaliser mounted in a CH2/3 for the period when BT supply a temporary circuit to a Transmitter site or Studio Centre. CH1/65B. Parent equipment PA1M/86. DD 1982.

EQ030038 EQ3M/38 OB Audio Amplitude Equaliser. For use with outside broadcast lines. The amplitude equaliser settings are controlled locally or remotely. The main frame contains a set of equalisers. Power requirements mains. PN3/58. Sub-units 2 off EQ3/39, 2 off EQ3/40, 2 off EQ3/41, 2 off FL1/54, 2 off UN23/161, 1 off PS2/293. DD 1983.

EQ030039 EQ3/39 Low Frequencies Equaliser. Correction of the low frequency part of the audio spectrum. Power requirements ±15 V. 3U unsupported card. Parent equipment EQ3M/38. DD 1983.

EQ030040 EQ3/40 Mid Frequencies Equaliser. Correction of the middle frequency part of the audio spectrum. Power requirements ±15 V. 3U unsupported card. Parent equipment EQ3/38. DD 1983.

EQ030041 EQ3/41 High Frequencies Equaliser. Correction of the high frequency part of the audio spectrum. Power requirements ±15 V. Parent equipment EQ3M/38. DD 1983.

EQ040001 EQ4/1 Band II Phase Equaliser. Phase equaliser for use in Band II transmitter amplifiers. Input frequency range 87.5 MHz. Phase control range is 180°. Insertion loss is 0 dB nominal. The device may be used to manually correct phase inequalities or may be part of an APC loop. Power requirements 12-15 V at 500 mA. BMM 4U printed board. DD 1978. DDMI 5.388(80).

EQ040507 EQ4/507 UHF Equaliser. A frequency/amplitude equaliser designed for use on transposer installation to correct for receive aerial multipath effects. Power requirements None.

Diecast box measuring 273 mm x 171 mm x 55 mm. DD 1978. DDMI 5.359(78).

EQ040508 EQ4/508

Cable Carrier Equaliser. This unit is part of the EP2M/502. It equalises the vision carrier signal that is in the band 8.5 MHz to 15.5 MHz when used on coaxial cables of defined characteristics. The equalisation is switched in 0.75 Km steps. Fine controls are provided for luminance and chrominance gain. Power requirements +12 V at 50 mA, -12 V at 50 mA. 2U 'C' width BMM CH1/65C. Parent equipment EP2M/503. DD 1981.

Q050526 EQ5/526A,B

Tie Line Equaliser electrically similar to EQ5/520 but mechanically similar to EQ5/525 to provide easier adjustment of inductors. A = suitable for 45 m PSF1/3 cable (loss of less than 1 dB at 4.43 MHz). B = suitable for 30-90 m of PSF1/3 (loss of 0.75 dB at 4.43 MHz). DD 1971. DD Spec 8.415. DDTM 8.306. EDI 10119(1)JAN72.

Q050544 EQ5/544A,B

Equaliser for short tie-lines having loss of up to 0.5 dB at 4.43 MHz. Different versions required for different cable types, denoted by suffix letter to basic code "A" version to suit PSF1/2M "B" version to suit PSF1/3M. Printed circuit board mounted in small diecast box. DD 1976. DDMI 9.230(77).

EQ050545 EQ5/545

Tie Line Equaliser similar electrically to the EQ5/544A, but mounted in 96 mm x 68 mm x 21 mm box, suitable for mounting on rear of PN3A/41B. DD 1977. DDMI 9.232(77).

EQ050546 EQ5/546

Adjustable Video Cable Equaliser for temporary equalisation of cables for video transmission, e.g. for outside broadcast purposes. Five controls are provided as follows: (a) 'Root-frequency correction' variable from zero to 20 dB of pick-up in 2 dB steps, (b) 2 dB of pick-up continuously variable, (c) and (d) bar corner corrections continuously variable, and (e) gain continuously variable from -3 dB to +3 dB. CH1/64B. DD 1977. DDMI 6.340(78). DDHB 6.161(78). EDI 10350(1)MAR80.

EQ5/546A

Video Cable Equaliser. Provision of combined cue light and routing switch for monitoring purposes in existing coded equipment EQ5/546. This is a special requirement for Tel OB's mobile communications area (MCA). SCPD OB 1981.

EQ050547 EQ5/547

Video Line Equaliser. Three independent equalisers are provided. Two are similar to the EQ5/543 Video Line equalisers and the third is similar to the EQ5/548. The required components for correction are fitted on installation. CH1/64J. DD 1977. DDMI 6.343(79). DDHB 6.152(78). EDI 10366(1)SEP 79.

EQ050548 EQ5/548

Video Line Equaliser. 4 section T-bridged, mounted on an AM5/527 or AM5/528. DD 1977. DDMI 6.344(79).

EQ050549 EQ5/549

This is a switchable unit providing chrominance-luminance delay of +100 ns, 0, -100 ns and may be used to pre-equalise a video signal. Diecast box external dimensions 95 mm x 120 mm x 56 mm. DD 1977. DDMI 9.228(79).

EQ050550 EQ5/550 A&B Video Cable Equaliser for coaxial cables having loss up to 0.5 dB at 4.4 MHz. PCB 95 mm x 55 mm for mounting in CH2/6. 'A' version PSF1/3, 'B' version PSF1/5. DD 1977. DDMI 8.587(77). EDI 10370(1)MAY80.

EQ5/550C Video Cable Equaliser. Equalisation of PSF1/7 /7 cable up to 2dB subcarrier loss. Member of EQ5/550 family. DD 1981. DDMI 9.259(81).

EQ5/550D Video Cable Equaliser. Provides equalisation for up to 65 metres of PSF1/7 cable. Identical in construction to EQ5/550C. DD 1981.

EQ5/550E Video Cable Equaliser. Provides equalisation for up to 60 metres of PSF1/3M cable. Identical in construction to EQ5/550C. DD 1981.

EQ5/550F Video Cable Equaliser. Provides equalisation for up to 90 metres of PSF1/3M cable. Identical in construction to EQ5/550C. DD 1981.

EQ5/550G-H Tie Line Equaliser. Cable Equaliser. Cable Equaliser, provides equalisation as follows:
EQ5/550G - 75 Metres of PSF1/2M
EQ5/550H - 150 Metres of PSF1/2M
Printed circuit board 95 mm x 55 mm. DD 1982.

EQ050551 EQ5/551 Fine trimming equaliser used at receiving terminal of 625-line links for fine trimming of gain, chrominance/luminance gain inequality and delay inequality. Also has facility for adjustment of pulse to bar ratio. CH1/64A. Supersedes EQ3/24. DD 1977. DDMI 6.327(78). EDI 10351(1)MAR80. Superseded by EQ5/564. OBSOLESCE.

EQ050552 EQ5L/552 Trimming the linear gain and phase characteristics of video equipment. Electrically similar to the EQ5/537 but occupying half the volume of that equipment. Power requirements 210-270 V at 150 mA a.c. PN3A/53D. Sub units AM4/531, EQ5/553, EQ5/554, EQ5/555, PS2/162. DD 1978. DDMI 6.337(78). DDHB 6.160(78). EDI 10352(1)MAR80.

EQ5L/552A Trimming Equaliser. Provision of combined cue light and routing switch for monitoring purposes in existing coded equipment EQ5L/552. This is a special requirement for Tel OB's mobile communications area (MCA). Sub-unit EQ5/555A. SCPD OB 1981.

EQ050553 EQ5/553 M.F. Equaliser for trimming the gain characteristics of video equipment. Contains four variable equaliser sections with half-loss frequencies of 27 KHz, 85 KHz, 259 KHz, and 750 KHz. Electrically similar to EQ5/538. Power requirementst +12 V -75 mA, -12 V, -85 mA. CH1/64J. Parent equipment EQ5L/552. DD 1978. DDMI 6.338(78).

EQ050554 EQ5/554 L.F. Equaliser for trimming the gain characteristics of video equipment. Contains four variable equaliser sections with half-loss frequencies of 860 MHz, 2.2 KHz and 8.6 KHz. Electrically similar to EQ5/536. Power requirements +12 V -75 mA, -12 V -85 mA. CH1/64J. Parent equipment EQ5L/552. DD 1978. DDMI 6.338(78).

EQ050555 EQ5/555 H.F. Equaliser for trimming the gain and phase characteristics of video equipment. Contains two variable phase sections (2T pulse and C-L delay) and an overall gain control section. Electrically similar to EQ5/535. Power

EQ5/555A requirements +12V -120 mA, -12V -150 mA. CH1/64A. Parent equipment EQ5L/552. DD 1978. DDMI 6.339(78).
 HF Equaliser. Provision of combined cue light ad routing switch for monitoring purposes in existing coded equipment EQ5/555. This is a special requirement for Tel OB's mobile communications area (MCA). SCPD OB 1981.

EQ050556 EQ5/556 Transmitter Drive Equaliser. Video equaliser to compensate for the response of amplifiers in a PYE UHF 77 transmitter drive. PCB 40 x 40 mm approx. Parent equipmet PYE UHF 77 Transmitter Drive. DD 1981.

EQ050557 EQ5/557 Chroma Equaliser. Similar to EQ5/542 but using sub-carrier burst as level reference: for Television O.B. 's, where ITS signal is not available. Code pins 1, 13 and 17. Power requirements +12 V, -12 V, +5 V. CH1/64A. Parent equipment SELP/503. DD 1980.

EQ050558 EQ5/558A-Z Sampling Equaliser. These equalisers correct the amplitude/frequency response distortion caused by sampling at various frequencies ((sin x)/x correction). They are designed to fit into the Video DACs C09/506 and C09/504.
 A 12 MHz
 B 2 fsc
 C 3 fsc
 D 4 fsc
 E 14.7 MHz
 Y 7.00 MHz
 Z 14.00 MHz
 Printed board 50 mm x 55 mm. DD 1981.

EQ050559 EQ5/559 Video HF Trimming Equaliser. Video Equaliser allowing fine trimming of Gain, Chrominance/Luminance amplitude and delay, and 2T Pulse amplitude and symmetry. Contains Distribution Amplifier providing 6 outputs. Power requirements 240 V AC. CH1/64B. DD 1981. DDMI 6.388(81). EDI 10452(1)JAN82.

EQ050560 EQ5/560 Automatic Video Equaliser. The unit provides automatic correction of luminance and chrominance levels on a composite video signal, using the ITS signals on lines 19 and 20 as reference Termination Panel: PA20/532. Power requirements 240 V ac . CH1/64B. DD 1981.

EQ050561 EQ5/561 G&H Tie Line Equaliser. Cable Equaliser, provides equalisation as follows:
 EQ5/561G - 75 Metres of PSF1/2M
 EQ5/561H - 150 Metres of PSF1/2M
 Printed circuit board 76 mm x 51 mm. DD 1982.

EQ5/561A, C-F Video Cable Equaliser. Cable Equaliser to equalise video cables as follows:
 EQ5/561A - 25 Metres of PSF1/3M
 EQ5/561C - 30 Metres of PSF1/7M
 EQ5/561D - 65 Metres of PSF1/7M
 EQ5/561E - 60 Metres of PSF1/3M
 EQ5/561F - 90 Metres of PSF1/3M
 Electrically identical to EQ5/550A,C-F but mechanical mounting different. DD 1982.

EQ050562 EQ5/562G & H Tie Line Equaliser. Cable Equaliser, provides equalisation as follows:
EQ5/562G - 75 Metres of PSF1/2M
EQ5/562H - 150 Metres of PSF1/2M
Printed circuit board 91 mm x 56 mm to fit in Termination Panel PA20/521. DD 1982.

EQ5/562A C-F Tie Line Equaliser. Cable Equaliser. Provides equalisation for up to:
EQ5/562A - 25 Metres of PSF1/3M
EQ5/562C - 30 Metres of PSF1/7M
EQ5/562D - 65 Metres of PSF1/7M
EQ5/562E - 60 Metres of PSF1/3M
EQ5/562F - 90 Metres of PSF1/3M
for use with AM4/536. Electrically similar to EQ5/550A,C-F, but mechanically different. Termination Panel PA20/521. DD 1982.

EQ050563 EQ5/563 Automatic Chroma Equaliser. Provides fast chroma correction using sub-carrier burst as reference. For use in Tel OBs where ITS is not available. Power requirements 240 V mains or 36 V d.c. CS2/24D carrying case. Sub-units EQ5/557, UN1/723B PS5/4. DD 1982.

EQ050564 EQ5/564 Video HF Trimming Equaliser. Similar to EQ5/559, but with an extra control giving variable edge tilt correction to a predetermined time constant. Power requirements 240 V ac. CH1/64B. DDMI 6.404(83). DD 1983.

EQ050565 EQ5/565A-C Video Equaliser. Intended for use with Commercial Video Modulator with 5.5 MHz, 6.2 MHz or 5.5 + 7.5 MHz sound carrier. It corrects the video passband phase response error produced by the sound traps.
A. Version Video Equaliser 5.5. MHz
B. Version Video Equaliser 6.2 MHz
C. Version Video Equaliser 6.5 MHz + 7.5 MHz
P.C.B. 85 x 56 x 20. Parent equipment AM14/563A & B. TCPD 1983.

EQ050566 EQ5/566A-C Video Equaliser. Intended for use in distribution of video signals when F.M sound rejection is required. The equaliser correct the video passband phase response error produced by the sound traps.
A. Version Video Equaliser 5.5 MHz Trap.
B. Version Video Equaliser 6.2 MHz Trap.
C. Version Video Equaliser 6.5 + 7.5 MHz Trap.
Die-cast Box 111 x 60 x 33. Parent equipment AM14/563 A&B. TCPD 1983.

EQ050567 EQ5/567 Video Line Equaliser. Modified form of EQ5/543, electrically identical, but different P.C.B to allow mounting on modified PA20/505 and standard PA20/521. 136 x 92 mm. DD 1984. EDI 10528(1)OCT 85.

FL010045 FL1/45A, B&C Control Line Filter which may be used in three versions with f.s.k. units MD3/14 and DM3/9 for data transmission over speech circuits. The A and B versions are lowpass filters, the C a bandpass filter. Power requirements $\pm 5V$ or $\pm 12 V$. CH1/64J. Parent equipment PA1M/103, PA1M/104. DD 1978.

FL010046 FL1/46 Helical Resonator in copper canister 101 mm long x 82 mm diameter. Tuneable 85-100 MHz. Parent equipment FL1/47, FL6/28. TCPD 1978.

FL010047 FL1/47 Notch Filter Panel. 483 mm x 222 mm panel with eight helical resonators connected in pairs or fours to reject local transmissions from reception system in VHF/FM relay stations. Sub-units FL1/46. TCPD 1978.

FL1/47A Notch Filter Panel. Unit is similar to FL1/47 but only equipped with 4 off FL1/46 Helical Resonators. Metalwork of FL1/47A to be identical with FL1/47. Sub-unit FL1/46. ED 1981.

FL010048 FL1/48A-C VHF Directional Filter. VHF Directional Probe with directivity of about 30 dB and nominal coupling values of 35 dB (A version), 31 dB (B version), and 20 dB (C version). Designed primarily for use with the VHF RF Monitoring Unit MN1/18, between 88-108 MHz. Impedances 50 Ω , filtered with N male and female connectors on the through line and BNC females on the coupled parts. The probe is constructed from Suhner "Sucobox". TCPD 1979.

FL010049 FL1/49 Band II 3dB Coupler. 3dB Directional Coupler comprises a 'Wireline' coupler mounted in a diecast box with TNC connectors. Diecast Box 93.7 x 119.1 x 52.4. ED 1981.

FL010050 FL1/50A-B 3 dB Coupler Band II. Designed to couple the outputs of high-power transmitters in Band II, with negligible insertion loss. FL1/50A, maximum combined output rating 1 kW (limited by type N female connectors). FL1/50B, maximum output rating 2 kW (HN output converter). Parent equipment FL5/8. DD 1979.

FL1/50C 3dB Coupler Band II. Designed to couple the outputs of high-power Transmitters in Band II, with minimal insertion loss. DD 1983.

FL010051 FL1/51 Impulsive Interference Suppressor. Intended for use in radio link receivers to suppress impulsive interference (e.g. ignition interference). The unit has unity gain and will arrest signals of approximately 120 mW p-p maximum. Power requirements 15-30V at 50mA. Printed board 90x65mm approximately. No specific parent. DD 1979.

FL010052 FL1/52 Helical Resonator used in Band II combining with FL5/8. Manufactured in copper cannister 190 mm long x 85 mm diameter. Parent equipment FL5/8. TCPD 1979.

FL010053 FL1/53 Splitting/Combining Filter Band II. This unit consists of two similar 2 way Wilkinson sections for use as a splitter/combiner from 88-108 MHz. The inputs/outputs are co-phased, and maximum combined input or output is 250 W (500 W if one section only is powered). Connections are N

type sockets for the combiner. TNC type sockets for the splitter. Parent equipment AM14/38. DD 1979. DDMI 5.392.

FL010054 FL1/54 Audio Band Filter. High pass and low pass filters which can be switched remotely. Power requirements $\pm 15V$. 3U unsupported card. Parent equipment EQ3M/38. DD 1983.

FL010055 FL1S/55 Digital Audio Transversal Filter. Digital transversal filter for high quality audio use. Accepts 16 bit inputs and provides a 24 bit output. The frequency response is stored in a PROM and may be changed by changing the PROM. Up to 135 taps may be processed at 48 kHz sample rate (or 200 at 32 kHz) and cards may be cascaded to give a longer filter. A wide range of response curves may be implemented. Power requirements 5 V at 3 A max. Parent equipment C01M/15. Chassis extender CH4/5. DD (3) 1985. Superseded by FL1S/57. OBSOLESCE.

FL010056 FL1S/56 Digital Audio Recursive Filter. Recursive digital filter providing CCITT J17 or other first order pre-emphasis/de-emphasis characteristic. Coefficients are set on switches or links on I.C. headers. This card utilises the Designs Department parallel bus with timing and control stored in a ROM. Power requirements 5 V at 750 mA typ. 1.3 A max. 4 U BMM unsupported card. Chassis extender CH4/5. DD 1985.

FL010057 FL1S/57 Digital Audio Filter. This programmable unit performs FIR filtering, when plugged into the 'Digital Audio Multiphase Bus' (DDTM 3.291(84)). Power requirements 5Vdc. 4U unsupported pcb with PN1/29J panel. Chassis extender CH4/5. Parent equipment C01M/18, C01M/19. Supersedes FL1S/55. D & ED (A) 1987.

FL010058 FL1/58 N-Series Socket Protection. This unit, constructed in an N-series dual-socket fixed adaptor (Cemast no. 020450X), provides protection against lightning and electro-magnetic pulses (EMP): it is capable of passing 5000 amps at 150-200 volts. It has a VSWR of 1.06 at 150MHz, rising to 1.92 at 800MHz. TCPD 1987.

FL010527 FL1/527 Notch Filter. The filter is intended to supplement existing filtering in the EP14M/507 UHF Test equipment. It is in the form of a diecast metal box with the filter components mounted on a printed board which also serves as a lid for the box. Input and output connections are via SMB plugs. DD 1977.

FL010528 FL1/528 Raised Cosine Filter (CEEFAF) to convert rectangular pulses at the CEEFAF bit rate of 6.9375MHz into raised cosing pulses. PCB. RD 1978.

FL010529 FL1/529 Ceefax Filter to convert rectangular pulses at the Ceefax bit rate of 6.9375MHz into a Ceefax waveform which provides the maximum possible eye height within a 5MHz bandwidth. PCB. RD 1978.

FL010530 FL1/530 Luminance Comb Filter. This card comb filters the luminance in the chroma frequency band such that chroma energy is removed and luminance high band energy is

retained. The input to the card is:- 3 television lines (spaced 63.84 μ S), and 8.8MHz complimenting MECCL square wave (required to operate PAL modifier). The card has two 75 Ω outputs. 1V composite video. Power requirements +12V, -12V 50mA. 4U unsupported card. Sub-units GE4 /567, UN14/538, FL5/506, CD3/537 and FL4/584. DD 1978.

FL010531 FL1/531

NTSC Luminance Combining Filter. This card comb filters the luminance in the chroma frequency band, such that chroma energy is removed and luminance high band energy is retained. The input to the card is:- 3 television lines (spaced 63/84 μ +sec. apart), and 7.15090MHz complimenting MECCL square wave. The card has two 75 Ω outputs. 1V comp. video. Power requirements +12V, -12V 50mA. 4U unsupported card. Parent equipment PA6M/544. DD 1979.

FL010532 FL1/532

Non-linearity Filter. Pulse shaping filter used for the measurement of step heights of a staircase wave form used on the AM18/527 AGC amplifier. 60mm x 35mm printed circuit board. Parent equipment AM18/527 and ME3M /502. DD 1980. DDMI 9.292(83).

FL010533 FL1S/533A-D

Modular Digital Transversal Filter. Used for constructing symmetrical filters with any number of co-efficients. Four co-efficients per board are defined by programming prom IC's; one co-efficient can be wired (with links) to be a 'centre term'. Digital inputs 8, 9 or 10 bits wide. Output is 12 bits wide. Sampling frequencies up to 17.9MHz can be accommodated using different IC's. Suggested sub-groups are:

<u>Max Samp. Freq.</u>	<u>Code</u>
9.1MHz	FL1/533 A
13.5MHz	FL1/533 B
15.9MHz	FL1/533 C
16.4/17.9MHz	FL1/533 D

Power requirements +5V, 2A to 5A depending on Max. Samp. Freq. 4U BMM unsupported card. Parent equipment Electronic Stills Store, PA1M/580. RD 1981.

FL010534 FL1/534

10kHz Junction Filter. This filter module forms part of the ME3M/502 TV Waveform Analyser. Its function is to provide both 10kHz high-pass and 10kHz low-pass characteristics for noise measurements. 122mm x 41mm. Parent equipment ME8/501. DD 1981. DDMI 9.317(84).

FL010535 FL1/535

Chrominance Weighting Filter. This filter module forms part of the ME3M/502 TV Waveform Analyser. Its function is to provide the chrominance weighting characteristics for noise measurements. 83mm x 33mm. Parent equipment ME8/501. DD 1981. DDMI 9.310(83).

FL010536 FL1/536

Gaussian Filter. This has been specifically designed to plug into the RGB DAC C09/505. The card will accept 5th order gaussian filter designs based on standard wound chokes. Parent equipment C09/505. DD 1981.

FL010537 FL1S/537

4-Coefficient Transversal Filter. This unit is a four-coefficient 8-term digital transversal filter. It will accept an input of 10 bits of data at a maximum clock rate

of 13.5 MHz and outputs 12 bits. Power requirements +5 V and -5 V. 4 U BMM unsupported card. DD 1985.

FL010538 FL1S/538	5-Coefficient Centre Term Transversal Filter. This unit is a five-coefficient 9 term digital transversal filter. It will accept an input of 10 bits of data at a maximum clock of 13.5 MHz and output 12 bits. Power requirements +5 V and -5 V. 4 U BMM unsupported Card. DD 1985.
FL010539 FL1S/539	Digital Transversal Filter. Digital transversal filter card, with eight taps in proms. Forms a sixteen tap symmetrical filter. Incorporates monitoring. Power requirements +5 V. Circuit board size 6U. DD 1984.
FL010539 FL1S/539	Digital Transversal Filter. Digital transversal filter card, with eight taps in proms. Forms a sixteen tap symmetrical filter. Incorporates monitoring. Designed to operate at 2x colour subcarrier. ECL clocked. Power requirements +5 V, -5.2 V. Circuit board size:- 6U. DD 1984.
FL020014 FL2/14	Bandpass Filter. Input RF filter used on RC4M/7 and RC4M/8, can be tuned to frequencies in band IV. Copper box 260mm x 125mm x 38mm. DD 1977.
FL020015 FL2/15	Filter and Alarm Unit. Contains a bandpass filter for frequencies between 2.4kHz and 2.8kHz (600Ω impedance). Interface circuits allow alarm states to be applied to the scanned inputs of a switching system. Power requirements +5V. CH1/63. DD 1978.
FL2/15A	Filter and Alarm Unit. Similar to FL2/15 except that the filter is modified for narrow band (100Hz) working. Power requirements +5V. CH1/63. DD 1978.
FL020016 FL2/16	Pilot Tone Filter containing four Bandpass Filters which enable measurement of level of continuity and monitoring tones in the presence of programme. The centre frequencies of the filters are 19kHz, 23kHz, 27.1kHz and 76kHz. Power requirements None. Diecast box approximately 190mm x 130mm x 55mm. DD 1978. DDMI 2.440(78). DDHB 2.436(78).
FL020017 FL2/17	Band II Bandpass Filter designed to pass frequencies in the range 88-104MHz with an insertion loss of <0.3dB. It is provided with TNC input and output connectors and mounts on a flat plate. Power handling 100W C.W. 86mm x 27mm x 131mm excluding connectors. DD 1978.
FL2/17A	Band II Bandpass Filter. This filter is designed to pass frequencies in the range 88-108MHz with an insertion loss of <0.3dB. It is provided with TNC female input and output connectors and mounts on a flat plate. Power handling 100 Watts C.W. This design supersedes the FL2/17. 86 x 27 x 131mm excluding connectors. Parent equipment TM4M/4, TM4M/8. DD 1984. DDMI 5.379.
FL020018 FL2/18A,B	PSK Bandpass Filter. This is a narrow bandpass filter and amplifier having a high impedance balanced input and two isolated high impedance balanced outputs. It is intended to be used to regenerate PSK data transmissions. The 'A' version operates at 23kHz and the 'B' version operates at

27.1kHz. Power requirements 190-260 V mains. CH1/12A. DD 1978.

FL020019 FL2/19 Bandpass Filter. To provide additional IF filtering in the RC5/9 Band II receiver. This enhances the receiver performance regarding close-channel rejection, especially in stereo operation. Eddystone box. Parent equipment RD5/9. DD 1978. DDMI 5.375.

FL020020 FL2/20 88-104MHz Bandpass Filter. To provide harmonic filtering on the output of 500W Band II Power amplifiers. Type N female connectors. Supersedes Bird 5329. Parent equipment AM14/26A and AM14/3. DD 1978.

FL020021 FL2/21A-L Bandpass Filter. The bandpass filter is a plug-in card which is part of the DM3/6 DPSK Demodulator. The filter selects a modulated dpsk signal at any one of eleven centre frequencies, suffix coded A-L. The 'A' suffix centre frequency is 6.9kHz; 'B' is 7.9kHz; up to 'L' for 16.9kHz. Power requirements +12V and -12V at 1mA. Through hole plated board approximately 110mm x 43mm. Parent equipment DM3/6. DD 1979. DDMI 6.351(80).

FL020023 FL2/23 IF Helical Resonator. A 3 section Helical Resonator Filter at 10.7MHz intended to replace FL2/19 Filter in RC5L/8 Receiver (when prevailing conditions dictate). It improves the adjacent channel rejection of the receiver while retaining stereo performance. 132 x 80 x 42mm. Parent equipment RC5L/8. TCPD 1983.

FL020024 FL2/24 Dual Talkback Filter. First developed for Outside Broadcast communications in television. The unit contains two active filters each having 24dB per octave attenuation outside cut off frequencies of 200Hz and 5.5kHz. Front panel switches enable the filters to be bypassed without a change in mid band gain. The inputs and outputs are actively balanced with additional unbalanced access. Power requirements $\pm 16V$ 36mA. 100 x 220mm Eurocard. Mounted on 0.6" width front panel for 3U high racking with 96 way Euro-connector. Supersedes FL2/24. SCPD 1983.

FL020025 FL2/25 UHF Band Pass Filter. Band Pass Filter, 18MHz wide, tunable in range 800-900MHz. Used in input circuit of RC4M/8C. Etched box 170mm x 100mm x 28mm. Parent equipment RC4M/8C. DD 1983. DDMI 5.434(84).

FL2/25A UHF Band Pass Filter. Based on FL2/565. Tunable over Bands IV and V. Bandwidth 8MHz. Etched box 170mm x 100mm x 28mm. Parent equipment RC4M/8B, RC4M/8D. DD 1983. DDMI 5.434(84).

FL020026 FL2/26 Tuneable UHF Bandpass Filter. UHF bandpass filter tunable over range 400-900MHz. Tuning can be varied by approx 20MHz by application of a DC control voltage in the range 0 to +12 volts. Also includes arrangements for feeding a DC supply to a masthead pre-amplifier. Power requirements tuning voltage 0 - 12 volts DC, zero current. Etched box 170mm x 69.5mm x 28mm. Parent equipment RC4M/8D. DD 1983.

FL020027 FL2/27 9.7kHz Bandpass Filter. Bandpass filter for external input of 9.7KHz tone to EP2M/7. Also converts balanced input to unbalanced signal to feed into MD3/10 in DPSK tone input connection. Ocupies slot previously reserved for MD3/11 DPSK modulator. Single horizontally mounted pcb with 32 pin G06 connector BMM 2U C width brick. Parent equipment EP2M/7. RD 1984.

FL020028 FL2/28 10.7 MHz Band-Pass Filter. The FL2/28 replaces the FL2/19 in RC5/9 Re-broadcast Receivers under difficult reception conditions. The filter provides greater selectivity at the expense of some increase in distortion. SMB 50 Ω connections, extruded BBC case. Power requirements +18 to 24 V, 30 mA. 125 x 110 x 32 mm excluding connectors. Parent equipment RC5/9. DD 1985. DDMI 5.454(85).

FL020029 FL2/29 Aerial Matching Unit. Aerial Matching Unit for TM3P/9 Transmitter. Contains circulator, reverse wave indication and adjustable aerial matching components. Designed for 'Man-Pack' applications. Chassis dimensions: 180x90x90mm diecast box. Parent equipment: TM3P/9. D&ED (RF) 1986.

FL020030 FL2/30 Aerial Matching Unit. Aerial Matching Unit for TM3P/9 transmitter. Contains 7 dB attenuator and adjustable aerial matching component. Designed for 'Shoulder-pack' applications. Chassis dimensions: 250 mm x 25 mm x 25 mm fabricated box. Parent equipment: TM3P/9. D & ED (RF) 1986.

FL020031 FL2/31A&B Band I Bandpass Filter. Band I Bandpass filter, band width $\approx$ 3 MHz.
The A version centre frequency is 54.7 MHz
The B version centre frequency is 61.7 MHz
For use with RC4P/10 Radio Mic. Receiver. Chassis: 'Rose' weatherproof box. D & ED (RF) 1986. MI R.1031(87).

FL020032 FL2/32 6.552MHz IF Filter. This unit forms part of the Digital Stereo Sound with Terrestrial Television Demodulator. The rerceived digital stereo signal, at an IF carrier frequency of 6.552MHz, undergoes bandpass filtering to remove any other components of the System I television signal, before undergoing data-shaping filtering. This receive-filtering is (100% Cosine Roll-off) $\frac{1}{2}$. An Automatic Gain Control circuit (AGC) is included to allow automatic gain control of the unit, giving a 6.552MHz IF output of 330mV peak-to-peak across 75 Ω . There is also an option of selecting an adjustable manual gain. Power requirements +12V (50 mA). CH1/64A. Chassis extender CH1A/43. Parent equipment DM4M/8. RD 1987.

FL020033 FL2/33 141MHz Bandpass Filter. This Band III filter is centered on 141.25MHz, with a bandwidth of around 3MHz. It provides channel selection for the RC4SM/11 Music Link Receiver. Parent equipment RC4SM/11. D&ED (RF) 1987.

FL020034 FL2/34 A&B 224/214MHz Bandpass Filter. This Band III filter is centred on either 224MHz (A) or 214MHz (B), with a bandwidth of around 4MHz. It provides channel selection

for the RC4SM/11 Music Link Receiver. Parent equipment RC4SM/11. D&ED (RF) 1987.

FL020557 FL2/557 UHF Bandpass Filter to select a single frequency in the range 440MHz to 920MHz with greater than 60dB rejection at ± 40 MHz. DD 1975. DDMI 5.296.

FL020558 FL2/558D,E,F UHF Bandpass Filter. Same as FL2/558, A, B and C but fitted with BNC connectors instead of TNC connectors. Aluminium box 160 x 80 x 14mm. DD 1981.

FL020561 FL2/561 UHF Bandpass Filter. Designed for use with the EP16M/501A-H UHF Transposer. Rejects image noise from the local oscillator output. Mounted in small case box 29mm x 38mm x 22mm. TNC connectors in input and output. DD 1976.

FL020562 FL2/562 UHF Bandpass Filter. To replace the FL2/552 in the RF Test Set EP14M/507. Offers weight and cost advantage. Similar to FL2/559 in mechanical format. DD 1976.

FL020563 FL2/563 UHF Bandpass Filter. Lightweight version of the FL2/554 for use with the RF Test Set EP14M/507, 4 element, 10MHz pass band, tunable around 430MHz centre frequency. Mechanically identical to FL2/559. DD 1976.

FL020564 FL2/564 UHF Bandpass Filter. A narrow bandpass filter designed to fit inside the OS3/508, tunable between 500MHz and 900MHz its functions being to reduce the out of band noise output from the OS3/508. The filter is constructed in a small diecast box measuring 38mm x 29mm x 22mm. Input and output 'conhex' snap on connectors. DD 1976. DDMI 5.319.

FL020565 FL2/565 UHF Bandpass Filter. UHF Bandpass filter tunable over Bands IV and V, suitable for selecting an 8MHz channel. 170 x 100 x 28mm. Supersedes FL2/559 and FL2/560. Parent equipment PA1M/579. DD 1981. DDMI 5.405(81).

FL020565 FL2/565 A&B UHF Bandpass Filter. FL2/565 original filter used in TM4M/502 and elsewhere as a UHF channel filter for Band IV & V. FL2/565A is an improved filter for use with TM4M/502, retaining the same mounting holes but may not be compatible with other uses as the depth is increased by 6 mm. FL2/565B is the same as the FL2/565A but with TNC connectors for use in the DM1M/506. PCB: 28 x 170 x 106. Parent equipment TM4M/502, DM1M/506 & Others. DD(5) 1985.

FL020566 FL2/566 Chrominance Filter. Chrominance band-pass filter used in the DM2/512 chrominance demodulator unit. 36mm x 55mm pcb. Parent equipment DM2/512. DD 1981. DDMI 9.309.

FL020567 FL2/567 Bandpass Filter. Comprises 3 SAW filters on a common mounting. On filter passes the modulated vision signal, one the 40.75MHz Vision Carrier and the third the Sound Carrier. PCB 108 x 50mm. Parent equipment RC5/503. DD 1984.

FL020568 FL2/568 U.H.F. Bandpass Filter. Input channel filter. Parent equipment DM1M/506. DD 1984.

FL020570 FL2/570	UHF Bandpass Filter. UHF bandpass filter at 720 MHz with greater than 50 dB rejection at ± 27 MHz. Replaces FL2/557 currently used in TM2/3. Box Assembly 153 x 60 x 24 mm. Parent equipment TM2/3. DD 1984.
FL020571 FL2/571	UHF Bandpass Filter. Compact UHF Bandpass Filter to select any channel in Band IV and V by pre-tuning. Input and output is via BNC connectors. Smaller than FL2/505 series, is intended for use in equipment where space is limited. Chassis dimensions 120 mm x 80 mm x 20 mm. D & ED (RF) 1986.
FL030016 FL3/16	Highpass Filter and Amplifier. A VOGAD amplifier provides a constant output level irrespective of changes in input level and a high pass filter rejects any signals at 950Hz. 4U, 57 way unsupported board with PN1/29J panel. DD 1976.
FL030023 FL3/23	High Pass Filter, 30Hz. This filter is designed to remove undesirable very low frequency components from stereo signals before PCM coding takes place. Two independent filters are fitted to one chassis having the same connections to its 17-way plug as the stereo equalisers EQ3/29 through EQ3/33. Six such chassis may be fitted to a PN3/55 and powered from a PS2/163. Power requirements +12V and -12V. CH1/65A (2U 'A' width). DD 1979.
FL030024 FL3/24	Harmonic Distortion Filter. Balanced high-pass filter for measurement of total harmonic distortion by rejection of 6kHz fundamental and all signals of lower frequency. Diecast box 188mm x 120mm x 57mm. DD 1980.
FL030025 FL3/25	Band II High Pass Filter. High-Pass filter, used on output of Band II drives. The filter reduces broadband noise output in the range 0-80MHz, whilst passing wanted carriers in the range 88-100MHz ('A' version) or 100-108MHz ('B' version). Die-Cast Box TNC M/Fm connectors. Parent equipment TM4L/1 etc. DD 1984.
FL030026 FL3/26	Coax Isolator. The device stops D.C. and attenuates M.F. signals passing along a 50ohm coax cable. Intended for passing signals at 90MHz and above. TCPD 1984.
FL040018 FL4/18A	Lowpass Filter used on carrier phantom circuits to prevent high audio frequency crosstalk for P.O. carrier systems. Cut off frequency 11.5kHz, 600 Ω in and out. Identical to FL4/18 electrically, but suitable for BMM chassis. Bracket mounted to fit to CH2/4. Parent equipment PA1M/86. DD 1978.
FL040062 FL4/62A,B	Lowpass Filter, part of the MD3/10, Tone Modulator, and DM3/5, Tone Demodulator. The filter removes programme at the individual tone frequencies. The f.c. of the filter can be changed between 6.1kHz and 16.1kHz in 1kHz steps by selecting the correct components. Through hole plated board approximately 125mm x 50mm. DD 1 977.
FL040063 FL4/63	15kHz Lowpass Filter used to remove 19kHz and 23kHz tones in M.I.C. applications where an attenuation of 60dB is

required. Supersedes FL4/33 and FL4/39A. DD 1977. DDMI 2.438(77). DDHB 2.436(78).

FL040064 FL4/64A-L Lowpass Filter on a plug-in card which is part of the MD3/10 Tone Modulator. The filter removes programme at the individual tone frequencies. The fc of the filter corresponds to the suffix, i.e. 'A' for 6.1kHz, 'B' for 7.1kHz up to 'L' for 16.1kHz. Through hole plated board approximately 50mm x 125mm. DD 1977. DDMI 6.320(78).

FL4/64M Low Pass Filter. Standard FL4/64D with IC1 (tone generator for 9.6KHz) removed and tone 2 frequency re-adjusted to 9.7KHz instead of 9.8KHz. Used when converting MD3/10 for FM tone at 9.7KHz for IF radiodata distribution. Power requirements $\pm 12V$ obtained from MD3/10. Pcb approx. 50 x 125mm. Parent equipment MD3/10B, EP2M/7. RD 1984.

FL040064 FL4/64N Low Pass Filter. This plug-in card is a modification of the FL4/64A-L Low Pass Filter, where the suffix corresponds to cutoffs ranging from 6.1 kHz for 'A' to 16.1 kHz for 'L'. This unit has the cutoff set at 5.1 kHz in order to remove programme at the tone frequencies of 5.6 and 5.8kHz. Power requirements $\pm 12V$ (30 mA). PCB approx. 50x125mm. Parent equipment MD3/10. D & ED (A) 1987.

FL040065 FL4/65A-L Lowpass Filter on a plug-in card which is part of the DM3/5 Tone Demodulator. The filter removes programme at the individual tone frequencies. The fc of the filter corresponds to the suffix, i.e. 'A' for 6.1kHz, 'B' for 7.1kHz up to 'L' for 16.1kHz. Through hole plated board approximately 50mm x 125mm. DD 1977. DDMI 6.321(78).

FL040065 FL4/65N Low Pass Filter. This plug-in card is a modification of the FL4/65A-L low-pass filter used when receiving signalling tones. The suffix corresponds to cutoff frequencies ranging from 6.1 kHz for 'A' to 16.1 kHz for 'L'. This card has a programme cutoff frequency of 5.1 kHz, in order to allow separation of signalling tones at 5.6 and 5.8 kHz. Power requirements $\pm 12V$ (50mA). Parent equipment DM3/5. D & ED (A) 1987.

FL040066 FL4/66 Scratch Filter. A remotely switched filter giving 18dB/octave top-cut at 4 or 8kHz. Filter can also be switched out to give flat response. Power requirements $\pm 15V$ 22mA, +5V 30mA. 2U unsupported card. Parent equipment RP2/10. DD 1977.

FL040067 FL4/67 Monophonic De-emphasis Filter which accepts a 1V p-p multiplex input, and provides a 50 μ s, de-emphasis response together with 15kHz low pass filtering. The resulting monophonic output (A+B) appears at +10dB unbalanced, from a low impedance source (50 Ω). Power requirements +18V - 5.2V. CH1.64A. Parent equipment RC5L/11. DD 1978. DDMI 5.426(83).

FL040068 FL4/68A,B NICAM 3 Low-pass Filter. Provides low pass filtering for NICAM 3 equipment. Basic version incorporates NE4/3 Limiter Delay Line for use when AM6/23 is required. 'A' version is filter alone. Both versions incorporate CCITT pre-emphasis. Power requirements $\pm 15V$. 4UU BMM J card

GO6 connector. Supersedes FL4/59. Parent equipment CD2M/17, CD2M/17A and CD2M/17B. Sub-unit 'A' version NE4/3. DD 1979. DDMI 6.361(80). Superseded by FL4/75. OBSOLESCE.

FL040069 FL4/69 NICAM 3 Low-pass Filter. Provides low pass filtering for NICAM 3 equipment. Power requirements $\pm 15V$. 4U BMM J card GO6 connector. Supersedes FL4/58. DD 1979.

FL040070 FL4/70 Low-pass Filter. To provide harmonic filtering on the output of Band II Transmitter Amplifiers of up to 500W C.W. With 'N' type connectors and an impedance of 50Ω . Parent equipment FL5/8A. DD 1979.

FL040071 FL4/71 Lowpass Filter. To band limit the bitstream output of the 6336kHz PCM re-assembler. 1.9" x 1.2". Parent equipment CD4/11. DD 1981.

FL040072 FL4/72 Band II Harmonic Filter. This low-pass filter removes residual harmonics from the output of Band II transmitters of up to 2kW rating. Also incorporated is a monitoring output suitable for feeding MN1/20 or MN1/24. Parent equipment AM14/51. DD 1981. DDMI 5.413(82).

FL4/72A Band II Harmonic Filter. This low-pass filter removes residual harmonics from the output of Band II transmitters of 2kW rating. Also incorporated is a monitoring output suitable for feeding MN1/20 or MN1/24. Note FL4/72A will still be required for outputs of less than 2kW. PB mounted in casting 61.0D x 145.0W x 174.0H approx. Parent equipment AM14/51A. DD 1982.

FL040073 FL4/73 Low Pass Filter. This low-pass filter was designed to remove a pair of tones used for signalling that are present 'above' a sound programme. The filter is buffered by an input and output amplifier. It contains a small card which is pluggable depending on the f_c being chosen to reject the appropriate pair of tones. These tone pairs start at 6.5KHz/6.8KHz and progress in 1KHz steps to 16.6KHz/16.8KHz. To specify a particular filter to f_c the option range from 1 to 11 should be used as shown below.

FL4/	OPTION	$f_c(KHz)$	FL4/	OPTION	$f_c(KHz)$
FL4/	1	6.1	FL4/	7	12.1
FL4/	2	7.1	FL4/	8	13.1
FL4/	3	8.1	FL4/	9	14.1
FL4/	4	9.1	FL4/	10	15.1
FL4/	5	10.1	FL4/	11	16.1
FL4/	6	11.1			

Power requirements +12V, -12V. 2U CH1/65A. Supersedes FL4/30. DD 1982. DDMI 6.402(83).

FL040074 FL4/74 Twin Low Pass Power Filter. Removes switching components from switch mode power sources for Neve sound desk. First used for Type 5 Colour Mobile Control Rooms. Power requirements 24V input. Parent equipment PS4/15, PS4M/16. 3U high x 7" deep, connection by UECL 40-40 connector. SCPD 1982.

FLO40075 FL4/75	NICAM 3 Input Filter. Provides low-pass input filter to 15kHz together with CCITT pre-emphasis to Rec.J17 for use in NICAM 3 coders CD2M/17 when option 2 is required. This unit is a plug-in alternative to the FL4/68B, which it supersedes, and the AM6/27 Variable Emphasis Limiter. To have same code plate as FL4/68B. Power requirements +18V at 46mA, -18V at 32mA. CH1/64A. Supersedes FL4/68B. Parent equipment CD2M/17. DD 1982. DDMI 6.393(83). DDHB 6.206(83).
FLO40076 FL4/76	5.8MHz Low Pass Filter. This unit contains a 5.8MHz LPF and SIN ² Filter. The bitstream input and output are at 8448 kbit/s NRZ with 75Ω input and output impedances. The unit is mounted on a BT type 62 chassis. 1 card 114mm x 312mm. Parent equipment BT equipment. DD 1983. DDHB 6.256(84). MI 6.422(84).
FLO40077 FL4/77	5.8 MHz Low Pass Filter. This unit contains a 5.8MHz and SIN ² Filter. The bitstream input and output are at 8448 kbit/s with 75Ω input and output impedance. A unit which is electrically identical to this unit is mounted on a B.T. type 62 chassis and coded FL4/76. CH1/65B. Parent equipment CD4M/8. DD 1984. MI 6.423(84). HB 6.257(84).
FLO40078 FL4/78	Transmitter Measurement Filter. Electronic 15 kHz L.P. filter, tailored for installation in audio test-set ME2/5, as part of modification kit for units used at Tx sites. Power requirements ±6 V, drawn from ME2/5 power rails. Printed board, approx. 75 x 150 mm. Parent equipment ME2/5. DD 1984. MI A.1006(86).
FLO40079 FL4/79	Audio Low-Pass Filter. 15 kHz Low-Pass Filter designed for insertion in the multiplex link of a Receiver-Drive Transposer, to convert the re-broadcast signal to mono. All carriers above 19 kHz inclusive are removed. 75 Ω in/out BNC connectors. Eddystone Dye-cast box. Parent equipment TM4M/4. DD 1984.
FLO40080 FL4/80	Dual 20 kHz Input Filter. A 20 kHz two-channel anti-aliasing filter for use with the C08/13. It includes an electronic input balance. Maximum input level +20 dB (0.775 V). Power Requirements ±18 V, 150 mA each. 4 U Unsupported Card with Front Panel. Chassis extender CH4/5. DD(3) 1986. DDHB 3.333(85).
FLO40081 FL4/81	Dual 20 kHz Output Filter. A 20 kHz two-channel anti-imaging filter for use with the C09/9. It includes electronic output balance and equalisation for 48 kHz sampling. Maximum output level +20 dB (0.775 V). Power Requirements ±18 V, 150 mA each. 4 U Unsupported Card with Front Panel. Chassis extender CH4/5. DD(3) 1986. DDHB 3.333(85).
FLO40082 FL4/82	Dual 7 kHz Input Filter. 7 kHz two-channel anti-aliasing filter for use with a 16 kHz sampling system. It includes an electronic input balance. Maximum input level +20 dB (0.775 V). Power Requirements ±18 V, 150 mA each. 4 U Unsupported Card with Front Panel. Chassis extender CH4/5. DD(3) 1986. DDHB 3.333(85).

FL040083 FL4/83 Dual 7 kHz Output Filter. A 7 kHz two-channel anti-imaging filter for use with a 16 kHz sampled DAC system. It includes an electronic input balance and equalisation for $\frac{\sin x}{x}$ correction. Maximum output level +20 dB (0.775 V). Power Requirements ± 18 V, 150 mA each. 4 U Unsupported Card with Front Panel. Chassis extender CH4/5. DD(3) 1986. DDHB 3.333(85).

FL040084 FL4/84 Line Protection Panel. EMP and Lightning Protection Panel for 30-line pairs between bays or groups of bays. Chassis dimensions: 1 U, 17.5" x 4.5" (445 mm x 114 mm). TCPD 1986.

FL040085 FL4/85 Digital Key Filter. Two-channel 5-tap digital key filter for use in digital video mixers. Filter responses are selectable for luminance or chrominance characteristics. Also provides a 'Border' key output. Power requirements: 5 V, ≈ 3 A. Chassis: 6 U triple-depth Eurocard. Chassis extender: CH4/13. D & ED (V) 1986.

FL040086 FL4/86 Analogue Filter. This unit forms part of the Digital Stereo Sound with Terrestrial Television Decoder. The unit provides suitable active low-pass filtering for two independent audio channels, to remove the sampling effects of digitised audio signals, after reconstruction of the analogue waveforms by the audio DACs. The unit has duplicated circuitry to handle 2 audio channels, and provides outputs suitable for driving 600 Ω loads. Power requirements +5V, ± 15 V. CH1/64A. Chassis extender CH1A/43. Parent equipment CD3SM/54. RD 1987.

FL040087 FL4/87 Data and Low Pass Filter. This unit rejects stereophonic signals, but passes monophonic and data (57kHz) signals. Diecast box 49x95x145mm. TCPD 1987.

FL040088 FL4/88 Analogue Filter. This filter is used in the CD3SM/54 and CD3SM/57 728kbit/sec Stereo Sound with Television Decoders. The unit provides suitable active low-pass filtering for two independent audio channels, to remove the sampling effects of digitised audio signals after reconstruction of the analogue waveforms by the audio DACs, C09S/12. The unit has duplicated circuitry to handle two audio channels, and provides outputs suitable for driving 600 Ω loads. The output has been increased to +16dBm compared to the +12dBm of the FL4/86. Power requirements ± 15 V. CH1/64A. Parent equipment CD3SM/54 and CD3SM/57. Chassis extender CH1A/43. RD 1987.

FL040576 FL4/576 Lowpass Filter. Part of Teletext regenerator and AM18/524 Teletext pulse stabilising amplifier. Filters TTL data to produce required output pulse shape. Built as plug-in card, mounted on AM18/524. DD 1976. DDMI 6.315(77).

FL040577 FL4/577 μ s Shaping Low-pass Filter. μ s sine-squared shaping network, 300 Ω impedance. Constructed on a printed circuit board with plug in pins to fit socket mounted on a larger printed circuit board. DD 1977. DDMI 9. 252(79).

FL040578 FL4/578	70% roll off raised cosine filter, designed to be mounted on the AM18/524 Stabilising teletext pulse amplifier which forms part of the Teletext regenerator. DD 1977. DDMI 6.316(77).
FL040579 FL4/579	6MHz Lowpass, Phase Corrected, Filter designed for band limiting in new coders. Mounted on printed circuit card 80mm x 48mm x 1.5mm. DD 1977.
FL040580 FL4/580	Dual Lowpass Filter. This is a printed circuit board carrying two lowpass filters identical to the FL4/ 579. The cut off frequency is 6MHz and the impedance is 75Ω. PCB 80mm x 100mm. DD 1977. DDMI 8.594(78).
FL040581 FL4/581	100ns, Sine Squared Shaping Filter. Shapes waveform edges to 100ns risetime, i.e. 1T. 150Ω impedance . Pine compatible with NE1/527. Power requirements None. PCB 31mm x 49mm. Parent equipment GE6/540. DD 1978 . DDMI 9.251(79).
FL040582 FL4/582P	5.5MHz Low Pass Filter for use in the measurement of unweighted video noise associated with uncoded signal conditions. 100mm x 50mm in Eddystone box. DD 1978.
FL040583 FL4/583P	5.0MHz Low Pass Filter for use in the measurement of unweighted video noise associated with coded signal conditions. 100mm x 50mm in Eddystone box. DD 1978.
FL040584 FL4/584	Chroma Comb Filter. The card output is demodulated (B-Y) and (R-Y) which has been low pass filtered. The output is suitable for feeding direct to A-D converters. Power requirements +12V, -12V 50mA. 4U unsupported card. Sub-units GE4/567, UN14/518, FL5/506 and CD3/537. DD 1978.
FL040585 FL4/585	12MHz Lowpass Filter. Removes unwanted high frequency components from output waveforms. Passes 1T puls e. Return loss 29dB. 63mm x 32mm printed circuit board. Parent equipment GE4M/561. DD 1978. DDMI 9.253(79).
FL040586 FL4/586	NTSC Chroma Comb Filter. The card output is (I) and (Q) demodulated and low pass filtered. Card is suitable for use direct to A-D converter. Power requirements +12V, -12V 50mA. 4U unsupported card. Parent equipment PA6M/544. DD 1978.
FL040587 FL4/587	144nS Sine Squared Shaping Filter. Chapes waveform edges to 144nS risetime, i.e. single Teletext pulse . 150Ω impedance. Pin compatible with NE1/527, FL4/577 and FL4/581. Printed circuit board 31mm x 49mm. DD 1979.
FL040588 FL4/588	Low-pass Filter. 5.5MHz Low-pass filter used in the AM18/527 AGC amplifier. 112mm x 32mm printed circuit board. Parent equipment AM18/527 and ME3M/502. DD 1980. DDMI 9.291(83).
FL040589 FL4/589	2.7MHz Lowpass Filter. This is a 75Ω impedance, phase corrected, lowpass filter with 3dBs of attenuation at 2.7MHz. PCB 150mm x 80mm. DD 1981.
FL4/589A-D	2.7 MHz Low Pass Filter. This is a 75 Ω impedance, phase

corrected, low-pass filter with 3 dBs of attenuation at 2.7 MHz. Different versions exist having various propagation delays:

FL4/589A : 850 ns

FL4/589B : 813 ns

FL4/589C : 790 ns

FL4/589D : 753 ns

P.C.B. 150 mm x 80 mm. DD 1983. DDMI 1.261(84).

FL040590	FL4/590	Luminance Filter. Low-pass filter used in the DM2/512 chrominance demodulator unit to provide a luminance signal. 45mm x 30mm pcb. Parent equipment DM2/512. DD 1981. DDMI 9.306(83).
FL040591	FL4/591	Low-Pass Filter. This filter module forms part of the ME3M/502 TV Waveform Analyser. Its function is to restrict the bandwidth to 5MHz for noise measurements. 87mm x 33mm. Parent equipment ME8/501. DD 1981.
FL040592	FL4/592	6.65MHz Cauer Low Pass Filter. 5th order low pass filter, 6.65MHz, 0.1dB ripple, 75Ω. Used in DAC output. PCB 31 x 69mm, plug-in. Parent equipment GE6/551 and GE6/558. DD 1983. DDMI 9.318(84).
FL040593	FL4/593	1.3MHz Low Pass Filter. 1.3MHz phase equalised low pass filter for ACE Standards Converter chrominance channels. Uses PCB for FL4/589 A & B. Parent equipment CO6/510. DD 1983.
FL040594	FL4/594	1.875 MHz Cauer Low-Pass Filter. Sub-unit of GE6S/567, chrominance envelope DAC filter, 300 Ω impedance, plug-in card. PCB 69 x 30 mm. D&ED (V) 1987. MI V.1045(87).
FL040595	FL4/595	7.5 MHz Cauer Low-Pass Filter. Sub-unit of GE6S/567, luminance DAC filter, 75 Ω impedance, plug-in card. PCB 69x30mm. D&ED (V) 1987. MI V.1046(87).
FL050007	FL5/7	2 way Combining Filter used in the PA1/71 to combine outputs of two AM14/9 or two AM14/15. Printed circuit board mounted in BX1/11. Sub-unit FL5/6. TCPD 1978.
FL050008	FL5/8	Combining Filter Band II. Enables a Band II transmitter output to be combined with one or more previously combined transmitter outputs prior to feeding a common aerial. (N-1) combines of this type may be cascaded to provide an N way channel combiner. Sub-unit FL1/50. DD 1979.
	FL5/8A	Combining Filter Band II. Enables a Band II transmitter amplifier channel to be combined with one or more previously-combined channels. The combined channels are then phased through an Harmonic Filter (FL4/70) before the transmitter aerial. Sub-units FL1/50 and FL4/70. DD 1979.
FL050009	FL5/9	Combining Filter Band II. Enables the outputs of two co-phased transmitters to be combined into one output. With a maximum combined power of 250 W. Connectors are Ntype (female) with 50 Ω ports. Frequency range 88-108 MHz. A monitoring output is provided, level ≈-27 dB relative to the combined output. Parent equipment PA1/110A-D. DD 1979.

FL050010 FL5/10	Band II Combining Filter. Enables the outputs of two co-phased transmitters to be combined into one output, with a maximum combined power of 400W. Connectors are N type (female) with 50Ω ports, frequency range 88-108MHz. A monitoring output is provided. Level approximately -27dB relative to the combined output. Parent equipment PA1/115. DD 1980.
FL050011 FL5/11	Band II Combining Filter. Combines three FM Transmitters of up to 200 watts each into a single aerial system. Can be extended to combine up to five such Transmitters into a single aerial system with additional components. Sub-units FL1/50A, FL1/50B (4 x 200W and above). TCPD 1981.
FL050012 FL5/12	4-Way Band II Combining Filter. This unit combines 4 co-phase inputs, of up to 500W each, into a single output of up to 2kW. The unit operates in the band 88 - 108MHz, and contains internal balancing loads. 5U 19" Panel. Parent equipment AM14/51A. DD 1981. DDMI 5.412(82).
FL050013 FL5/13A,B	Dual 2-Way Band II Combining Filter. This dual combiner is of the Wilkinson type, requiring two co-phased inputs in the range 88-108MHz to produce a single combined output of up to 1kW CW. Two identical combiners are housed within the unit. 4U 19" rack-mounting. Parent equipment AM14/51B. DD 1982. DDMI 5.416(82).
FL050506 FL5/506	Combining Filter. 4U free card providing analogue notch filters with parallel flat equal delay path. Unit used with comb filters in PAL decoding. Power requirements +12V and -12V 5mA. Used with GE4/567, FL4/584, UN14/538, FL1/530 and CD3/537. DD 1978.
FL050507 FL5/507	Combining Filter NTSC. 4U free standing card providing analogue notch filters with parallel flat equal delay path. Unit used with comb filters in NTSC decoding. Power requirements +12V and -12V at 50mA. 4U unsupported card. Parent equipment PA6M/544. DD 1979.
FL060027 FL6/27	3dB Splitting Filter used to split the incoming aerial lead to two receivers RC2/3 in the EP8M/7 studio communication equipment. Printed circuit board 38mm x 110mm. DD 1976. DDMI 5.333(77).
FL060028 FL6/28	Splitting Filter Panel 483mm x 222mm panel with eight helical resonators connected in pairs to split an aerial feed of four transmissions to the appropriate receivers or transposers on VHF/FM relay stations. Sub-unit FL1/46. TCPD 1978.
FL6/28A	Splitting Filter Panel. Unit is similar to FL6/28 but only equipped with 6 off FL1/46 Helical Resonators. Metalwork of FL6/28A to be identical with FL6/28. Sub-unit FL1/46. ED 1981.
FL6/28B	Splitting Filter Panel. Unit is similar to FL6/28, but only equipped with 4 off FL1/46 Helical Resonators. Metalwork of FL6/28B to be identical with FL6/28. Sub-unit FL1/46. ED 1983.

FL060031 FL6/31 Band II Multiple 2-Way Splitting Filter. FL6/31 is a 19-panel housing for identical splitting filters for use in Band II (88-108MHz). Each unit is based on a 2-way Wilkinson hybrid; maximum input power 20W. 19" panel. Supersedes 4 x FL5/9. For use with AM14/48 amplifiers. DD 1980.

FL060032 FL6/32 Loudspeaker Splitting Filter. All filter components are contained on a single printed board which is to be mounted on the rear of the CT4/10A baffle and is designed to drive a 34mm tweeter LS2/12 and a 200mm Bass/Mid range loudspeaker LS2/13, both 8 ohms impedance. Supersedes FL6/25. Parent equipment LS3/4C. DD 1981. DDMI 3.712(82).

FL060033 FL6/33 4-Way Band II Splitting Filter. This unit splits a single carrier input into 4 co-phase outputs. The maximum input power is 20 watts in the range 88 - 108MHz. 19" Rack Mounting Panel. Parent equipment AM14/51. DD 1981. DDMI 5.419(82).

FL060034 FL6/34 Dual 2-Way Band II Splitting Filter. The FL6/34 is a dual, two-way Wilkinson splitter, producing equal amplitude/phase outputs from a pair of inputs (88-108MHz). Also included on the Mon. input power 2 x 18W. 4U 19" Panel Hinging. Parent equipment AM14/51B. DD 1982. DDMI 5.421(82).

FL060036 FL6/36 Loudspeaker Crossover Filter. Low output impedance high level cross over unit for LS5/9 loudspeaker. Supersedes FL6/35. Parent equipment LS5/9. DD(3) 1985.

FL060038 FL6/38 Kef SP1228 Loudspeaker Splitting Filter. This crossover PCB assembly is used in the LS3/5A, when the Kef B110 SP1228 is used. 125x120mm approx. Parent equipment LS3/5A. Supersedes FL6/23. D&ED (S. Lab) 1987.

FL060504 FL6/504 Dual 11dB Directional Coupler. Replaces the UN24/505 on the EP16M/502 transposer equipment when the latter is driving a higher power output amplifier. DD 1978. DDMI 5.354(78).

FL070001 FL7/1 Car Radio Filter. Car Radio Filter to pass MF and VHF, to stop 78 MHz and 141 MHz. BNC connectors. Die cast box 110 x 60 x 30 mm. TCPD 1984.

FL070501 FL7/501 Co-Channel Interference (CCI) Filter. This unit provides automatic filtering when CCI (5 thirds or 10 thirds) is detected. Power requirements PS2/184. CH1/64A. DD 1978.

FL070502 FL7P/502 Co-Channel Interference (CCI) Filter. This case comprises 2 x FL7/501 and 1 x PS2/184. Power requirements 240V a.c. mains. DD 1978.

FL070503 FL7/503 Subcarrier Bandstop Filter. This unit removes all chrominance information from a 625 line television signal prior to sync detection. It replaces the "Sync Pulse Sensor Filter" printed circuit board fitted as standard. 64mm x 24mm printed circuit board. Parent equipment Pye UHF Driver Type 846418/00. DD 1979.

FL070504 FL7/504 Notch Filter. Reduces luminance signals near colour subcarrier frequency. This reduces cross-colour effects in the PAL system. The filter is mounted at the camera head of an LDK5 camera. Philips LDK5 Camera Chassis. DD 1979. DDMI 8.620(80). DDHB 8.366(80).

FL070505 FL7/505 Cross Colour Reducing Filter. Sub-carrier notch filter for reducing cross-colour in Philips LDK/5 Colour Camera. Specially designed to fit 'Coder-in' module of LDK/5. Performance as per FL1/526. 54mm x 10mm x 13mm high. DD 1980.

FW010010 FW1/10 A-E Desk Panel Framework. To provide a nesting box for chassis CH1/71 and CH1/72 and faders, in varying widths as follows:-

FW1/10 A	2 1/2	Unit width (166mm overall width)
FW1/10 B	5	Unit width (326mm overall width)
FW1/10 C	6 1/2	Unit width (422mm overall width)
FW1/10 D	8	Unit width (518mm overall width)
FW1/10 E	7	Unit width (454mm overall width)

CH1/71, CH1/72. DD 1981.

FW010012 FW1/12 Splicing Bench. Consists of Dexion frame with blockboard and Formica top. Used by operator to re-make splices in reclaimed tape. Dexion frame with blockboard and Formica top 1220mm x 610mm x 737mm. Parent equipment EP1/17. DD 1977. DDMI 7.445(80).

FW010013 FW1/13 Recorder Stand. Mounting stand for RD4/12 also houses UN23M/82 control unit and PS3/59. Dexion frame 36 8mm x 533mm x 673mm. Parent equipment EP1/17. DD 1977. DDMI 7.451(80).

FW010014 FW1/14 Bay Framework. As FW2/5, but metric version. ED 1978.

FW010014 FW1/15A-D&S Equipment Bay. The preferred bay for mounting all types of BBC or commercial design which uses standard 483mm (19 inch) panels. The bay is formed of aluminium extrusions and is normally issued as a kit for assembly on site. The bay depth is indicated by the suffix letter A = 610mm, B = 521mm, C = 457mm, D = 305mm and versions A-D have a common height of 2133mm. Version S can be supplied in any height required between 660mm and 2133mm and any depth up to 610mm as ordered. A range of doors, side and top covers, lacing bars and other bay fittings are available and full information is given in "A Guide to Bay Frameworks and Ancillary Fittings" edition II. No power requirements. Supersedes FW2/4. ED 1980.

FW010015 FW1/15X Equipment Bay. As FW1/15 but depth of Bay = 800mm. ED 1981.

FW010016 FW1/16A-D&S Double Equipment Bay. This is a double width bay which is mechanically equivalent to two FW1/15 bays bolted side by side. It exists in the same range as the FW1/15 and is similarly stocked in kit form. It uses the same range of accessories as the FW1/15 bay and is intended to be used on those occasions where two bays are permanently joined

together and the equipment they carry is cross wired. No power requirements. Supersedes FW2/4. ED 1980.

FW010017 FW1/17 Loudspeaker Amplifier Framework. To mount one Loudspeaker Amplifier type AM8/17 on to a loudspeaker. Sub-unit AM8/17. DD 1982.

FW010019 FW1/19 Loudspeaker Universal Mounting Framework. Universal mounting frame to allow LS5/9 loudspeaker to be hung from ceiling, fixed to wall or fixed to desk etc. Consist of 'U' shaped bracket which pivots at the centre of the cabinet sides with a friction device to hold the cabinet at a particular angle. DD 1984.

FW010020 FW1/20 Loudspeaker Mounting Framework. Stirrup mount for LS5/9 Loudspeaker, similar to FW1/19 but with one-piece 'U' shaped frame. Simpler construction but offering less lateral stability than the FW1/19. Uses same fixing as FW1/19 for attachment to loudspeaker. Parent equipment LS5/9. ED 1984.

GE010015 GE1/15 ACE Syncs Generator. This unit is for use with Apology Caption Equipment. It will provide 4 outputs of mixed syncs 0.3V into 75 Ω . Power requirements $\pm 5V$ and $+12V$ d.c. PN1/29J. Parent equipment GE8M/1. DD 1979.

GE010016 GE1/16 Time Signal Generator. To generate 1kHz 'Pips' upon receipt of a keying signal. Power requirements $\pm 12 .5V$ 100mA. CH1/65A. Supersedes C05/1. DD 1980.

GE010017 GE1/17 NICAM 3 Parity Generator. This unit generates parity code for error concealment purposes in NICAM 3 equipment. It operates in conjunction with the NICAM 3 bus system and software and also generates single-channel frame code. Power requirements 5V. CH1/64J. Parent equipment CD2M/17. DD 1980. DDMI 6.369(80). DDHB 6.213(83).

GE010018 GE1/18 Microphone Line Up Generator. First developed for Outside Broadcast communications in television. The unit produces a standard sound level for testing and setting up talkback systems. A noise band between 200Hz and 5.5kHz is generated in a self contained battery powered unit which is clipped to the microphone at a standard distance. At this distance, the sound level at the microphone is that of normal conversational speech. Power requirements dry battery. SCPD 1983.

GE010019 GE1S/19 Line Identification Signal Generator. A unit which generates a line identification signal consisting of tone plus a recorded announcement. Power requirements $\pm 12 V$, $+5 V$. 3 U unsupported card. Parent equipment EP5/22. DD (3) 1985.

GE010019 GE1S/19A Line Identification Signal Generator. The GE1S/19A is a modified GE1S/19 having a larger front panel containing a ZIF socket for inserting EPROMs. This version is used with the RD1SM/2 SATIRE equipment for testing the EPROMs used on the GE1S/19. Power Requirements $\pm 12 V$. 3 U Unsupported Card. Chassis extender CH4/10. Parent equipment RD1SM/2. DD(3) 1986.

GE010020 GE1SM/20 Stereo Tone Sequence Generator. This unit will generate two channel audio tones under remote control from up to 24 locations. A local start button is provided for checking together with a headphone monitoring socket. The tones are programmed by use of EPROMs. Power requirements 240 V. PN3/58 (3U). Sub-units PS2/297, GE7S/16, C09/10, UN23/169. DD 1984. DDHB 3.302(84). EDI 10502(1)FEB 85.

GE010021 GE1S/21 Audio Alarm Generator. Audio alarm generator having the sound of a gong. Alarm sound may be changed by changing software. Sound is generated by D/A conversion and envelope control. Audio O/P is line level. Power requirements $\pm 12 V$, $+5 V$. 4U BMM unsupported card - 57 way edge connector. PN1/29J front panel. Parent equipment MN8SM/5. DD 1984.

GE010022 GE1/22 1.9 kHz Tone Generator. Consists of one 1.9 kHz tone generator and six independent detectors, The inputs are 0 dBm unbalanced, the outputs 0 dBm balanced and

unbalanced. Latched lamp drive and latch reset require one wire connection to the control panel. CMOS outputs at ± 7.5 V from the detectors are available as well as an open collector output which is enabled when any detector senses tone. Power requirements ± 15 V; 25 V unreg. 222 mm x 100 mm with 96 way DIN41612 connector. SCPD 1985.

GE010571 GE1/571B

As GE1/571, but only half of board equipped with components. For use in EP11/502. DD 1975.

GE1/571C

Overlay Effects Generator similar in function to GE1/571A with additional circuits to enable the use of external "excess" key signals and fringe suppressed foreground signals. DD 1976.

GE010585 GE1/585A

Caption Keying Waveform Generator. As GE1/585 but with additional circuitry to increase line blanking. Avoids visible background signal breakthrough in "Whole screen mode" for use in OB vision mixing equipment (EP11/502) only. 406mm x 203mm. PCB. Used as a pair with GE1/569 (Caption Keying Waveform Generator). ED 1978.

GE010591 GE1S/591A

Test Signal Trigger Generator. Provides all trigger and drive signals for GE6/540, options 1, 2, 3 and 4 to produce the following full field waveforms:

Luminance and Chrominance 2T Pulse and Bar;
5-step Staircase (all lines and CCIR variations);
50Hz Square Wave;
8 Line Square Wave;
Sawtooth;
Single Phase Colour Bars;
Line Duration White Bar;
Luminance 2T Pulse;
UK National ITS "B";
20 second Square Wave;
Intermodulation Test;
UK National ITS "A";

The facility also exists to disconnect the generated output and terminate the driven circuit in 75 Ω . Generates line repetitive syncs, or mixed syncs with or without trigger pulses being provided for ITS waveforms. The internal s.p.g. can be locked to external syncs and subcarrier. Colour burst phase can be either fixed or swinging. Waveforms can be selected by front panel push buttons or remote control.

Option 2: UN3/570 and UN23/639 fitted. Enables waveforms to be selected automatically by two operator programmed sequences.

Option 3: Option 1 and 2 together.

Power requirements +15V, -15V, +18V all unregulated CH1/65D. Parent equipment GE4M/461. DD 1979. DDMI 9.243(79). DDHB 9.243(79).

GE1/591B

Test Signal Trigger Generator. All facilities and options as GE1/591 but provides trigger and drive signals for GE6/540. Options 5 and 6 to produce the following full field waveforms for transmission circuit testing to Post
2T Luminance Pulse and Bar;
1T Luminance Pulse and Bar;
2Tc Chrominance only Pulse and Bar;

2Tc Chrominance and Luminance Pulse and Bar;
 5-step Staircase (all lines and CCIR variations);
 Black Level, Line Duration White Bar;
 20 second Square Wave;
 50Hz Square Wave;
 P0 Line No. 8 Type.
 Power requirements +15V, -15V, +8V all unregulated.
 CH1/65D. Parent equipment GE4M/561. DD 1979. DDMI
 9.243(79).

GE1S/591C Test Signal Trigger Generator. Similar to GE1S/591A but
 for Transmitter Group requirements it provides providing
 trigger pulses and drive signals for streak test waveform
 instead of single phase colour bars. Power requirements
 +15 V, +8 V, -15 V all unregulated. CH1/65D. DD 1985.

GE010593 GE1/593 Multipulse Trigger Generator. Produces trigger pulses and
 mixed syncs for driving the GE6/537 Multipulse Waveform
 Generator. Contains its own supply regulator requiring +8V
 unregulated. CH1/65A. DD 1977.

GE010594 GE1/594 Cue Dot Generator. Generates key and infill signals for
 cue dot insertion. Requires video or mixed-sync input.
 Output: key 0.7V p-p and -2V peak, video 0.7V p-p. Power
 requirements mains. CH1/64A. DD 1978. DDM I 8.601(79).
 DDHB 8.355(79). EDI 10371(1)MAR80.

GE010595 GE1/595 Waveform Generator. Part of SE3L/505. Generates line and
 field sawtooth and triangular waveforms, trigger pulses and
 blanking pulses. 4U unsupported J width printed circuit
 board with panel. Parent equipment SE3L/505. DD 1979.
 DDMI 8.615(79).

GE010596 GE1S/596 A.G.C. Sample, Trigger Output and Timing Generator. Under
 microprocessor control this provides appropriately times
 A.G.C. sample pulses for the UN23/676 and a trigger pulse
 for an external waveform monitor. It also provides timing
 pulses for I.T.S. and noise measurements. It is driven
 from the UN16/540 for which it performs address decoding.
 Power requirements +5V, +12V, -12V. BMM 4U card. Parent
 equipment ME3M/502. DD 1980.

GE010597 GE1M/597 Network Clock Generator. This equipment produces a Network
 Logo and an Analogue Clock Display for use in television
 presentation. By using electronic pattern generation
 techniques it replaces the cameras, slide scanners and
 mechanical clocks which were previously required. Inputs
 required are standard mixed blanking and synchronising
 pulses, a Gent time reference signal (optional) and a logo-
 selection signal for remote control. Outputs are 0.7V p-p
 RGB plus a composite monochrome output. Power requirements
 240V a.c. mains, 76 VA max. PN3/54 with PN3A/55 rear
 panel, bay mounting. Sub-units UN3/66, GE6/544, UN26/549,
 GE6/545, PS4/3, UN26/31, UN23/674, AM23/520, UN27/1 DD
 1980. EDI10429 (1) SEPT 81. DDHB 2.486(83).

GE010598 GE1/598 Address Generator. Address Generator and Multiplexer for
 addressing a television picture store organised as two
 halves, A and B, of two fields, W and X. Accepts read and
 write line labels with line trigger pulses and address

enable and select pulses. Designed for use with UN27/504 picture store board. Coding Positions: 1, 43, 47. Power requirements +5V, 2A. 4U BMM unsupported card. Parent equipment Electronic stills store, PALM/580. RD 1981.

GE010599 GE1/599 Burst Phase Reference Generator. From input of Black and Burst produces feeds of separated Burst, Burst phase shifted 90°, Burst Gate and Burst Sample to feed six comparator units. Power requirements +12V, -6V. CH1/64A. Supersedes GE1/565. Parent equipment EP5L/515. DD 1981. DDMI 1.249(81).

GE010600 GE1/600 Burst Phase Error Generator. Compares phase of Burst on video feed with reference signals and produces Natlock error signal and phased/not phased indication. Power requirements +12V, -6V. CH1/64J. Supersedes GE1/564. Parent equipment EP5L/515. DD 1981. DDMI 1.250(81).

GE010601 GE1/601 Frame Combing Generator. The Frame Combing Generator Board is a constituent part of the CINETRACE system. Two waveforms are produced for orthogonal coils. A manual control facility is provided for the Y coils. Power requirements ±12V, +5V. 3U unsupported card. Parent equipment EP1M/550. DD 1982.

GE010602 GE1/602 Drop Shadow Generator. Generates a key signal, from a text input that is widened downwards to the right. It is used with the UN14/138 One Line Delay and SE3/511 Split Screen Switch, to provide insertion of anti-aliased text, with drop shadows, into a video signal. Power requirements ±12V. CH12/64J. DD 1983.

GE010603 GE1/603 Scan Generator. Provides X-Axis scan waveform. Also provides C.R.T. unblanking and astigmatism and focus modulation. X-Axis output, 20 mA peak-to-peak, push-pull. Other outputs 3 V peak-to-peak max. Power requirements +12 V, +5 V, -12 V. 2U unsupported card. Parent equipment MN6M/513. DD 1984. DDMI 9.330(85).

GE010605 GE1/605 Subtitle Display Timing Generator. To correct an inherent fault in the D.M. England Ltd., 'Miracle' subtitle display and preparation unit, whereby synchronism between a still-frame I/P video signal and displayed subtitle characters is lost. This is accomplished by regenerating the corrupted timing signals produced by the original circuit. Power requirements 5 V, 500 mA. PCB: 120 mm x 220 mm. DD(7) 1986.

GE020011 GE2/11 Sync Pulse Generator. This unit is part of the send terminal EP8/4, 6-channel PCM Sound multiplex equipment. It generates a pseudo-line sync pulse to be added to the 2048kbit/s signal. It is intended to be used when the equipment is operated on analogue bearer circuits. CH1.64J. DD 1977.

GE020012 GE2/12 Timecode Cue Pulse Generator. Compares two 20 bit parallel words and generates a pulse when the two are equivalent. Used to compare a running timecode with a fixed time from thumbwheels to generate a cue pulse. Power requirements

+5V 50mA. Unsupported card 93mm x 62mm, C06 64 way plug. DD 1978.

GE020013 GE2/13 Polarity Check Pulse Generator. Produces a 500Hz pulse with 5:1 mark/space ratio for sending over audio circuits to activate MN4/6 Polarity Check Unit. Power requirements $\pm 12V$ at 20mA. CH1/65A. DD 1978.

GE020014 GE2M/14 Timecode Events Pulse Generator. Generates start pulses which are timed to occur at given timecode frames. The generator accepts a feed of timecode and stores timecode events which are then used to generate the start pulses when coincidence occurs. Power requirements 240V a.c. mains. PN3A/53C. Sub-units CD3/530, SE5/8, U N27/11, UN23/135 and PS4/7. DD 1980. DDMI 7.471(81).

GE020015 GE2/15 Audio Pulse Generator. This unit forms part of the Tone Distribution system for BH, London. Bursts of tone are generated at regular intervals in time, the frequency of the tone being determined by that of a continuous supply of tone applied externally. Pulse repetition rate is selectable at 5,10,15,20 and 30 seconds. Output pulses are synchronised to 1 min BH clock. There are two outputs, one of which can be muted externally. Power requirements ± 12 volts at 100mA (PS22/163). CH1/65A. Supersedes UN1/180 and UN1/81. DD 1982. DDMI 3.717(82). DDHB 3.287(83).

GE020016 GE2/16 H.V. Pulse Generator. H.V. Pulse Generator (200 V 30 ns H.A.D) designed to be used in conjunction with ME1/11 to form time domain reflectometer system capable of locating fault conditions on S.W. sender feeders. Power requirements 115 or 240 V ac. 220 x 120 x 85 mm. DD 1985.

GE020017 GE2/17 Clock Pulse Generator. This unit forms part of the Digital Stereo Sound with Terrestrial Television Coder. The unit provides clock signals, at frequencies of 1774.2MHz and 128kHz, used by other boards in the Coder. These clock signals are derived from crystal oscillators at 17.472MHz and 16.384MHz respectively, with frequency-division where necessary. Power requirements +5V, -12V. 4U unsupported p.c.b with PN1/29J front panel. Chassis extender CH4/5. Parent equipment CD2SM/39. RD 1987.

GE020018 GE2S/18 Decoder PLL. This unit forms part of the Digital Stereo Sound with Terrestrial Television Decoder. The unit takes the recovered 728kHz data clock from the demodulator, and uses phase-locked-loop techniques to generate a 17.472MHz master clock signal from a crystal oscillator, locked to the incoming data clock. The 17.742MHz clock signal is used to control other circuits in the 728kbit/sec decoder, CD3SM/54. Power requirements +5V, $\pm 12V$. 4U unsupported p.c.b with PN1/29J front panel. Chassis extender CH4/5. Parent equipment CD3SM/54. RD 1987.

GE020019 GE2/19 Master Clock Generator. This unit is for use in the Digital Stereo Sound with Terrestrial Television Modulator. It uses a phase locked loop to lock a 11.648 MHz oscillator (16 x 728 kHz) to the 728 kHz data-clock signal. The 11.648 MHz clock signal is the output to the digital

modulator circuit board. Power requirements +5 V, ± 12 V. 4U unsupported p.c.b. with PN1/29J front panel. Parent equipment MD4SM/6. Chassis extender CH4/5. RD 1987.

GEO20627 GE2/627A Clock Pulse Generator. Modified version of GE2/627 onto a CH1/64J, with a GE7/507 to form a subcarrier locked clock generator. This unit forms part of the 68 Mbits sub-Nyquist PAL system. CH1/64J. DD 1982. DDHB 1.174(83).

GEO20635 GE2/635 Pulse Generator. Used in Tarif Two (EP6L/509) to provide pulses for control and clamping. CH1/64J. DD 1977. DDMI 7.398(77).

GEO20636 GE2/636 Pulse Generator. Small PCB mounted at rear of main frame in RC5M/501 Rebroadcast receiver. Generates line frequency pulses to drive gated a.g.c. unit. DD 1977. DDMI 5.349.

GEO20638 GE2/638 Variable Blanking Generator for use with inlay camera channel, colour synthesiser etc. Front panel controls permit full adjustment of the start and finish of the line and field blanking periods. Power requirements 240V mains. CH1/64A. OU 1980.

GEO20639 GE2/639 PAL Square Wave Generator. Generates PAL Square Wave from mixed syncs and burst gate pulses. Input and output pulses are CMOS logic levels, polarities are set by internal kinks. Originally designed as a modification to the GE6/541. Power requirements +5V to ± 12 V. 71mm x 144mm, to fit in CH1/64 chassis. DD 1980.

GEO20640 GE2/640 Negative 2T Pulse Generator. An option unit for use with the GE6/540 in the GE4M/561 TV Test Signal Generator. Contains the logic and pulse generator for producing a negative 2T pulse on every line of the white bar of the luminance/chrominance pulse and bar waveform. Does not contain the pulse shaping filter, this is in the GE6/540. Power requirements +5V, -12V. 47mm x 173mm card. Parent equipment GE6/540. DD 1980. DDMI 9.268(82). DDHB 9.170(82).

GEO20641 GE2/641 Sync Monitor Sequencer. Generates sequential scanning pulses and data enable, clear etc., pulses. Power requirements +6, -6V. 4U free standing. Parent equipment EP5L/516. DD 1981.

GEO20642 GE2/642 Pulse Generator. The unit generates 11.456MHz clock, a frame-marker pulse and a 6-bit parallel data signal containing two frame-alignment words in the appropriate time-slots. The unit may generate these from its internal clock source, or for re-multiplex applications, it may receive them from an external source. The unit forms part of 68 Mbit/s multiplexing equipment CD4M/504. Power requirements +12V, +5V, -5V at current to be advised. 4U solderwrap card with 'J' width front panel. Parent equipment CD4M/504. RD 1982.

GEO20643 GE2/643 A-D Clock Pulse Generator. The unit performs functions of clock recovery in a demultiplexer, operating in conjunction with a tributary unit. It also contains an output stage

which delivers a standard-level HDB3-coded tenary signal into a 75 ohm load. The following different versions exist, with a few component-value variations:

<u>Code</u>	<u>Use with Clock Freq.</u>
GE2/643A	4fsc NB HBD3 output stage omitted
GE2/643B	676kHz
GE2/643C	8448kHz
GE2/643D	2048kHz

The unit forms part of 68 Mbit/s demultiplexing equipment CD4M/505. Power requirements +12V, -12, +5V, -5V at currents to be advised. PN1/29J. Parent equipment CD2M/505. RD 1982.

GEO20644 GE2S/644 Oscilloscope Trigger Generator. Provides trigger pulses to trigger an oscilloscope on various parts of the T.V. Waveform. Also provides clamped video and bright up. The unit is 525/625 line compatible and is microprocessor-controlled. Power requirements 25W. CH1/65D. DD 1984. DDMI 9.332(85).

GEO20644 GE2S/644 Oscilloscope Trigger Generator. Provides trigger pulses to trigger an oscilloscope on various parts of the T.V. waveform. Also provides clamped video and bright up. The unit is 525/625 line compatible and is microprocessor controlled. Power requirements 25 W. CH1/65D. DD 1984.

GE2SP/644 Oscilloscope Trigger Generator. This is the portable version of the GE2S/644 and consists of this generator housed in a Carrying Case CS2/24D. Power requirements 240 V ac. CS2/24D. Sub-units GE2S/644. DD 1985.

GEO40006 GE4/6 Routine AF Test Generator. Audio frequency test signal generator providing an automatically repeating sequence of test tones at 12 frequencies with the output level programmes for routine measurements of frequency response, total harmonic distortion and noise. Manual or remote override facilities are incorporated. Output impeded <5Ω for feeding internal lines etc. Internal mains power unit. CH1/65D. DD 1976.

GE4/6A Routine A.F. Test Generator. Modified version of GE4/6 the test sequence precisely simulating the output of the TE1/1 so that the performance of the TE1/4 may be rigorously checked. Power requirements 240 V mains. CH1/65D. DD 1981.

GE4/6B Routine A.F. Test Generator. Modified version of GE4/6 to provide distribution feed of sequential tone signal. For bay mounting, a termination panel PA20/24 is required. CH1/64D. Supersedes OS1/1. DD 1981.

GE4/6C Routine A.F. Test Generator. Development of GE4/6 to provide facilities both for network testing and pre-transmission tests at O.B. sites. For bay-mounting, a termination panel PA20/26 is required. Power requirements 240 V mains. CH1/65D. DD 1982.

GE4P/6 Routine A.F. Test Generator. Consists of Test Generator GE4/6 mounted in portable case CS2/24D. Power requirements 240V mains. CH1/65D. DD 1980.

GE4P/6A Routine A.F. Test Generator. Modified version of GE4P/6A, the test sequence precisely simulating the output of the TE1/1 so that the performance of the TE1/4 may be rigorously checked. Power requirements 240V mains.

CH1/65D in CS2/24D. DD 1981.

GE4P/6C Routine A.F. Test Generator. Consists of GE4/6C mounted in portable case, OS2/24D. Case is equipped with audio and mains connectors and houses line - switching relays. Power requirements 240V mains. CS2/24D. Sub-units GE4/6C. DD 1982.

GE4/6D Routine A.F. Test Generator. Modification of GE4/6C to provide facilities for link testing by remote control. For bay-mounting, a termination panel PA20/26 is required. Power requirements 240 V mains. CH1/65D. DD 1984.

GE040007 GE4/7 Polarity Checking Signal Generator. Generates a train of sine-squared pulses, of amplitude approximately 1.6V p-p, which can be used for checking the polarity of audio transmission circuits and, in particular, for operating Automatic Polarity Correctors type MN4/6. Power requirements +12V at 50mA. CH1/65A. DD 1979.

GE040008 GE4S/8 Dual-tone Audio Test Generator. Generates phase synchronised pairs of sine waves for HF AM Transmitter Intermodulation Testing, 80 and 100Hz, 400 and 500Hz, 1k and 1.25kHz, 4k and 5kHz. Also generates 100Hz, 400Hz, 1kHz and 5kHz, singly. Power requirements +15V, -15V. CH1/65D. Parent equipment ME15M/8. DD 1980.

GE040009 GE4/9 NICAM 3 Digital Test Generator. This unit generates an HDB3 bitstream which simulates waveforms suitable for testing NICAM 3 decoders. A wide range of waveforms are provided and these are selectable from the front panel. Power requirements from a PS2/185. CH1/64B. Parent equipment GE4P/9. DD (6) 1982. EDI 10470(2)APR 84. DDHB 6.230(83).

GE4P/9 NICAM 3 Digital Test Generator. This generator consists of a GE4/9, a NICAM 3 Multiplexer, GE7/9A or GE7/13, and an optional 16 bit Digital Generator, GE7S/12. These units along with a Stabilised Power Supplier, PS2/187L are housed in a D width portable case, CS2/25D. Different bitstream rates may be accommodated by using either the GE7/9A (2048 kbit/s) or the GE7/13 (676 kbit/s). NICAM 3 Coders may be tested by using the GE7/12. Power requirements 240 V ac, <25 VA. Sub-units: GE7/9A or GE7/13, GE7/12, PS2/187L. DD(6) 1982. EDI 10470(2)APR 84. DDHB 6.230(83).

GE040010 GE4/10 13 Channel PCM Simulator. A small portable test generator. Generates a 13 channel PCM bitstream in which all the bits can be set by toggle switches. Designed to facilitate the testing of the transcoders CD4M/6 and CD4M/8. Power requirements +5 volts at 400mA. PCB 200 x 130 in a box 240 x 185 x 100. DD 1982. DDHB 6.243(83). DDMI 6.409(83).

GE040011 GE4/11 Audio Sweep and Tone-Source Generator. The unit is designed as an ancilliary to the Auto Test Generator GE4/6C, providing sweep and continuous sine-wave signals in the range 30Hz - 30kHz. Also included is a remote control receiver to permit remote operation of both units at OB sites. Power requirements 240V mains. CH1/65D. Parent equipment GE4M/12. DD 1982. DDHB 6.243(83). DDMI 6.409(83).

GE4P/11 Audio Sweep and Tone-Source Generator. The unit consists

of a GE4/11 mounted in a CS2/24D carrying case. Power requirements 240V mains. CS2/24D case. DD 1982.

GEO40012	GE4M/12	OB Audio Test Generator. The unit comprises an Automatic Sequence Generator, GE4/6C and an Audio Sweep and Tone-Source Generator, GE4/11, mounted in a PN3/55 BMM framework for by mounting. Power requirements 240V mains. PN3/55. Sub-units GE4/6C, GE4/11. DD 1982.
	GE4P/12	OB Audio Test Generator. The unit consists of a GE4M/12 converted for portable use with a CS2/26H carrying case. Power requirements 240V mains. CS2/26H. Sub-units GE4/6C, GE4/11. DD 1982.
GEO40013	GE4/13	Audio Polarity Test Signal Generator. Part of TEL/45, Audio Polarity Tester. Powered when plug is inserted in output jack. Power requirements Battery, 9V PP3 type. Plastic case, 120 x 65 x 40mm. Parent equipment TEL/45. DD 1983. DDHB 9.203(84). DDMI 9.324(84).
GEO40014	GE4P/14	Audio Test Signal Generator. This equipment generates an analogue audio test signal which provides a highly critical listening test from audio PCM equipment. Power requirements 240 V a.c. 50 Hz. BMM carrying case CS2/25 or 27. Sub-units GE4/15, PS2/187N. DD 1983. DDHB 6.250(83).
GEO40015	GE4/15	Audio Test Signal Generator. This unit generates an analogue audio test signal which provides a highly critical listening test for audio PCM equipment. Power requirements 24 volts. BMM chassis CH1/64C. Parent equipment GE4M/14. DD 1983. DDHB 6.250(83).
GEO40016	GE4/16	Headphone Limiter Test Generator. Generates a noise signal with a spectrum similar to that of a music programme. For use in the testing of headphone limiters. Power requirements Internal PP3 9 V battery. 111.1 mm x 60.3 mm x 32.6 mm. Cemast 0027429. DD 1983. DDMI 3.733(84).
GEO40017	GE4/17	UHF 4 Tone Generator. This equipment is intended to assist in the measurement of intermodulation distortion produced in UHF TV transposers. It will provide a vision carrier on any channel in Bands IV and V together with carriers corresponding to the colour subcarrier, the normal sound carrier and the additional sound carrier required for stereo sound. The carrier frequencies are stabilised using frequency synthesiser techniques and the amplitudes held constant by means of an ALC loop. The output level from the equipment is continuously variable between 0 dBm and -60 dBm vision peak sync power. Power requirements 240 V ac, approx. 150 mA. DD 1984.
	GE4P/17	UHF 4-Tone Generator. This is the portable version of the GE4/17 and consists of this generator housed in a C & N size 6 case. Power requirements 240 V ac, approx 150 mA. C & N Size 6 case (3.85 x 15.33 x 8.85 inches). DD 1985. EDI 10542(1)JUL 86. HB 5.180(86).
GEO40018	GE4/18	HDB3 Test Generator. This equipment generates simple HDB3 coded test patterns at 676 kbit/s. The patterns are 101010..... or 0000..... These patterns can then be used in conjunction with a C09/11 HDB3 to NRZ Converter to check

digital links. Power requirements 240 V a.c. Eddystone Box 188 x 120 x 81 mm. DD 1985. DDTM 5.180(85).

- GE040019 GE4SM/19 Component Coding Test Signal Generator. This generator provides Y, U and V test signal outputs, each with 10-bit resolution in component format. It can generate up to 16 different sets of test waveforms. Synchronisation can be internal or external. Power requirements 240 V ac. 3 U crate PN3/58. DD 1985.
- GE040020 GE4S/20 6 bit CRC Word Generator. To generate a cyclic redundancy check (CRC) word of 6 bits. To be incorporated into each frame of the 8448 kbit/s bitstream for PCM distribution. Power requirements +5 V, -10V. PCB: 5" x 2.5". Parent equipment: Plessey 2nd order multiplexer. DD(6) 1985.
- GE040021 GE4/21 Sequence Generator and External Data Interface. This interface unit is for use in the Digital Stereo Sound with Terrestrial Television Modulator. The unit will either generate 728kbit/sec test data and associated 728 kHz data-clock, which is then passed to the modulator, or act as interface buffer between an external source (728kbit/sec coder) of 728kbit/sec data and clock, and the modulator. The test data generated can take the form of either a $2^{15}-1$ pseudo-random binary sequence, or a repeated 16-bit data sequence defined by switches on the front panel of the unit. Power requirements +5 V. 4U unsupported p.c.b with PN1/29J front panel. Chassis extender CH4/5. Parent equipment MD4SM/6. RD 1987.
- GE040022 GE4/22 Stereo Line-up Test Generator. This unit is a stereo line-up sequence generator, to be patched into the programme output of a sound desk providing a stereo feed. It provides, by means of timed gaps in conjunction with normal line-up tone, a means of rapidly identifying the 'A' & 'B' legs of the feed and their relative polarities. Power requirements 12-24Vdc. D&ED (A) 1987.
- GE040561 GE4M/561 Television Test Signal Generator. Generates standard and special television test signals for measuring linear and non-linear distortions. Waveforms can be generated with line repetitive syncs, or mixed sync with or without ITS waveforms. The internal s.p.g. can be locked to external syncs and subcarrier. Waveforms can be selected by front panel push-buttons or remote control. Options are available to establish the correct subcarrier to line frequency relationship, to provide programmable automatic waveform sequencing and various additional waveforms. Refer to DSK21227A4 (GE4M/561 Option Table) and DSK21228A3 (GE4M/561 Option Selection Tree) and then the sub-unit descriptions for details of the option facilities provided. Power requirements 240V a.c. PN3/5 5. Supersedes GE2/527, GE2M/547, GE2M/559 and GE4M/520. Principal sub-units GE1/591A or GE1/591B and GE6/540. DD 1979. DDMI 9.257(79). DDHB 9.164(81). EDI 10379(1)MAY80.
- GE4P/561 Portable Television Test Signal Generator. Transportable version of GE4M/561. Carrying case CS2/26. DD 1979. DDMI 9.257(79). EDI 10379(1)MAY80.

GE4SP/561	Portable Television Test Signal Generator. Transportable version of GE4SM/561. CS2/26. DD 1985.
GE040565 GE4/565	E.I.A. Test signal generator. This generator provides split field colour bars with -I, white, Q and black signals in the lower quarter. Power Requirements: 240V a.c. mains. 1U high chassis (see DSK 19185A1). DD 1977. DDHB 9.161(79).
GE040567 GE4/567	PAL Decoder Demodulator CSC Generator. This card takes in composite video and gives the following signals out:- B-Y colour demod carrier, complementary square wave MECL 4.43MHz. R-Y colour demod carrier, complementary square wave MECL 4.43MHz. PAL modified 2 x CSC complementary square wave at MECL 8/85MHz. Also switches on the front edge of the card, enable AGC and chroma tracking to be used. Power requirements +12V and -12V at 100 mA. 4U THP unsupported card (with screen). DD 1978.
GE040568 GE4/568	NTSC Decoder Demodulator CSC Generator. This card taken in composite video and gives the following signals out:- I colour demod carrier, complementary square wave MECCL at 3.579MHz; Q colour demod carrier, complementary square wave MECCL at 3.579MHz. Switches on the front edge of the card enable AGC and chroma tracking to be used. Power requirements +12V and -12V 100mA. 4U THP unsupported card (with screen). Parent equipment PA6M/5 44. DD 1979.
GE040569 GE4SM/569	Auxiliary Television Test Generator. Generates a multipulse waveform and a teletext random test sequence. Includes a field interval inserter operating on any lines between 12/325 and 21/334. Also includes a burst locked oscillator and sync separator. Can be used alone producing waveforms with line repetitive syncs, or in conjunction with the GE4M/561 or GE4P/561 when mixed syncs would be available. Power requirements 240v AC mains. PN3/55. Sub-units (NOT YET AVAILABLE). DD 1980. DDMI 9.321(84).
GE4P/569	Auxiliary Television Test Signal Generator. As GE4M/569 but a portable version, housed in a CS2/26 carrying case. Power requirements 240V AC mains. CS2/26. DD 1980. DDMI 9.321(84).
GE040570 GE4/570	Vertical Colour Bar Generator (PAL). Provides separate non composite outputs each 0.7 d.a.p. into 75Ω as stable reference sources. Mains operated. Complete with Power Supply. Power requirements 240V AC <5 watts. BMM CH1/64B. Supersedes GE4M/523 imperial design. DD 1980. DDMI 9.260(82). DDHB 9.165(82). EDI 10457(1)JUL 83.
GE040571 GE4/571	Test Pattern Generator. Generates digital outputs of Colour Bars, Ramp Test Patterns and variable Grey level. When used with ADC's CO8/509 allows split screen comparison of input video with digital Colour Bars. Digital outputs are Y and multiplexed U and V. Power requirements +5V, -5V. Unsupported 4U pcb with J width Front Panel. Parent equipment CO6/511. DD 1981.
GE040572 GE4/572,A	Preset Law Step Generator. Generates up to 16 different step waveforms of 16 steps. Step level information held in

U-V erasable Prom. Operates on 625, 525 or "Digiscan" (21kHz) line frequencies. Outputs at 0.7 and 2.4V into 75Ω.

"A" Version

Derives "Digiscan" line frequency from 625/525 line frequency. Power requirements AC mains. CH1/64. Supersedes GE4/509. DD 1981. DDHB 9.189(83). DDMI 9.295(83). DDMI 9.295(83). DDHB 9.189(83). DDMI 9.295(83). EDI 10492(1)AUG 85.

GE040573 GE4/573 ENG Line-up Test Generator. Description as the experimental GE4M/564. GE4M/564 sub-unit, GE6/537 contains obsolete components. Power requirements 240V AC. PN3/55. Supersedes GE4M/564. Sub-units GE6/558, OS2/52, UN21/40. DD 1982.

GE040574 GE4/574 SIS Decoder Line-up Generator. Generates a line-sync and black level waveform with encoded sound-in-syncs. Used to line-up the audio channel of a SIS decode and the shift-pulse generator. Twelve outputs are selectable by a front panel switch and are programmable by the use of EPROM's. Power requirements AC 240V mains. 220mm x 156mm x 100mm RS 509-276. DD 1983.

GE040575 GE4SM/575 Insertion Test Signal Generator & Inserter. Generates insertion test signals and inserts them into a video signal for transmission. Also provides a separate output of full field test signals. Power requirements 240 V a.c. PN3/55. Supersedes GE4M/556. DD 1984.

GE040576 GE4/576 UHF Test Signal Generator. Test equipment for UHF transmitters and transposers. Comprises modulator, three/four tone tester and in combination with ME15/504, UHF/VHF tracking generator sweeps. Power requirements 240 V ac. Special Box ≈19" x 4 U. Supersedes EP14M/507. DD 1985.

GE040577 GE4/577 Monitor Line Up Generator. This unit provides two outputs of a waveform, selectable either locally or remotely. The waveforms available are SPLUGE, PLUGE, Step, Grille, Sawtooth and Lift. A feed of Black and Burst is required. Power requirements 240Vac. 1U chassis. D&ED (V) 1987.

GE050508 GE5L/508 Synchronising Subcarrier and SPG Drive Generator contains OS2/530 high stability 5MHz oscillator with output to drive GE6L/535 SPG, and C02/552 subcarrier synthesiser and UN17/529 digital phase shifter. Termination panel PN3A/53D. DD 1976. DDMI 1.208(77). DDHB 1.137(77). EDI 10294(1)DEC76.

GE050509 GE5/509 Superlock Synchronising Generator to provide monochrome pulses locked to a video feed to drive caption scanners etc. Unsupported 4U card. DD 1976.

GE050510 GE5/510A Motor Control Voltage Generator. This unit supersedes the GE5/510. The circuit handling the velocity feedback signal has been re-arranged to give better temperature stability so that the unit is suitable for use in synchronisers RD4L/506 and RD4L/507 when used to control a JVC U-matic

machine. Power requirements +12V, 80mA, -12V, 70mA. 4U BMM unsupported card. Supersedes GE5/510. Parent equipment RD4L/506, RD4L/507, EP10M/501, EP10M/502. DD 1981.

GE050511 GE5/511 Superlock Synchronising Generator. Part of PA18M/529, supplies three outputs of superlock mixed syncs and mixed blanking for use in caption equipment. 4U PCB. DD 1977.

GE050512 GE5M/512 Colour Genlock SPG. Accepts 625-line composite colour video and Natlock line-drop error signals. Provides appropriately locked outputs of:- Mixed syncs; Line drive; Mixed blanking; Early line drive; Burst gate; Field drive; Vert. axis switch; Four-field squarewave; Subcarrier; Four-field reset; 1MHz. First used in TV OB vehicles CMC's 19 to 23. Power requirements 65W at 250V a.c., 10W at 24V d.c. PN3/54 with PN3A/55 rear termination panel. Combines GE5L/508 with GE6L/535 and UN3/574 to give integrated SPG. Sub-units OS2/530, CO2/552, UN17/529, CO2/553, GE6/538, GE6/639, AM1/606, UN3/574. SCPD 1977.

GE050514 GE5/514 Motor Control Voltage Generator. Converts digital time difference signals to analogue control voltages for a tape machine. Designed to replace the CO9/502 in the Timecode tape synchroniser EP1M/532 so that the synchroniser can control unmodified Studer A80 machine. Power requirements +5V, +12V, -12V. 5U CDX unsupported card. Supersedes CO9/502. Parent equipment EP1M/532. DD 1979.

GE050515 GE5/515 O.B. Superlock Generator. This unit is derived from the GE5/509 and has reduced facilities appropriate to O.B. requirements. Power requirements +12V +5V. PA20/515. CH1/64B. DD 1980.

GE050516 GE5/516 Sync Pulse Generator. Locks to external crystal pulse feeds or runs on internal crystal oscillator. Provides outputs of syncs and burst, and various logic pulses for parent ITS generator. Power requirements +12 V, +5 V, -12 V. 2U unsupported printed board. Parent equipment GE4SM/575. DD 1985. MI V.1047(87).

GE050517 GE5S/517 Analogue Sync Pulse Generator. This unit will generate analogue System I mixed syncs from either the decoded TRS data of an EBU digital video data stream or the digital video data stream itself. The facility to adjust the sync position relative to the output video signal is also provided. Power requirements +5.0 V and -5.2 V. BBC Chassis Code: Unsupported 4U card with PN1/29J front panel. Chassis extender CH4/5. DD(1) 1986. HB V.1021(87).

GE060508 GE6/508 625 Line Colour Waveform Generator. WITHDRAWN.

GE060535 GE6L/535 Television Waveform Generator. This equipment is a binary metric modular chassis system replacement for the GE6L/507. DD 1975. DDTM 1.123. DDMI 1.203(76). DDHB 1.134(77). EDI 10296(1)NOV76.

GE060538 GE6/538 Field Waveform Generator. This unit is one of four self supported 4U printed circuit cards in the GE6L/535 television waveform generator. Its function is to provide field gating waveforms to suit the four field PAL sequence when driven from twice line rate inputs. The unit has inputs to enable non-standard field lengths to be generated for synchronisation purposes. DD 1976. DDMI 1.204(76).

GE060539 GE6/539 Line Waveform Generator. This unit is one of four self supported 4U printed circuit cards in the GE6L/535. Its functions are to produce timings throughout the line period when driven from a twice line source and no gate field rate waveforms with line rate timings to provide mixed waveforms. DD 1976. DDMI 1.205(76).

GE060540 GE6S/540 Test Signal Waveform Generator. Generates the following waveforms when driven by the appropriate version of the GE1/591.
 Luminance and Chrominance 2T Pulse and Bar;
 Black Level;
 5-step Staircase (all lines and CCIR variations);
 Line Duration White Bar;
 50Hz Square Wave;
 8 Line Square Wave;
 20 second Square Wave;
 UK National ITS "A"
 UK National ITS "B";
 2T Luminance Pulse and Bar.
 The following options are available when driven by a GE1/591;
 Option 1: UN23/649;
 Option 2: UN23/649, UN23/650 and FL4/577;
 Option 3: UN23/649, UN23/650 and FL4/577 and UN23/651;
 Option 4: UN23/549 and UN23/561.
 The following options are available when driven by a GE1/591A:-
 Option 5: UN23/652, FL4/581 and UN21/524;
 Option 6: UN23/650, FL4/577, UN23/652, UN21/524 and FL4/581.
 Facilities provided by the optiona are detailed in each sub-unit description. Power requirements +15V, -15V, +8V all unregulated. CH1/65D. Parent equipment GE4/561. DD 1979 DDMI 9.256(79)

GE060541 GE6/541 VTR Line Up Waveform Generator. Produces independently syncs and black level with switched adjustable burst, and sawtooth or lift waveforms with switched added subcarrier. Replaced GE4/532 and GE6/504. Mains power ed. CH1/64B. DD 1977. DDMI 9.237(79). DDHB 9.168(81).

GE060543 GE6/543 Sawtooth Waveform Generator. From a feed of TTL line drive unit generates a 0.7V sawtooth signal. This signal is sued as an external signal to be added to a television waveform in the ITS Generator and Inserter GE4M/556. Power requirements +12V -12V +5V. CH1/64A. DD 1980.

GE060544 GE6/544 Network Clock. It interfaces with a micro processor bus and produces, with appropriate software three video waveforms corresponding to the hour, minute and second

hands of a conventional clock display. Power requirements +5V at 1A maximum. 4U BMM unsupported card with 57-way double-sided edge connector and PN1/29J panel. Parent equipment GE1M/597. DD 1980.

GE060545 GE6S/545

Video Display Generator. This unit forms the heart of an electronic symbol generator using the method to run-length encoding. It converts a sequence of data bytes, corresponding to run-length and colour information, into five binary video signals which can, for example, be used to select one of 32 different colours to each point in the picture. The data input format is similar to that used by the Programme Computer, although a link option allows a simpler format to be used when a two-bit video output is adequate. Picture data is read either from an on-card 2Kbyte EPROM, from an external PROM card or by DMA from a microcomputer memory. The unit is compatible with the Designs Department Z80 bus. Feeds of mixed syncs and mixed blanking are needed. Power requirements +5V at 1.7A maximum. 4U unsupported card with 57-way double-sided edge connector and PN1/29J. DD 1980.

GE060546 GE6/546

Black Level and Burst Generator. Generates composite black level with colour burst from mixed syncs, Burst Gate and Colour Subcarrier. Power requirements mains. CH1/64A. Supersedes GE6/504. DD 1980.

GE060547 GE6/547

Black Level and Burst Generator. Generates a composite Black waveform including the synchronising burst, to System I Spec. Input requirements are mixed syncs, burst gate, and colour subcarrier. Two outputs at 75 Ω are provided. Includes Termination Panel PA20/519. Mains power required. CH1/64A. Supersedes GE6/504. DD 1980. DDMI 8.626(80). EDI 10414(1)AUG81.

GE060548 GE6M/548

Digitally Originated Graphics Generator. The equipment generates symbols which have been programmed into EPROMs contained within the unit. The input signal requirement is composite video or mixed syncs and the equipment will provide an output of either RGB or the symbol inserted into the video signal, together with an output of the symbol only. According to the storage requirement of the symbol, a number of symbols may be selected remotely. Power requirements 240 V ac. 1 U high full width chassis. Sub-units GE6/552, UN26/557. DD 1981.

GE6M/548A

Digitally Originated Graphics Generator. This unit is mechanically identical to the GE6M/548 but is fitted with the UN26/557A instead of the UN26/557 so as to enable precise colour matching of the RGB outputs to another video source. Power requirements 240 V ac $\pm 10\%$. 1 U high full width chassis. Sub-units GE6/552, UN26/557A, GE6/553, UN26/564. DD 1982.

GE060549 GE6/549

Soft Edge Key Generator. Accepts video and mixed-sync signals and soft-clips the video to generate a key signal. Has provision for an additional masking signal input to mask off unwanted key areas. Power requirements +12V, -6V (from SE3/506). 4U, J-width pcb with panel and 32-way G06

connector. Supersedes GE2/604. Parent equipment SE3L/507. DD 1981.

- GE060550 GE6S/550 Teletext Test Signal Generator. This unit will generate a teletext test waveform consisting of a pseudo-random sequence of teletext data encompassing all possible combinations of bit sequences. This waveform will be inserted on to part of line 20 of a standard 625 line video. Power requirements $\pm 15\text{V}$ d.c. CH1/65A. Parent equipment GE4M/569. DD 1981. DDMI 9.299(83).
- GE060551 GE6S/551 Multipulse Waveform Generator. Generates a multipulse waveform consisting of ten 20T modulated pulses with carrier frequencies of 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0MHz and on every tenth line a pulse and bar waveform with 1.44T shaping. Also generates a line rate frequency sweep from 0.5 to 5.0MHz. On internal lock the sync pulses on the output are line repetitive, but on external lock the output sync pulses take the form of the external pulses. Power requirements +12V, +5V, -12V. CH1/65C. Parent equipment GE4M/569. DD 1980.
- GE060552 GE6/552 Run Length Video Generator. This unit generates a video signal from run length encoded data stored in on-card 'EPROMS'. The maximum on-card storage is 16K Bytes according to how many and what type of 'EPROMS' are fitted into the plug-in sockets provided. Inputs and drive outputs are provided so that the internal memory can be increased by the addition of an external unit. An optional plug-in card GE6/553 is available to enable the symbol to be remotely positioned within the displayed raster. Input signals of inverted TTL mixed syncs and mixed blanking are required. Power requirements +5V $\pm 0.25\text{V}$ at 1A approx. 4U BMM unsupported card. Parent equipment GE6M/548. Sub-units GE6/553. DD 1981. DDMI 8.635(82).
- GE060553 GE6/553 Video Waveform Generator. This unit generates the necessary waveforms which can delay the outputs from the 'Run Length Video Generator' GE6/552 in the line and field directions. The delays are linearly variable and a remote joystick may be used to position the generated symbol anywhere in the displayed raster. This unit plugs into the sockets provided on the GE6/552. Power requirements +5V $\pm 0.25\text{V}$. Card size 92 x 64mm. Parent equipment GE6/552. DD 1981. DDMI 8.633(82).
- GE060554 GE6/554 Two Colour Video Generator. Converts a 5V TTL logic signal into a two colour RGB video signal. Requires feed of TTL mixed blanking pulses. Provides two independent video feeds. Includes 3.6MHz low pass filtering. Colour Selection via pcb mounted switches. Power requirements +12v at 150mA, -5.25 at 90mA, +5.25v at 300mA. 4U unsupported BMM card. Parent equipment GE6M/555. DD 1981.
- GE060555 GE6M/555 Open University Symbol Generator. All solid state version of Open University rotating symbol and caption. It is a microprocessor-based equipment producing a two colour, synthesised video output. Animation in both directions by remote/local switch. Power requirements mains. PN3/54.



connector. Supersedes GE2/604. Parent equipment SE3L/507. DD 1981.

- GE060550 GE6S/550 Teletext Test Signal Generator. This unit will generate a teletext test waveform consisting of a pseudo-random sequence of teletext data encompassing all possible combinations of bit sequences. This waveform will be inserted on to part of line 20 of a standard 625 line video. Power requirements $\pm 15V$ d.c. CH1/65A. Parent equipment GE4M/569. DD 1981. DDMI 9.299(83).
- GE060551 GE6S/551 Multipulse Waveform Generator. Generates a multipulse waveform consisting of ten 20T modulated pulses with carrier frequencies of 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0MHz and on every tenth line a pulse and bar waveform with 1.44T shaping. Also generates a line rate frequency sweep from 0.5 to 5.0MHz. On internal lock the sync pulses on the output are line repetitive, but on external lock the output sync pulses take the form of the external pulses. Power requirements +12V, +5V, -12V. CH1/65C. Parent equipment GE4M/569. DD 1980.
- GE060552 GE6/552 Run Length Video Generator. This unit generates a video signal from run length encoded data stored in on-card 'EPROMS'. The maximum on-card storage is 16K Bytes according to how many and what type of 'EPROMS' are fitted into the plug-in sockets provided. Inputs and drive outputs are provided so that the internal memory can be increased by the addition of an external unit. An optional plug-in card GE6/553 is available to enable the symbol to be remotely positioned within the displayed raster. Input signals of inverted TTL mixed syncs and mixed blanking are required. Power requirements +5V $\pm 0.25V$ at 1A approx. 4U BMM unsupported card. Parent equipment GE6M/548. Sub-units GE6/553. DD 1981. DDMI 8.635(82).
- GE060553 GE6/553 Video Waveform Generator. This unit generates the necessary waveforms which can delay the outputs from the 'Run Length Video Generator' GE6/552 in the line and field directions. The delays are linearly variable and a remote joystick may be used to position the generated symbol anywhere in the displayed raster. This unit plugs into the sockets provided on the GE6/552. Power requirements +5V $\pm 0.25V$. Card size 92 x 64mm. Parent equipment GE6/552. DD 1981. DDMI 8.633(82).
- GE060554 GE6/554 Two Colour Video Generator. Converts a 5V TTL logic signal into a two colour RGB video signal. Requires feed of TTL mixed blanking pulses. Provides two independent video feeds. Includes 3.6MHz low pass filtering. Colour Selection via pcb mounted switches. Power requirements +12v at 150mA, -5.25 at 90mA, +5.25v at 300mA. 4U unsupported BMM card. Parent equipment GE6M/555. DD 1981.
- GE060555 GE6M/555 Open University Symbol Generator. All solid state version of Open University rotating symbol and caption. It is a microprocessor-based equipment producing a two colour, synthesised video output. Animation in both directions by remote/local switch. Power requirements mains. PN3/54.

remote/local switch. Power requirements mains. PN3/54. Sub-units PS2/187H, PS4/9A, UN26/31, UN27/7, GE6/544, GE6/545, CD2/513, CD2/514, GE6/544, UN26/558. DD 1981. DDHB 8.373(81).

GE060556 GE6/556

Two Colour Video Generator. Converts 5V TTL logic signals into two colour RGB video. Colour selection by interface with microprocessor. Provides two independent RGB feeds and also a direct TTL to video key amplifier. Video paths include 3.6MHz filtering. Power requirements +12V at 200mA, -5.25V at 135mA, +5.25V at 500mA. 4u unsupported BMM card. Parent equipment GE6M/557. DD 1981.

GE060557 GE6M/557

Animated News Titles Generator. All solid state equipment for producing the main news titles for BBC 1 or BBC 2. Used to provide 5 different title sequences with captions. Includes automatic change of background colour. Power requirements mains. PN3/54. Sub-units PS2/187H, PS4/9A, UN26/31, UN27/7, GE6/544, GE6/545, CD2/513, CD2/514, GE6/556, UN26/561. DD 1981. DDHB 8.375(82)

GE060558 GE6S/558

ENG Video Waveform Generator. Generates two waveforms on alternate lines throughout the field to allow tests and identification of ENG receiving site links. signal has mixed syncs but not colour burst. CH1/65C. Parent equipment GE4M/573. DD 1982.

GE060559 GE6M/559

Digital Test Card Generator. All solid state equipment for producing Test Card 'F'. Comprises 2-4U high racks. Has four main outputs viz:
Test Card - PAL coded and Y-U-V analogue.
Test Card with BBC1 ident and count down timer (PAL coded).
Test Card with BBC2 ident and count down timer (PAL coded).
Alternative patterns to Test Card viz Colour Bars may be selected. Power requirements mains. 2 x PN3/54. Sub-units not known at this point. DD 1982. DDHB 8.394(83).

GE060560 GE6/560

Programmable Colour Bar Generator. The equipment generates from an input signal of mixed blanking the following R,G and B non-composite waveforms which have been programmed into an on-card EPROM: Vertical colour bars, 'SLUG', VT Bars, VT SLUG, Horizontal colour bars, Tartan bars, Blanked Tartan bars, Split Reversed Vertical colour bars, Red Field, Green Field and Blue Field. A remote control to override the local selection to standard Vertical Colour bars is provided. Power requirements 240V a.c. mains. CH1/64A. Sub-unit Termination Panel PA20/505. DD 1982. EDI 10468 (1) APR 84. DDMI 1.259(84).

GE6/560A

YUV Programmable Colour Bar Generator. The equipment generates from an input signal of mixed blanking the following Y, U and V non-composite waveforms which have been programmed into an on-card EPROM:- Vertical colour bars 'SLUG', VT Bars, VT SLUG, Horizontal colour bars, Tartan bars, blanked Tartan bars, split reversed vertical bars, Red field, Green field, Blue field and Blue bars. The GE6/560A is a GE6/560 generator, but includes the RGB to YUV matrix unit UN26/594. Power requirements 240 ac

mains. CH1/64A. Sub-unit UN26/594. Termination Panel PA20/505. DD 1983.

- GE060561 GE6M/561 Breakfast Analogue Time Generator. Generates analogue clock face, together with minute and hour hands, as key signal. Animates hands in accordance with received timecode signal, and provides back-up timekeeping derived from reference T.V. pulse chain in event of timecode failure. Power requirements 240 V ac 50 Hz. PN3/54. Sub-units UN26/31, 2 x UN27/1, GE6/544, GE6/545, UN26/587. UN26/60, GE6/556, CD2/513, CD2/514, PS4/9A, PS2/187H. DD 1983. DDHB 8.414(84). DDHB 8.414(84).
- GE060562 GE6SP/562 Streak Test Waveform Generator. This unit generates a streak test waveform of 7 horizontal white bars of varying length from 0.5 to 32 us, or a 50 Hz waveform. These signals can be changed by re-programming a PROM. The unit is portable and contains an internal S.P.G which can also be externally locked to either mixed syncs or video. It has two 75 Ω outputs and a trigger output for oscilloscopes. Power requirements mains. CH1/64A in a CS2/25A Carrying Case. DD 1983. DDMI 8.654(84). DDHB 8.423(84). EDI 10514(1)JUN 85.
- GE060563 GE6/563 Colour Synthesizer. Unit converts a four bit binary coded TTL signal into a sixteen colour RGB video signal. The colour data is loaded by interface with a microprocessor. Provides two independent RGB feeds and also a TTL to video key amplifier. Video paths include 3.6 MHz low pass filtering. Power requirements ± 5.25 V ± 12 V. 4U unsupported J width. DD 1983.
- GE060564 GE6M/564 Digital Picture Store. The digital picture store will store a complete television picture on 27128 proms. Outputs are provided in composite PAL analogue YUV and digital YUV. Power requirements 240 V ac. PN3/54 4U 19" rack. Sub-units CD2L/522B x 1, PS4/18A x 2, UN27S/22A x 2, UN27S/22B x 1, UN27S/22C x 1, UN23S/149 x 1, CO9/506 x 3, GE7/506 x 1. DD 1983. EDI 10510(1)JUL 85. DDHB 8.434(85).
- GE060565 GE6SM/565 O.W.L. BBC1 Symbol Generator. To generate the animated BBC1 symbol. To be known as O.W.L. (Open World Logo). Different versions will have specialised Regional Identification. Power requirements estimated 240V ac, 1.5A. 8U rack (estimate). Sub-units UN27S/26, UN23S/165, CD3/47, UN26/64, UN26/65, GE7/506, 3 x CO9/509. DD 1984. DDHB 8.422(84).
- GE060566 GE6/566 Patch Generator. Generates a cursor of variable size which is overlaid on a TV picture. The cursor position and size is determined by a 9600 baud serial data input. This unit forms part of the Cinemascope Data Preportion Equipment. Power requirements +5 V, 600 mA; ± 12 V, 200 mA. 4U unsupported Card. Parent equipment EP1S/553. DD 1984. DDMI 7.546(86).
- GE060567 GE6S/567 Luminance and Chrominance Waveforms Generator. Provides separate outputs of luminance and chrominance components of

test waveforms. Waveforms generated digitally and selected externally. Power requirements +12 V, +5 V, -5 V, -12 V. Dual 2U unsupported printed board. Parent equipment GE4SM/575. DD 1985.

GE060568 GE6S/568 Video Waveform and Pattern Generator. Generates a range of video waveforms and test patterns according to the PROMs fitted. It includes an SPG which will run on an internal reference, or lock to external syncs or mains frequency. Power requirements +15 V, +8 V, -15 V, -8 V unregulated. CH1/65C. DD 1985.

GE060569 GE6/569 Syncs and Burst Waveform Generator. A sub-unit in the GE4SM/575 ITS generator, it produces the syncs and burst waveform when driven by subcarrier, syncs, burst gate and PAL square wave. Power requirements +12 V, +5 V, -5 V, -12 V. Parent equipment GE4SM/575. Chassis extender CH4/9. DD 1985. MI V.1049(87).

GE060570 GE6M/570 BBC 2 Symbol Generator. Power Requirements 240 Vac at approx. 1.5 A. 9 U high rack. Sub-units PS4/11, GE7/509, CO9/509, AM23/521D, UN23S/178, UN23S/179, UN27S/76. DD(8) 1985.

GE060571 GE6SM/571 Graphics Generator. This equipment generates a video signal from run-length data stored in EPROMs within the unit. Up to 16 symbols can be stored, depending on the complexity of the symbols. Power requirements 240 V ac. Chassis: 2 U full-width panel. Sub-units: CO9/512, GE6S/572, GE7/513, UN23/184, UN27S/28. D & ED(V) 1986. HB V.1059(87).

GE060572 GE6S/572 Key Channel Generator. Stores picture information in run-length coded form in EPROMs and produces data at pixel rate from the information stored in the EPROMs for a single Y (key) channel. It requires control signals from the UN27S/28 and the UN23/184. Power requirements +5 V, +12 V, 5 V, 12 V. Chassis: 4 U unsupported PCB. Chassis extender CH4/5. Parent equipment GE6SM/571. D & ED(V) 1986.

GE070002 GE7/2 Waveform Generator used on CMCr EMX system. ISEP 3U high x 191mm card with 40 + 40 way edge connector. SCPD 1977.

GE070004 GE7/4 Timing Generator to generate timing pulses and store addresses controlling character generation for Apology Caption Generator. Power requirements 5V d.c. CH1/64. Parent equipment GE8M/1. DD 1978.

GE7/4A Timing Generator. This unit is a modified version of the GE7/4 and is used to provide the necessary timing pulses for the GE8M/1 Apology Caption Generator. It will provide a greater spacing between the caption rows than the GE7/4, but with a reduced number of rows displayed. Power requirements +5V d.c. 4U BMM unsupported card. Parent equipment GE8M/1 and GE8M/504. DD 1980.

GE070005 GE7/5 Timing Pulse Generator. Derives timing pulses to drive Monitoring and Information Centre VDU's from separated field and line triggers. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/5, UN12M/6. DD 1978 .

GE070006 GE7/6 Digital Timecode Generator. Crystal oscillator driving a seven day digital clock with output in serial form on 5 pairs. May be set by thumbwheels, or automatically from a MSF receiver. Seconds are synchronised to the Gents clock system. Power requirements 5V d.c. 1A. CH1/64D. DD 1978.

GE070007 GE7/7 MSF Clock. This equipment receives, via an RC1/22, demodulated time code data from the 60kHz frequency transmission of MSF, Rugby. This data is decoded and used to reset an internal clock every minute. Extensive checks are made on the incoming data to eliminate erroneous setting of the clock which free-runs using an internal crystal reference when the Rugby signal is absent or in error. The internal clock has a calendar correct to the year 2100 and unpredictable events such as BST/GMT changes are implemented on receipt of the MSF data. The current date/time is displayed on a front panel indicator and is available multiplexed onto a 16-bit parallel output. The unit is designed to supply date/time information to the CEEFAX origination equipment. Power requirements Mains, 50VA maximum. 1U high bay mounting chassis. DD 1978.

GE070008 GE7/8 Signal Generator. This unit generates three digital signals. Two are sampled sine waves, the other a pseudo random sequence. Power requirements +5V. CH1/54J. Parent equipment TM4/3. RD 1978.

GE070009 GE7/9 NICAM 3 Multiplexer. This unit extracts PCM signals from up to three (plus spare) CD2M/17's and multiplexes them into a 2048kbit/s bitstream in HDB3 form. It provides 16MHz clock signals to three CD2M/17's. Power requirement +5V at 200mA, +18V at 55mA, -18V at 135mA. CH1/64J. Parent equipment CD2M/17. DD 1980. DDMI 6.377(80). DDHB 6.222(83).

GE7/9A NICAM 3 Multiplexer. This unit can multiplex PCM signals in two ways. The first is applied with the NICAM 3 insertion equipment CD2/23 Options 3,4 and 5. The unit is provided with 2048 kbit/s NRZ bitstream containing X,Y and Z 'stereo' bitstreams. The X,Y or Z bitstreams can be 'overwritten' by either a local or remote coder bitstream. It generates a 2048 kbit/s bitstream in HDB3 form. The second application is when it is used in the NICAM 3 coder CD2M/17A. It extracts PCM signals from up to three CD2M/17's (plus reserve) and multiplexes them into a 2048 kbit/s bitstream in HDB3 form. This unit also provides the NICAM 3 16MHz system clock. Power requirements +5V at 200mA; +18V at 100mA. -18V at 100mA. CH1/64J. Supersedes GE7/9. Parent equipment CD2M/23 Options 3,4 and 5, CD2M/17A. DD 1981. DDHB 6.223(83). EDI 10458(1) AUG 82.

GE070010 GE7P/10 Data Generator. For use with HP 1645A Data Error Analyser to test data transmission links. The equipment consists of a Coder and Power Supplier contained in a portable carrying case. The power supply is 230V AC via a flying lead ending in a domestic 3-pin mains plug. Power requirements 230V AC. Carrying case CS2/27C. Sub-units PS2/187D and CD2/22. DD 1980.

GE070011 GE7/11 Mains Clock. To generate a stroke pulse once every second/10 seconds/minute/10 minutes/hour/12 hours, or 24 hours suitable for interfacing with microprocessor PIO device for timing applications. Power requirements +5V (50mA) -12V (30mA) and mains. CH1/64A. DD 1980.

GE070012 GE7S/12 16-bit Digital Generator. 16-bit sample generator for test use in a NICAM 3 coder. It replaces a NICAM 3 ADC for test only, but uses the same coding bar. Power requirements +5V at 300mA. CH1/64J. Parent equipment CD2M/17. DD 1981.

GE070013 GE7/13 NICAM 3 Multiplexer. This unit extracts PCM signals from one CD2M/17A and multiplexes them into either a 338 kbit/s or a 676 kbit/s bitstream in HDB3 form. It also provides 16MHz system clock to the CD2M/17A. Power requirements +5V at 200mA; +18V at 100mA; -18V at 100mA. CH1/64J. Parent equipment CD2M/17A. DD 1981. DDMI 6.378(82). DDHB 6.224(83). EDI 10442(1) AUG 82.

GE070014 GE7/14 Bitstream Separator. This unit is part of a NICAM 3 Decoder, CD3M/33A. Its purpose is to separate one stereo Bitstream from a choice of three. It generates a continuous Bitstream at 676 kbit/s, HDB3. Power requirements +5V at 200mA; +18V at 100mA; -15V at 100mA. CH1/64J. Parent equipment CD3M/33A. DD 1981. DDMI 6.389(82). DDHB 6.225(83). EDI 10445(1) AUG 82.

GE070015 GE7/15 NICAM 3 Dummy Data Generator. This unit generates dummy data for the unused data ports of a NICAM 3 Multiplexer GE7/9 or GE7/9A. These ports are labelled X Y or Z and a stereo programme will occupy one of them, with dummy data on the other two. The unit is housed alongside the GE7/9 or GE7/9A. Power requirements +5V at 50mA. CH1/64J. Parent equipment CD2M/17. DD 1982. DDMI 6.392(83).

GE070016 GE7S/16 Digital Tone Generator. This card is a Z-80 A controlled processing unit supplying data to a C09/10, Digital/Analogue Converter under control of the interface card UN23/169. Used in GE1SM/20, Stereo Tone Sequence Generator. The tones are stored in EPROMs. Power requirements 5 V at 1 A. 3U printed circuit board. Parent equipment. GE1SM/20. DD 1984.

GE070017 GE7/17 Clock Generator. Contains the following:-
 1. Clock generator for AM6/27 Limiting Amplifier.
 2. Balun Units to balance outputs of AM6/27.
 3. +5 V Supplies for two AM6/27 amplifiers.
 Power requirements +18 V, 200 mA. CH1/64A. Parent equipment EP1M/52. Chassis extender CH1A/43. DD(6) 1985.

GE070018 GE7/18 Ramp Generator. Digital ramp generator and pattern selector. With GE7/19 and GE7/20 makes up a wipe pattern generator. 6 U triple-depth Eurocard. Termination Panel: PA20/41. Parent equipment EP5M/524. DD(8) 1985.

GE070019 GE7/19 Wipe Pattern Combiner. Digital combining unit (ADD, AND OR). With GE7/18 and GE7/20 it makes up a wipe pattern generator. 6 U triple-depth Eurocard. Termination Panel: PA20/41. Parent equipment EP5M/524. DD(8) 1985.

GE070020 GE7/20	Routing and Control Generator. Card to provide digital routing and control of signals used in special wipe patterns - e.g Clock Wipes. With GE7/18 and GE7/19 it makes up a wipe pattern generator. 6 U triple-depth Eurocard. Parent equipment EP5M/524. DD(8) 1985.
GE070021 GE7/21	Digital Audio Signal Generator. To provide test waveforms for digital audio equipment using AES/EBU digital audio interface signal. Power requirements: 240 V a.c. Non standard chassis. DD(3) 1986.
GE070022 GE7S/22	Digital Video Test Pattern Generator. This card is used in the digital mixer EP5M/524 and provides a variety of line-repetitive digital video signals including sawtooth and colour bars. Line and field start timing signals are received from the parent equipment and two 12-bit signals ('Y' and multiplexed 'C') are produced. Power requirements +5 V. PCB 6 U. Parent equipment EP5M/524. DD(8) 1986.
GE070023 GE7S/23	External User-Bit Generator. Intended to connect to the rear of the CO4S/518 VITC converter in order to provide an input of external user-bits. Chassis dimensions Die-cast box 75 mm x 120 mm x 40 mm. D & ED (C) 1986.
GE070024 GE7/24	AES/EBU Bitstream Regenerator. Equipment to regenerate AES/EBU 48 kHz sampling digital audio bitstream. Several synchronous bitstreams can be regenerated using more CO10S/12 and CO11S/6 units. Power requirements 240 V ac. Chassis dimensions MP2/34. Sub-units CO10S/12, CO11S/6, PS4/18A. D & ED (A) 1986.
GE070501 GE7L/501	Timecode Generator to generate SMPTE time code locked to station pulses or slaved to an external timecode. The time can be set to time of day or any other time using front panel controls. Power requirements 240V a.c. 4U BMM PN3A/53B. Sub units CD3/530, CD2/517, UN3/575. Supersedes GE1M/577. DD 1978. DDMI 7.417(79). DDHB 7.254(79). EDI 10345(1)SEP79.
GE070502 GE7/502	Teletext Clock Regenerator. This unit regenerates teletext clock pulses from an input feed of separated teletext video. Power requirements +12V, +5V, -12V. CH1/12A. DD 1978.
GE070503 GE7/503	Digital Converter Clock Generator to provide clock waveforms loaded to the synchronising pulses of the appropriate video. Power requirements $\pm 5V \pm 12V$. CH1/64A. DD 1978.
GE070505 GE7/505	RAM Control Signal Generator. RAM control signal generator, for use with UN27/504 picture store board to generate 16k RAM control signals. Control of basic store functions is via connections to a control bus. Coding Positions: 1, 43, 51. Power requirements +5V, 800mA. 4U BMM unsupported card. Parent equipment Electronic Stills Store, PA1M/580. RD 1981.

GE070506 GE7/506	Clock Pulse Generator. Generates TTL or balanced clock pulses at a frequency of 864 x line frequency (13.5MHz). Also produces Mixed syncs, line trigger, field trigger (TTL levels), and Line Start and Field Start pulses related to clocks. Requires an input of composite video or syncs. Power requirements $\pm 12V$, $+5V$ $-5V$ (if balanced O/P used). CH1/64J. DD 1981. DDMI 1.252(82). DDHB 1.165(82).
GE070507 GE7/507	Clock Pulse Generator. Provides a 4 FSC logic clock pulses. Used in conjunction with GE2/627A to form a digital phase lock system. The unit forms part of the 68 Mbits sub-Nyquist PAL system. CH1/64A. DD 1982. DDHB 1.174(83). DDHB 1.194(85).
GE070509 GE7/509	Digital TV Clock Generator. Provides 27 MHz pulses clock locked to an input of mixed syncs. Also produces digital line, field and mixed blanking and Timing Reference signals. Power requirements $\pm 5V$, $\pm 12V$. CH1/64A. DD 1983. DDMI 1.262(85). DDHB 1.194(85). EDI 10516(1) DEC 85.
GE070510 GE7S/510	Subcarrier Phase Generator. When driven by a 13.5 MHz clock, this unit will generate a digital representation of the phase of PAL colour subcarrier at each sample point. A control input allows the line by line "frequency" to be changed to facilitate burst locking. Power requirements (approximately) $+5 V$, $2 A$, $-5 V$, $0.1 A$. 4 U unsupported PCB, with 57-way double-sided edge connector. Parent equipment. DD 1985.
GE070511 GE7/511	Clock Generator. Generates clocks required by ACE standards converter at either 525 or 625 line standard. Power requirements $+24V$ $\pm 5V$. Supersedes GE7/503. Parent equipment C06/510. DD 1984.
GE070512 GE7/512	Video Watermarking Generator. Generates video watermarking signal by combining network identification information along with clock data provided by M.S.F. Clock Decoder C04/30. Power requirements: 240 V a.c. Termination Panel: PA20/538. BBC Chassis Code: CH1/12B. RD 1986.
GE070513 GE7/513	Clock Generator. Produces 27 MHz and 13.5 MHz clock pulses locked to mixed syncs. Line start, field start and odd/even field signals are also produced. Power requirements: $-5 V$, $+12 V$, $-5 V$, $-12 V$. 4 U unsupported pcb. Chassis extender CH4/5. Parent equipment: GE6SM/571. D & ED (V) 1986.
GE080001 GE8M/1	Apology Caption Generator. Converts apology captions for radiation from television transmitters. Remote control may be exercised via the I.C.E. system. Requires EP1M/549 to insert caption into video waveform. Power requirements 240V a.c. A and B Mains. PN3/54. Sub units GE7/4, GE8/2, PS2/227, SE5/1, UN26/9, UN27/2. DD 1978.
GE8M/1A	Apology Caption Generator. Similar to GE8M/1, but containing additional sub-units for use at Kirk o'Shotts transmitter. Power requirements 240V a.c. 50Hz. 4U BMM frame. Sub-units PS2/238, UN26/9, UN27/2, GE8/2, GE7/4, SE5/1 and GE1/15. DD 1980.

GE080002 GE8/2 Character Generator. Storage unit holding information about the shaping of characters used in the Apology Caption Generator. Information is held in erasable PROM's so that font may be readily changed. Power requirements $\pm 5V$, $+12V$ d.c. CH1/64J. Parent equipment GE8M/1. DD 1978.

GE080003 GE8/3 Character Generator. Defines character shaping used for Monitoring and Information Centre VDU's. Power requirements $5V$ d.c. CH1/64J. Parent equipment UN12M/5, UN12M/6. DD 1978.

GE080004 GE8/4 Character Generator. This unit generates a 625/50 monochrome video signal showing a 40 x 24 (teletext-type) character display. No store is incorporated, this being provided normally by pre-programmed page stores in ROM on the UN27/9. Power requirements $+9V$ at $900mA$. CDX 3U J card (G06). Parent equipment MN8M/1. DD 1978.

GE8P/4 Character Generator. "Electronic Blackboard" apparatus allowing up to seven pages of 50 characters by 20 rows to be displayed sequentially on standard picture monitors. Keyboard input, with editing and remote display VDU outputs. Remote video output is band limited to $5.5MHz$ to facilitate modulation onto an RF distribution system. Power requirements $240V$ ac mains. CS2/25C. Sub-units UN26/31, GE8/505 (2 off), UN23/130, UN27/12, PS4/9A. DD 1981. EDI 10430 (1) SEPT 81.

GE080005 GE8/5 Indent and Countdown Generator. Derives and superimposes ident caption on Videotape output when machine is stationary and a countdown sequence during run-up. Internal switching permits selection of idents stored on EPROM and also allows countdown to start at any number between 15 and 3. Automatic blanking of generator outputs occurs after 3. Power requirements $5V$ DC. CH1/65J. Open University 1982.

GE080006 GE8/6A,B 16 Character Generator. A 16 character wide upper case alphabetic, and numeric indicator with programmed legends in eeprom. Selected legends can be over-written from an external keyboard, for day-to-day changes.
Version A 64 legend in eeprom.
Version B 256 legend in eeprom.
Power requirements Version A, $15V$ $1A$. Version B, $240V$ AC. $4.65cm$ (H) x $21.6cm$ (W) x $19cm$ (D). SCPD 1982.

GE080501 GE8/501 Character Generator. Unit gives a 625 line interlaced display of 80 x 24 ASCII characters stores in a UN1/176 Random Access Memory. It is intended to be used with microprocessor systems on a standard backplane. Power requirements $+5V$, $0.5A$, $\pm 12V$, $10mA$. CH1/64J, 57-way D.S. edge connector. DD 1977.

GE080502 GE8/502 Timecode Video Display. Takes in VTR time code as a parallel positive logic input, and generates a 5 x 7 dot matrix display which is inserted into a video waveform. Power requirements $\pm 12V$. 4U unsupported card. Parent equipment CD3M/535. DD 1978. DDMI 7.414(79). DDHB 7.234(78).

GE080504 GE8M/504A	Similar to GE8M/504 but without video inserter. Requires line and field syncs. PN3/54. Sub-units as GE8M/504 but less UN26/534 and sync generator. DD 1980.
GE080505 GE8S/505	Visual Display Unit. This unit is a general purpose character generator for Visual Display Unit applications. It interfaces with the standard Designs Department Z80 microprocessor bus and provides a composite video output for feeding a picture monitor. Syncs are internally generated. The unit incorporates 2 kbytes of RAM, accessible from the external bus, which is scanned to provide up to 2048 displayed character positions. The number of characters per display row and the number of rows are programmable, and the character set is stored in an EPROM. A cursor is provided. Power requirements +5V. 4U unsupported card with 57-way double-aided edge connector and PN1/29J panel. DD 1979. DDHB 2.467(82)
GE080506 GE8M/506	Vidiprint Caption Generator. This equipment will accept teleprinter feed of 50, 75, or 110 baud, the output of which may be displayed on a video monitor. Up to 35 characters per row may be displayed on a maximum of 16 rows. As there exists more than one version of the equipment this is a basic description only. For a more detailed description of the facilities available, see the appropriate suffix A, B, C, etc. The basic version of vidiprint, GE8M/506C supersedes the GE8M/504. There is no sound on the GE8M/506 series. Power requirements 240V AC mains. PN3/54. Supersedes GE8M/504. Sub-units UN26/32, UN27/12, UN3/71, GE8/2, GE7/4, UN26/533, UN12/512, PS4/9, PS2/187G. DD 1981.
GE8M/506A	Confax Vidiprint Caption Generator. The GE8M/506A Vidiprint Confax is a variation of the basic Vidiprint GE8M/506, and is designed to display information for the Radio 4 Continuity Suite. It has provision for up to 4 8K store cards (UN27/12) enabling it to display such items as, news, weather forecasts, traffic information etc. The information is displayed in a "box" or window over the video on a monitor. The attenuation of the box may be varied from nil to complete attenuation of the background picture. See general description under GE8M/506. Power requirements 240V AC Mains. PN3/54. Sub-units UN26/32, UN27/12, UN3/71, GE8/2, GE7/4, UN26/553, PS4/9, PS2/187G. DD 1981.
GE8M/506B	Radfax Vidiprint Caption Generator. Similar to GE8M/506 but with minor electrical modifications for use as RADFAX. Power requirements 240V AC Mains. PN3/54. Supersedes GE8M/504. Sub-units UN26/32, UN27/7, UN3/71, GE8/2, GE7/4, UN26/553, PS4/9, PS2/187G. DD 1981.
GE8M/506C	Vidiprint Caption Generator. This equipment will accept a teleprinter feed of up to 4800 baud rate as required, the output of which may be displayed on a video monitor. The display is contained in a "box" or window overlaid on the video picture. The background picture within the box area may be varied from nil to complete attenuation. Provision exists for up to 4, 8K store cards (UN27/12). The GE8M/506C supersedes the GE8M/504, but without provision of a sound output. See general description under GE8M/506. Power requirements 240V AC Mains. PN3/54. Supersedes

GE8M/504. Sub-units UN26/32, UN27/12, UN3/71, GE8/2, GE7/4, UN26/553, PS4/9, PS2/187G. DD 1981.

GE8M/506D Vidiprint Caption Generator. This equipment is a variation of the basic Vidiprint GE8M/506. The characters displayed on the video monitor are without a background picture. The necessary syncs being produced internally by the UN12/512. See general description under GE8M/506. Power requirements 240V AC mains. PN3/54. Sub-units UN26/32, UN27/12, UN3/71, GE8/2, GE7/4. DD 1981.

GE080507 GE8/507 Character Generator. This unit is used with a GE6/545 graphics generator to make a VTR Countdown Generator. It has a video output which consists of a large seven-segment display; this counts down from "10" to "0" at 1Hz. Below the numeric display is an identification caption which is customised for each application. The video output is at high impedance suitable for a "T" connection to a 75 ohm video circuit. A VTR start control signal is produced at -3 seconds. Power requirements +5V. 4U BMM unsupported card with 57-way double-sided edge connector and PN1/29J panel. DD 1981.

GE080508 GE8M/508 Test Card F Caption Generator. This unit receives a clean feed of Test Card F from GE6M/559. It produces three separate output, each with separate caption and count down timer. Each timer can be controlled locally or remotely. Power requirements 240V a.c. mains. PN3/54. Sub-units UN23/149, UN23/158, CO9/505, UN23/690, UN26/22, MX5/503. DD 1982. DDHB 8.388(83).

GE080509 GE8/509 Programmable Ident Generator. One chassis containing eight programmable alphanumeric captions for identifying vision circuits. The unit generates eight 128 x 16 dot matrix captions, any one of which may be inserted into the video waveform. Power requirements 240 volts AC. CH1/64A. Communications & Engineering Services, Projects Department 1983.

GE080510 GE8/510 Graphic Display Generator. This unit is a general purpose high resolution graphic display controller for general applications and interfaces with any Z80 based system with additional decoding. It incorporates 32 kbytes of dynamic RAM accessible through an on-board graphic display processor and generates a 512 x 512 pixel display. The unit requires mixed syncs and black and burst and provides a synchronised composite video output. Power requirements +12 V, -12 V, +5 V. CH1/64A. C&ES 1983.

GE080511 GE8L/511 Electronic V.T. Clock Generator. This unit generates a synchronised high resolution display of a V.T.R. leader clock. The user may enter programme number, title, tx date, episode and V.T. number from a remote keyboard. It may be run from 45, 30 or 15 seconds and automatically gates in tone between -20 and -10 seconds, "bongs" between -10 and -3 seconds and cuts itself to black at -3 seconds. When not in use the unit may also be configured as a single page electronic notepad for storing edit times spool numbers etc. The unit requires mixed syncs, black and burst and 0 dB tone. Power requirements 240 V ac. 3 x CH1/64A. Sub-units GE8/510, UN26S/61 Z80A Micro. unit, PS4/27 Switched mode psu. C&ES 1983.

IN010009 IN1/9 Groove Location Indicator. Comprises variable capacitor, Supersedes the optical systems used in RP2/1 and RP2/6. DD 1977.

IN060002 IN6/2 Numeric Signal Indicator. This unit accepts a binary parallel 8 bit message, re-codes it and displays it on large 7 segment alphanumeric indicators. For use with TM1M/1 Fault Reporter (Transmitter). Constructed in diecast box approximately 89mm x 114mm x 25mm. Construction via 11 way Painton 159 socket. DD 1976. DDMI 2.434 (76). DDHB 2.426. EDI 10300(1)DEC76.

JF020002 JF2/2A,B Audio-Frequency Jackfield.
JF2/2 A Jacks, 4.4mm 'Wrap Round', mounted in
a single row.
JF2/2 B Jacks, as above but mounted in two rows.
Similar to PN3/31 series. Supersedes JF2/17. ED 1983.

JF020014 JF2/14 Attenuator and Rep. Coil Jackfield provides jacking,
attenuator and rep. coil facilities for eight outgoing
music circuits. 2U bay panel. DD 1977. DDMI 6.303(77).
EDI 10316(2)NOV79.

JF020015 JF2/15A-E Audio Frequency Jackfield equipped with 20 jacks per row on
BMMs panel. A = 1 row, 1U; B = 2 rows, 2U; C = 3
rows, 3U ; D = 4 rows, 4U; E = 5 rows, 5U. ED 1977.

JF020020 JF2/20 Attenuator and Repeating Coil Jackfield. As per JF2/14
except transformer used is 1:1 600Ω type LL/252μH12. 2U
frame to match BMM. DD 1979. DD 10316(2)NOV79.

JF020021 JF2/21A,B Audio-Frequency Jackfield.
JF2/21A 42 Jacks, 4.4mm 'Wrap Round', mounted in
a single row.
JF2/21B 84 Jacks, as above but mounted in two rows.
Similar to PN3/31 series. Supersedes JF2/16. ED 1983.

JF020023 JF2/23A,B Audio-Frequency Jackfield.
JF2/23A 44 Jacks, 4.4mm 'Wrap Round', mounted in
a single row.
JF2/23B 88 Jacks, as above but mounted in two rows.
Similar to PN3/31 series. Supersedes JF2/18. ED 1983.

JF020024 JF2/24A,B Audio-Frequency Jackfield.
JF2/24A 40 Jacks, 4.4mm 'Wrap Round', mounted in
a single row.
JF2/24B 80 Jacks, as above but mounted in two rows.
Similar to PN3/31 series. Supersedes JF2/19. ED 1983.

JF020025 JF2/25 Audio-Frequency Jackfield. Equipment consists of 20 way
audio jackfield, anodised mounting panel and door (for
mounting on to MP1/31 Modular Absorber). This equipment is
used when a jackfield is required for use with EP5/22 news
contribution equipment. Mounted on panel 580 x 130 then
mounted on door frame overall size 580 x 431. Parent
equipment EP5/22. DD 1983.

JF020026 JF2/26A,B Audio Frequency Jackfield.
JF2/26A 42 Jacks 4.4. mm mounted in a single row.
JF2/26B 84 Jacks as above but mounted in two rows.
As JF2/21A+B but:- Wire wrap type jacks cemast No.0467560
fitted. Similar to PN3/31 series. ED 1984.

JF020027 JF2/27A&B Audio-Frequency Jackfield. A Version has 1 row of 36
Miniwrap, Minijacks. B Version has 2 rows of 36 Miniwrap,
Minijacks. (Mounts via M4 screws and mounting kit inside
bay frame or panel). ED 1986.

JF030518 JF3/518 Coaxial Jackfield, similar to JF3/507, but having anodised
front panel to match BMM system. Fitted with two rows of
sixteen P.O. No.1C coaxial plugs (to accept U-link adaptor

	with monitor point). Panel size 483mm x 88mm. ED 1978.
JF3/518A	Coaxial Jackfield. As JF3/518, but fitted with monitor points and mechanically stiffened. Drawing No. SP26048A1. DD 1979.
JF3/518B	Coaxial Jackfield. As JF3/518, but with safety earth added. TCPD 1987.
JF030519 JF3/519	Coaxial Jackfield, similar to JF3/508, but having anodised front panel to match BMM system. Fitted with single row of sixteen P.O. No.1C coaxial plugs. Monitor points are not fitted. Panel size 483mm x 44mm. ED 1978.
JF030520 JF3/520	Coaxial Jackfield. Similar to JF3/517 but no monitor points and mounted on a pan chassis so that the front panel is simply a clip on escutcheon. 2 rows of 16 fixed, crimped MUSA plugs to take 16 U-links. Supersede s JF3/517. SCPD 1979.
JF030521 JF3/521	Unequipped RF Jackfield. Unequipped Jackfield with provision for 32 P.O. No.1C plugs. 32 monitoring points fitted. SCPD 1985.
JF030524 JF3/524	20-Way Coaxial Jackfield. Coaxial Jackfield, comprising single row of Musa plugs on a 1 U BMM Panel. (Will accommodate any of three versions of Musa Plug). ED 1986.
JF030525 JF3/525	24-Way Coaxial Jackfield. Coaxial Jackfield comprising a single row of 24 MUSA plugs on a 1 U BMM panel. (Will accomodate any of three versions of the MUSA plug, supplied unequipped). Chassis: 1U B.M.M. Panel D & ED 1986.
JF3/525A	24-Way Insulated Coaxial Jackfield. Coaxial Jackfield comprising a single row of 24 MUSA plugs, insulated from earth, on a 1 U B.M.M. panel (Will accommodate any of three versions of the MUSA plug, supplied unequipped). Chassis 1 U B.M.M. Panel. D & ED 1986.

LS010008 LS1/8	General Purpose Loudspeaker (Keith Monks) with integral mains operated amplifier for office listening, identification content listening and similar applications for which low quality reproduction is adequate. Provided with balanced input connection via P.O. jack and volume control. Wooden cabinet dimensions 380mm high x 222mm wide x 245mm deep. 240V a.c. mains. Supersedes LS1/7. SCPD 1977.
LS010009 LS1/9	General Purpose Loudspeaker O.B. As LS1/8 but audio input via XLR and mains via XLR/LNE. Provision for battery operation 12/24V via 4-pin XLR. Radio O&M Services 1980.
LS010010 LS1L/10	Loudspeaker Assembly. Baffle assembly mounting Loudspeaker LS2/12, LS2/13, filter FL6/32. Also grill assembly. Required for: 1. Together with cabinet CT4/10A, to produce LS3/4C. 2. To convert Loudspeaker LS3/4B to LS3/4C. Parent equipment LS3/4C. Sub-units FL6/32. DD 1981. DDMI 3.713(82).
LS010011 LS1/11	General Purpose Loudspeaker. General purpose loudspeaker manufactured by Keith Monks for office listening applications for which low quality reproduction is adequate. Balanced input via P.O. jack. Supplied with captive mains lead and combined mains on/off switch and volume control. Wooden cabinet: 375 mm (H.) x 222 (W.) x 246 (D.) Radio Engineering Services Report R441 refers. Power requirements 240 V a.c., 100 mA. Radio Engineering Services 1984.
LS020001 LS2/1A	300mm Loudspeaker Unit. Similar to existing LS2/1 Loudspeaker except with improved power handling capability. DD 1977.
LS020008 LS2/8	High Frequency Loudspeaker Unit. Sonaudax HD-12-9-D25 Tweeter with Sonaudax protective cover to BBC Specification LS2/8. DD 1977.
LS020009 LS2/9	Unmounted 300mm Loudspeaker. 300mm polypropylene loudspeaker (unmounted) for use in loudspeaker LS5/8. Power requirements <100W Programme. Parent equipment LS5/8. RD 1979.
LS020010 LS2/10	34mm Unmounted Loudspeaker. 34mm soft dome tweeter, Sonaudax type HD13D34H for use in LS5/8 loudspeaker. Power requirements <18W Programme. Parent equipment LS5/8. RD 1979.
LS020011 LS2/11	Unmounted 300mm Loudspeaker. 300mm polypropylene coned loudspeaker (unmounted) of BBC manufacture. For use in loudspeaker LS5/8. To be equivalent to LS2/9. Power requirements <100W Programme. Parent equipment LS5/8. RD 1979.
LS020012 LS2/12	34mm Unmounted Loudspeaker. Sonaudax HD 13-D34H tweeter unit fitted with Sonaudax protective woven wire grille.

8 ohm impedance. Selected to BBC Spec. 3.281(82). DD 1982. DDTM 3.281(82).

LS020013 LS2/13 200mm Unmounted Loudspeaker. Selected Spendor SA2 200mm Bass/Mid range Loudspeaker Unit. 8 ohm impedance. DD 1981.

LS020014 LS2/14 200mm Unmounted Loudspeaker. 200mm polypropylene coned loudspeaker (unmounted) of BBC manufacture. For use in loudspeaker (cabinet volume 1 cubic foot). Power requirements 50 Watts. RD 1981. DDMI 3.720(83).

LS020015 LS2/15 34mm Unmounted Loudspeaker. Son Audax HD13-D34H tweeter unit fitted with perforated metal grille. 8 ohm impedance. Selected to BBC Spec. 3.281(82). DD 1982.

LS030004 LS3/4C Outside Broadcast Assembly Loudspeaker. Replacement of existing assembly LS3/4B. Used for mounting on ceiling or wall where space is at a premium, close monitoring required and where very high sound levels are needed. DD 1978.

LS050008 LS5/8 Studio Floor Loudspeaker for quality monitoring of high sound levels, comprising one Chartwell 305mm bass unit, one Son Audax H17 12.9 D25 high frequency unit, with active crossover/equaliser network working at low level into Quad 405 stereo and amplifier, one half feeding the low frequency unit the other the high frequency unit. Cabinet 602mm x 457mm x 381mm deep, with two carrying handles. RD 1976.

LS050008 LS5/8AL Left Hand Angled Studio Loudspeaker. High quality monitoring loudspeaker, as LS5/8 but in a cabinet with 30° angled front, for use in confined spaces such as O.B. vehicles. Supplied with AM8/16 active crossover/equaliser/amplifier. 240 V ac. Sub-units AM8/16. ED 1986.

LS050008 LS5/8AR Right Hand Angled Studio Loudspeaker. High quality monitoring loudspeaker, as LS5/8 but in a cabinet with 30° angled front, for use in confined spaces such as O.B. vehicles. Supplied with AM8/16 active crossover/equaliser/amplifier. Power requirements 240Vac. Sub-units AM8/16. ED 1985.

LS050009 LS5/9 Studio Loudspeaker. Monitoring loudspeaker using a 200mm bass unit in a 1 cubic foot cabinet. Power requirements 50 watts. RD 1981. EDI 10463 (2) AUG 84. DDMI 3.721(83).

LS5/9Z Studio Loudspeaker Assembly. Assembly comprises of LS5/9 Loudspeaker, complete with its own Power Amp. AM8/17 and Mounting Framework FW1/17. With universal mounting framework (stirrup). Power requirements mains. Sub-units LS5/9, FW1/17, AM8/17, FW1/19. DD 1983. EDI 10483(1)AUG84.

MD010003 MD1/3A Subcarrier Modulator. As for MD1/3, except output frequency is 27.1kHz. DD 1978. DDMI 2.455(81).

MD010006 MD1/6 76kHz DPSK Modulator. This unit accepts serial data and clock inputs, and generates a 76kHz differential phase-shift keyed signal. Two isolated outputs are provided which, with appropriate series resistors, are suitable for bridging 75Ω or 600Ω circuits. CH1/63. DD 1977. DDMI 2.446(81).

MD010007 MD1/7 VHF Stereo Modulator. VHF Stereo Modulator for internal wired distribution service. Similar to MD1/4, (CH1/12A).
Inputs: High impedance A and B balanced AF
I/P 76 KHz 'Radio Data' I/P.
Outputs: Crystal controlled Band II FM carrier
Buffered, coded stereo multiplex.
This unit is intended to be used with Termination Panel PA20/28. Power requirements mains. CH1/64A. DD 1982. DDMI 5.425(83). EDI 10474 (1) NOV 83. HB 5.163(83).

MD010511 MD1/511 V.H.F. Sound and Vision Modulator. The unit accepts video and sound at standard level and produces a modulated V.H.F crystal controlled signal (vestigial side band) suitable for conversion to any television channel for feeding commercial colour and monochrome television receivers. Vision carrier frequency = 38.9 MHz. Sound carrier frequency = 32.9 MHz. Power requirements mains. CH1/64A. Parent equipment MD1/510A. DD 1980

MD020001 MD2/1 RDS Modulator. This unit accepts a standard RDS bit-stream and converts this into a 57 kHz modulated carrier in accordance with EBU Spec.No.3244-E. Power requirements 5 V, 0.5 A. Termination panel PA20/37. BBC chassis CH1/86. Parent equipment CD4L/21. Sub-units MD2/2, DM2/5. D & E D(A) 1986.

MD020511 MD2/511 Line Driver and Modulator. This card accepts as its input serial data from the CD2/520 Serial data coder and provides a balanced output together with a modulated output suitable to transmit the data in the reverse direction to a video signal. The card also accepts 6 bit BCD coded data and provides 25 outputs to drive LED's to indicate the number represented by the data. This card together with the CD2/520 Serial data coder and UN23/655 control panel interface form the CD2L/516 Matrix remote control coder. Power requirements +5V. 3U standard ISEP. DD 1977. DDMI 8.608(79).

MD2/511A Line Driver and Modulator. This card is the same as the MD2/511 but has additional circuitry to provide 39 instead of 25 output drives for LED's to indicate the channel number represented by the 6-bit BCD data. Power requirements +5V at 250mA approx, -5V at 70mA approx. 3U ISEP. Parent equipment CD2L/516. DD 1980.

MD030009 MD3/9 Frequency Modulator used in TM3M/8. Output frequency in 105MHz deviated by up to 50kHz. Audio bandwidth is 17kHz. Printed circuit board 250mm x 145mm. Mounted within framework of TM3M/8. DD 1976.

MD3/9A	Frequency Modulator. Same as MD3/9 with ± 30 kHz peak deviation and 97 MHz output frequency. Power requirements +10 V. pcb 250mm x 145mm. Parent equipment TM3M/8B. DD 1984.
MD3/9B	Frequency Modulator. Same as MD3/9 with ± 12.5 kHz peak deviation and 12.5 kHz audio bandwidth. Power requirements +10 V. pcb. Parent equipment TM3M/8D. DD 1984.
MD030010 MD3/10	Tone Modulator. This unit is part of the EP2M/7, audio line signalling system. This unit generates two tones anywhere between 6 KHz and 15 KHz with at least 200 Hz spacing. These tones can be switched on or off individually to form a signalling code. Programme passes through a switchable L.P.F. and is then mixed with the tones. CH1/65C. DD 1977. DDMI 6.318(78).
MD3/10A	Tone Modulator G.T.S. This unit is used to send Greenwich Time Signal (G.T.S.) information 'above' a sound programme circuit. The signalling consists of switching one tone with G.T.S. and at all other times this tone is off. Another tone spaced 200 Hz away is used for monitoring the condition of the transmission circuit for level or complete failure. To convert from a MD3/10 to an MD3/10A a board 3 has to be added. The tone frequencies and programme bandwidth can be altered by changing a filter (FL4/64A-L) contained in the MD3/10 and MD3/10A. Power requirements +12 V at 100 mA, -12 V at 100 mA, +5 V at 400 mA. CH1/65C. Parent equipment EP2M/7. DD 1979. DDMI 6.353(80).
MD3/10B	9.7KHz FM Tone Modulator. MD3/10 set up MD3/10B for 9.6 and 9.8KHz tone (FL4/64D) frequencies, and then modified to provide external input (9.7KHz FM) for tone 1 and internal tone 2 at 9.7KHz. The FL4/64D sub unit is adjusted and two links on main board are replaced by jumper lead which is also connected to the front panel monitor point for tone 1 via a 10k Ω resistor. Power requirements as for standard MD3/10. 2U 'C' width brick with two horizontally mounted pcbs. G06 connector. Parent equipment EP2M/7. Sub-units FL4/64M. RD 1984.
MD030011 MD3/11	4-phase DPSK Modulator. This unit is part of the EP2M/7, Audio line signalling send equipment. It accepts tone(s) from the MD3/10, Tone modulator between 6-15kHz. It modulates the tone(s) at a rate of 160 bauds using 4-phase DPSK. The modulated output is transferred to the MD3/10. CH1/65C, 64 way G06 back connector. DD 1977. DDMI 6.349(80).
MD030012 MD3/12	FSK Modulator. This unit accepts TTL clock and data signals and produces a three tone audio FSK output. In the lower band mode, at 50 bits/sec, the output is similar to that of the TM1M/1 and the TM1M/2. In the high band it operates at 110 bits/sec and produces output tones in the region of 2.6-2.8kHz. +5V, -12V, 0V. CH1/6 3. DD 1977. DDMI 5.378(80).
MD030013 MD3/13	Band II Frequency Modulator. Accepts an audio signal (mono or multiplexed stereo) and converts this to a frequency modulated signal at a centre frequency of 10.7MHz. Also contains a f.c. system which may be used to stabilise the

MD3/13A	output frequency of a CO2/23 used with this card. Power requirements 13.5V at 0.5A. BMM 4U printed circuit card. Parent equipment TM4/2. DD 1978. DDMI 5.374(79). Band II Frequency Modulator. Same as MD3/13 except 10.7MHz output level increased to -1dBm; input sensitivity of APS circuitry increased; no arrangements for mounting CO2/23. Power requirements same as MD3/13. BMM 4U printed circuit card. Parent equipment TM4/6. DD 1979. DDMI 5.378(80).
MD030015 MD3/15	Frequency Modulator. This modulator produces a digital version of an FM signal. The output frequency = 0.25 clock frequency with a peak deviation of ± 0.039 ($\pm 1/256$) clock frequency. The input modulation is digital. Power requirements 5V. CH1/64J. Parent equipment TM4M/3. RD 1978.
MD040001 MD4/1	76kHz DPSK Modulator. This unit accepts serial data and clock inputs, and generates a 76kHz differential phase shift keyed signal. Four isolated outputs are provided which with appropriate external series resistors are suitable for bridging across 75 Ω or 600 Ω circuits. Data rate can be set for 50, 110 or 160 baud. These three options are covered by the use of different values of resistors. Power requirements +5V d.c. PN1/29J. 4U unsupported board. DD 1979. DDMI 2.447(81).
MD040002 MD4/2	676 kbit/s P.S.K. Modulator. Accepts a 676 kbit/s HDB3 input (e.g. 2-channel NICAM) and modulates the data onto a 70 MHz carrier at +5 dBm. The modulation system is Tamed Frequency Modulation; a form of PSK. The equipment comprises two unsupported printed boards, and is intended to be used with a DM4/5 demodulator. Power requirements +5 V 500 mA, +12 V 350 mA, -12 V 200 mA. 2 off pcbs approx. 8" x 5". DD 1983. DDMI 5.445(84). EDI 10501(1)85.
MD040003 MD4/3	PCM Jitter Modulator. Produces a 6.336 MHz bitstream, which can be jittered by an external modulation source. It is used with a modified GE4/10 pattern generator. A jittered clock at 2.112 MHz is available, allowing an 8.448 MHz jittered bitstream to be produced in conjunction with a Plessey Multiplexer. Power requirements +5 V; ± 12 V. CH1/64C. Parent equipment MD4P/4. DD 1984.
MD040004 MD4P/4	PCM Jitter Modulator. Contains power supply unit and connectors for unit MD4/3. The equipment is portable. Power requirements 240 V ac. CS2/25D. Sub-units PS2/184, MD4/3. DD 1984.
MD040005 MD4/5	2048 kbit/s PSK Modulator. Accepts two quadrature base band PSK inputs from CE2/31 and modulates the data onto a 7.5 MHz carrier. Power requirements +5 V, 270 mA; -5 V, 180 mA. 4 U PCB mounted in a CH1/64A chassis. Parent Equipment TM2L/6. DD 1985. EDI 10517. DDMI 5.456(85). Superseded by MD4/8. OBSOLESCE.
MD040006 MD4SM/6	D.S.S.T.TV Modulator. The Digital Stereo Sound with Terrestrial Television Modulator is designed to take 728kbit/sec serial data and data-clock signals from a

728kbit/sec Coder, and modulate a 6.552MHz carrier signal using the quadrature-phase-shift-keying (QPSK) modulation system, with differential data encoding. The serial data source can be an external coder or, for test purposes, an internal pseudo-random binary sequence or fixed 16-bit data-pattern generator. It is possible to select between the QPSK or VSB-2PSK modulation systems, and to apply amplitude-frequency pre-correction. All phase modulation and transmit data-shaping filtering is implemented digitally. A variety of frequency up-converters are available, to give a final carrier-frequency at IF or UHF. Power requirements 240Vac. PN3/54. Sub-units PS4/44, CO9/504G, CO2/29, CO2/30, GE4/21, MD4S/7, GE2/19. RD 1987.

MD040007 MD4S/7

Modulator. This unit forms the core of the Digital Stereo Sound with Terrestrial Television Modulator. This all-digital modulator synthesises a 2.912 MHz carrier signal, which is phase-shift-key modulated according to the incoming 728 kbit/sec data. The modulated carrier signal is output as 8-bit digital data, ready for digital-to-analogue conversion to reconstruct the analogue 2.912 MHz carrier waveform. The modulator is capable of generating many different PSK modulation systems, with or without offsets, and/or absolute or differential coding of the data. The characteristics of the modulation system and all data shaping filtering are uniquely determined by data held in PROMs. Power requirements +5 V, ± 12 V. 4U unsupported PCB with PN1/29J front panel. Parent equipment MD4SM/6. Chassis extender CH4/5. RD 1987.

MD040008 MD4/8

2048kbit/sec TFM Modulator. This unit accepts two quadrature baseband inputs from the CD2/40, and modulates the data onto a 7.5MHz carrier. It is intended for use with CD2/40, DM4/10 and CD3/56. Power requirements ± 5 V. CH1/86K. Parent equipment TM2L/7. Supersedes MD4/5. D & ED (RF) 1987.

MD050001 MD5/1

MODEM 3.3kHz Data Unit. This unit is a modem that is used for two way data transmission on Inter-Region 4 8kHz Group Links. It has a fixed carrier frequency of 3.3kHz that is modulated at a rate of 1 baud. The demodulator will reproduce the 1 baud data rate and provide TTL outputs and local LED indications. Power requirements -20V at 50mA. 1 card 114mm x 312mm. Parent equipment Post Office. DD 1979. DDMI 6.383(80).

MD050002 MD5/2

Long Distance Modem. Unit containing a commercial Modem. "Gandalf LDS 120", RS232 to RS422 interface and power supply for data communication over a 4 wire circuit of 2400 bauds, distances up to 8 kilometres. Power requirements 240V AC. CH1/64C chassis. Parent equipment PALM/126. DD 1982.

ME010008 ME1/8

Measuring Unit. Accepts inputs from MN1/513, selects and standardises for presenting to Measure Control Unit. Part of system display I.T.S. parameters on Monitoring and Information Centre V.D.U. Power requirements ± 12 V d.c. CH1/64J. DD 1979.

ME010009 ME1/9	D.C. Test Unit. D.C. Test equipment for applying standard schedule of tests (as RLT/1) to Post Office circuits. Comprehensive telephone facilities and terminations for 6 circuits are incorporated. Unit forms part of O.B. Test Set ME2P/3. Power requirements +6V/-6V regulated supplies and +12V-18V unregulated. 508mm x 130mm x 95mm. Parent equipment ME2P/3. DD 1979. DDMI 9.263(84). DDHB 9.169. DDHB 9.179(84) Part 3.
ME1/9A	D.C. Test Unit. Version of ME1/9 equipped only with D.C. test facilities. This panel is profiled for bay-mounting, with rear cover containing mains unit card and PS2/266 regulator card. Power requirements 240 V mains. Panel, 3U x 19". Depth 6" excluding Connectors. Sub-units PS2/266, P.C.B. DD 1984.
ME010010 ME1/10	Signal Strength Meter. Uses a moving coil d.c. to measure signal strength. A local/remote on/off switch controls the A12V d.c. supplies to the UN21/52 Relay Unit. 4U unsupported PCB with PN1/29A front panel assembly. Parent equipment RC1M/28. DD 1982.
ME010011 ME1/11	Time Domain Pulse Reflectometer. Locates faults in S.W. sender feeders using a calibrated comparison pulse. Used with HV Pulse Generator GE2/16. Power requirements 115 or 240 V ac. PCB: 222 x 147 x 56. DD(9) 1986.
ME010518 ME1/518P	ME1/518 in portable carrying case. CS2/23B. DD 1977.
ME010519 ME1/519	SHF Test Set. The SHF test set provides the following: (a) A 70MHz IF or demodulated Video output from a SHF input. (b) A 70MHz IF or SHF (7.4 to 7.9GHz) output from a Video input. (c) A swept SHF signal. Power requirements 240V AC mains. DD 1980.
ME010520 ME1P/520	Level Measuring Meter. BMM version of ME1/515P (Imperial). Measures Luminance square waveform signal and subcarrier using a thermo-couple. Power requirements mains 20w. CH1/64C in case CS2/25C. Supersedes ME1/515P. DD 1981. DDMI 9.320(84). EDI 10512(1)MAY 85.
ME010521 ME1/521	Cable Length Meter. Measures coaxial cable length and fault distance up to 999.9 ft by pulse reflection. Measures termination resistance up to 999.9 Ω . Generates special test waveform for identifying cable ends. Power requirements dry battery, 6 x HP2 (or similar). Plastic case 216 x 235 x 94. DD 1983. EDI 10513. DDMI 9.328(85). DDHB 9.206(85).
ME010522 ME1/522	Sync. Timing Meter. Measures difference between a black and burst signal and a reference black and burst signal. Displays 1. No. of lines error 2. Timing error between PAL Squarewaves - μ s 3. Phase error - degrees. Power requirements 240 V ac. CH1/64C. Supersedes ME1/518. Termination Panel PA20/535. DD 1985. DDHB 1.204(86). EDI 10539 (1) APR 86.

ME010523 ME1/523 Timecode Phase Meter. Compares the phase of EBU timecode with station pulses and displays the result on an analogue meter. The centre zero meter is calibrated in 2 ranges:- ± 1 picture, and ± 10 lines with the EBU window ($\pm 1\frac{1}{2}$ lines) marked within this range. The station reference is composite video with colour burst (e.g. black & burst). Power requirements: 240 V ac, <5 VA. Self contained box 137 W x 95 H x 200 D. DD(7) 1986. EDI 10543 (P).

ME020003 ME2P/3 OB Test Set. Portable test set for audio circuits (primarily outside broadcast), providing facilities for full d.c. and a.c. measurements and telephone communication. Incorporates audio Sweep generator for equaliser alignment. Power requirements 240V mains or 12 x HP2 batteries. Plastic suitcase, 20" x 14" x 7 $\frac{1}{2}$ " excluding fittings. Sub-units ME1/9, PS2/266A, ME2/4. DD 1982. DDHB 9.169(82).

ME2P/3A OB Test Set. Similar to ME2P/3 but fitted with PS2/266B, incorporating audio sweep generator, and ME2/5A giving enhanced audio measurement facilities. Power requirements 240V mains or 12 x HP2 Batteries. Plastic Suitcase, 20" x 14" x 7 $\frac{1}{2}$ " excluding fittings. Supersedes ME2P/3. Sub-units ME1/9, PS2/266B, ME2/5A. DD 1982. DDMI 9.282(82). DDHB 9.179(84).

ME020004 ME2/4 Audio Test Set. Audio Frequency Test Equipment comprising tone-source covering frequency range 30Hz-25kHz and level/TPM/noise measurement with input sensitivity -60dB to +20dB. The power consumption has been minimised for use on batteries as part of OB Test Set ME2P/3. Power requirements +6V/-6V regulated supplies. 508mm x 127mm x 95mm. Parent equipment ME2P/3. DD 1979. DDMI 9.264(83).

ME2/4A Audio Test Set. This is a bay-mounted version of the ME2/4, the front panel having rectangular outline and appropriate fixing holes. An overall screening cover contains a regulator card, and mains power supplier. Power requirements 240v mains. 19" x 5.25" x 6". DD 1981. DDHB 9.182(83)

ME020005 ME2/5 Audio Test Set. Audio frequency test equipment having facilities very similar to ME2/4 but intended for bay-mounting and operation from mains power. Power requirements 240V mains. Chassis 483mm x 133mm x 203mm. DD 1980. DDHB 9.174(83). EDI 10465(1)JUL 83.

ME2/5A Audio Test Set. Facilities identical to ME2/5 but panel outline and fixings revised to match suitcase of ME2P/3A. Rear cover and Board 8 removed so that operation in conjunction with PS2/266B is essential. Power requirements ± 6 V Regulated supplies. Chassis 19" x 5 $\frac{1}{2}$ " x 3 $\frac{3}{4}$ ". Parent equipment ME2P/3A. DD 1982. DDMI 9.282(83), DDHB 9.179(84).

ME2P/5 Audio Test Set. ME2/5 mounted in leather carrying case which also houses battery compartment. Power requirements 240V mains or 12 HP2 internal batteries. Overall dimensions of case 8" x 14" x 21". Sub-unit ME2/5. DD 1981. DDMI 9.285(83).

ME020006 ME2/6 Audio Intermodulation Meter. Measures intermodulation products and harmonic distortion of HF, AM transmitters

when used in conjunction with GE4/8 in ME15M/8. Power requirements +15V and -15V. CH1/65D. Parent equipment ME15M/8. DD 1980.

ME020007 ME2/7

Audio Phase Meter. This unit measures the phase difference between the two legs of a stereo pair for a tone within the range 30 Hz - 25 KHz. The measurement in degrees is given on a $3\frac{1}{2}$ digit LCD, ± 180.0 , to within 0.5 of a degree. Two readings are taken every second. A second display comprising a ring of 18 LED's gives twenty readings a second with a resolution of twenty degrees enabling changes of phase to be followed. It is also possible to measure the frequency of the A leg input to within 1 Hz over the range 0 - 19.999 KHz. Indications of the input levels are given by LED bar displays with a resolution of 3 dB over the range -18dB to +9 dB. Power requirements 240 V a.c. mains. CH1/65D. DD 1982. EDI 10475(1)NOV 83.

ME020008 ME2/8

Automatic Audio Measuring Equipment. This unit automatically makes a series of measurements of Level, Frequency Response, THD and Noise, the required test signal being obtained from the Auto Test Generator, GE4/6C. The measurements are stored in data format and are recovered using a Data Logger, RD5P/4. Power requirements 240 V mains. 1U x 19" chassis, depth 10" plus connectors. DD 1982.

ME020009 ME2P/9

Sound Level Indicator. This unit, when provided with a Beyer M201 N(C) microphone, indicates sound pressure level. It has two LED's which light up at SPLs of 100 and 105 dBA to give a warning of when a safe maximum sound level has been exceeded. A remote bright-light indicator (UN12/26) can be coupled up for fixing installations where desk-top indication is required. Power requirements 24 V dc at 50 mA or 3 off PP3 9 V batteries. PCB: 108 x 78 mm. RD 1986.

ME030501 ME3M/501

Television Line Jitter Measuring Equipment. This unit measures the line timing jitter present on 625 line PAL or SECAM colour television signals, which may be carrying sound in syncs. Power requirements a.c. mains. PN3/55. Sub-units ME6/503, UN16/539 and PS2/265. DD 1979. DDMI 9.247(79). DDHB 9.156(79).

ME030502 ME3SM/502

Television Waveform Analyser. This instrument is a self contained measurement set, designed to measure video waveform parameters. It will measure either the I.T.S. or line repetitive test waveforms. Power requirements 240V a.c. mains. PN3/54. Supersedes EP1M/523, TE1/513, UN1/715 and ME1L/508. DD 1979. DDHB 9.204(84). DDHB V.1017(86) Part II.

ME030502 ME3SP/502

Television Waveform Analyser. This instrument is the portable version of the ME3M/502 TV Waveform Analyser. It is designed to measure video waveform parameters either using the ITS or a line repetitive test signal. It is housed in a CS2/27H. Power requirements 240V a.c. mains. PN3/54. Supersedes EP1M/523, TE1/513, UN1/715. Sub-units AM18/527, UN23/676, UN16/540, GE1/596, CO8/507, CO8/508,

DM2/512, DM4/501, ME8/501, ME8/502, UN26/39, UN27/14. DD 1985.

ME030503 ME3P/503 Return Loss Measuring Equipment. This equipment will measure and display the return loss of a 75Ω impedance junction. It is portable, self-powered and requires no external signal connection. Power requirements Internal battery. Approx. 300 x 200 x 100 deep. DD 1980.

ME030504 ME3/504 Sync Monitor Measuring Equipment. Makes sequential measurements of:

1. Video absent/present.
2. Colour/mono signal.
3. Field timing.
4. Line timing.

On-card indicators are activated in single-step mode. Power requirements ±6V, approx 200mA. 4U Unsupported pcb. Parent equipment EP5L/516. DD 1981.

ME040001 ME4/1 Redcode Reader. The Redcode Reader is used to check, for errors, the contents of Read Only Memories. By organising the contents of the ROM into a serial bit stream and dividing this by a known pseudorandom binary sequence an almost unique remainder exists, this remainder is called the Redcode and displayed as a four digit hexadecimal number which is used for identification and test purposes. Each ROM type will have its own plug-in card containing the necessary socket and interface circuit. Power requirements 240 V a.c. mains. Main chassis 250 mm x 150 mm x 75 mm. DD 1980. DDMI 9.261(81). DDHB 9.116(81). EDI 10415(1)AUG81.

ME040002 ME4SP/2 8 Mbit Decoding Margin Meter. An instrument to measure the "Decoding Margin" of the 8 Mbit PCM distribution network. Includes an 8 Mbit data generator for testing the CD4/12. Power requirements 240 V ac. Proprietary case size not yet known. DD(9) 1985.

ME040003 ME4/3 Eye-Height Meter. This is an optional unit designed for use with the Digital Stereo Sound with Terrestrial Television Demodulator. The unit automatically measures the percentage eye-height of the demodulated digital signal, with a read-out on a liquid-crystal display. The unit is switchable between I & Q phase-axes of the QPSK signal. The unit recovers its own clock, and gives a warning if this fails. The read-out gives the eye height exceeded by 99% of the bits. The unit uses sample-and-hold circuits with appropriate switching and time constants, followed by a DVM module. Power requirements +12V (340 mA) -12V (120 mA). CH1/64B. Parent equipment DM4M/8. Chassis extender CH1A/43. RD 1987.

ME060002 ME6/2 Measures MF transmitter carrier frequency digitally and includes a phase display which allows precise setting of the carrier frequency. Requires a 200kHz reference source. +12V, +5V, -12V. CH1/65D (Horizontal G06 connector). Part of the ME6M/3. DD 1977. DDHB 9.153(79).

ME060003 ME6M/3 Carrier Frequency Meter. Measures the carrier frequency of MF and LF transmitters and includes a phase display which

allows precise setting of the carrier frequency. A 60kHz MSF Rugby receiver provides the frequency reference. Power requirements 240V a.c. mains. PN3/55. Sub units ME6/2, PS2/194A, RC1/23. Equipment superseded, FCE/1. DD 1978. DDHB 9.152(78). EDI 10346(1)AUG79. DDHB 9.152(82).

ME6M/3A Carrier Frequency Meter. Measures the carrier frequency of MF and LF transmitters and includes a phase display which allows precise setting of the carrier frequency. A 200kHz Droitwich receiver provides the frequency reference. Permanently fitted in the rear frame is a 200kHz flywheel oscillator OS1/6. Power requirements 240V a.c. mains. PN3/55. Sub units ME6/2, OS1/6, PS2/194A, RC3/13. Equipment superseded, FCE/1. DD 1978. DDHB 9.152(78). EDI 10346(1)AUG79.

ME6P/3 Portable Carrier Frequency Meter. Transportable version of ME6M/3. Carrying case CS2/26. DD 1979.

ME6P/3A Portable Carrier Frequency Meter. Transportable version of ME6M/3A. Carrying case CS2/26. DD 1979.

ME060004 ME6/4 Bit Error Rate Meter. A general purpose frequency counter that has been configured as a bit error rate detector and gives an output via 6 off 7-segment displays which indicate errors per million bits. To be used with HDB3 to NRZ Converter CO9/11 and HDB3 Generator GE4/18 to test digital links. Power requirements +5 V. 128 mm x 95 mm PCB. DD 1985. DDTM 5.180(85).

ME060502 ME6/502 Pulse Duration Meter. Supersedes ME1/510 and ME1/514. Measures the duration of line-rate components of the television waveform between 200ns and 60µs. Operates on both 625 and 525 line systems. Measurement shown on a 4 digit display but an oscilloscope is required as an indicator. Contains its own sync separator to provide triggers for the oscilloscope. Powered from a.c. mains supply. CH1/65D with horizontal G06 connector. DD 1977. EDI 10306(P)APR77.

ME060503 ME6/503 Line Period Measuring Unit. This unit compares the length of a television line with an accurate 64µs to produce an error signal which is processed for display purposes. Power requirements +12V, -12V, -8V. CH1/65D. Parent equipment ME3/501. DD 1979. DDMI 9.250(79).

ME070501 ME7/501,501P Return Loss and Impedance Meter for the measurement of coaxial cable of 75ohm nominal impedance at video frequencies. Constructed in R.S. Components standard instrument case with handle. ED 1976.

ME080001 ME8/1 Noise measurement card for use in EP14/1. A.C. Test equipment. Enables EP14/1 to measure noise signals according to CCIR. Recommendation 468. Power Requirements ±16V to ±24V. PCB 145mm x 170mm. DD 1977. DDMI 3.462(78), 3.644(78). DDTM 3.205(78), 3.206(78).

ME080002 ME8/2 Analogue Meter Unit. This unit is to be used with a modified ME3SM/502 (Television Waveform Analyser) that is fitted with an ME8/502A in the ME8/502 slot. The connection to the ME3SM/502 is by way of a 6-way cable. When the ME3SM/502 is set to read unweighted signal-to-

noise ratio, the Analogue Meter Unit displays this ratio on its front-panel analogue meter. CH1/64A. Parent equipment ME3SM/502 modified and equipped with ME8/502A. Chassis extender CH1A/43. D & ED 1987. MI V.1033(87).

ME080501 ME8/501	Noise Measuring Equipment. This unit forms part of the 'ME3M/502 TV WAVEFORM ANALYSER'. Its purpose is to produce a measurement of random noise both weighted and unweighted, with or without the presence of a video signal. Power requirements +12V, -12V, +5V. 4U Unsupported Card with 57-way edge connector. Parent equipment ME3M/502. Sub-units FL1/534, FL1/535, FL4/591. DD 1981.
ME080502 ME8/502	Noise Control Unit. This unit forms part of the ME3M/502 TV Waveform Analyser. Its purpose is to control the ME8/501 unit for the measurement of random noise. Power requirements +5V, -12V, 4U unsupported card with 57-way edge connector. Parent equipment ME3M/502. DD 1981. MI V.1058(87).
ME8/502A	Noise Control Unit. This unit forms part of the ME3SM/502, TV Waveform Analyser. Its purpose is to control the ME8/501 unit for the measurement of random noise. It is identical to the ME8/502, except that it has the added facility of an analogue output; it fits in the ME8/502 slot. When a modified ME3SM/502 is set to measure unweighted signal to noise ratio, this unit feeds an analogue signal to drive an external ME8/2 Analogue Meter Unit. Power requirements +5V, -12V. 4U unsupported pcb. Chassis extender CH4/5. Parent equipment ME3SM/502 (modified). D & ED (V) 1987.
ME120009 ME12/9 A-G	Peak Programme Level Meter. Comprises AM20/3 Drive Amplifier and meter to a range of Eq. Dept. Specifications, most of which have the amplifier mounted on their terminals. DD 1973. DDMI 3.572. DDHB 3.137. EDI 10199.
ME120011 ME12/11	Peak Programme Meter comprising ISEP panel mounted ME12/9D meter, with AM20/3 Amplifier and monitoring amplifier for headphones. SCPD 1977.
ME120012 ME12/12A&B	Stereo Peak Programme Meter. Stereo peak programme meters, comprising AM20/5 and meters to ED specs. 1502 and 1503 respectively. The amplifier circuit board mounts directly onto the meter terminals. Electronic balanced input with optional transformers on add-on board. Power requirements 24 V at 70 mA. 95 x 110 mm. Supersedes ME12/10A & B. DD 1985. DDMI 3.745(85). DDHB 3.315(85).
ME150007 ME15P/7	Test Meter. 100mA f.s.d. meter is diecast box. Test meter for TM4L/1 transmitter. Diecast box approximately 120mm x 60mm x 40mm. DD 1978. DDMI 5.369(79).
ME150008 ME15/8	AM Transmitter Intermodulation Measuring Equipment. Measures total intermodulation products and harmonic distortion on AM transmitters. Comprises a dual and single tone generator on fixed frequencies between 80Hz and 5kHz, and measuring circuits with an analogue meter read-out. Power requirements +15V -15V. CH1/65H. DD 1980.
ME15M/8	AM Transmitter Intermodulation Measuring Equipment.

	Measures total intermodulation products and harmonic distortion on AM Transmitters. Comprises a dual and single tone generator with fixed frequencies between 80Hz and 5kHz, and a measuring unit with an analogue meter readout. Power requirements 240V AC. PN3/55. Sub-units GE4/8, ME2/6. DD 1980. DDHB 9.178(81)
ME15P/8	AM Transmitter Intermodulation Measuring Equipment. As ME15M/8 but is portable and housed in carrying case CS2/26. Power requirements 240V AC. DD 1980. DDHB 9.178(81).
ME150009 ME15P/9	Transmitter Monitoring Meter. The ME15P/9 is a portable test meter with internal battery and 3½-bit liquid crystal DVM indication. Connection to the equipment to be monitored is via a flying lead with 25-way 'D' connector (Plug). Power requirements Internal Battery 9V PP3. Die-cast box, size 100mm ³ approx. Parent equipment AM14/51. DD 1982. DDMI 5.420(82).
ME150502 ME15M/502	Teletext Decoding Margin Meter. This unit measures and displays the teletext decoding margin of teletext signals present on a video waveform. Power requirements 240 V a.c. mains. PN3/55. Sub-units PS2/194, UN16/536, UN26/539 and UN26/540. DD 1978. DDMI 9.242(79). EDI 10320.
ME15M/502A	Teletext Test Meter. This unit is similar to the ME15M/502, but it has low hum field radiation for special applications. Like the ME15M/502 the unit measures and displays the teletext signals present on a video waveform. Power requirements 240 V a.c. mains. PN3/55. Sub-units PS2/194A, UN16/536, UN26/539 and UN26/540. DD 1978.
ME150503 ME15/503	TV Modulation Depth Measuring Equipment. To measure the modulation depth of the detected output from UHF transmitters. Power requirements +12V and -12V at 150mA each. CH1/12A. Parent equipment MN2M/513. DD 1980.
ME150504 ME15/504	UHF Signal Measuring Equipment. Test equipment for UHF transmitters and transposers. Comprises demodulator, UHF spectrum analyser, VHF spectrum analyser and, in combination with GE4/576, a sideband analyser and UHF/VHF tracking generator. Power requirements 240 V ac. Special Box 19" x 4 U. Supersedes EP14M/507. DD 1985.
ME160003 ME16/3	Standard Level Meter, for the measurement of standard audio level, (1mW into 600Ω) to an accuracy of 0.0 2dB. Incorporates overload protection and auxiliary indication over the range ±6dB for setting up purposes. Housed in plastic instrument case 197mm x 197mm x 192mm, with integral mains power supplier. Replaces SLP/3 and ME1/7. DD 1975. DDMI 9.227(77). DDTM 9.147(77). EDI 10245(P)JUN75, 10330(1)DEC77.
MN010011 MN1/11	Programme Failure Monitor, superseding MN1/1A. Mains operated, or can accept external d.c. supply. CH1/12A. DD 1975. DDMI 2.418. EDI 10232(P)OCT74. ACO.
MN010015 MN1/15	Programme Failure Monitor electrically identical to the MN1/11 but for BMM chassis. CH1/64A. DD 1977. DDMI 2.437(77).

MN010016 MN1/16 Monitoring detector for 19kHz and 23kHz tones used in automatic monitoring. Balanced and unbalanced inputs. Power requirements A.C. mains. CH1/64A. Equipment supersedes AM3/3, AM3/3A, AM3/3B, AM3/4, AM3/4A, AM3/4B. DD 1977. DDHB 2.458(81).

MN010017 MN1/17 Audio Select Monitor. Printed circuit board with 12 attenuators switched from high to low loss by optocoupled FETs to allow selection of one of 12 audio inputs to one output for monitoring purposes. Connector Hytip drawing SP 25646. Power requirements 15mA at 5V d.c. Size to fit 3U BMM panel. SCPD 1978.

MN010018 MN1/18 VHF RF Monitoring Unit comprising a Detector Box and a Meter Box connected by a removable multicore cable. The detector box is designed for use with two FL1/48A and FL1/48B probes to monitor the A and B halves of a B and II power amplifier (200-1000W RF output). The meter box provides indications of the phase of the output amplifiers. Both boxes are standard commercial diecast types. TCPD 1979.

MN010020 MN1/20 Band II Power Monitor. Unit measures RF power with max.sens. of +13dBm (20W) and maximum input of 30dBm (1W). It has two inputs with different conversion characteristics for measuring forward and reverse power using portable meter ME15P/7. The forward scale is conventional but the reverse power scale is compressed to allow better than 25dB return loss to be measured. Unit accepts two power supplies via varelco plug and uses higher only; other is reverse. It provides a monitor output of approximately -7dBm (100mV) and visual indication using LEDs or forward power with duplicated opto isolated outputs at the rear. It is housed in an Eddystone box and is designed to mount on rear of a front panel. Power requirements 2 x (34-40V) supplies at less than 60mA. Mounted in Eddystone box 95mm x 121mm x 51mm (Eddystone 6908P). Parent equipment PA1/110A-D. DD 1979. DDMI 5.380(80).

MN010021 MN1/21 Fault Indicator. Similar to IN5/6 but modified for use in P.C.M. Coder Monitor. IMHOF 4 CDX. Parent equipment BA1/4. DD 1979.

MN010022 MN1/22 Programme Polarity Comparator. To compare the polarity of two sound programme signals which have originated from a common source but have been transmitted over separate paths up-stream of the point of comparison, and to output the result of the comparison in binary form, e.g. "in-phase/out-of-phase". Power requirements 100mA at +24V. BMM 2U B-width. DD 1980. DDTM 6.178(80). DDMI 6.386(81).

MN010023 MN1/23 DC Voltage Monitor. To detect the inputs of 14 DC lines between 5 and 50 volts +ve or -ve, and to sound an audible alarm if any one or more of these falls below a level, of which the threshold may be set by internal AOT and variable components. The audible alarm may be silenced by a front push button for approx. 5 mins. (set by AOT resistor). A visual display of LED's on the front is included. Power requirements Mains (240v). CH1/65B. SCPD 1981.

MN010024 MN1/24	Band II Transmitter Output Monitor. This unit detects the output level of a Band II transmitter using an external coupler, and provides indications via LEDs and opto-isolator outputs of abnormal power conditions. Power requirements 28V, 50mA. Parent equipment AM14/51. DD 1981. DDMI 5.415(82)
MN010026 MN1/26	Changeover and Power Supplier Monitor. Used for TV Outside Broadcasts communications. The module provides automatic changeover of either plus or minus supplies from a single standby supply. Power requirements $\pm 16V$ 8A input. Parent equipment PS2M/291. SCPD 1983.
MN010027 MN1/27	7.6/7.8KHz Tone Detector. Monitoring detector for 7.8KHz tones. Balanced, high impedance input. Power requirements A.C. mains or unregulated DC 18-25 V at <1 A. CH1/64A. Termination panel: PN3A/50A. Chassis extender: CH1A/43. DD 1983. DDMI 2.464(83). DDHB 2.490(83).
MN1/27A	Tone Detector. Variation of MN1/27 to enable the detection of any of the following frequency pairs: 7.6, 7.8; 8.6, 8.8; 9.6, 9.8; 10.6, 10.8 kHz. Power requirements 240 V ac. CH1/64A. Sub-units, possible plug in sub-boards to accommodate change. DD 1985. DDMI 2.477(85). DDHB 2.506(85).
MN010028 MN1/28	TV Waveform Analyser Monitor Unit. This unit is intended to be connected to the ME3M/502 TV Waveform Analyser, it is used to control the analyser so that it may be used as an automatic waveform-quantity monitor. Power requirements 240V a.c. mains. CH1/64A 4U 'A' width BMM chassis. Sub-units UN26/57 (ADZE Unit). DD 1984.
MN010029 MN1/29	Supply Monitor. This unit monitors the presence of supply voltage at +12V, -5V and -12V. When all four are present the unit gives a low output from an open-collector TTL gate. Power requirements +12V, +15V, -5V, -12V d.c. 4U unsupported board with J-width front panel. Parent equipment CO6/512. DD 1984.
MN010030 MN1/30	Tone Detector. This unit detects the presence of continuity tones on audio signals in the range 7.6 kHz to 10.8 kHz. Its specification is similar to that of the MN1/27A, but it is fitted in a 2 U chassis. Simultaneous detection of any of the following pairs of tones may be selected: 7.6/7.8; 8.6/8.8; 9.6/9.8; 10.6/10.8 kHz. Separate relay outputs are provided for each tone, with additional outputs to indicate pulsing tones. Power requirements 240 V ac or +24 V dc. CH1/65C. Chassis extender CH1A/61 (dc only). Termination Panel PA20/34. DD 1985.
MN010031 MN1/31	Headphone Level Indicator. Intended for use with AM10P/21 Stereo Headphone Amplifier (Foldback Box), in order to detect audio signal levels at amplifier outputs. Amber and red lamp indications are given for signals exceeding those corresponding to acoustic outputs of 100 dBA and 105 dBA respectively, at either left or right outputs. Power requirements: 24 V, 130 mA. PCB dimensions: 3.75" x 2.1" with cut-outs. Parent equipment: AM10P/21. DD(3) 1986.

MN010032 MN1/32 Phase Error Monitor. Digital phase error monitor unit, to be used with EP5L/515 Colour Phase Comparator. This unit will fill the remaining space in a PN3/54 frame fitted with EP5L/515, Burst Phase Comparison Equipment. Power requirements 240Vac. BBC chassis code CH1/64A. Chassis extender CH1A/43. D & ED (Support Lab) 1987.

MN010033 MN1/33 Audio Alarm and Monitor. This unit works in conjunction with an SE1/12 (in local mode); when an incorrect selection of transmitters for loading diesel alternators is selected, it raises the alarm by means of indication and audible warning. Power requirements 2 off 50Vdc. CH1/64A. Parent equipment EP1L/63. Chassis extender CH1A/43. TCPD 1987.

MN010517 MN1/517 Monitoring unit that works in conjunction with UN17/529 so that error signals can be seen on a meter - the facility also exists to apply local error signal to UN17/529. CH1/64A. SCPD 1977.

MN010518 MN1/518 Natlock Tone Monitor. Natlock tone generation:- Line add 814Hz; Fast retard 892Hz; Retard 977Hz; Colour retard 1071Hz; Normal 1173Hz; Colour advance 1285Hz; Line advance 1407Hz; Fast advance 1524Hz; Line drop 1681Hz all sent at 600Ω balanced. Natlock tone analyser:- Lamp indicates tone received; meter measures level over 40 dB in range. Unit also contains its own power supply, C.S.C. oscillator and headphone amplifier. CH1/64B. DD 1977. EDI 10324(P)OCT77.

MN010519 MN1/519A-C Transposer Monitor to monitor power level and presence of intercarrier on the UHF transposer and amplifier at a transmitting station. It provides indication to the automatic fault report and start circuits to the UHF amplifier. "A" version for use with transposer and amplifier. "B" version for use with transposer only. "C" version provides amplifier start circuits only. Power requirements 240V a.c. mains, less than 100VA. Diecast box approximately 51mm x 203mm x 127mm. Parent equipment MN1/520A-C. DD 1977. DDMI 5.363(78). DDHB 5.145(78).

MN010520 MN1/520A-C Transposer Monitoring Panel. Comprises two MN1/519A, MN1/519B or MN1/519C mounted on a 3U panel to provide power monitoring for two services at one transmitting station. "A" version comprises 2 x MN1/519A, "B" version comprises 2 x MN1/519B, and "C" version comprises 2 x MN1/519C. 3U panel equipped with two diecast boxes. DD 1977. DDHB 5.145(78).

MN010521 MN1/521 Sync Pulse Monitor. A 4U BMM version of MN1/511. Power requirements 240V ac 50Hz. 4U A-width chassis. DD 1981. DDMI 2.453(81).

MN010522 MN1/522 Sync Pulse Monitor. A 2U BMM version of MN1/511. Power requirements 240V ac 50Hz. 2U A-width chassis. DD 1981.

MN010523 MN1/523 Link Baseband Monitor. Amplifies SHF link baseband signal (video + 7.5MHz sub-carrier) and provides three sets of voltage-free, changeover contacts when 19kHz tone is correct in both level and frequency. Sub-carrier auto

muting facility prevents spurious indication. Provides low quality video output at standard level for use with sync detectors and auxiliary audio output for monitoring. Power requirements Mains operated or can accept external DC. CH1/64A. TCPD 1981.

MNO10524 MN1/524 UHF Transmitter Shutdown Monitor. For use at UHF transmitter sites for monitoring peak sync output power and 19kHz tone at a set threshold level. Input requirements is +10dBm for a probe in the aerial feeder. Outputs are: Two detected peak sync power relay contacts, two 19kHz tone detector relay contacts, also a low grade demodulated video and audio output. Power requirements +24V d.c. A size BMM. DD 1982. DDHB 5.164(83). DDMI 5.164(83). EDI 10495(1)FEB 85.

MNO10526 MN1S/526 Vision and Sound Carriers Monitor. Microprocessor-controlled unit for RC5/503 UHF RBL receiver. Main functions:
Controls muting of rx
Sets status of rx through push-button controls.
Displays rx status on 16-character LCD display and LED'S.
Power requirements ± 18 V, 10 mA; +10 V, 500 mA. Supersedes MN1S/525. Parent equipment RC5/503. DD 1985.

MNO30511 MN3/511 KV1820UB 457mm colour receiver modified to accept line video and sound whilst retaining conventional receiver facilities. DD 1977. DDHB 5.116(77). EDI 10303(1)JAN77.

MNO30512 MN3/512 330mm Colour Picture Monitor/Receiver. As for MN3/509, but receiver video and sound output provided. Power requirements a.c. mains. DD 1978. DDMI 5.362(78). DDHB 5.143(78).

MNO30513 MN3/513 356mm Colour Picture Monitor. KV1400 modified to include line video and sound operation. Power requirements mains. Supersedes MN3/509. DD 1979. DDMI 5.367(79). DDHB 5.151(79).

MNO40004 MN4M/4 PCM Coder Audio Monitor. This equipment provides aural monitoring from the bitstream of two thirteen channel PCM coders BA1/4. Power requirements +9V 10A, +28V 2A, -16V 1A. Two CDX crates, 3U & 5U, bolted together. Sub-units GE7/1, CO9/1, FL4/50, PS2/139, UN23/60, UN23/79, UN23/80, UN23/81. DD 1977. DDHB 6.165(78).

MNO40005 MN4/5 Monitor and Indicator Unit. Provides tape reclamation operator with information regarding tape sentivity and splice suitability. Powered from UN23M/82. Metal box 394mm x 152mm x 152mm. Parent equipment EP1/17. DD 1977. DDMI 7.441(80).

MNO40006 MN4/6 Automatic Polarity Corrector Unit. This unit will detect the presence of an audio frequency unidirectional pulse and ensure that it is positive going at the output of its parent equipment. Power requirements +24V. CH1/65A. Parent equipment EP1M/23. DD 1978. DDMI 6.335(78).

MN040007 MN4/7	Loudspeaker Protector. Self-powered unit. Power amplifier input and outputs are "Looped Through" the unit. Power Amplifier input is attenuated when output is such as to cause Loudspeaker damage. Contains level sensing Time-Constants and Frequency-Dependent networks specific to LS3/4B. External or internal LED illuminated when unit is about to operate. No power requirements. No chassis, printed circuit board approximately 100mm x 15 6mm. DD 1980.
MN040008 MN4M/8	Loudspeaker Monitor Control. To provide full monitoring control facilities for a stereo programme monitoring desk. (London Control Room.) Power requirements ± 12 V. PN3/58. Sub-units UN26/53, UN26/56, SE2/27, AM7/22, UN26/51. DD 1982. EDI 10466(P)FEB83. DDMI 3.723(83). DDHB 3.290(83).
MN040009 MN4/9	NICAM 3 Decoder Monitor. Monitoring card for CD3M/33. Provides extended monitoring facilities and indicators for NICAM 3 decoders. Power requirements +5V, +18V and -18V. 4U unsupported card. Parent equipment CD3M/33. DD 1984.
MN040010 MN4/10	Comparator Monitor. Audio Stereo Comparator Monitor. Audio Stereo Comparator Monitor. Compares two programme inputs and sends a delayed alarm if the difference in levels exceeds a preset amount. Power requirements 24 V dc. CH1/64A. TCPD 1984. Superseded by MN4/10A&B. OBSOLESCE.
MN4/10 A&B	Stereo Comparator Monitor. MN4/10A has two balanced high impedance stereo audio inputs and gives delayed alarm if the difference between the two waveform envelopes for either channel exceeds a pre-set amount. Two units may be linked as a cross-resetting pair. MN4/10B - As MN4/10A but without cross-reset facility. Power requirements 24 V dc. BBC Chassis: CH1/64A. Chassis extender CH1A/63. Supersedes MN4/10. TCPD 1985.
MN4/10 C&D	Mono Comparator Monitor. MN4/10C - As MN4/10A but for mono circuits. MN4/10D - As MN4/10B but for mono circuits. Power Requirements 24 Vdc. BBC Chassis: CH1/64A. Chassis extender CH1A/43. Equipment superseded MN4/10. TCPD 1985.
MN040011 MN4S/11	Audio Recording Monitor. This monitor detects dropout and HF roll-off of a recorded signal by comparison with a delayed version of the input signal. Power requirements 240 V, 15 VA. CH1/65C. Termination Panel PA20/35. Chassis extender CH1A/61 and CH1A/46. DD 1984.
MN040012 MN4/12	Tone Monitor. The unit monitors an audio signal and when it receives suitable instructions it displays and records the instruction. Power requirements 240 V ac mains at 20 VA. CH1/65D. TCPD 1984.
MN040013 MN4/13	Programme Distortion Monitor. Modified MN1/15 Programme Failure Monitor. For use at MF/HF transmitting stations, in conjunction with AM6/18 Limiting Amplifier. Monitors for audio distortion products on demodulated transmitter output, outside of normal bandwidth. Power requirements 240 V, ac or 24 V dc, 60 mA. CH1/64A. Chassis extender CH1A/43. TCPD 1985.

MN040014 MN4/14 & A Receiver Monitor. Bay mounting panel for car radio plus Mains PSU, Stereo Loudspeaker Jack, Stereo Phones Jack, 600 Ω L & R output plus internal monophonic loudspeaker. 'A' Version cut out for receiver 180 x 53. Normal version cut out for receiver 107 x 43. Power requirements 240 V ac. 2 U x 19". TCPD 1985.

MN040015 MN4/15 Comparator Monitor. Audio comparator and programme failure monitor. Has two balanced high impedance audio inputs and provides separate alarm outputs for programme failure on each channel and comparison failure. Operating parameters can be pre-set and may allow for a limiter (eg AM6/18, AM6/16, AM6/27) in one channel. Power requirements 18 to 24 Vdc, 200 mA. BBC Chassis CH1/64J. TCPD 1985.

MN040016 MN4/16 Audio Monitor. Part of EP1MP/61 Radio Mic. Receiver Equipment used with RC4P/10 Receivers. It enables audio monitoring of each RC4P/10 Receiver to be carried out. The audio output is on the front panel. Power requirements +24 V d.c. CH1/86K. Parent equipment EP1MP/61. D & ED (RF) 1986.

MN050504 MN5/504 Teletext Monitor. This unit makes an assessment of the quality and decodability of a teletext signal. Power requirements a.c. mains. PN3/55. DD 1979.

MN050505 MN5/505 Colour Subcarrier Comparator. The card measures colour subcarrier reference with burst separated from black level and burst. The output provided is normal 0V -3V and -6V natlock levels. Power requirements +12V, -1 2V approximately 100mA. DD 1979.

MN050506 MN5/506 Video Monitor and Processor. Monitors demodulated video and generates back porch and zero carrier pulses and AGC control voltage. Power requirements ± 12 V. CH1/86. Parent equipment DM1M/506. DD 1984.

MN060513 MN6M/513 YRGB Waveform Monitor, PAL. Displays at field rate the YRGB components of a video signal. Has self-contained PAL decoder. CRT diagonal approximately 210 mm. Replaces four MN6/510 monitors and a separate PAL decoder. Power requirements 240 V mains. 220 x 270 x 450 mm (approx.) Supersedes MN6/510 in most applications. Sub-units CD3/547, GE1/603, OS1/525, SE3/514, UN16/546. DD 1984.

MN070001 MN7/1 Frequency Monitor unit for use with FM Stereo Transmissions. Detects and indicates 19kHz and 23/76kHz pilot tones. Monitoring stereo decoder for headphone listening. Original use with RC5/9 receiver. Power requirements +18V and -5.2V d.c. Printed card 95mm x 80mm. DD 1978. DDMI 5.377(80).

MN070002 MN7/2 Synthesiser Interface Frequency Counter. Frequency counter and HP1B interface for control of Hewlett-Packard Frequency Synthesiser. Power requirements +5 V. 4U unsupported pcb 180 mm long. Parent equipment PA1/30. DD 1984.

MN070505 MN7M/505 Subcarrier Frequency Monitor, used to check the frequency of the colour subcarrier of a 625 line video signal and

actuate an alarm if necessary. Reference can be the 200kHz radio transmitter, subcarrier source. PN3/55 with plug in modular units. DD 1975. DDMI 9.207(77). DDHB 9.120(75), 9.133.

MN7M/505A Frequency Subcarrier Monitor. As MN7M/505 with facilities for remote alarm indication. PN3/55. DD 1979.

MN080001 MN8/1 Data Monitor. This equipment consists of the data decoder part of the 13 channel PCM decoder BA1/5, with four extra units to enable it to give a teletext-type display of the status of the data part of a 13 channel PCM coder BA1/4. Power requirements +28 V at 60 mA, -16 V at 80 mA, +9V at 4A. 3U CDX frame. Sub-units UN26/23, UN26/24, UN27/9, GE8/4 and PA1/106. DD 1978.

MN8M/1 Data Monitor. This equipment consists of the data decoder part of the 13 channel PCM decoder BA1/5, with four extra units to enable it to give a teletext-type display of the status of the data part of a 13-channel PCM coder BA1/4. Power requirements +28 V at 60 mA, -16 V at 80 mA, +9 V at 4 A. 3 U CDX frame. Sub-units UN26/23, UN26/24, UN27/9, GE8/503, PA1/106. DD 1978.

MN080002 MN8M/2 Standards Converter Monitor. A microprocessor controlled monitor system used with the Digital Field Store Standards Converter C06/510 Converter status, voltages and temperature are monitored. Alarm circuits and video output for message display are provided. Facilities may be added to enable testing of converter store cards. Power requirements $\pm 5V$: $+12V$: $\pm 15V$ from PS4/6. PN3/54 holding 6 BMM cards and modified 'PRO-LGO' crate. Parent equipment C06/510. DD 1980.

MN080003 MN8/3 Single-step and Breakpoint Monitor. This unit forms part of the Designs Department Z80 bus system (ZEUS). It monitors the microprocessor's address bus and asserts a non-maskable interrupt when a predetermined address is detected. In conjunction with suitable software, this allows single-stepping of, or insertion of a breakpoint in, a user's program. It is designed to be mounted immediately to the right of a UN26/31 CPU, behind the (A-width) front panel of this unit. Power requirements +5v at 0.5 amps max. (approx). Short 4U unsupported card with double-sided 57-way edge connector. DD 1981.

MN080005 MN8SM/5 Supervisor. Supervisory equipment for EP1S/42 HF control system. Two of these equipments are used to monitor the operation of the EP1S/42 and act as the data network manager. Power requirements 24V d.c. PN3/54. Parent equipment EP1S/42. DD 1984.

MN080006 MN8SM/6 HF Station Monitor. Part of the EP1S/42 Rampisham Transmitter Control System, this equipment provides input interfacing for 128 digital monitoring points and an I EEE 488 interface to other data gathering equipment. Power requirements 24V d.c. PN3/54. Parent equipment EP1S/42. DD 1984.

MN080007 MN8S/7 Monitoring Terminal. The unit is designed to accept four RS232, 110 baud, ASCII inputs, and combine them into one

RS232 1200 baud printer output. Additionally, the unit provides a composite video output to display various groups of messages under keypad control. Power requirements mains. PN3/54. Sub-units C04/6 (2 off), UN27S/24 (2 off), UN26/31, GE8/505, PS2/184. DD 1984.

MN080008 MN8/8 & A ADZE Unit Monitor. A-width Front Panel providing a 4-character alpha-numeric LED display, 4-hexadecimal switches, 9 LEDs.
The 'A' Version, has only 5 LEDs. Power requirements +5 V, 100 mA. 4 U Front panel A-width. DD 1985.

MN080009 MN8/9 Digital Audio Bit/Level Monitor. The unit displays on a bargraph the bit status of the D.D. digital audio bus*. The unit may also be selected to display the equivalent of audio level. The phase being monitored is selected by a thumbwheel switch.
*See D.D. Tech. Mem. No.3.291(84). Power requirements +5 V. 4 U BMM unsupported card, A-width front panel. Chassis extender CH4/5. DD(3) 1985.

MN080010 MN8S/10 6 bit CRC Word Monitor. To check at a receiving site the transmitted 6 bit CRC word in the 8448 kbit/s PCM distribution. Power requirements +5 V. 2 U unsupported p.c.b. Parent equipment CD4M/8. Chassis extender CH4/9. DD(6) 1985.

MN080501 MN8M/501 Digital Monitor. Automatically monitors system state and faults in the field store standards converter C06/510. Output displayed on a picture monitor. Power requirements regulated mains <1A. PN3/54A. Parent equipment C06/510. DD 1977.

MN080502 MN8/502 Power Fail Monitor. A power supply monitor circuit intended for use with a microprocessor system. The incoming a.c. mains is monitored (remote from this unit) and a monitoring signal in the form of a high or low digital signal together with the +5V and +12V supplies used within the microprocessor system. Two signals are generated; one indicating that the a.c. mains is present and a second indicating that the +5V and +12V supplies are stable. Power requirements 150mA at +12V, 500mA at +5V. 4U BMM unsupported board. Parent equipment PALM/580. RD 1981.

MN080503 MN8/503 Error Detector Monitor. This board is used in the decoding system for the disc drive data paths of the Electronic Stills Store. It can correct any single bit error and detect any bit error in a previously encoded block of 88 bits in a NRZ serial data stream by use of Hamming code. It also allows the use of interleaved data blocks for burst error protection. Output is the corrected NRZ serial data stream and flags to indicate the presence of a double error. Power requirements 1.5 A at +5 V. 4U BMM unsupported board. Parent equipment PALM/580. RD 1981.

MN080504 MN8S/504 DPCM Monitor. This card has a self-contained Z80 microprocessor system which is able to take "snapshot" samples of digital video data at various points in the DPCM system.

The system performance is then analysed, and any faults reported via the front panel display and rear outputs. Power requirements +5V, -5V. 4U unsupported card with A-width front panel. Parent equipment CD2M/525, CD3M/541. DD 1982.

MN080505 MN8/505

The unit displays information about transmission errors in a 68 Mbit/s signal. It decodes error status information provided by unit CD3/545, and displays it in one of several selectable formats. Data input and output are in the form of 6-bit words, with 11.456MHz clock and a frame-marker pulse. Additional outputs are provided for a chart recorder. All input and output data are at TTL levels. The unit forms part of 68 Mbit/s demultiplexing equipment CD4M/505. Power requirements +5V at current to be advised. 4U solderwrap card with 'J' width front panel. Parent equipment CD4M/505. RD 1982.

MN080506 MN8/506

Digital Monitor. This unit displays the information about the status of the equipment in which it is fitted, which may be 68 Mbit/s Multiplexing or Demultiplexing Equipment, CD4M/504 or CD4M/505 respectively. It indicates the presence of the four Power Suppliers used in the host equipment, and also checks for the presence and correct relationship of two house-keeping signals, clock and a frame marker pulse. The presence of frame-alignment words in the multiplexed data stream is also checked. Indications are given by LEDs with monitor points also provided. Data input and output are in the form of 6-bit words, with 11.456 MHz clock and frame-marker pulse all at TTL levels. Power requirements +12V, +5 V, -5V, -12V. Current to be advised. 4U unsupported board with PN1/29J front panel. Parent equipment CD4M/504, CD4M/505. RD 1982.

MP010005 MP1/5

Mounting for EQ5/540A-C tie line equaliser when used with 4U BMM distribution amplifier AM4/531. Can also accommodate delay line assemblies on MP1/3. Fixed to termination panel PA20/505, but can also be mounted on suitable flat surface. DD 1976. DDMI 8.585(77). DDHB 8.349(77).

MP010007 MP1/7

Double Sided Printed Circuit Board with 80 way edge connector to pads and 104 three hole connection pads over remaining area. ISEP 3U high 178mm deep. SCPD 1977.

MP010008 MP1/8

3U high ISEP card containing 6 x 14 pin IC sockets and tie down resistors suitable for use with most 14 pin CMOS logic devices. Pins wired out to 40 + 40 way edge connector. SCPD 1977.

MP010009 MP1/9

Transit lid. Provides protection for units mounted in a CS2/11A during transit. Four special studs are included which replace the normal fixing screws for the internal equipment. DD 1977.

MP010010 MP1/10

Guide. Shortened version of PN3A/58 BMM PCB guide used in CH1/77B, C and D chassis. DD 1978. DDMI 3.665(79).

MP010011	MP1/11	Component Mounting Unit. PCB with choice of component mountings to supplement the UN21/42. SCPD 1978.
MP010012	MP1/12	Component Mounting Box. Small box with 2 musa connectors and fixings to take various delay/equalisation boards. Eddystone box 111 mm x 60 mm x 27 mm. DD 1978. DDMI 8.618(79). EDI 10360(1)OCT79.
MP010013	MP1/13	Microprocessor Motherboard. Single sided printed circuit for fitting to rear of 4U BMM panel, PN3/54. Up to 16 edge connectors may be fitted with a common data and address bus and common +12V, -12V and 5V power lines. DD 1978.
MP010014	MP1/14	Printed Circuit Board to hold 5 rows of wirewrap DIL sockets. Maximum 40 x 16 pin sockets. Printed circuit board 225mm x 144mm. DD 1978.
MP010015	MP1/15	Microphone and Earphone Assembly. D109 Microphone and Earphone assembly for EP8/6 FM transciever. Parent equipment EP8/6. SCPD 1978.
MP010017	MP1/17	12EI Valve Replacement. Replacement for thermionic valve type 12EI used in voltage stabiliser circuits. Transistor circuit within a diecast box which is fitted with one octal valve plug. DD 1979.
MP010018	MP1/18	Pickup Arm Unit. The unit consists of a pickup arm complete with, currently, a Shure SC35 cartridge. Although this arm is identical to that used on the RP2/9 and RP2/10, it is intended for use with any suitable turntable. A raise/lower device intended for use with this arm is coded MP1/19. DD 1979. EDI 10381(1)FEB80.
MP010019	MP1/19	Raise/Lower Pickup Arm. This raise/lower mechanism is intended for use with the pickup arm MP1/18. It consists of a lever, suitably mounted, coupled by a link to a 'damped' piston, the upper end of which is arranged to lift and lower the pickup arm. DD 1979.
MP010020	MP1/20	Bay Mounting Box. Empty bay mounted box 1U high and 348mm deep. DD 1980.
MP010021	MP1/21	Tape Spool Adaptor to BBC drawing ESK 3035 A4. Cemast 0413814. ED 1980.
MP010022	MP1/22 A-D	Bay Side Cover. Solid side covers for FW1/15 A-D and FW1/16 A-D. In the following widths: -A = 476mm -B = 387mm -C = 323mm -D = 171mm Supersedes FW2A/3 A-D. Parent equipment FW1/15 A-D and FW1/16 A-D. ED 1981.
	MP1/22S	Bay Side Cover. Solid side cover for FW1/15S and FW1/16S. Parent equipment FW1/15S, FW1/16S. ED 1981.
	MP1/22X	Bay Side Cover. Solid side cover for FW1/15X and FW1/16X width = 666mm. Parent equipment FW1/15X, FW1/16X. ED 1981.

MP010023 MP1/23 Bay Door (plain). Solid metal doors (2 - .5 widths) complete with hinge pins and lock etc. For use on rear of FW1/15 A-D framework. Supersedes FW2A/1. Parent equipment FW1/15 A-D. ED 1981.

MP010024 MP1/24 Equaliser Mounting. Mounting for EQ5/550A, C-F, similar to MP1/5 but with less expensive metalwork and fixings. Fixed to termination panel PA20/505, but can also be mounted on suitable flat surface. DD 1981.

MP010026 MP1/26 3-Pin Connector and Locking Ring. Comprises Reslo connector c/w BBC smooth locking ring. At lower end tapped $\frac{5}{8}$ " x 26TPI" to fit onto Reslo flexible stem. ED 1981.

MP010027 MP1/27 Flexible Stem to Stand Adaptor. Comprises a chrome plated sleeve lower end drilled and tapped $\frac{5}{8}$ " x 26TPI", upper end has a male $\frac{3}{8}$ " WHIT thread. ED 1981.

MP010028 MP1/28 Flexible Stem to Microphone Adaptor. To enable XLR type connector microphones to be mounted directly on top of Reslo flexible stems. Comprises Neutrik 3-pin female connector drilled out at cable entry end and threaded $\frac{5}{8}$ " x 26TPI". ED 1981.

MP010029 MP1/29 Video DA Chassis. A kit of parts including a modified PN3/54, a correctly drilled front cover and the appropriate chassis guides to make up a frame suitable for up to 12 AM4/536 Video Distribution Amplifiers and a PS3/64 Power Supply both with their appropriate termination panels. An appropriately terminated d.c. power lead can be supplied to order. Power requirements mains. PN3/54. DD 1982. DDMI 8.631(82).

MP010030 MP1/30 Loudspeaker Magnet. Loudspeaker magnet for use in LS2/14. 100mm Dia. 1.25 ± 0.05 Tesla. Parent equipment first used on LS2/14. DD 1982.

MP010031 MP1/31 Modular Absorber. Wooden box with hinged door to house EP5M/23 and PA1/129 equipment. 580 x 580 x 183.5. Supersedes DK4/24. Parent equipment EP5/22. DD 1983.

MP010032 MP1/32 Rotating Tape Guide. This mechanical assembly forms a rotating tape guide to replace each of the fixed guides on the tape tension arms of the RD4/12 tape deck of the Tape Reclamation Equipment EP1/17. Parent equipment RD4/12 part of EP1/17. DD 1983. DDMI 7.515(84).

MP010033 MP1/33 Component Mounting. General purpose component mounting board. BMM replacement for MP1/11. Drawing No.SP.31526. PN1/27J. Supersedes MP1/11. SCPD 1984.

MP010034 MP1/34 Microphone and Earphone Assembly. D109 microphone and earphone assembly for use with EP8/6A Transceiver. Parent equipment EP8/6A. ED 1984.

MP010035 MP1/35 1U Support Panel. Bay mounted panel to five support to bay mounted Unit-C Computer, part of 'Electralog' equipment RD3/501. DD 1984.

MP010035 MP1/35A,B & C 1U Support Panel. Bay mounted panel to give support to bay mounted Unit-C Computer, part of 'Electralog' equipment RD3/501.
 MP1/35A - For Bay with 'A' depth (610 mm approx.)
 MP1/35B - " " " 'B' " (521 mm approx.)
 MP1/35C - " " " 'C' " (458 mm approx.)
 Can be used with FW1/5, FW2/3 and FW2/4 type bays. For method of mounting see installation drawing DSK24711A1. DD 1984.

MP010036 MP1/36 Component Mounting Board. Unit is a single-sided PCB and accommodates tracking for LM317T and LM337T regulators, DIL mounted components and mounting pads for other components. Front of board has pads for Mentor LEDs, push buttons and C & K toggle switches. 58 pins of 96-way connector brought out to pads with standard power input used on PCBs for MKII Communications System. Power requirements ± 15 V. 100 mm x 220 mm euro card with earthed front panel and 96 way type C connector. SCPD 1984.

MP010037 MP1/37 Pattress Box. This is a standard pattress box used in sound studios and cubicles for audio video and mains distribution. It comprises cabinet (SP31042.6.1A1), hinge and lacing bar (SP31042.6.2A2), and is required separately from pattress panels during first fix. Parent equipment EP1/43, EP1/44. SCPD 1984.

MP010038 MP1/38 Connector Mounting Board. To enable a 32-pole plug to be fitted to a CH1/82 series chassis where a printed board is not used and to facilitate wiring of chassis-mounted equipment. DD 1985.

MP010039 MP1/39 A & B Insertion Tool. A tool to assist inserting unsupported printed boards into edge connectors.
 'A' version for 4 U printed boards.
 'B' version for 5 U printed.
 D & ED 1986.

MP010040 MP1/40 General Purpose Indexing Mounting. A mechanical coding system to prevent 3 U and 6 U Euro - Card System units being plugged into the wrong position in equipment racks. D & ED 1986.

MP010041 MP1/41 CH1/86 Series Assembly Jig. Jig to assemble rear connector of unit to align with rear panel. D & ED 1986.

MP010042 MP1/42 Ventilation Baffle. In the event of the AM14M/53 not being fully equipped, the Ventilation Baffle can be placed in vacant positions to stop loss in efficiency of the cooling system. Therefore, it allows the remaining AM14/45 amplifiers to be cooled effectively. Parent equipment AM14M/53. TCPD 1987.

MP020001 MP2/1 CONNECTOR CARD To interconnect the rear connector on a Neve chassis to an AM6/17 limiting amplifier via hard wiring. PCB 97mm x 30mm. DD 1977. DDMI 3.653(78).

MP020002 MP2/2 Heavy Duty Plug Mounting Board. First used on PS4/1 and PS4/2 to support 11 pin heavy duty connector (250 92-011.

Cemast No.0383312) in a CH1/64A series chassis and bring plug connections to tags convenient for wiring. Printed circuit board 144mm x 35mm. DD 1977.

MP020003 MP2/3 Delay Line Mounting for two pulse delay lines and resistors forming a T-type attenuator. Unequipped PCB 94mm x 55mm. Parent equipment MP1/5. DD 1977. DDMI 8.589(77).

MP020004 MP2/4 Bypass Card. Fits into crate AM16M/16 (part of RP2/10) to connect inputs to outputs of any optional audio processing facility not specified at time of manufacture. Can also be used to overplug faulty processing unit. This unit is simply a printed circuit board without any active passive components. 2U unsupported card. DD 1978.

MP020005 MP2/5 Transformer Termination. To provide a standard termination for up to 6 'A' size assembly S.C. transformers mounted in line in Radio Continuity chassis type CH1/76 and CH1/77. 31mm x 222mm. Parent equipment DK2/24. DD 1979.

MP020006 MP2/6 Buzzer Card. Variable frequency and amplitude buzzer used in CMC's. Small printed circuit board with transducer attached. Power requirements 12-24V d.c. Printed circuit board 50mm x 50mm. SCPD 1979.

MP020007 MP2/7 Transformer Termination. To provide a standard termination for up to 6 'A' size assembly S.C. transformers mounted in line in Radio Continuity chassis, type CH1/76 and CH1/77. This unit is similar to the MP2/5 but has provision for resistive attenuators if required. 31 mm x 222 mm printed circuit board. Parent equipment DK2/24. DD 1979. DDMI 3.663(79).

MP020008 MP2/8 Voltage Level Detector. Detects two voltage levels of a d.c. fader control and supplies current to light either of two remote lamps accordingly. Power requirements +12V at 80mA, +12V at 10mA. 107mm x 37mm printed circuit board. DD 1979. DDMI 3.661(79). DDHB 3.233(79)

MP020009 MP2/9 Bypass Card. Used as a sample board to analyse gold plating on edge connectors. Identical in all respects to MP2/4. DD 1979. DDMI 3.661(79).

MP020010 MP2/10 Delay Line Mounting. Accommodates one or two 1 microsecond delay lines (21921-006) on printed circuit board for fitting in CH1/80. Occupies two positions in CH1/80, one above the other. If mounted in front positions the two sections can be U-linked together or used as separate sections. Power requirements passive. Printed circuit board 290mm x 190mm approximately. DD 1979.

MP020011 MP2/11 Delay Line Mounting. Printed circuit board to mount programmable video delay line (0-235ns or 0-155ns) and/or fixed video delay line (50-250ns). Includes fine delay trimming network to give $\pm 4^\circ$ adjustment. Printed circuit board mounts in MP1/5, CH2/6, CH1/80, CH1/81 and MP1/12. Delay lines not supplied. 95mm x 55mm approximately. DD 1980.

MP020012 MP2/12 A-F Frequency Determining Network. Frequency determining network for OS2/52A. Versions: no subscript; no component fitted.
 A Components fitted for 90Hz
 B Components fitted for 250Hz
 C Components fitted for 440Hz
 D Components fitted for 660Hz
 E Components fitted for 900Hz
 F Components fitted for 1kHz
 OS2/52A. Parent equipment OS2/52A. DD 1980. DDMI 3.706(82).

MP020013 MP2/13 Redcode Reader Personality Module. This unit plugs into the ME4/1 Redcode Reader and contains the Read Only Memory under test, together with voltage level and timing information required for the test. Each ROM type will have its own unique personality module and they will be numbered MP2/13 board 1, board 2 etc. Power requirements +12V -12V +5V. PCB approx. 100 x 50mm. Parent equipment ME4/1. DD 1981.

MP020014 MP2/14 Connector Card. 2U high, 160 wide for mounting of mating connector for AM6/21. Drawn up as SP.25617.5.37A2. pcb size 158 x 85. SCPD 1980.

MP020015 MP2/15 Studio Talkback Box. Extended version of BX1/505 giving additional communication to studio director. Suitable for use by floor manager and music director. Power requirements 24V. Diecast box 100 x 75 50mm. SCPD 1981.

MP020016 MP2/16 Logic Card. Contains logic to raise UN23/650 specification to UN23/682. Power requirements +5V. 47mm x 500mm. Parent equipment GE6/540. DD 1981.

MP020017 MP2/17 Redcode Reader Personality Module. This unit plugs into the ME4P/1 Redcode Reader. It contains sockets to accommodate all ROM devices up to 28 pins. It also contains means of operator adjustment of logic voltage levels and timing. Each ROM type will have its own configurator card to cater for pin connection differences between ROM types. Power requirements +12 V, -12 V, +5 V. Box size 150 mm x 80 mm x 50 mm. Parent equipment ME4P/1. Sub-unit MP2/18. DD 1981.

MP020018 MP2/18 ROM Configurator. This printed board plugs into the MP2/17 Personality Module to accommodate various connection differences between ROM types. Each ROM type will have its own configurator card and be identified by the suffix number. Printed board approx. 120mm x 50mm. Parent equipment ME4P/1, MP2/17. DD 1981.

MP020019 MP2/19A,C-F Equaliser Kit. Kit of parts corresponding to the line equalisers EQ5/550A,C-F. Consists of PCB and bag of passive components. 55mm x 94mm. Parent equipment EQ5/550. DD 1981.

MP020020 MP2/20 Delay Line Mounting. PCB for mounting video delay lines. Four will fit in a 4U equaliser chassis CH1/80A. PCB is unequipped, but drilled for assembly as required on

installation. Can accommodate 1 x 200ns delay, 1 x 500ns delay, 1 x 1µs delay or a combination of one 200ns delay and one 500ns delay. PCB 111 x 60mm approx. DD 1981. DDMI 8.638(82). DDHB 8.377(82).

MP020021 MP2/21A,B	NICAM 3 Multiplex Connector. Ribbon cable assembly used on CD2M/17 and CD3M/33 when fitted with multiplexer or demultiplexer. "A" version is used with GE7/9 and UN16/8 and "B" version is used with GE7/13 and UN16/9. "B" version is also used with UN16/8 in a monitoring decoder. Parent equipment CD2M/17, CD2M/33, CD2M/23. DD 1982.
MP020022 MP2/22	otentiometer Mounting. Printed Board mounting for 3 potentiometers. ISEP 3U x 7" Long. SCPD OBU 1982.
MP020023 MP2/23	Delay Line Mounting. Pcb for mounting video delay lines. A 200ns fixed delay and a 235ns programmable delay can be mounted. Circuitry is provided for fine adjustment. To be used instead of MP2/11 in areas of restricted height e.g. when mounting J width boards. Pcb 95 x 55mm approx. DD 1982. DDMI 8.647(83). DDHB 8.387(83).
MP020024 MP2/24	Multi-Microphone Box. Die-cast box with seven 3-pin XLR microphone sockets and fixed 26-pin plug for 7 core microphone cable. Drawing No. SP30111. 360 x 160 x 90. SCPD 1982.
MP020025 MP2/25	Voltage Level Detector. Voltage comparator circuit which checks control voltage from fader and lights lamp to indicate the fader is off normal. Power requirements ±12 volts 25mA. Printed circuit board 100 x 40. Parent equipment PA6/87. DD 1983.
MP020026 MP2/26	17 Pole Connector Mounting. Accepts two 17 way connectors on CH1/65A 2U chassis. 53mm wide. To fit on rear of PN3/55. SCPD 1983.
MP020027 MP2/27	Processor L.E.D. Board. Unequipped board to hold up to LED'S and mount behind an 'A' width chassis front panel. Intended for use with the UN26/22 and UN26/22A (G.P. Processor board) as a component part of specific units. DD 1983.
MP020028 MP2/28	Processor Switch Board. Unequipped board to hold up to 2 x 8 pole D.I.L. switches and three LED'S and to mount behind an 'A' width chassis front panel. Intended for use with the UN26/22 and UN26/22A (G.P. Processor board) as a component part of specific units. DD 1983.
MP020029 MP2/29	Filter Control Unit. Controls and switches tuning voltage to FL2/26. Power requirements +15 volts DC at 7mA. PC board 35.5 x 28.5mm. Parent equipment RC4M/8D. DD 1983.
MP020030 MP2/30	Monitor and Control Interface. 1. Provides a means for monitoring the audio input and output of OB Audio Equaliser; 2. An interface for local control of OB Audio Equaliser by plug-in Control Panel. 3U unsupported card. Parent equipment EQ3M/38. DD 1983.

MP020031 MP2/31	3U Apparatus Connector. PBW apparatus connector, used to enable 32 way plugs to be fitted to chassis type CH1/82 not containing PCB's. To facilitate connection to chassis mounted equipment. 3U PCB, 99.75 x 38. DD 1983.
MP020032 MP2/32	Lead-through and Bypass Board. Connects 10-way lead through extrusion wall with suitable decoupling. Comprises PCB 55 x 22mm with two 10 way insulation displacement cable terminations, one on each side, and by-pass capacitors on each lead. PCB 55 x 22mm. DD 1984.
MP020033 MP2/33	Fan Module. Consists of two axial fans, mounted in a metal frame work, which operate simultaneously. Two speeds are possible by means of switch which connects the fans in series or parallel. The Module may be mounted in a 1U Fan Tray (code PN1/43A&B) or by use of brackets, direct to the lacing bars of FW1/15 series of Bays. Power requirements 240 V ac. 423mm x 150mm x 26mm. ED 1984.
MP020034 MP2/34	Digital Audio Multiphase Bus. This is a standard backplane, 4U crate combination without power supplies. It forms the basis of many digital audio systems. Power requirements depends on system. 4U crate. DD 1984.
MP020035 MP2/35	Interconnection Panel. Used in RC5/503 to provide power, control, video and audio interconnections between the various units. Power requirements +10 V. PCB 200 x 55 mm. Parent equipment RC5/503. DD 1984.
MP020036 MP2/36	Processor Switch Board. Sub board associated with processor board UN26/22A to carry 2 - 8p switches and 3 leds for front panel operation and indication. 58.5 x 39.5. Parent equipment UN26/28. DD 1984.
MP020037 MP2S/37	Microcomputer Personality Module. A personality module which, when used with the ME4P/1 Redcode Reader, makes it possible to validate the ROM, or EPROM, contents of the 8 x 41, 8 x 42, 8 x 48, 8 x 49 and 8 x 50 series microcomputers. Powered from ME4P/1. Parent equipment ME4P/1. DD 1984. DDMI 9.339(85).
MP020038 MP2/38	Plessey Multiplexer Modification Board. This is an additional card to the commercial Plessey Multiplexer. Its function is to phase lock the 8448 kbit/s output bitstream to the 6336 kbit/s clock of the 13-channel PCM Coder (BA1/4). A 75 Ω output is also provided. Power obtained from Plessey Unit. 8½" x 1½". Parent equipment Plessey Multiplexer. DD 1984. DDHB 6.274(86). DDMI 6.428(86).
MP020039 MP2/39	Buffer Interface Board. Used with CD2M/17 NICAM Coder and CD3M/33 NICAM Decoder to provide buffered fault monitoring outputs. Power requirements 5 V. 54 x 43 mm PCB. DD 1985.
MP020040 MP2/40	TDC1048 to TDC1007 Adaptor. Converts the 28-way pinout of the TRW TDC1048J6 Video ADC to the 64-way pinout of the TRW TDC1007J1, an earlier, more expensive, and functionally compatible device. The MP2/40 - and TDC1048 combination

provide a low cost alternative to the TDC1007 (approx £300 versus £700 at March 85). One PCB, conforming to 64-pin DIL outline. DD 1985.

- MP020041 MP2/41 Signal Path Interceptor. This cable assembly intercepts the signal path in a Marconi B6034 transmitter to and from the "Low Power A.F. Unit", to permit the installation of an AM6/30. Parent equipment AM6/30. DD(3) 1985.
- MP020044 MP2/44 Test Jig Interface. This Test Jig, in conjunction with the TE1/57 Test Adaptor, allows the testing and maintenance of the Triple Video DACs C09/509&A and C09/510&A. D.C. power for the test assembly has to be provided externally to a connector panel integral with the MP2/44. Power requirements +5.35 V, +12 V, -12 V, -5.2 V. PCB: 215mm x 127mm. DD(1) 1986. MI V.1061(87).
- MP020045 MP2/45 TV36 Cable Assembly. Cable assembly incorporating 39-pole camera connectors and PlF36/1MD camera cable which carries video RGB, audio and control signals. Options available include plug to plug, socket to socket and plug to socket, all with either straight and/or angled cable entries. Further options cater for adapter plates and gaiters. All lengths and options are to be specified when ordering the assembly. D & ED 1986.
- MP020046 MP2/46 Triax Cable Assembly. Cable assembly incorporating triaxial camera connectors and PSF1/9MA camera cable. Options available include plug to plug, socket to socket and plug to socket, with corresponding gaiters available as a further option. All lengths and options are to be specified when ordering the assembly. D & ED 1986.
- MP020047 MP2/47 Augmented Triax Cable Assembly. Cable assembly incorporating augmented triaxial camera connectors and PlF20/1M camera cable. Options available include plug to plug, socket to socket and plug to socket, with corresponding gaiters available as a further option. Intended primarily for studio use. All lengths and options are to be specified when ordering the assembly. D & ED 1986.
- MP020048 MP2/48 Multi-Core Microphone Cable Assembly. Cable assembly incorporating 26-pole bayonet connectors and PlF28/1M multicore microphone cable. Options available include, plug to plug, socket to socket and plug to socket. Further options cater for gaiters to suit plugs or sockets. All lengths and options are to be specified when ordering the assembly. D & ED 1986.
- MP020049 MP2/49 Bargraph Display Mounting. Connects an L.E.D. Bargraph display to a 20-way ribbon cable. D & ED(V) 1986.
- MP020050 MP2/50 7-Segment Display Bus Connector. A PCB to interface between a 20-way IDC bus and 9 seven-segment displays. It also interfaces 3 rotary encoders to an additional 20-way IDC bus. Power requirements +5 V. D & ED(V) 1986.

MP020051 MP2/51 Digital Video Mixer Mother Board. 3U Mother board for general usage in Mixer systems. Contains bus in accordance with digital mixer control systems. Power requirements +5 V. D & ED (V) 1987.

MP020052 MP2/52 Nicam Decoder Fault Buffer. 4 channel buffer PCB for CD3M/33 fault outputs. One channel contains Integrator and hysteresis to smooth variations of digit fault output. Power requirements +5 V. PCB: 50x54. Supersedes MP2/39. Parent equipment CD3M/33. TCPD 1987.

MP020053 MP2/53 Control System Ancillary Cables. 1 set of cable assemblies, comprising 6 off D54942A4, and 1 off each DSK26601A4 and DSK26625A4. Parent equipment EP1S/42. D & ED (C) 1987.

MP020054 MP2/54 VDU Work-Station Cables. 1 set of cable assemblies (comprising 15 items), including: 2 off D54942A4, 1 off DSK26595A4, 1 off DSK26596A4, 1 off DSK26597A4, 1 off DSK26598A4, 1 off DSK26599A4, 3 off DSK26600A4, 3 off DSK26625A4, 1 off DSK26707A4, and 1 off DSK26708A4. Parent equipment EP1S/42. D&ED (C) 1987.

MX010517 MX1M/517A Studio Vision Mixer similar in function to MX1M/517 with alterations to allow operation of "excess" key and fringe suppressed foreground overlay system ("New CSO"). GE1/571A changed to GE1/571C. DD 1976.

MX030001 MX3/1 Television Sound Buzzing Module. A four channel fixed gain mixer for combining the outputs of up to four mono RP2/10 units without involving the studio desk. $\pm 15V$ 35mA. 2U unsupported card. Parent equipment RP2/10. DD 1977.

MX030002 MX3/2 Television Sound Stereo Buzzing Module. A four channel fixed gain stereo mixer for combining the outputs of up to four stereo RP2/10 units without involving the studio desk. Similar to MX3/1 except that this unit is fully wired for stereo. $\pm 15V$ 70mA. 2U unsupported card. DD 1977. DDMI 1.247(81).

MX030003 MX3/3 Stereo to Mono Converter. Printed circuit board containing 12 stereo to mono connectors. Power requirements 12 V, 0, 12 V. 4U unsupported printed circuit board. Parent equipment EP10/18. DD 1979. DDMI 3.689(81). DDHB 3.259(81).

MX3/3A AF Mixer. Unsupported 4U card mounting 12 separate 2-1 mixer circuits. Similar to MX3/3 but with zero gain. Power requirements ± 12.5 V. 4U card. Parent equipment EP5M/16. DD 1981. DDHB 3.259(81).

MX030004 MX3/4 Clean Feed Card. Printed circuit board for deriving 12 clean feed outputs from 12 inputs (mono). Power requirements 12V, 0, 12V. 4U BMM unsupported printed circuit board. Parent equipment EP10/18. DD 1979. DDMI 3.690(81). DDHB 3.260(81).

MX030005 MX3/5 Audio Mixer. Printed circuit board containing 4 off 3 input mixers. Can also be used as 2 off 6 input mixers a 1 off 12 input mixer unity gain, zero volume. Power

requirements +12V, 0, -12V. 4U BMM unsupported card. Parent equipment EP10/18. DD 1980. DDMI 3.691(81). DDHB 3.261(81).

MX030006 MX3S/6 Digital Mixer. Digital Audio Mixer based on the UN26S/86 Processor. Accepts six audio input channels, and performs fading, pan offset and switching operations. Provides main and monitoring outputs in the EP11SM/13 Digital Audio signal Processor. Power requirements: +5 V, 1.6 A, typically 2.4 A max. 4 U unsupported pcb with PN1/29J Front Panel. Chassis extender: CH4/5. Parent equipment: EP11SM/13. Sub-units: UN26S/86. D & ED(A) 1986.

MX050501 MX5/501 Mixing Amplifier. This unit will mix together up to 32 external video signals to form the complete interfield signal. Power requirements +12V, -12V +5V. CH1/64A. Parent equipment AM1L/609. DD 1978. DDMI 9.245(79).

MX050502 MX5/502 Mixing Amplifier. This unit forms the Insertion Test Signal Generator, mixing together ITS externally generated component parts. Power requirements +12V, -12V, +5V. CH1/64A. Parent equipment GE4L/566. DD 1979. DDMI 9.246(79).

MX050503 MX5/503 Caption Adder. This unit takes a luminance feed from the Test Card F Generator and has three combining circuits, to produce three feeds each with the appropriate caption inserted. 4U unsupported card. Parent equipment GE8M/508. DD 1982.

MX050504 MX5M/504 Triple 2-channel Video Mixer. Each of the three Mixers consists of a 2-channel Linear Split Screen Switch (SE3/511), it's associated key Modifier (UN26/586) and Fader Interface (UN3/577). Control connections are through IDC connectors for either manual or automatic control. The three mixers can be separately timed. Power is provided from tow 12 V, 2.5 A SMPs. Power requirements mains. PN3/54. Sub-units 2 x PS4/9, 3 x SE3/511, 3 x UN26/586, 3 x UN3/577, 3 x UN12/24. DD 1983. EDI 10485(1)MAY 84.

MX050505 MX5L/505 2 Channel Video Mixer. A two channel video mixer based on the linear video switch SE3/511. The system also contains the key modifier (UN26/586), the fader interface (UN3/577), an interface (UN23/164) and a power supplier. A C-width termination panel is included. Power requirements 240 V ac, 20 VA. 4U C-width. Sub-units SE3/511, UN26/586, UN3/164, PS2/187G. DD 1984.

MX050506 MX5/506 Non Additive Mixer. Used as part of EP5M/518 to non-additively mix two caption video sources prior to black edging. First used in TKA-B Roll Programmable Mixer. Also contains key buffer amplifier. Power requirements +12V -5.25V. CH1/64J. DD 1983.

MX050507 MX5M/507 B.A.T Mixer. Receives clock video and key signals from B.A.T Generator (GE6M/561), and inserts clock into transmission video signal. Also contains time-code reader, which provides B.A.T Generator with accurate time

information. Power requirements 240 V ac 50 Hz. 4U full width frame, PN3/54. Sub-units PS4/18A, 2 x SE3/511, UN3/577, UN26/595, CD3/39. DD 1983.

MX050508 MX5/508	Mix/Effects Unit. Digital equivalent of a Mix/effects Amplifier. Mixes 2 video signals and a border in the correct proportions according to two key signals. It includes a 3 video input selector and output limiting to a 6 dB headroom. 6 U triple depth Eurocard. Termination Panel PA20/44. Parent equipment EP5M/524. DD(8) 1985.
NE010015 NE1/15	Loudspeaker Fading Network. Resistor network for combining two communication loudspeaker feeds with provision for varying the level of each feed independently by variable resistors, and simultaneously by d.c. control of relays. Mounted on 100mm x 80mm printed circuit board; solder tag connections. SCPD 1976.
NE1/15A	Miscellaneous Networks. Version of NE1/15 mounted on 84 mm x 50 mm PCB; connections via 25-pole ISEP fixed plug (cemast 022 3473). Single sided P.C. board 84 x 50 mm. SCPD 1984.
NE010525 NE1/525	1µs sine squared pulse shaping network, used in OS1/521. Printed circuit board, 71mm by 50mm, forming a plug in module. DD 1975. DDMI 9.200.
NE010526 NE1/526	As NE1/525 but for shaping 2µs pulse shaping. DD 1975. DDMI 9.201.
NE010527 NE1/527	200ms sine squared shaping network used in UN26/516. Plug in printed circuit board, 50mm x 25mm. DD 1974. DDMI 9.202.
NE1/527A	200ns Sine-Squared Shaping Network. Identical to NE1/527 but with longer mounting pins. Parent equipment GE6/540. DD 1978.
NE040003 NE4/3	Audio Delay Network to delay audio signal by 256µs. Part of EP8/4. Printed circuit board mounted in FL4/50. DD 1975. DDMI 6.359(80).
NE040519 NE4/519	Video Delay Network, for use as basic element in construction of delay lines. Printed circuit board, 43mm x 28mm. DD 1975. DDMI 9.188.
NE040520 NE4/520	Video Delay Network, with delay time of 1µs. Comprises two equaliser sub-assemblies and 12 x NE4/519 on CH1/65A. DD 1975. DDMI 9.189. EDI 10242(P)APR75.
NE040523 NE4/523	Video Delay and Equalising Network, preselectable in 5ns steps from 5ns to 655ns, in series with an equaliser having chrominance/luminance amplitude correction, delay correction and streak correction. CH1/65A. DD 1975. DDMI 9.214. EDI 10280(1)MAY76.
NE040524 NE4/524	75Ω Video Delay Network providing up to 600ns of delay in 5ns increments (Presettable by means of movable links). Used in the NE4/523. DD 1975. DDMI 9.214.

OS010006	OS1/6	200kHz Flywheel Oscillator. Reduces phase disturbances on the carrier output of monitoring receiver RC3/1 3. Has a logic output for indicating the locked condition. Power requirements $\pm 12V$ at 15mA d.c. Printed circuit board 165mm x 56mm. Parent equipment ME6M/3A. DD 1978.
OS010524	OS1/524	Burst Locked Oscillator and Sync. Separator. Derives from composite video, with or without sound-in-syncs, the following outputs: Continuous subcarrier at standard level and low level for monitoring: mixed syncs, line trigger, field trigger, pal square wave, detected burst, and lock condition all at TTL/CMOS level. Power requirements +12V, +5V, -12V stabilised. CH1/65A. Supersedes OS1/523. Parent equipment MN7M/505. DD 1982. DDMI 9.294(83). DDHB 9.188(83).
	OS1/524A	Burst Locked Oscillator and Sync. Separator. As OS1/524 but has built-in power supply regulators and indicators. Power requirements +15V, +8V, -15V minimum unregulated. CH1/65A. Parent equipment GE4M/569. DD 1982.
OS010525	OS1/525	Burst Locked Oscillator. Operates on 625-PAL (system I). Provides subcarrier reference for CD3/547. Power requirements +12 V, +5 V, -5 V, -12 V. 2U unsupported card. DD 1984.
OS020041	OS2/41A	Fixed Frequency Clock Drive Oscillator. Identical to OS2/41 except for crystal frequency which is 5MHz. 127mm x 102mm printed circuit board with 25 way ISEP connector. DD 1977. DDMI 1.215(77).
OS020045	OS2/45	Fixed Frequency Crystal Oscillator to control frequency of studio communication transceiver EP8/6. Printed circuit board approximately 25mm x 25mm. DD 1976. DDMI 5.338(77).
OS020046	OS2/46A,B	Fixed Frequency Oscillator. This unit is intended to replace the Cathodeon oscillator modules contained in the OS2/40 and UN23/19 in the 12 Channel PCM units. It contains a high stability OTT oscillator module along with some additional components. The single output is TTL compatible. 'A' version: 12.272MHz. 'B' version: 12.672MHz. 35mm x 50mm printed circuit board. DD 1976.
OS020047	OS2/47	Fixed Frequency Ringing Oscillator. This oscillator generates a signal suitable for ringing up to three telephone bells simultaneously. It has been designed to replace the OS2/36. CH1/65A. DD 1976. DDMI 6.307(77).
OS020048	OS2/48	Bias and Erase Oscillator. 500kHz oscillator with integral bias and erase power amplifiers. Two cards mounted in CH1/64A chassis. DD 1977. DDMI 7.434(80).
OS020049	OS2/49	Fixed Frequency Oscillator. Plug in oscillator module for C02/20 in RC4M/8 and RC4M/7. Operates at 80MHz approximately. 20mm cube approximately. DD 1977. DDMI 5.342(77).
	OS2/49A	Dual Frequency switched crystal oscillator, comprises two OS2/49 oscillators mounted on mother card, for use with C02/20A in radio link receiver RC4M/8A. Power requirements

+12V dc. Printed card 40 mm x 26 mm. DD 1978. DDMI 5.436(84).

OS020050 OS2/50 Clock Drive Oscillator 25 Hz or 50 Hz squarewave derived from 1 MHz crystal oscillator. For use on the TM1M/1 Fault reporting transmitter at sites where 50 Hz mains frequency is not stable. Diecast box 38 mm x 32 mm x 95 mm. DD 1977.

OS020051 OS2/51 Master Oscillator. Provides all strobing pulses and timings for VHF Radio Control and Indication Panel. CH1/64J. DD 1977.

OS020052 OS2/52A Fixed Frequency Oscillator. Designed for line-up and test frequencies. As OS2/52 but frequency is set by selecting one of 6 plug-in cards (to be specified with order) type MP2/12 (A to F). Frequencies available are 90 Hz (A), 250, 440, 660, 900 and 1 kHz (F). Supersedes OS2/52. EDI 10413(1)AUG 81. DDMI 3.706(82). DD 1983.

OS020053 OS2/53 Oscillator, 19/23 kHz. Crystal stabilised oscillator to provide pilot tone for transmitter. Output frequency 19 kHz or 23 kHz, selected by connections to rear connector. Output may be keyed on and off by an external source. a.c. mains. CH1/64A. Supersedes OS2/31; OS2/31A. DD 1977. DDHB 2.450(80).

OS2/53A Monitoring Tone Generator. As OS2/53, but customisable to generate any of the following frequency pairs: 7.6, 7.8; 8.6, 8.8; 9.6, 9.8; 10.6, 10.8 kHz. Power requirements 240 V ac. CH1/64A. DD 1985. DDMI 2.478(85). DDHB 2.509(85).

OS020054 OS2/54 Oscillator and Detector. Crystal controlled A.F. tones source 4 kHz to 23 kHz, 200 Hz INCR:, each tone (two off) may be muted externally. Two A.F. tone detectors (High Z. input) are included with C/O relay output and Front Panel indication. Power requirements 24 V at 100 mA. CH1/65A. Parent equipment DM2/1 or DM2/3. TCPD 1983.

OS020530 OS2/530 Fixed Frequency Oscillator. High stability oscillator unit with power supply and dividers to give 5MHz and 1MHz outputs, and fine frequency control from Natlock error signals. CH1/64B. DD 1976. DDMI 1.209(77). DDHB 1.136(77). EDI 10293(1)DEC76.

OS020531 OS2/531 Line Locked Oscillator. Crystal oscillator locked to a multiple of television line frequency when the pull in range allows. Intended for use in Ceefax origination equipment. Power requirements +5V, -5V, +12V. PN1/29J. RD 1978.

OS020532 OS2/532A,B Modulated Oscillator. This unit provides the chrominance components of the Insertion Test signals. 'A' version is for National ITS purposes and 'B' version is for International ITS purposes. Power requirements +12V, -12V, +5V, 12V a.c. Parent equipment GE4L/566. DD 1979. DDMI 9.246(79).

OS030011 OS3/11 Variable Frequency Oscillator. Provides internal source of telephone ringing and V.F. signalling for UN10/42. 2U

board suitable for fixing to CH1/65A. DD 1977. DDMI 6.306(77).

- OS030012 OS3/12 Switched Frequency Oscillator. First developed for Outside Broadcast communications in television. The unit provides twelve preset frequencies covering the audio base band. 30Hz, 60Hz, 90Hz, 250Hz, 900Hz, 2kHz, 3kHz, 5kHz, 7kHz, 10kHz, 12kHz, 15kHz. The outputs which are balanced and unbalanced are 0dB, and -70dB. These levels can be raised by +10dB on operating a front panel switch. Power requirements $\pm 16V$ 35mA. 100mm x 220mm Eurocard. Mounted on 0.6" width panel or 3U high racking with 96 way Euro-connector. Supersedes OS3/9. SCPD 1983.
- OS030013 OS3/13 Voltage Controlled Oscillator. Varactor-tuned L.C. oscillator module, 2048 kHz ± 35 kHz. Forms part of C08/10 A-D convertor. Power requirements $\pm 15V$ 1 mA. PCB approx. 80 mm x 25 mm. Parent equipment C08/10. DD 1984. DDMI 6.420(84). DDHB 6.209(83) for C08/10.
- OS030014 OS3/14 Twin UHF Oscillator. This unit form part of the GE4/17 UHF 4-Tone Generator, and provides a pair of the four tones required. Each oscillator is voltage controlled by a frequency synthesiser which is part of the parent equipment, and can provide any frequency in Bands IV and V. The oscillator's output level is nominally +2 dBm and is stabilised to the required level in the following levelling amplifier. This level is determined by a control voltage, provided by the parent equipment, and will normally be in the range 0 dB ± 3 dBm. An indication is provided that the UHF oscillator is working normally. Power requirements +12 V, 300 mA; +24 V, 10 mA. About 14 cm x 11 cm. Parent equipment GE4/17. DD 1984.
- OS030509 OS3/509 Dual UHF Frequency Synthesiser. Two frequency synthesisers employing phase lock techniques to generate the frequency needed to convert any UHF television channel and offset to an intermediate frequency of 40.75MHz ($\pm$ offset), and back to any other UHF television channel and offset. The frequencies and offsets are set by external shorting links. Three printed circuits boards in an extruded aluminium chassis. Power requirements +28V. 350mm x 120mm x 48mm. Parent equipment TM4M/503. DD 1980.
- OS3/509A Dual UHF Frequency Synthesiser. Same as OS3/509, but with improved phase noise. Power requirements +28V. 350mm x 120mm x 48mm. Supersedes OS3/509. Parent equipment TM4M/503. DD 1982. DDMI 5.406(82). DDHB 2.463(82)
- OS030510 OS3/510 Frequency Synthesised Oscillator. Synthesised oscillator 908 to 1284MHz in 8MHz steps for use in EP14M/507. Power requirements +12V, -12V. CH1/68. Supersedes OS3/507. Parent equipment EP14M/507. DD 1982. DDMI 5.430(84).
- OS030511 OS3/511 Variable Frequency Oscillator. Synthesised oscillator for RC5/503. Tunes 512 - 888MHz steps. Power requirements $\pm 18V$, +5V d.c. 2 PCB 190 x 108, 108 x 60mm. Parent equipment RC5/503. DD 1984.
- OS030512 OS3/512 U.H.F. Synthesised Oscillator. Provides Local Oscillator frequencies of 512 MHz to 896 MHz in 8 MHz steps at a level of +7 dBm. Power requirements $\pm 12V$ +5 V. Parent equipment DM1M/506. DD 1984.

PA010085 PA1M/85 OB Line Equaliser Panel, for equalisation of OB music lines in transistorised equipment. Uses AM7/13. Replaces PA1/42. PN3/55. DD 1974. DDMI 6.273. DDHB 6.129. EDI 10252(1)AUG75.

PA1M/85A OB Line Equaliser Panel. Similar to PA1M/85 but provided with connectors to allow easy disconnection for OB use. The connectors as follows are mounted on a rear panel:
1 off XLR-LNE for mains
2 off XLR-3s 1 for audio input
1 for audio output
also mounted on the rear panel is a $\pm 12V$ commercial power supply. Power requirements 240V AC. 2U BMM. Sub-units EQ3/26, EQ3/27. SCPD 1982.

PA010086 PA1M/86 SB Line Equaliser Panel, for equalisation of OB lines in control rooms with storised equipment. Used AM7/13. Replaces PA1/41. PN3/55. DD 1974. DDMI 6.248. EDI 10237(1)JAN75.

PA010087 PA1/87 Mono Microphone Control Panel used on DK2/24. CH1/76. DD 1978. DDMI 3.660(79). DDTM 3.228(79). DDHB 3.228(79).

PA010091 PA1M/91 Stereo Variable Emphasis Limiter Panel. This panel carries two Variable Emphasis Limiter Amplifiers AM6/16 ganged together for stereo operation and a power supply unit. PS3/53. PN3/55. DD 1975. DDMI 6.288(76). DDHB 6.125(76). EDI 10278(1)MAY76.

PA1M/91A Stereo Limiter Panel. Band II stereo line feed equipment, dual channel limiter chassis. Power requirements 240 V ac. PN3/55. Sub-units AM6/16, PS3/74. TCPD 1985.

PA1M/91B Stereo Limiter Panel. This panel carries two Variable Emphasis Limiter Amplifiers AM6/16 ganged together for stereo operation, and a Power Supplier Unit PS3/53. It is similar to PA1M/91, but is fitted with a 19-way series-159 socket for ease of use. Power requirements 240Vac. PN3/55. Sub-units AM6/16, PS3/53.

PA010101 PA1SM/101 Panel, Main Store. Monitoring and Information Centre main store. Partially equipped with store buffer and control units, and provision for clock, test and input interface units. PN3/54. DD 1977.

PA010102 PA1/102A&B Designation Strip Panel. 1U panel, finished in accordance with BMMCS, in two versions as follows: (A) with two designation strips on front (SP 25163), (B) with two designation strips on front and two lacing bars, 50mm deep overall, on rear (SR 25163). Supersedes PN1/34 and PA1/7B respectively. SCPD 1978.

PA010102 PA1/102C Designation Strip Panel. As PA1/102A but designation strip to be type cemast no. 042163X. TCPD 1986.

PA010103 PA1M/103 Control Line Filter Panel. A rack containing filters, fsk modulators and demodulators used as part of the Wenvoe MIC system. Power requirements +9V, -15V d.c. DD 1978. DDHB 2.445(80). DDMI 2.445(80).

PA1M/103A Modem Panel. This chassis is similar to PA1M/103 in that it contains some of the same sub-units. To be fitted at Sutton Coldfield (MIC). Power requirements +9V, -15V.

PN3A/54. Sub-units FL1/45B, FL1/45C, DM3/9 and PS2/198A. DD 1978.

PA1M/103B Modem Panel. As for PA1M/104E but with different sub-units. To be installed at CRYSTAL PALACE (Rack No. 1). Power requirements +9V dc and -15V dc. PN3/54 and PN3A/55. Sub-units FL1/45 A,B,C; MD3/14; DM3/9; PS2/198 A; UN23/685. DD 1981.

PA1M/103C Modem Panel. As for PA1M/104E but with different sub-units. Fitted at WENVOE (Rack No. 2). Power requirements +9V dc and -15V dc. PN3/54 and PN3A/55. Sub-units FL1/45A, MD3/14, DM3/9, PS2/198A. DD 1981.

PA1M/103D Modem Panel. As for PA1M/104E but with different sub-units. Fitted at SUTTON COLDFIELD (Rack No. 1). Power requirements +9V dc and -15V dc. PN3/54 and PN3A/55. Sub-units FL1/45 A,B,C; MD3/14; DM3/9; PS2/198A. DD 1981.

PA1M/103E Modem Panel. As PA1M/104E but with different sub-units. Fitted at SUTTON COLDFIELD (Rack No. 2). Power requirements +9V dc and -15v dc. PN3/54 and PN3A/55. Sub-units FL1/45 B,C; DM3/9; PS2/198A. DD 1981.

PA010104 PA1M/104 Control Line Filter Panel. A panel containing filters and fsk modulators used as part of the Llanddona MIC equipment. Power requirements +9V, -15V. PN3A/54. DD 1978. DDHB 2.445(80). DDMI 2.445(80).

PA1M/104A Modem Panel. This chassis is similar to PA1M/104 in that it contains some of the same sub-units. To be fitted at North Hessary Tor (MCP). Power requirements +9V, -15V. PN3A/54. Sub-units FL1/45A, FL1/45B, FL1/45C, MD3/14, DM3/9 PS2/198A and UN23/685. DD 1978.

PA1M/104B Modem Panel. As PA1M/104 but with different numbers of sub-units. To be fitted at Sandale (MCP). Power requirements +9V, -15V. PN3A/54. Sub-units 2 x MD3/14 and PS2/198A. DD 1978.

PA1M/104C Modem Panel. As PA1M/104 but with different numbers of sub-units. To be fitted at Rosemarkie (MCP). Power requirements +9V, -15V. Sub-units FL1/45A, MD3/14 and PS2/198A. DD 1978.

PA1M/104D Modem Panel. As PA1M/104 but with different numbers of sub-units. To be fitted at Pontop Pike (MCP). Power requirements +9V, -15V. Sub-units MD3/14, FL1/45A, DM3/9 and PS2/198A. DD 1978.

PA1M/104E Modem Panel. This is a BMM 4U rack containing the terminal equipment of FSK audio tone data transmission systems. The equipment consists of self contained Modules designed to perform send or receive functions. Each Panel is custom built for each transmitting station. Fitted at HOLME MOSS Power requirements +9V dc and -15V dc. PN3/54 plus PN3A/55. Sub-units FL1/45 A,B,C; MD3/14, DM3/9, PS2/198A. DD 1981.

PA1M/104F Modem Panel. As PA1M/104E except for different sub-units. Fitted at WESTERGLLEN. Power requirements 230 V 50 Hz. PN3/54 plus PN3A/55. Sub-units FL1/45E, PS2/184. DD 1981.

PA1M/104G Modem Panel. As for PA1M/104E but with different sub-units. Fitted at DIVIS. Power requirements 230 V 50 Hz. PN3/54 plus PN3A/55. Sub-units FL1/45 B, C; MD3/14; DM3/9; PS2/184. DD 1981.

PA1M/104H Modem Panel. As for PA1M/104E but with different sub-units. To be fitted at TACOLNESTON. Power requirements 230V 50Hz. PN3/54 plus PN3A/55. Sub-units FL1/45 B,C;

DM3/9; PS2/184. DD 1981.

PA1M/104J Modem Panel. As for PA1M/104E but with different sub-units. To be fitted at START POINT. Power requirements 230V. PN3/54 plus PN3A/55. Sub-units FL1/45 B,C; DM3/9 PS2/184. DD 1981.

PA010105 PA1/105 Fan Panel. A bay mounted panel, 2U high, with three extract fans mounted at the rear. A deflector plate within the unit ensure the fans draw air from equipment beneath and a perforated front plate allows air to enter to ventilate equipment above. The panel will extract 100 cu.ft/min (59 cu.m/h) in a system with negligible air resistance, generally sufficient to ventilate equipment dissipating 2kW. Power requirements 240V a.c. $\pm 10\%$. PN3/55. DD 1978.

PA010106 PA1/106 Data Monitor Panel. This desk panel provides remote selection of source and address for the MN8M/1, 13 channel PCM data monitor. Power requirements -16V at 100mA, 5V at 50mA. DD 1978. DDHB 6.182(80).

PA010107 PA1/107 CIP Alarm and Cancel Panel. Provides the necessary alarm cancel facilities and output interface for a VHF CIP (PA6M/70). Power requirements +5V (supplied by PA6M/70). 1U full equipment bay-width chassis. Supersedes UN23/93. Parent equipment EP1/24A. DD 1978.

PA010108 PA1M/108 Audio Limiter Panel. This frame is part of the BA1/4 PCM coder bay and carries thirteen AM6/15 limiters. It uses a printed wiring back plate with stereo ganging facilities. Power requirements +28V and -16V. PN3/54. Supersedes PA1M/79. Parent equipment BA1/4. Sub-unit AM6/15. DD 1979.

PA010109 PA1/109 Transformer Panel. Modified 4U BMM frame to support 10 ASP transformers plug 10 'J' size transformers. 4U BMM frame (special). Parent equipment EP10/18. DD 1979. DDMI 3.687(81).

PA010110 PA1/110A-D Monitoring and Diplexing Panel. This unit combines the 'A' and 'B' halves of Band II transmitters, and monitors the resultant output power. Alarms are raised if the output level falls below preset values.
Option 'A' : 4 service panel with harmonic filters.
Option 'B' : 3 service panel with harmonic filters.
Option 'C' : 4 service panel without harmonic filters.
Option 'D' : 3 service panel without harmonic filter.
Power requirements 34-40V 300mA maximum. Parent equipment AM14/39A,B and AM14/40A,B. Sub-units MN1/20, FL5/9 and FL2/20 (A and B only). DD 1979.

PA010111 PA1/111 U Link Routing Panel. This U-link shows a mimic diagram of P.C.M. signal distribution to Wrotham, Regions and Rowridge with routing by real U-link inserted into diagram. State is repeated on PA1/113 attached and system in use information appears as lamps. Power requirements +28V and -16V. 4U x bay width panel and chassis. Supersedes PA1/98. DD 1979.

PA010112 PA1/112	P.C.M. Control Panel. Provides control of Mono/Stereo switching and Wrotham drive changeover for R2, R3 and R4 V.H.F. with indication. 305mm x 124mm desk panel. Supersedes PA8/409. DD 1979.
PA010113 PA1/113	P.C.M. Indicator Panel. Provides control of X/Y switching of P.C.M. and mimic diagrams showing status of links to Wrotham, Regions and Rowridge driven by U-link routing panel PA1/111. 305mm x 124mm desk panel. Supersedes PA8/409. DD 1979.
PA010114 PA1/114	U-Link Panel. 32 way U-link panel, similar in function to P.O. Test Tablet D66290 (30 way). Constructed on 482mm x 1U high steel pan-type panel, finished in BBC bright silver to match BMM anodised finish. Equipped with 64 individually mounted insulated sockets, and with facility for fitting designation strip or designation labels. Can be fitted with earth bar and or lacing bar. ED 1979.
PA1/114A	U-Link Panel. Fitted with black PA1/114A and white insulated sockets mounted in pairs alternating along the length of the panel. ED 1984.
PA010115 PA1/115	Monitoring and Diplexing Panel. This unit combines the 'A' and 'B' halves of Band II transmitters, and monitors the resultant output. Power alarms are raised if the output level falls below preset values. Power requirements 34-40V 300mA maximum. Parent equipment AM14/42. Sub-units MN1/20 and FL5/10. DD 1980.
PA010116 PA1L/116	Sypher 2 Interface Panel. This panel is used for data conversion between the Data Entry Control Panel, PA6/98 and the machine synchroniser in the Sypher 2 sound dubbing system. It also provides a 5.25V, 1A supply for the PA6/98. Sub-units UN23/120 and PS2/187P. DD 1980.
PA1L/116A	Lime Grove Dubbing Interface Panel. Modification of PA1L/116. Converts data between Data Entry Panel PA6/98 and Machine Synchroniser in Lime Grove Sound Dubbing System. Also provides 5.25V, 1A supply the PA6/98. Sub-units UN23/120, PS2/187P. DD 1982.
PA010117 PA1L/117	Coder Monitor. To monitor 13 channel PCM coders to fit in allocated part of PA1M/78 which itself is part of BA1/4. Sub-units CO8/4A, UN23/15A, MN1/21, EQ3/36, UN3/38(2), MN1/9, UN1/153 and UN16/1. DD 1980.
PA010118 PA1/118	Transformer Panel. To mount 10 transformers type AL94/2P to convert unbalanced output from limiters to balanced on the London Continuity desk. 3U Bay mounted panel. Parent equipment EP10/19. DD 1981. DDMI 3.703(81).
PA010119 PA1/119	Technical Intercom Panel. Replaces PA8/311 in type D continuities; provides high quality microphone and loudspeaker to interface with Pye M100 technical intercom in Broadcasting House, London. Power requirements +ve earth 50V d.c. CH1/37D. Sub-units AM5/20, AM9/21. SCPD 1981.
PA010120 PA1/120	Fan Panel. This unit contains two identical brushless DC fans mounted on a simple aluminium chassis. An XLR fixed

plug is used for power connection. Power requirements 16-30V DC 1.2A max. Parent equipment AM14/51. DD 1981. DDMI 5.417(82)

PA010121 PA1/121A,B	Band II Monitoring Panel. This unit houses an harmonic filter FL4/72 and monitoring unit MN1/24. The 'A' version is for a single RF input (one service); the 'B' version contains two identical halves for monitoring two individual inputs. Power requirements 28V at 200mA max. 4U 19" Panel. Parent equipment AM14/51. Sub-units FL4/72, MN1/24. DD 1981.
PA1/121C	Band II Monitoring Panel. This unit houses 2 harmonic filters FL4/72 and 2 monitoring units MN1/24 to monitor 2 RF inputs. <u>Note</u> This unit is identical to and a direct replacement for PA1/121B before CF50150 issued on 1.10.82 was applied. Power requirements 28V at 200mA max. 4U - 19" Panel. Supersedes original PA1/121B. Parent equipment AM14/51A-D. Sub-units FL4/72, MN1/24. DD 1982.
PA010122 PA1/122	Dual CIP Alarm and Cancel Panel. Contains front panel controls and auxilliary indications for operation of 1 or 2 master CIPs (Band II or MF). Similar in function to PA1/107. Connections on rear; power, CIP1, CIP2, CIP/AFR Interface (2), Aux In/Out, System Normal and Station Alarm Relay contacts, Remote indication box. Contains 8 bytes (4 each way) simultaneous read/write memory to allow interchange of information between 2 CIPs asynchronously. Link selectable on PB No. 3: 1 or 2 CIP operation. By addition of PB No. 3 and slight mods, PA1/107 up grade possible. Power requirements Dual +5.7 volts. Supersedes in some cases PA1/107. Parent equipment to be used with PA6M/97 A,B,C (Band II and MF CIPs). DD 1982.
PA010123 PA1/123	OS Insert Jackfield Panel. To provide break and listen Jack for outside sources 5 and 6, as part of DK4/19. CH1/71A. SSRU, SCPD 1982.
PA010124 PA1/124	Amplifier Mounting Panel. Mountin Panel for 10 Amplifiers AM7/20 with 10 Transformers LL/252H mounted on rear of panel. Power requirements ± 24 volts. 3U. Sub-unit AM7/20. DD 1982.
PA010125 PA1/125	Tone Switching Panel. Contains relay which switches line output of DK4/19 between desk output and station tone. CH1/71A. SCPD SSRU 1982.
PA010126 PA1M/126	Modem Panel. Chassis containing 2 Gandalf Modem units and one changeover unit. Power requirements 240V AC. PN3/54. Sub-units SE1/8, MD5/2. DD 1982.
PA010127 PA1/127	Display Panel. The Panel receives and decodes multiplexed time information and displays time on eight, seven segment LED's. It forms part of the EP1M/34 Timecode Update System. Power requirements 12V 600mA. Panel approx 510 x 145 x 20mm. Parent equipment EP1M/34. DD 1982. DDMI 7.509(83).
PA010128 PA1/128	Fan Tray and Distribution Panel. Fan tray and mains distrubition unit 4U high extended depth framework with

sliding tray, housing 2 Papst DC fan units with heat sensing speed control. A rear mains distribution unit contains 4 XLR-LNE mains outputs independently fused. Fans are fitted with replaceable filter pads. Power requirements mains input. Extended depth 4U framework. Parent equipment CD4M/504, CD4M/505. RD 1982.

PA010129 PA1/129

Connection Panel. Connection Panel fitted with sockets to receive signals from DK4/41 and microphone inputs. The connection panel fitted on the front of the Audio and Switching Equipment EP5M/23 for plugging in microphones, tape recorders, telephones etc. Power requirements +5V. Supersedes DK4/24. Parent equipment EP5/22. DD 1983.

PA010130. PA1S/130

Synthesiser Interface Panel. This unit controls an HP3335A frequency synthesiser, as part of the EP1S/42 Rampisham Transmitter control system. Frequency and level monitoring facilities are provided, and the equipment can be used in conjunction with Marconi 500 kW channelised transmitters. Power requirements 240 V a.c. 4U 19" rack, non BMM. Parent equipment EP1S/42. DD 1985.

PA010131 PA1/131

Studio Channel Desk Panel. Channel module for type D continuity to feed the cont. group. Similar to PA8/315 but without any remote or echo facilities. To be placed in the cont. channels AM22/2 position in teh studio desk for extra inputs to the desk, compact disc players or extra cartridge manchine. Power requirements -24V d.c. -16V d.c. CH1/37A. PA8/315. RES 1984.

PA010132 PA1/132

Loudspeaker Pattress Panel. A studio pattress panel with five EP-3 outlets for loudspeakers A, B, A+B, FB/PA1 and FB/PA2. There is the facility to dim the A, B and A+B and A+B outputs. First used G.P. Radio Studios. Power requirements -50V. Panel 280 x 192. EP1/43. Sub-units LL251H. SCPD RSS 1984.

PA010133 PA1/133

Tie Line Panel. A studio pattress panel providing six audio tie lines on jacks and a 38 way Varicon, a presenters unit outlet on a 38 way Varicon and XLR-7-31 for reverse talkback. First used in G.P. Radio Studios. Power requirements -50V. Panel 280 x 192. Parent equipment EP1/43. SCPD RSS 1984.

PA010134 PA1/134A & B

Microphone Panel. A studio pattress panel providing ten microphone inputs on XLR-3-31'S and paralleled to two 38-way Varicons. Version A also has a REC/REP hypertac socket. First used G.P. Radio Studios. SCPD RSS 1984.

PA010135 PA1M/135

Line-up Tone Panel. Provides 1 kHz and 440 Hz outputs from D.As. Tones locked to a 5 MHz reference. Power Supplies and dividers duplicated with automatic changeover. Power requirements 240 V ac. PN3/55. DD 1984. DDHB 1.201(85).

PA010136 PA1S/136

Audio Alarm Panel. An independent unit which uses the GE1S/21 Audio Alarm Generator to produce alarm sounds. The sounds are triggered by relay inputs. The unit also contains a Power Supply and Loudspeaker Amplifier. A balanced output at +8 dBu into 600 Ω is provided as well as

the Loudspeaker output. Power requirements 240 V ac. PN3/72 modified. 1U panel. Sub-units GE1S/21. DD 1984.

PA010137 PA1/137 Frame Counter Panel. Accepts frame count pulses from a Steenbeck film editing bench and displays a count of film frames and footage. Power requirements 5 V, 500 mA. Unit approx. 200 x 140 x 27 mm. Parent equipment EP1S/553. DD 1984. DDMI 7.548(86).

PA010138 PA1/138 RF Switch and Filter Panel. Input selector and channel filter(s) for DM1M/506 as used in Transmitter Input Equipment bay. A typical unit will have four inputs and two UHF channel filters but other configurations will be available depending on the particular transmitter site. Power requirements ± 12 V (from DM1M/506). 1 U 19" panel. DD 1985.

PA010139 PA1/139 R.F. Feeder Switch Matrix Indicator Panel. Mimic Panel Indication of H.F. Sender to Array switched states through Feeder switch matrix. Installed in Seychelles H.F. Control System. Power requirements: 24 V dc. 4 U panel -PN3/54. Sub-units: CO5/28. D & ED (C) 1986.

PA1/139A R.F. Feeder Switch Matrix Indicator Panel. Mimic Panel indication of H.F. sender to array switched states through feeder switch matrix. Installed in Hong Kong H.F. control system. Power requirements 24 V d.c. Chassis dimensions 4 U panel - PN3/54. Sub-units: CO5/25. D & ED(C) 1986.

PA010140 PA1/140 Mix-Effects Mimic Panel. Mimic panel, used with commercial (Probel) Vision Matrix, part of EP5/521. This mimics the mix-effects configuration selected at any time. Power requirements supplied from matrix. Chassis 3U panel. Parent equipment EP5/521. D & ED (Test Lab.) 1987.

PA010141 PA1/141 Cox Relay Panel. By using 2 x DIL Relay Boards to SP30732, this panel forms an interface between an EP5/521 and a Cox Colour Synthesiser. Power requirements -9Vdc. Chassis PN3/72A. D&ED (D.O.) 1987.

PA010142 PA1/142 PPM Panel. This is a 3U dummy panel fitted with an ME12/12A Stereo Peak Programme Meter and a telephone key switch, for use with Local Radio VHF PIE bays. Power requirements 24Vdc. PN1/31C. Sub-units ME12/12A. TED 1987.

PA010143 PA1/143 Drive Changeover Panel. This is a 1U dummy panel fitted with co-axial relays and 50 Ω 25W terminations, for the purpose of switching between main and reserve FM drives on a VHF Local Radio PIE bay. Power requirements 24Vdc. PN1/31A. TED 1987.

PA010144 PA1/144 Waveguide Switching Control Panel. Gives control and indication of waveguide switching by means of illuminated push-buttons. Power requirements +5V, +12V. 3U p'anel with PCB and rear connetor mtg bracket attached. DD 1982.

PA010575 PA1M/575 Assignment Panel. Part of EP11/502 Vision mixing equipment. Enables control of some mixer facilities to be assigned to a remote production control panel via G101

camera cables. 4U panel for bay mounting. DD 1977. DDMI 8.590(78).

PA010576 PA1M/576 Ceefax Microprocessor CV1. Unit accepts data inputs from a Ceefax Magazine source computer and a subtitle source computer in a serial or parallel asynchronous manner and assembles rows of data into buffer storage ready for transmission on field internal data lines as a high speed serial bit stream synchronised to the TV waveform. Apart from the data inputs the unit requires mixed syncs and produces two sets of 3 data outputs; one set non-composite for additiuon to the TV network signal, the other set composite for data content monitoring. Power requirements +5V, +12V, -5V. PN3/54. RD 1978.

PA010577 PA1M/577 Assignment Panel. Similar mechanically and in function to PA1/575. But used with Grass Valley mixers type 1600 installed in OB CMCR's. PN3/54 modified. SCPD 1979.

PA010578 PA1M/578 U-Link Panel. This video termination panel is compatible with the BMM system and replaces the panel PA1/507. By means of standard U-link, twenty-eight video cables can be terminated and linked in pairs. The panel is not equipped with any MUSA plugs or U-links. The panel is 483mm wide x 2U high x 110m deep. Supersedes PA1/507. DD 1979.

PA1/578A Video U-Link Panel. As PA1/578, but with plugs repositioned to enable U-Links to be arranged vertically. (See SPSK 30471 A2 for details of Plug Mounting Panel). 2U BMM Panel. Supersedes PA1/507. SCPD 1983. EDI 10449 (1) NOV 81.

PA010579 PA1M/579 Transposer Personality Panel. Passive circuit used to set the parameters of UHF television transposer type TM4M/502. It contains two UHF band pass filters to select the input and output channels, a set of pins taht may be wire-wrapped to select the synthesiser frequencies, and three resistors to set maximum gain, frequency response and output power. 500 x 150 40 mm. Parent equipment TM4M/502. Sub-units FL2/559, FL2/560. DD 1980.

PA1M/579A Transposer Personality Panel. Passive circuit used to set the parameters of UHF television transposer type TM4M/503. It contains two UHF bandpass filters to a new design to select the input and output channels a set of pins that may be wire-wrapped to select the synthesiser frequencies, and three resistors to set maximum gain, frequency response and output power. Identical circuit to PA1M/579 but modified mechanically to accommodate new filters. 481H x 32W x 90D. Parent equipment TM4M/502. Sub-unit FL2/565. DD 1981. DDMI 5.403(81)

PA010580 PA1M/580 Electronic Stills Store Panel. Electronic stills store for connection to a colour television rostrum camera. Signal processing in its digital component (YUV) form at 12,4,4MHz. Mains input via analogue RGB but digital PAL decoder and encoder are provided for interfacing with analogue PAL for more general application. System largely as described in Research Report No. 1980/13. Power requirements 240V, 16A (AC) and 110V, 25A Peak (3 Phase AC). 2 equipped 7' bays. Sub-units FL1/533, GE1/598,

GE7/504, GE7/505, UN23/679, UN23/680, UN26/555, UN27/504.
RD 1981.

- PA010581 PA1/581A-D Video Tie Line Panel. A studio paddress panel which provides four video tie line either to loop through (8 connectors) or terminate (4 connectors). The connectors may be either series 83 or BNC.
The options are - A 8 Series 83 connectors
 B 4 Series 83 connectors
 C 8 BNC connectors
 D 4 BNC connectors
The panel also provides RF diplexed outputs of TV and FM and a pulse clock outlet on an MK connector. First used G.P. Radio Studios. Panel 280 x 192. Parent equipment EP1/44. SCPD (RSS). DD 1984.
- PA010582 PA1/582A-D Video Tie Line Panel. A studio paddress panel which provides six video tie lines either to loop through (12 connectors) or terminate (6 connectors). The connectors may be either series 83 or BNC.
The options are - A 12 Series 83 connectors
 B 6 Series 83 connectors
 C 12 BNC connectors
 D 6 BNC connectors
The panel also provides RF diplexed outputs of TV & FM and a pulse clock outlet on an MK connector. First used G.P. Radio Studios. Panel 280 x 192. Parent equipment EP1/44. SCPD (RSS) 1984.
- PA010583 PA1M/583 Miscellaneous Equipment Panel. This panel is a 4U bay-mounting mainframe for miscellaneous units which are part of the Cinemascope Data Preparation Equipment. Power requirements 240 V ac, 150 mA. PN3/54. Sub-units PA6/165, GE5/5, PS2/187G, PS2/187P, PS3/72. DD 1984. DDMI 7.549(86).
- PA010584 PA1M/584 Cinetrace - Mk II Interface. Provides the interface between the Cinetrace Replay Computer and a Cintel Mk II Telecine. Power requirements 240 V, 30 W. DD 1984. DDMI 7.550(86).
- PA010585 PA1M/585 Sync Separator & Twomax Panel. The assembly is constructed in a PN3/58 and contains up to eight UN16/549 sync separators, one each CD2/520 and MD2/511 'Twomax' units, and a PS3/73 power supplier. Power requirements 240 V ac. PN3/58. Sub-units CD2/520, MD2/511, PS3/73, UN16/549 (8). DD(9) 1985. DDHB 9.218(85). DDMI 9.342(85).
- PA010588 PA1M/588 VANTAGE VTR Interface Panel. This equipment carries out a conversion between the ES-bus protocol used by the VANTAGE Editing System EP1/557, and controlled VTRs/VCRs responding to Sony, Ampex or ES-bus serial protocol. In addition, it carries hardware to decode reference LTC and VITC, to insert data into the video from the VTR, to interfaces a spool number bar-code reader with the ES-bus, and to switch video and audio monitoring between input and output. Power requirements 240Vac. 19" 3U Eurocard rack. Parent equipment EP1/557. Sub-units CD3/553, CO4/33, SE3/516, UN26S/92, UN26/605. D&ED (C) 1987.

PA010589 PA1M/589 VANTAGE Edit Control Panel. This equipment, part of the VANTAGE Editing System EP1/557, provides the control for an Edit Panel PA6/177 and up to two Playback Panels PA6/178. It also includes a controller for external events and a mixer, and provides an interface for an Edit Decision Management System. Power requirements 240Vac, 1A. 19" 6U Eurocard rack. Parent equipment EP1/557. Sub-units CD3/553, SE2/37, SE3/515, UN26S/92, UN26/98. D&ED (C) 1987.

PA010590 PA1M/590 Cinetrace MkIII Interface Panel. This panel provides the interface between the CINETRACE computer and a Rank Cintel MkIII Telecine machine. Power requirements $\pm 12V$, +5V. PN3/54. Sub-units GE6/556, PA6/165, PS3/72, PS4/18A, UN23/192. D&ED (V) 1987.

PA060068 PA6/68 Test Tape Maker Control Panel. Used with Test Tape Maker EP1M/18. Contains all operational controls for the equipment. 483mm rack mounted panel 3U high. DD 1976. DDMI 7.385(77). DDHB 7.225(76).

PA060070 PA6M/70 VHF Radio Control and Indication Panel. Accepts information from points in Band II VHF Radio installations and displays it in mimic diagram form. The equipment contains BMM plug in modules and the display is mounted on a hinged front panel assembly. Each panel displays two separate services. Modified PN3/54. Parent equipment includes EP1/24A. DD 1977. DDTM 2.433(77).

PA060071 PA6/71 Control panel for RD4/12. Contains switches which control semi-automatic operation of tape reclamation equipment. Metal box 305mm x 102mm x 89mm. Parent equipment EP1/17. DD 1977. DDMI 7.439(80).

PA060072 PA6/72 Rep. Panel. Reproducing panel used in DK4/31 for control of Tape, Gram and Cartridge machines. * UN23/99 cards fitted in channels requiring d.c. start. UN23/99A cards fitted in channels requiring pulsed start. CH1/77. UN23/99 *. DD 1981. DDHB 3.224(79).

PA060073 PA6/73 Microphone Talkback and pre-hear panel used in DK4/31. CH1/77. DD 1978. DDMI 3.655(79). DDTM 3.224(79). DDHB 3.224(79).

PA060074 PA6/74 Monitoring Panel used in DK4/31. CH1/77. DD 1978.

PA060075 PA6/75 Monitortoring in DK4/31. DD 1978.

PA060076 PA6/76 Panel containing Main Transmission Fader and digital clock. DD 1978.

PA060077 PA6/77 Control Panel for five stereo limiters used on DK2/24 control desk. CH1/77. DD 1978. DDMI 3.648(78). DDHB 3.217(78).

PA060078 PA6/78 Panel with controls for Network Switching used in DK2/24 control desk. CH1/77. DD 1978.

PA060079 PA6/79 Intercom Panel used in DK2/24. CH1/77. DD 1978.

PA060080	PA6/80	Mono RSA Panel used in DK2/24. CH1/77. DD 1978. DDMI 3.649(78). DDHB 3.218(78).
PA060081	PA6/81	Talkback Panel, used in DK2/24. CH1/77. DD 1978.
PA060082	PA6/82	Monitoring Panel used in DK2/24. CH1/77. DD 1978.
PA060083	PA6/83 PA6/83A	Source Selection Panel used on DK2/24. CH1/77. DD 1978. Source Selection Panel. Used on DK2/24 Radio continuity cubicle desk. This variant of the PA6/83 uses rotary switches instead of push buttons. CH1/77. DD 1978.
PA060084	PA6/84 PA6/84A	Outside Source Telephone and Cue Select Panel used on DK2/24. CH1/77. DD 1978. Outside Source Telephone & Cue Select Panel. As PA6/84 but outside source talkback modified to remove talkback via keys. Talkback inputs to AM4/16 changed from - 40dB to 0dB. Also talkback logic extended to jackfield input. CH1/77B. SCPD 1983.
PA060085	PA6/85	Group and Echo Panel used on DK2/24. CH1/76. DD 1978. DDMI 3.684(81). DDHB 3.253(81).
PA060086	PA6/86	SB/Master Mixed Panel used on DK2/24. CH1/76. DD 1978. DDMI 3.659(79). DDTM 3.227(79). DDHB 3.227(79).
PA060088	PA6/88 PA6/88A	Stereo Reproducing Panel. Used on DK2/24. CH1/76. DD 1978. DDMI 3.243(80) and 3.676(80). DDTM 3.243(80). Stereo Reproducing Panel. As PA6/88 but with addition of "Studio Prehear" LED per channel. Sub-unit additional UN26/113. DD 1981. DDMI 3.676(80), Part 2.
PA060089	PA6/89 PA6/89A	Stereo Reproducing Panel used in DK2/24. CH1/76. DD 1978. DDMI 3.678(80) Part I. DDHB 3.246(80). Stereo Reproducing Panel. Used in DK2/24. PA6/89A does not have group switching facility. CH1/76. DD 1980. DDMI 3.678(80) Part III. DDHB 3.246(80).
PA060090	PA6/90	Stereo Outside Source Panel. Used in DK2/24. CH1/76. DD 1978. DDMI 3.679(80).
PA060091	PA6/91	Mono Outside Source Panel used in DK2/24. CH1/76. DD 1978. DDMI 3.674(80). DDTM 3.241(80). DDHB 3.241(80).
PA060092	PA6/92	Telephone Panel used on DK2/24. CH2/76. DD 1978.
PA060093	PA6/93	Miscellaneous Metering Panel. Used on DK2/24. DD 1978.
PA060094	PA6/94	Monitoring Panel A (Left hand). Used on DK2/24. DD 1978.
PA060095	PA6/95	Monitoring Panel B (Right hand). Used on DK2/24. DD 1978.
PA060096	PA6/96	Control panel provides all control functions for the audio processing electronics in the RP2/10. Power requirements +5V 0.1A. Two-layer aluminium panel. DD 1978.
PA060097	PA6M/97A,B	VHF Band II CIP for monitoring the fault and status indications of two VHF band II transmitters. Displays the

transmitter status in mimic diagram form and controls transmitter start and drive changeover functions. Output relevant data to TMI automatic fault reporter. A second unit may be slaved off the first to increase capacity to 4 transmitter services. This second unit is the PA6M/97B. Power requirements 2 a.c. mains supplies. PN3/54. Equipment superseded PA6M/70. Sub-units UN23/101, UN12/102, UN12/103, UN26/20 and UN12/15. DD 1978. DDTM 2.442(79).

PA6/97C MF CIP. Control and Indication Panel for MF transmitters. This is a version of the PA6M/97A Band II CIP, modified for MF use. May be used with appropriate UN12/20A display panel to provide mimic diagram displays for up to 4 transmitters. A second unit may be slaved off the first to increase the capacity to 8 services. Power requirements 2 x a.c. mains (A+B supplies). PN3/54. Sub-units UN23/102A, UN23/103, UN26/20, PS4/4A, UN12/20A. DD 1981.

PA060098 PA6/98 Data Entry Control Panel for data entry into synchronising controlling SYPHER 2 sound dubbing suite. Power requirements +5V at 1A. Sub-units UN23/118 and UN23/119. DD 1979. DDHB 7.290(81).

PA060099 PA6/99A,B Colour Balance Control Panel. 'A' version colour balance control panel for remote control of RED, GREEN and BLUE lifts and gains. Uses continuously rotatable edge operated wheels generating pulses processed by UN26/21 and UN23/104. Used on CMCR type 5's. 'B' version as 'A' version but for left hand operator. 185mm x 161mm. SCPD 1979.

PA060100 PA6/100 6 Channel Outside Source Mixer Panel. OdB in Mono; -3dB out stereo; 6 clean feeds and prehear monitoring included; re-set gain; Channel fader and pan pot on each channel intended for use with UN1/173 Telephone Control and Balance Units. 24V approximately 300mA. CH1/77B. Sub-units 7 x AM5/15, 7 x AM5/19 and AM20/3. SCPD 1979.

PA060101 PA6/101 Sound Routing Panel. Provides remote control of a sound routing matrix, and indications of selected routings. Power requirements +5V, +12V. PN3/58 (modified). DD 1979.

PA060102 PA6/102 Vision Routing Panel. Provides remote control of a vision routing matrix, and indications of the selected routings. Power requirements +5V, +12V. PN3/38 (modified). DD 1979.

PA060103 PA6/103 Link Control and Alarm Panel. Provides push-button control for various functions in a remotely-operated masthead receiver system. These and other system features are monitored by various displays on the panel. Power requirements +5V, +12V. PN3/58 (modified). DD 1979.

PA060104 PA6/104 Monitoring Selection Panel. Illuminated push-buttons provide monitoring selection and indication. Power requirements +12V. 1U Panel. DD 1979.

PA6/104A Monitoring Selection Panel. Illuminated push-buttons provide monitoring selection and indication. Power requirements +12V. 1U Panel. DD 1980.

PA060105 PA6/105	Tape Control Panel. A tape control panel for Bush House use. The panel selects one of twelve recording sources to the input of a tape machine, and also displays source selected on an L.E.D. display. Output of tape machine can be switched to one of two busbars. Each panel handles two tape machines. To be used with PA6/106. Power requirements +5V, 0V. SCPD 1979.
PA060106 PA6/106	O.S. Level and Monitoring Panel. This panel is designed to be used with PA6/105. It can alter the gain by ± 6 dB of up to six outside sources. A PPM is also provided to monitor the final O.S. levels, the intermachine busbars, desk output and up to six tape machine replay p.f. outputs. Power requirements +12V, 0V, -12V. Sub-units AM5/19. SCPD 1979.
PA060107 PA6/107	Cue Selector Panel. Footswitch Cue Selector Panel used in DK4/19 to enable a footswitch to operate either master cue or one of four individual cue lights. Parent equipment DK4/19. SCPD 1979.
PA060108 PA6M/108	Z80 Microprocessor Panel. General purpose panel based on PN3/54 fitted with motherboard supporting 4U Z80 microprocessor bus, card guides and part wired hinged rear panel. Accommodates power suppliers PS2/187G and PS4/4 or equivalent and up to 10 units based on the Z80 bus. Specific provision is made for a GE8/505 VDU, a C010/2 floppy disk controller and 2 input/output units. Power requirements mains. PN3/54. Sub-units UN26/31, UN27/1, UN27/7, UN23/130, C010/2, C04/6, PS2/187G and PS4/4. DD 1980.
PA060109 PA6/109	Monitor Control Panel. Local control panel for the Digital Field Store Standards Converter Monitor System (MN8M/2). Operational when converter is 'local mode'. Power requirements +5V from PS4/6. CH1/65D. Parent equipment MN8M/2. DD 1980.
PA060110 PA6/110	Floppy Disk Store Control Panel. The remote control box for the Floppy Disk Field Store enables the operator to 'Store' and 'Replay' pictures from up to 50m away from the main hardware. It is connected to the RD4M/508 through a 20-way cable terminated with Varelco sockets (code A1/1). Power requirements 24V and 5V supplied through the cable. Die-cast box (93.7 x 119.1 x 52.4). Parent equipment RD4M/508. DD 1980.
PA060111 PA6M/111	HF Sender Control. The Panel contains two independent sets of plug-in units and rear connector, each capable of controlling the operation of a HF Sender. Power requirements 50V DC. PN3/54. Sub-units UN26/31, C04/8, C04/9, C04/10, UN27/12. DD 1980.
PA060112 PA6M/112	HF Control System Supervisor. The equipment provides supervisory control over a number of subsidiary units which together form a system of automatic control of a HF transmitting station. Power requirements 50V DC. PN3/54. Sub-units UN26/31, UN27/12, UN27/1, GE8/505, C04/8, C04/10, C04/11. DD 1980.

PA060113 PA6/113	Studio Clock Panel. A Panel mainly containing a digital clock for use in Radio Continuity Studio. CH1/83. Parent equipment EP10/8. DD 1980.
PA060115 PA6/115	Outside Source Control Panel. Continuity desk panel for Outside Source Selection. Control 5 outside sources and includes a "Qwerty" keyboard for plain language marking. First used in London BH Maxi - Continuities. Power requirements 50V. CH1/77B. SCPD 1981.
PA060116 PA6/116	Outside Source Control Panel. Continuity desk panel for selection and indication of 4 outside sources, requires separate keyboard for marking. First used in London Type D continuities. Power requirements 50V. CH1/37E. SCPD 1981.
PA060117 PA6/117	Network Control Panel. Continuity desk panel for control of Network Switcher. Incorporates remote control of network facilities and ident tones. First used in London Maxi - continuities. CH1/77B. SCPD 1981.
PA060118 PA6/118	Network Control Panel. Continuity desk panel for control of Network Switcher. Incorporates remote control of network facilities and ident tones. First used in London Type D continuities. Panel 13" x 11". SCPD 1981.
PA060119 PA6/119	Monitor Panel. Provides audio/PPM monitoring for record/replay for up to 6 tape machines. Power requirements 12W at 250V. Parent equipment EP1/26. SCPD (SSRU) 1981.
PA060120 PA6/120	Repro. Select Panel. Provides the routing to 5 bus bars for up to 10 Grams/Tape Machine Repro's. For each machine the following facilities are provided and may be selected: Cut 'A' Cut 'B' Reverse Phase Mono Stereo Parent equipment EP1/26. SCPD (SSRU) 1981.
PA060121 PA6/121	Record Select Panel. Provides routing of incoming lines to the record of up to 6 tape machines. Maximum number of lines 10. Extra lines may be catered for by using the 'additional record select panel' (PA6/122). Parent equipment EP1/26. SCPD (SSRU) 1981.
PA060122 PA6/122	Additional Record Select Panel. Used in conjunction with the 'Record Select Panel' (PA6/121). Provides for an additional 20 incoming lines for routing to the records of up to 6 tape machines. Parent equipment EP1/26. SCPD (SSRU) 1981.
PA6/122A	Record Select Panel. Similar to PA6/122, but with Record Selector 3 controls omitted and a blank escutcheon covering the holes. Parent equipment EP1/26. SCPD 1981.
PA060123 PA6/123	Edit Control Panel. Forms part of the Videotape Editing Control Equipment. This panel controls the Edit Machine and selects which of the 2 playback machines are in use. There are minor variations in the spooling control

functions depending in the type of machine. The panel is used with the EP10M/501. Power requirements +12 V and +5 V from EP10M/501. Panel size approximately 480 mm x 260 mm. Parent equipment RD4M/509. Sub-unit UN3/67. DD 1981.

PA6/123A Edit Control Panel. This is a 3 playback machine version of the PA6/123. The PA6/123 becomes a 2 playback machine version. Power requirements +12 V and +5 V from EP10M/501. Panel size, 480 mm x 260 mm. Parent equipment RD4/509A. Sub-unit UN3/67. DD 1981. DDMI 7.478(81).

PA060124 PA6/124 Playback Control Panel. Forms part of the Videotape Editing Control Equipment. This panel controls one playback machine. There are minor variations in the spooling control functions depending on the type of machine. The panel is used with the EP10M/502. Power requirements +12 volts, +5 volts from EP10M/502. Panel size approximately 240mm x 260mm. Parent equipment RD4M/509. Sub-unit UN3/68. DD 1981. DDMI 7.477(82).

PA060125 PA6/125 Events Control Panel. Forms part of the Videotape Editing Control Equipment. This panel is used with the GE2L/14 and controls the generation of event pulses for the Edit System. It also contains various monitoring and selection switches for the System. Power requirements +12 volts, +5 volts from the GE2L/14. Parent equipment RD4M/509. Sub-unit UN3/69. DD 1981. DDMI 7.479(81).

PA060126 PA6/126 Monitor Select Panel. For use in London Radio Continuity Cubicle Desk Equipment EP10/19. Power requirements +6, 0, -6v, +12, 0v (1 amp). CH1/77. SCPD 1981.

PA060127 PA6/127 MIC/TB Panel. This panel is part of the EP10/19 London Continuity. It has two channels for remote control of the presenters mic and mic group. Also it contains switches for Outside Source PH and Talkback. Power requirements ±6 volts, ±12.5 Volts, +12 volts. CH1/77B. Parent equipment EP10/19. Sub-units UN23/99, MP1/10. DD 1981. DDHB 3.264(81).

PA060128 PA6/128 Gram Replay Panel. To switch a gram output to appear on either of two recording busbars, or the desk input. SCPD (SSRU) 1981.

PA060129 PA6/129 LS Panel. To provide mute facility for News Tannoy Loudspeaker, mounted in a studio cubicle. CH1/72A. SCPD (SSRU) 1981.

PA060130 PA6/130 Studio Monitoring Panel. Monitoring Panel for use in London Radio Continuity Studio Desk Equipment EP10/19. Power requirements +6, 0, -6V; +12v, 0V. CH1/77B. SCPD (RSU) 1981.

PA060131 PA6/131 Matrix Control and Alarm Panel. Provides push-button control for a video matrix and other features in a remotely-controlled masthead control system. These features and a range of alarms are monitored by displays on the panel. Power requirements 240V AC. PN3/54 (Modified). Sub-units to be allocated. DD 1981.

PA060132 PA6/132 Links Control Panel. Provides push-button control of various functions in a remotely-operated masthead control system. These and other system features are monitored by displays on the panel. Power requirements 240V AC. PN3/54 (Modified). Sub-units to be allocated. DD 1981.

PA060133 PA6/133 Announcer Fader and Clock Panel. Part of London Radio Continuity Studio Equipment contains Announcer fader and VCA drive PCB together with pulse seconds clock, digital stop watch and Rehearsal Transmission push buttons. Power requirements +12.5V 0 - -12.5V and +12V. CH1/83. Parent equipment DK4/39. SCPD 1981.

PA060135 PA6/135 Editrace Control Panel. Control Panel for the Editrace Control System. The panel contains all the operational controls for the Editrace system. Power requirements +5v, +12 volts from RD4L/510. Panel approx 260 x 210. DD 1981. DDMI 7.497(82).

PA060136 PA6/136 OS Level and Monitoring Panel. Similar to PA6/106, but monitoring facilities extended to cater for 10 outside sources, 8 tape machines 2 auxiliary sources, 2 Bus bars, Desk output and tone. Gain controls of $\pm 6\text{dB}$ are provided for 6 of the outside sources. To be used in conjunction with PA6/137 first used in Bush House special Events Studio (S36). Power requirements $\pm 12\text{V}$, 0V, -12V. Sub-unit AM5/19. SCPD/SSRU 1981.

PA060137 PA6/137 OS Level Control Panel. Similar to PA6/106, but without PPM monitoring. Used in conjunction with PA6/136. Provides gain adjustment of $\pm 6\text{dB}$ for remaining 4 outside sources, plus 2 auxiliary sources. Power requirements +12V, 0V, -12V. Sub-unit AM5/19. SCPD/SSRU 1981.

PA060138 PA6/138 Tape Control Panel. Similar to PA6/105, but can select one of 18 recording sources to a tape machine. Uses a double digit dot matrix LED display to indicate selected source. Each panel handles two tape machines. To be used with PA6/136 and PA6/137. Power requirements +5v, 0V. SCPD/SSRU 1981.

PA060139 PA6/139 Key and Lamp Desk Panel. Similar to PA8/372, but contains additional key for channel pre-hear. The other key is used for remote signalling to an outside source. First used in Bush House Special Events Studio (S36). SCPD/SSRU 1981.

PA060140 PA6/140 Synchroniser Control Panel. Used with Timecode Tape Machine Synchroniser RD4L/511. Contains all the buttons, indicators etc. to control the synchroniser. Serial interface with RD4L/511. Power requirements Power from RD4L/511. +5 V, +12 V. Panel dimension approx. 200 x 250 mm. Supersedes PA6/542. Parent equipment RD4L/511. DD 1982. DDMI 7.520(84). EDI 10498(1)AUG 84.

PA060153 PA6/153 CINETRACE Data Preparation Control Panel. This panel is powered with raw S100 supplies from the host CINETRACE computer. Control settings on the panel and film position information is sent to the host computer via an RS232 link.

Data from the Steenbeck film edit bench is acquired via RS423 electrical standards. Steenbeck drive servo control is provided. The panel is in a box on a floor stand with cabline. Operation of the panel is software controlled. Power requirements +8V, 0.4A/+15V, 0.1A/-15V, 0.1A Unstabilised. Sepc. as S100 raw supplies. Parent equipment RP3/515. DD 1983. DDMI 7.543(86).

PA060154 PA6/154	Audio Amplitude Equaliser Control Panel. To remotely control the amplitude equaliser EQ3M/38. Power requirements ± 5 volts. Full width 4U front panel. DD 1983.
PA6P/154	Audio Amplitude Equaliser Control Panel. To locally control the amplitude equaliser EQ3M/38. 480 x 180 x 55. DD 1984. DDHB 6.285(86).
PA060155 PA6/155	Audio Phase and Delay Equaliser Control Panel. To remotely control the audio phase and delay equalisers. Power requirements ± 5 volts. DD 1983.
PA060156 PA6/156	Rapid Recall Panel. Panel to save and recall prepared names and phrases. Used as part of the ceefax subtitling equipment for live programmes. Power requirements 5 V 200 mA. Parent equipment EP1S/552. DD 1983.
PA060157 PA6/157	Link-Alarm Control Panel. Provides push-button control and lamp indications of remotely controlled SHF link equipment and associated alarms. Power requirements 240 V ac. PN3/56 modified. DD 1983.
PA060158 PA6/158	Aerial Bearing Control Panel. Provides pre-programmed aerial bearing selection by means of thumbwheel and push-button switches. An analogue meter for AGC indications is also mounted in the panel. 1U 19" panel. DD 1983.
PA6/158A & B	Aerial Bearing Control Panel. Provides pre-programmed aerial bearing selection by means of thumbwheel and push-button switches. An analogue meter for AGC indications is also mounted in the panel. Version A 2 sets of above. Version B single set mounted on L.H.S. 1U 19" Panel. DD 1984.
PA060159 PA6SM/159	VDU Control Panel. VDU equipment for use in HF transmitter automatic control systems. Provides facilities for entry and editing of transmission schedules, and display of station status information. Power requirements 240V a.c. PN3/54. Parent equipment EP1S/42. DD 1984. MI C.1037(87). HB C.1036(87).
PA060160 PA6SM/160	Sender Control Panel. Equipment for automatic control of HF transmitters, including programme source and aerial array selection, according to a transmission schedule held in memory. Power requirements 24V d.c. PN3/54. Parent equipment EP1S/42. DD 1984.
PA060161 PA6/161	O.S. Selection Control Panel. This OSSM is designed to replace existing module in the R.H. Wing of a type D desk. The selection is performed by means of a fibre optic data link to a 'DPC' and hence to the new 'NTP' router. It

contains 4 selection and 1 preselection windows (12 characters) and a built in qwerty ASCII keyboard. Performs fader inhibit function. Power requirements 8 V dc at 2.5 A. SCPD, RBSS 1984.

PA060162 PA6/162

O.S. Selection Control Panel. The OSSM is designed to fit in MK3/A desk (T.O. position). It is used to select OS channels, by means of a fibre optic data link to a DPC and hence to the new NTP router. Contains 4 selection and 1 preselection windows (12 characters), also fader inhibit and marking functions. It can drive 3 slave modules (SP27500). Power requirements 8 V dc at 3.0 A. SCPD, RBSS 1984.

PA060163 PA6/163

O.S. Selection Slave Control Panel. The OSSM slave module is designed to fit MK3/A desk (T.O. position). When used with master module (SP27450) can select up to 4 channels. Power requirements 8 V dc at 1.5 A. SCPD, RBSS 1984.

PA060164 PA6S/164

'FASOR' Control Panel. This unit is a 2U x bay width control panel carrying all the operational controls of the FILM AUDIO SYNCHRONISER 'FASOR'. It connects to a 2U crate housing the remainder of the equipments electronics via a cable incorporating an RS232 serial data bus. Power requirements +5 V, 100 mA +12 V, 500 mA. Parent equipment EP5S/27. DD 1984. DDMI 7.527(85).

PA060165 PA6/165

Cinetrace Auxiliary Control Panel. This panel is part of the CINETRACE Cinemascope telecine scanning control equipment. By means of switches on the panel, commands are entered into the CINETRACE computer. The panel also mounts a fluorescent vacuum display which gives a read out of data sent back by the computer. Power requirements 5 V, 1.25 A. CH1/64D. DD 1984. DDMI 7.541(86).

PA060166 PA6/166

EDIFILM Control Panel. The operator control panel allows EDIFILM commands to be entered into the EDIFILM hardware. Power requirements 10 W. Panel is 200 x 300 mm. Parent equipment EP10S/503. DD 1984.

PA060167 PA6/167

Studio Control Panel. This control panel forms part of the Studio Control Equipment used to control VTRs in the Record Bank area at Television Centre. It carries the operational switches wired to a rear connector, and is configured mechanically to suit the individual studio installation. Power requirements +12 V dc, 700 mA max. Parent equipment EP5P/28. DD(7) 1985. DDMI 7.553(86).

PA060168 PA6/168

'AUDITOR' Control Panel. Remotely controls and monitors the operation of AUDITOR via a serial and parallel data link. (Serial link is RS232). Power requirements 5 V d.c., 0.8A. PCB: 6" x 4". D & E D(C) 1986.

PA060169 PA6M/169

Station Alarm Panel. Receiver and docoder for remote monitoring of station alarms. Power requirements 240 V ac. Chassis code: PS3/54. Sub units: UN26/22A, DM1/7, RC1/27, PS4/38, UN12/27. D & ED(C) 1986.

PA060170 PA6/170 News Mixer Control Panel No.1. This unit is one of two control panels for the News Digital Mixer. It controls Wipe Pattern selection, position, size and aspect ratio, also the colour synthesiser for field and borders. Power requirements +24V. Sub-units UN26/91, UN23/186, UN23/187. Parent equipment EP5M/529. D & ED (V) 1987.

PA060171 PA6/171 News Mixer Control Panel No.2. This unit is one of two control panels for the News Digital Mixer. It controls source selection (video and Keys), key processing, transition types and transition levels, the latter using optical wheels. Power requirements +24V. Parent equipment EP5M/529. Sub-units UN26/91, UN23/185, UN23/186, UN23/187, UN23/190. D & ED (V) 1987.

PA060172 PA6/172 Mix-Effects Control Panel. Fader wheels control panel, used with EP1M/35B Panel Supervisor sub-unit of EP5/521 Vision Effects system. Power requirements 24Vdc. Parent equipment EP1M/35B. D & ED (Support Lab) 1987.

PA060173 PA6/173 Event-Memory Control Panel. Event-Memory Control Panel, used with EP1M/35B Panel-Supervisor sub-unit of EP5/521 Vision Effects system. Power requirements 24Vdc. Parent equipment EP1M/35B. D & ED (Support Lab.) 1987.

PA060174 PA6/174 Synthesiser Select and Control Panel. Colour synthesiser input select and control panel, used with EP1M/35B Panel Supervisor sub-unit of EP5/521 Vision Effects systems, and commercial (Probel) Vision Matrix. Power requirements supplied from matrix and 24Vdc. Parent equipment EP1M/35B. D & ED (Support Lab.) 1987.

PA060175 PA6/175 Mix-Effects Source Select Panel. Mix-Effects Source Select Panel, used with commercial (Probel) Vision Matrix, part of EP5/521. Power requirements supplied from matrix. Parent equipment EP5/521. D & ED (Support Lab.) 1987.

PA060176 PA6/176 DVE Source Select Panel. Digital Vision Effects source select panel, used with commercial (Probel) Vision Matrix, part of EP5/521. Power requirements supplied from matrix. Parent equipment EP5/521. D & ED (Support Lab.) 1987.

PA060177 PA6/177 Edit Machine Control Panel. This panel is part of the VANTAGE Edit Controller. It comprises press-button switches and lamps, with associated electronics on two PCBs mounted behind the panel. Communications with other Edit Controller units is via the RS232 serial protocol. Power requirements 12V, 1A. 370x130x70mm. D & ED (C) 1987.

PA06178 PA6/178 Playback Machine Control Panel. This Panel is part of the VANTAGE Edit Controller. It comprises press-button switches and lamps with associated electronics on two PCBs mounted behind a front panel. Communications with other VANTAGE units is by RS232 serial data. Power requirements +5V (200mA), +12V (300mA). 270x130x70mm. D & ED (C) 1987.

PA060179 PA6/179 Auto-Transition Control Panel. This panel allows transitions to be achieved automatically on the Digital

Vision Mixer, EP5M/529. Transition time is set by means of thumbwheel switches. Parent equipment EP5M/529. D&ED (V) 1987.

PA060180 PA6/180 Caption Control Panel. This unit controls the selection of sixteen captions from a GE6SM/571; it comprises a pcb with 16 switches with lamps. Power requirements 5V, 24Vdc. Parent equipment GE6SM/571. D&ED (V) 1987.

PA060538 PA6/538 Control Panel used in conjunction with EP1M/537A to provide editing facilities similar to EDIPLACE 3U bay mounting panel. SCPD 1977.

PA060539 PA6/539 TARIF TWO Switched Control Panel. Fitted at control position of the telecine machine, may also be used remotely. Replaces PA6/514 used with EP6L/509. DD 1977.

PA060540 PA6/540 TARIF TWO Control Panel, incorporates 2 joysticks for control of EP6L/509. DD 1977.

PA060541 PA6/541 Natlock Control Panel. A bay mounted control panel comprising PN3/55 nesting-box and two 'brick' chassis CH1/65D; providing controls and indications. Power requirements 10-60mA dependant on lamp display. PN3/55. DD 1977.

PA070507 PA7/507 Video Timing Delay Panel with 16 NE4/512A on 483mm x 45mm panel with MUSA plug connections. DD 1969. DD Spec 8.371. EDI 10028NOV69.

PA070518 PA7M/518 Video Delay Panel, comprising PN3/55, PN3A/57, 5 x NE4/520, NE4/521 and 2 x AM5/525. DD 1975. DDMI 9.215. DDHB 9.131(76). EDI 10279(1)JUN76.

PA080362 PA8/362 Pre-transmission Test Receiver Desk Panel, for use on External broadcasting sound control desks carrying pre-transmission test indication and controls. Replaces UN3/19. 178mm x 127mm x 254mm desk. DD 1976. DDMI 3.586. DDHB 3.145.

PA080380 PA8/380A Outside Source Desk Panel. Outside source desk panel for local radio installations. As PA8/380 but modified for independent selection of control lines. Power requirements 50V DC. Plug-in module 321 x 267 x 260. Parent equipment. Sub-units UN10/12, 4 off UN20/18. SCPD 1982.

PA8/380B Outside Source Desk Panel. Outside-source desk panel for local radio. As PA8/380 - 24 music lines and 24 control lines, but has major internal mechanical modifications. Power requirements 50 V dc. Plug in Module CH1/23 321 x 267 x 260 mm. Sub-units UN10/12 4 off UN20/18. ED 1985.

PA8/380C Outside Source Desk Panel. Outside source desk panel for local radio. As PA8/380A - 24 music lines and 23 control lines (i.e. 1-12 wired thro' 13, Plus 14-24), but has major internal mechanical modifications. Power requirements 50 V dc. Plug in Module (CH1/23) 321 x 267 x 280 mm. Sub-units UN10/12, 4 off UN20/18. ED 1985.

PA080381 PA8/381A	PPM and Switching Desk Panel. Provides similar functions to PA8/381, but with stereo PPMs and increased communications facilities. All other details as PA8/381. SCPD 1979.
PA080410 PA8/410	Desk Panel for Channel Facilities for single mono channel. Provides microphone amplifier with 5dB stepped gain control, RSA (AM1/4 incorporated into panel) PA, FB, Echo outputs, 2-group switching. Designed for Local Radio Mk.3A installations. Module 39mm x 338mm x 230mm with Varicon connectors. SCPD 1977.
PA8/410A	Panel, desk, channel facilities. As PA8/410 but with pan control for single-group stereo working. SCPD 1977.
PA080412 PA8/412	PCM Monitoring Selector Panel. This is the control panel for the PCM Coder Monitor Equipment and is fitted remotely at the S.B. desk in London Control Room. It supersedes the PA8/353. 305mm x 124mm Desk Panel. DD 1977. DDHB 6.165(78).
PA080413 PA8/413	Insert Jackfield Panel. This unit is designed as part of the DK4/19 to permit equipment, external to the desk, to be inserted into channel 1 and channel 2 by either the single or double jack method. CH1/72A. DD 1977. DDHB 3.271(81).
PA080523 PA8/523	Studio Timer Desk Panel used for Television production logging. Comprises timecode reader and two digital stopwatches. DD 1977.
PA090016 PA9/16A	Distribution and Switching Panel used on AM14/26, AM14/26A and AM14/27 for distribution, isolation, and switching of mains supply. 24V solid-state version of PA9/16. Power requirements 240V 50Hz mains. 483mm x 133mm panel with 152mm rear cover. Superseded by PA9/16B. TCPD 1978.
PA9/16B	Distribution and Switching Panel. Used on AM14/26A for distribution, isolation and switching of mains supply. PA9/16A modified to include recommended mains socket and remove redundant switch fuse. Power requirements 240V 50Hz mains. 483mm x 133mm panel with 152mm rear cover. TCPD 1978.
PA090019 PA9/19C,D	BBM Version of PA9/19A and PA9/19B. 'C' type for mains distribution 8 x 3A plugs and sockets, neons and fuses. 'D' type as 'C' but inverted. SCPD 1977.
PA090020 PA9/20	Mains Distribution Panel used on BA13/514. 483mm x 133mm panel for bay mounting, with six 13A mains sockets connected in two paralleled groups of three. DD 1973. DDMI 5.279.
PA090021 PA9/21	Mains Distribution Panel. 2-240V a.c. supplies, each being distributed to 4 outlets. Each outlet is via an XLR mains plug and protected by a thermal-magnetic cutout rated at 3A. Provision is made for signalling the condition of the circuit breakers via an 11 way P.O. 202 plug. 1U high panel. DD 1978.
PA090022 PA9/22	Mains Distribution Panel. Part of the Band II equipment. Used for distribution and isolation of mains supply. Power

requirements 240V 50Hz mains. PN1/31C panel. Parent equipment AM14/39A-B, AM14/40A-B and AM1/41. DD 1979.

- PA090023 PA9/23 Mains Distribution Panel. This panel requires two feeds of mains and incorporates separate circuit breakers/switches for each input to isolate/protect the mains outputs fed to individual loads. Power requirements 2 x 240V AC, 15A each max. 3U BMM 19" Panel. Parent equipment AM14/51. DD 1981.
- PA090024 PA9/24 Power Distribution and Monitoring Panel. This is a general purpose panel, which houses an interface printed circuit board, d.c. distribution sockets, monitoring socket and fan tray connections. Specifically for use on AM14/51C. Power requirements 2 x 26 V, 4 x 59 V d.c. 4U 19" Rack Mounted Hinged. Parent equipment AM14/51C. DD 1982.
- PA090025 PA9M/25 Power Distribution Panel. Subrack to accommodate two units in CH1/64D. Designed for use with unregulated power supplier PA3/68, PN3/54 with termination panel PN3A/50H plus hinged panel PN3A/55 for power O/P distribution. Power requirements mains. PN3/54 with termination panel PN3A/50H modified. Sub-unit PS3/68. SCPD 1982.
- PA090026 PA9/26 Mains Distribution Panel. Mains distribution panel comprising 6 x 6 amp IEC outlets with neon indicator lamps and cartridge fuse holders on 483mm x 45mm panel for bay mounting. Two mains input leads are provided. This unit was developed to cater for the connection of Power Supply units of various types thich at present blow the PA9/19D 3A fuses. Power requirements two mains inputs 240V AC. SCPD 1983.
- PA090027 PA9/27 Technical Power Panel. A studio pattress panel which provides six 13amp unswitched outlets for technical power. First used G.P. Radio Studio. 240 V a.c. Panel 280 x 192. Parent equipment EP1/44. TCPD 1984.
- PA090028 PA9/28 Cue Light Panel. A studio pattress panel with five EP-LNE outlets cue lights 1,2,3,4 and MIC.ON. First used G.P. Radio Studios. 240 V a.c. Panel 280 x 192. Parent equipment EP1/44. SCPD (RSS) 1984.
- PA090029 PA9/29 Mains Distribution Panel. Mains distribution panel comprising 8 - 3 amp outlets with indicator lamps and cartridge fuse holders. Two mains input leads are provided.
'A' - Version mounts at top of Bay.
'B' - Version mounts at bottom of Bay. Power requirements two mains inputs 240 V ac. Bases on a 1U panel-compatible with the B.M.M. system. ED 1984.
- PA090030 PA9/30 Mains Distribution Panel. Mains Distribution Panel comprising 8 - 3 A outlets with indicator lamps and cartridge fuse holders. Outputs are provided via flat pin sockets. Two mains input leads are provided. Can be adapted to be mounted at top or bottom of bay and also flush or rececessed. Power requirements 2 mains inputs

240 V ac. Based on a 1U panel compatible with BMM System. ED 1984.

PA090031 PA9/31 24 V Distribution Panel. 8 - 24 V d.c. supplies via circuit breakers from 'A' & 'B' 24 V d.c. inputs. Power requirements +24 V d.c. BBC chassis code 2 U High 19" panel. DD(2) 1986.

PA090032 PA9/32 50 V AC/DC Distribution Panel. 8 - 50 V supplies via 2 A fuses with supply indicating LED's. All supplied from 1 LED-indicated 50 V input. Power requirements 50 V ac/dc. Chassis: 1 U 19" bay-mounted case. DD(2) 1986.

PA090054 PA9/54 Power Distribution and Monitoring Panel. This is a general purpose panel, which houses an interface printed circuit board, d.c. distribution sockets, monitoring socket and fan tray connections. Specifically for use on AM14/51C. Power requirements 2 x 26V, 4 x 50V DC. 4U 19" Rack Mounted Hinged. Parent equipment AM14/51C. DD 1982.

PA100001 PA10/1 Alarm Fuse Panel similar to and replacing FR/7 but with hinged perspex cover over exposed terminals etc. SCPD 1968.

PA110019 PA11/19 Indicator Panel. Part of VHF Radio Control and Indication Panel PA6M/70, assembly of lamps and switches laid out as a mimic diagram of a transmitter installation. Panel 178mm x 425mm attached to modified BMM frame by hinges. DD 1977.

PA110502 PA11/502A Source Phase Indicator Panel. Similar to PA11/502 except manual control facility added. SCPD 1977.

PA190014 PA19/14 Television Studio EMX Telephone Panel providing interconnection between 5 local extensions, three distributions and 14 external control lines. Contains the ringing detectors and line units for all the studio control lines. Occupies panel space 222mm x 483mm. SCPD 1977.

PA200009 PA20/9 Termination Panel used on BA1/5 to provide input and output connections. Dished panel 483 mm x 343 mm, with 15 12 way blocks. DD 1972. OBSOLESCE.

PA200011 PA20/11 Termination Panel for a PS2/163 power supplier. It comprises an AP1/14B printed wiring card equipped with mains and output connectors and lacing bar. A bracket mounts an XLR LNE connector and wiring cover. DD 1977. DDMI 3.641(77).

PA200013 PA20/13A-D Termination Panel for RC1/12, RC1/12A, RC1/17 and RC3/15 receives. 'A' version single low impedance audio outputs at +5dB into 5k Ω at 75kHz deviation; 'B' version single low impedance audio outputs at +10.8dB into 600 Ω at 75kHz deviation; 'C' version 600 Ω twin left and right audio outputs; 'D' version single low impedance left and right audio outputs. Power requirements mains or d.c. PN3A/79. PA20/13D superseded by PA20/19A. DD 1978.

PA200014 PA20/14	Termination Panel. Rear termination panel for RC3/16 A.M. receiver. Power requirements mains or d.c. PN3A/79. DD 1978. DDMI 5.360(78). DDHB 5.144(78).
PA200015 PA20/15	Switch Termination Panel. Connects 14 wires from each of 3 ribbon cables to one 38 way Varicon fixed plug. For use with SE2/3 Communications Switch Unit. PCB approximately 150mm x 150mm. SCPD 1978.
PA20/15A	Termination Switch Panel. As PA20/15 but omitting components not required when used in conjunction with a capacitor microphone. SCPD 1978.
PA200016 PA20/16	Termination Panel for Band II VHF drive bays. Drawer unit 483mm x 44mm with 9 x 12-way tag blocks. TCPD 1978.
PA200017 PA20/17	Termination Panel. To interface a stereo coder type CD2/11 with external connections, i.e. mains, audio inputs, coded output, control circuits etc. PN3A/54. DD 1978. DDMI 6.347(79). DDHB 6.173(79).
PA20/17A	Termination Panel. To interface the Stereo Coder CD2/11 with external connections, i.e. mains, audio inputs, coded output, control circuits etc. This 'A' version differs from the standard version in that it also includes a TNC output of 19 kHz and a TNC input of 57 kHz for injection of Radio Data. Power requirements 240 V a.c. Chassis PN3A/54. Sub-units CD2/11. TCPD 1986.
PA20/17B	Termination Panel. To interface a stereo coder type CD2/11 in Local Radio TIE with external connections i.e. mains, audio inputs, coded output etc. Also includes TNC output of 19 kHz and TNC input of 57 kHz for injection of Radio Data. Power requirements 240Vac. Chassis code: PN3A/54. TCPD 1987.
PA200018 PA20/18	Termination Panel. U Link termination panel for 15 circuits 2U high with designation strips and lacing bar. BMM version of PA20/7. Supersedes PA20/7. SCPD 1978.
PA200019 PA20/19	Termination Panel. The unit is intended for use with receives RC1/12, RC1/12A, RC1/17, RC1/17A, RC1/15 and RC3/15. It is used as a rear panel termination and directly mountable to the rear of a 4U BMM nest box. Power requirements d.c. or mains. PN3A/54A. Supersedes PA20/13. DD 1979. DDMI 5.366(79).
PA20/19A	Termination Panel. Rear termination panel for RC1/12, RC1/12A, RC1/17 and RC3/15. Single 600Ω load when receiver is fed with 75kHz deviated RF signal. Power requirements d.c. or mains. Supersedes PA20/13D. ED 1980.
PA200020 PA20/20	Termination Panel. The unit is intended for use with receivers RC1/12, RC1/12A, RC1/17, RC1/17A, RC1/15 and RC3/15. It is used as a rear panel termination and directly mountable to the rear of a 4U BMM nest box. Single A.F. outputs at low impedance are available without multiplex. Power requirements d.c. or mains. PN3A/54A. Supersedes PA20/13. DD 1979. DDMI 5.368(79).
PA200021 PA20/21	Termination Panel for DM4/2. PN3A/50A and PN3A/54A. DD 1980.

PA200022 PA20/22	Termination Panel. Termination Panel for UN10/47 containing Souriau 17-way connector socket. Painton 2 pole socket and Mains 4 pole plug. 105 mm x 85 mm. Parent equipment PN3/55. Sub-units to take a UN10/47. DD 1980.
PA200023 PA20/23	Termination Panel. Bay mounted termination panel to provide input and output connections. Recessed panel 483mm x 133mm, with 8, 16-way tag blocks and 2 lacing bars. TCPD 1980.
PA200023 PA20/23A-D	Termination Panel. As PA20/23 but all versions fitted with tagstrips, A & C Versions fitted with solder tags, C & D versions have provision for additional cables. TCPD 1986.
PA200024 PA20/24	Termination Panel. Rear Termination Panel for GE4/6 etc. Equipped with XLR/LNE and XLR3 connectors. As PN3A/51D but drilled for horizontal PCB. DD 1981.
PA200025 PA20/25	Termination Panel. Termination Panel for unstabilised power supplier PS3/64. 2 x 20 pole varicon outputs, one for power and one for failure indicating relays. Mains connector. Power requirements 250V 50Hz. PN3A/79A. DD 1981. DDMI 8.632(82).
PA200026 PA20/26	Termination Panel. Rear termination panel for GE4/6C. Equipped with audio and mains connectors and houses line - switching relays. As PN3A/51D but drilled for horizontal PCB. DD 1982.
PA200027 PA20/27	Termination Panel. The PA20/27 is a termination panel for use with either of the power supplies PS2/275 or PS2/187K. It allows the above power supplies to be used in the AM4/24 PCM distribution amplifier in 4U chassis arrangements. DDMI 6.391(82). Power requirements 250V 50Hz. PN3A/79A. DD 1982.
PA200028 PA20/28	Termination Panel. Intended for use as a termination panel for MD1/7 VHF Stereo Modulator. Power requirements mains. PN3A/79A. DD 1983. DDHB 5.163(83).
PA200029 PA20/29	Termination Panel. This termination panel is for use with a ME2/7 when mounted in half of a PN3/55 chassis. Connections to the ME2/7 are via a 9 way 'D' connector (mains) and a 17 way connector (A+B audio). Connections on the rear of the termination panel are an XLR-LNE socket and 2 XLR-3 connectors for the A and B audios. Power requirements 240 a.c. mains. Parent equipment ME2/7. DD 1983. DDHB 9.195(83). DDMI 9.302(83).
PA200030 PA20/30	Termination Panel. Termination panel for RC1/29, RC1/30, RC3/18 and RC3/19 Band II VHF receivers. Power requirements mains. DD 1984. DDHB 5.177(84). DDHB 5.178(84). DDMI 5.448(84).
PA200031 PA20/31A	Termination Panel. Termination Panel for DM2/3, OS2/54 and PS2/163. Power requirements mains 240V 20W. 86 x 210. Sub-units DM2/3, OS2/54, PS2/163. TCPD 1984.
PA20/31B	Termination Panel. Termination Panel for DM2/3, OS2/54 and PS2/194. Power requirements mains 240V 20W. 86 x 210.

PA20/31C	Sub-units DM2/3, OS2/54, PS2/194. TCPD 1984. Termination Panel. This Panel connects a DM2/3, OS2/54 & PS2/301. The equipment thus formed provides tones to an audio signal, and has tone detection before and/or after the audio filter. Power requirements 240V ac, 20W. 86x158mm. Sub-units DM2/3, OS2/54, PS2/301. TCPD 1987.
PA200032 PA20/32	Termination Panel. Similar to PA20/9 but using only 6 tag blocks. Intended for bay-rear mounting for termination of inter-bay wiring. Drilled to accept either 12-or 16 way tag blocks to suit application. (TP10905.2.22A2 for details). TCPD 1984.
PA200033 PA20/33	Termination Panel. Termination panel for RD5/5 carrying data and mains connectors. PN4/1D. DD (9) 1985.
PA200034 PA20/34	Termination Panel. Termination Panel for MN1/30 Tone Detector, providing connections for power input, signal input and relay outputs. Suitable for one MN1/30 in a PN3/55 2U panel. Power requirements: 240 V a.c./24 V d.c. BBC Chassis Code: PN4/1C. DD(2) 1986.
PA200036 PA20/36	Termination Panel. Termination Panel for M.S.F. Clock Decoder, C04/30. Power requirements: 240 V a.c. BBC Chassis Code: PN3A/17. RD 1986.
PA200037 PA20/37	RDS Termination Panel. This termination panel accepts a number of sub-units to form a unit which generates a 57 kHz carrier modulated with Radio Data information. BBC chassis PN3A/53D. Parent equipment CD4L/21. D & E D(A) 1986.
PA200038 PA20/38	UN23/181 Termination Panel. Rear interconnection panel for CPU Control Interface Unit. Non-standard 6U PCB. DD(8) 1986.
PA200039 PA20/39	RC1/31 Termination Panel. Rear interconnection panel for EBU Video Receiver. Non-standard 6 U PCB. DD(8) 1986.
PA200040 PA20/40	UN26/73 Termination Panel. Rear interconnection panel for the Caption Processing Unit. Non-standard 6 U PCB. DD(8) 1986.
PA200041 PA20/41	GE7/19 Termination Panel. Rear interconnection panel for Wipe Pattern Combiner. Non-standard 6 U PCB. DD(8) 1986.
PA200042 PA20/42	UN26/74 Termination Panel. Rear interconnection panel for Key Processing Unit. Non-standard 6 U PCB. DD(8) 1986.
PA200043 PA20/43	UN26/75 Termination Panel. Rear interconnection panel for Key Masker. Non-standard 6 U PCB. DD(8) 1986.
PA200044 PA20/44	MX5/508 Termination Panel. Rear interconnection panel for Mix - Effects Unit. Non-standard 6U PCB. DD(8) 1986.
PA200045 PA20/45	UN26/76 Termination Panel. Rear interconnection panel for Stabilising Unit. Non-standard 6U PCB. DD(8) 1986.
PA200046 PA20/46	TM1/6 Termination Panel. Rear interconnection panel for EBU Video Transmitter. Non-standard 6U PCB. DD(8) 1986.

PA200047 PA20/47	UN26S/87 Termination Panel. Rear connection panel for CPU module, UN26/87. PCB: Non-Standard 6 U. Parent equipment UN26S/87. D & ED(V) 1986.
PA200048 PA20/48	Termination Panel. Rear Interconnection Panel for Digital Key Filter FL4/85. Chassis non-standard 6 U PCB. D & ED(V) 1986.
PA200049 PA20/49	Termination Panel. To interface a 60 kHz Standard Frequency Receiver RC1/23, a Clock Buffer Unit UN26/94 and a Switched Mode Power Supplier PS4/18. For use with Radio Data equipment on Local Radio VHF Transmitters. Power requirements 240 V a.c. Chassis PN3A/53B. Sub-units RC1/23, PS4/18, UN26/94. TCPD 1986.
PA200050 PA20/50	Termination Panel. To interface 60 kHz Rugby MSF Receiver RC1/23, UN26/94 and PS2/163 with external connections. i.e. mains, serial input, data outputs and control outputs. Power requirements 240Vac. PN3A/57. TCPD 1987.
PA200051 PA20/51	Termination Panel. 4U BMM termination panel for use with MN1/32 Phase Error Monitor. Power requirements 240Vac. Chassis 4U. Parent equipment MN1/32. D & ED (Support Lab.) 1987.
PA200052 PA20/52	Termination Panel for UN26/95. Rear interconnection panel for Error Feedback Unit UN26/95. 6U pcb (non-standard). D & ED (V) 1987.
PA200053 PA20/53	Termination Panel. Used with the OS2/53, the panel mounts on the rear of a 4U BMM crate, PN3/54. Power requirements 240Vac. PN3A/53A. TCPD 1987.
PA200054 PA20/54	Termination Panel. Used with the OS2/53, this Panel mounts on the rear of a 4U BMM crate. Power requirements 240Vac. PN3A/53A. TCPD 1987.
PA200055 PA20/55	Termination Panel. This unit terminates the MN1/16 Monitoring Detector, and is used to interface with bayside wiring; it is used in VHF/FM Transmitter Input Equipment Bays. PN3A/79A. Sub-unit MN1/16. TCPD 1987.
PA200056 PA20/56A-D	Termination Panel. This Panel is used with an MN4/10-series Comparator Monitor, and forms a part of VHF/FM Transmitter Input Equipment Bays. Options A-D correspond to the A-D versions of the MN4/10. PN3A/97A. Sub-units MN4/10A-D. TCPD 1987.
PA200057 PA20/57	Termination Panel. This is a rear-panel for a pair of SE2/36-series Programme Changeover Units, used in VHF/FM Transmitter Input Equipment Bays. PN3A/53B. Sub-units SE2/36A-D. TCPD 1987.
PA200058 PA20/58	Termination Panel. This is a rear Termination Panel for a pair of UN23/191 system control units; it may also be configured by DIL switches to accommodate the UN23/191A, as used on VHF/FM Transmitter Input Equipment bays. PN3A/53B. TCPD 1987.

PA200059 PA20/59	Termination Panel. This panel is used with the UN12/28 Over-temperature Display Unit, used in the control racks of Marconi B6526 10kW and 20kW transmitters. It has a 38-way Varicon plug for connection with the transmitter circuitry. TED 1987.
PA200504 PA20/504A,B	Termination Panel. This fits a 2U frame PN3/55, and is 53mm wide (A size). It consists of a PN3A/51A with a 17 way Souriau connector and a metal bracket fitted with PO Musas. Mains connector are also fitted. The 'A' version is wired for a Video Distribution Amplifier and the 'B' version for a video delay unit. DD 1976. DDMI 8.583(77).
PA200505 PA20/505	Termination Panel for AM4/531 4U distribution amplifier. Has provision for mixing tieline equalisers. DD 1976. DDMI 8.584(77).
PA200507 PA20/507A	Termination Panel. Replacement for PA20/507, Termination Panel for 3 channel distribution amplifier AM4/532. 3 looped inputs, 4 outputs per channel, MUSA connectors. Mains connector. Power requirements 240V 50Hz. PN3A/79A. Supersedes PA20/507. DD 1981.
PA200508 PA20/508	Termination Panel for the AM5/527 Video Amplifier. 4U high x A wide x 51mm approximately deep. DD 1977.
PA200509 PA20/509	Termination Panel. Designed to work specifically with the Pulse Distribution Amplifier AM4/533. It will consist of a front plate PN3A/50A and a bracket PN3A/79 modified to accept 12 single hole fixing musa's and the equaliser housing EQ5/540. Supersedes PN3A/41A. DD 1977. DDMI 8.593(78).
PA200510 PA20/510	Termination Panel. Video and mains termination panel for the Video Sending Amplifier. PN3A/79. DD 1977.
PA20/510A	Termination Panel. Similar to PA20/6 but with 3dB 75Ω pad fitted into the video input. PN3A/79A. Parent equipment AM7L/513. SCPD OBU 1982.
PA200511 PA20/511	Termination Panel to provide mains and coaxial connections to the UN14/537, Pulse Delay Unit. PN3A/79. DD 1978.
PA200512 PA20/512	Connection Panel for GE6/541. Facilitates connection of necessary inputs and outputs on MUSA connectors, remote control on 20 way Varicon, and a.c. mains supply. Mounts on rear of 4U frame PN3/54. DD 1978. DDMI 9.237(79).
PA200514 PA20/514	Connector Panel for EQ5/546 (Mains version). This panel mounts the mains and signal connectors necessary for operation of an EQ5/546. It also mounts the bal/unbal switch. Versions for d.c. and for mains/battery operation may be produced later if required. Power requirements PN3/50B and PN3A/53B. DD 1978. DDMI 6.341(78).
PA20/514A	EQ5/514A Connector Panel (Mains). Provision of additional rear connector and associated wiring on existing PA20/514 necessary for operation for EQ5/546A. SCPD OB 1981.

PA200515 PA20/515	Termination Panel for use with the GE5/509 Pulse Generator providing MUSA signal connectors and XLR for mains. PN3A/53A. DD 1978.
PA200516 PA20/516	For use with 2 x 3 channel amplifiers AM4/532 to provide 20 outputs from one video input. Amplifiers not included. PN3A/79B. DD 1978. DDMI 8.596(79). EDI 19362(1)SEP79.
PA200517 PA20/517	Termination panel for use with GE1/594 Cue Dot Generator. 4U 'A' width BMM. PN3A/79. DD 1979.
PA200518 PA20/518	GE5/515 Termination Panel. A termination panel for use with the GE5/515, also containing the unit power supply. Power requirements 240V. Modified PN3A/53B. DD 1980.
PA200519 PA20/519	Termination Panel for the Black Level and Burst Generator GE6/547. Inputs and outputs for Mixed Syncs and Burst Gate. Input for subcarrier (Terminated). Two signal outputs. Mains connections. Mains power required. PN3/54. DD 1980.
PA200521 PA20/521A	Termination Panel. MUSA termination panel for use with video distribution amplifiers AM4/536. 4U card 187 mm long. DD 1983. Supersedes PA20/521.
PA200522 PA20/522A	Termination Panel. BNC termination panel for use with video distribution amplifier AM4/536. 4U card 187 mm long. Supersedes PA20/522. DD 1983.
PA200523 PA20/523	Termination Panel. Termination Panel for UN1/715, with provision for Mains and input. Power requirements mains. 2U 'D' width. DD 1981.
PA200524 PA20/524	Termination Panel. Provides RGB non-composite outputs. Consists of rear termination panel equipped with 5 BNC and 1 XLR/LNE connector, provides termination for GE4/570. Power requirements 240V AC Mains. PN3A/50A and PN3A/79A. Supersedes GE4M/523. DD 1981. DDMI 9.266(82). DDHB 9.165(82).
PA200525 PA20/525	Front Termination Panel. This panel will enable vision carrier signals to enter the front of the EP2M/503 so that they can be passed to the rear of an EP2M/502. It will also enable connection of cables to an adjacent unit, EQ4/508 which is housed in the EP2M/503. PN3A/75B. Parent Equipment EP2M/503. DD 1981.
PA200526 PA20/526	Termination Panel. Provides BNC connectors for signal input and outputs, and XLR for mains. PN3A/79 and PN3A/50A. DD 1981.
PA200527 PA20/527	Termination Panel. This is a termination panel carrying mains and 600Ω audio tones plus input logic levels of 0 and -6V for timing line and field; 0 -3 -6 for colour phase Normal, Retard and Advance. DD 1982.
PA200528 PA20/528	Termination Panel. Termination panel for ACE/TARIF Interface Unit providing video and control connections to external equipment. 4U BMM B width unit terminates

UN26/565 and associated PS2/187G. Power requirements 240V AC mains via XLR. 4U BMM B width modified PN3A/53B. Parent equipment UN26/565. DD 1982.

PA200529 PA20/529	Termination Panel. Facilitates connection of necessary inputs and outputs of GE4/572 and A on Musa connectors. Contains output filter. Mounts on rear of 4U frame PN3/54. Power requirements AC mains. PN3/54. DD 1982. DDMI 9.295(83). EDI 10492(1)AUG 85.
PA200530 PA20/530	Termination Panel. To provide a termination panel for the 3 channel DA, AM4/538. PN3A/79. DD 1983.
PA20/530A	Termination Panel. Provides a termination panel for the 3-channel D.A. AM4/538. Identical to PA20/530 but with 6 dB attenuators on I/P's. PN3A/79. DD 1983.
PA200531 PA20/531	Termination Panel. Extended version of PA20/505. Houses PCB similar to PA20/521 and allows the mounting of an EQ5/550 size equaliser and delay line, or EQ5/567 (for longer lines). 4U. DD 1984. EDI 10527(1)AUG85.
PA200532 PA20/532	Termination Panel. Termination panel for use with the automatic video equaliser, EQ5/560. It is fitted with BNC signal connectors, XLR/LNE mains connector and 7-pole '159' data connector. 4 U, A-width BMM. Power requirements 240 V ac. PN4/5A. DD 1985.
PA200533 PA20/533	Termination Panel. Dedicated Termination Panel for UN26/599 providing all mechanical and electrical interfaces necessary for installation in a 4 U BMM panel. Comprises PN3A/79A, PN3A/50A and PN3A/60C. Power requirements 240 V ac. 4 U, 'A' width. Supersedes PA20/513. Parent equipment UN26/599. DD 1985.
PA200534 PA20/534	Termination Panel. B.N.C. termination panel for use with AM1/64 Video Auto-phasing Amplifier. Provision is made for an equaliser and/or a delay line to be mounted as required. 4 U card, non-standard length. DD (8) 1985.
PA200535 PA20/535	Termination Panel. Termination Panel for ME1/522. For mounting in PN3/54. Power requirements 240 V a.c. PN3A/79A, PN3A/50A. Parent equipment ME1/522. DD(1) 1985.
PA200536 PA20/536	Termination Panel. Termination Panel for CD3S/549 (B width). PN3A/50B and PN3A/54B. DD(7) 1986.
PA200537 PA20/537	Termination Panel. Termination Panel for C04S/518 (A width). PN3A/50A and PN3A/54A. DD(7) 1986.
PA200538 PA20/538	Termination Panel. Termination Panel for Video Watermarking Generator, GE7/512. Power requirements: 240 V a.c. BBC Chassis Code: PN3A/17. RD 1986.
PA200539 PA20/539	Termination Panel. Provides mains and signal connections to AM7/514 unit. 1 input and 2 output signal channels via 25-way D-connectors. XLR mains connector. DD(1) 1986.

PA200540 PA20/540	C09/511 Termination Panel. Rear Termination Panel for DAC C09/511. PCB: Non-Standard 6 U. Parent equipment C09/511. D & E D(V) 1986.
PA200541 PA20/541	CD2L/529 Termination Panel. Provides mains and signal connections to CD2L/529. D & ED (V) 1987.
PA200542 PA20/542	CD3L/552 Termination Panel. Provides mains and signal connections to CD3L/552. D & ED (V) 1987.
PA200543 PA20/543	UN17/529 Termination Panel. BMM Termination Panel, to be used with the UN17/529 Digital Phase Shifter. BNC sockets pass the video signal, and a 20-way Varicon passes the control voltage. Power requirements 240Vac. Chassis code PN3A/54 plus PN3A/50A. Replaces unit made locally by PID.Tel (not coded). Sub-units UN17/529. D & ED (Support Lab.) 1987.
PA200544 PA20/544	UN14/550 Termination Panel. This is a dedicated termination panel for the UN14/550 Colour Phasing Delay Unit. It has provision for mounting an input attenuator and/or an equaliser (EQ5/550). PN3A/54. D & ED 1987.
PN010031 PN1/31A-E	Dummy panels for use with the BMM sytem on bays PN1/31A - 1U high, PN1/31B - 2U high, PN1/31C - 3U high, PN1/31D - 4U high, PN1/31E - 5U high, full width panel, 482.6mm wide x 3mm thick. Anodised to ED138. ED 1976.
PN010032 PN1S/32	Input Interface Panel (Unequipped). Accepts 8 pairs of input interface units for Monitoring and Information Centre main stores. The units accepted are C01/8, Serial to Parallel Data Converter, and UN26/2, Input Interface Processing Units. The back panel has provision for 3 off PS2/195A Stabilised Power Suppliers but is supplied unequipped, units are inserted according to site requirements. PN3/54. DD 1985.
PN010033 PN1/33A,B	Dummy panel to fill sapces in PN3/23 where no units are fitted. A - single version (54mm wide), B - double versin (108mm wide). Aluminium alloy panel, without handle, finished E.D.41 (white), a less expensive version of PN1/6A and PN1/6B. ED 1977.
PN010034 PN1/34	2U BMM Panel, based on PN3/31B Dummy panel with 3 x 60 way tagstrips on brackets behind. Replaces PN3/1 in BMM installations. SCPD 1978.
PN010035 PN1/35	2U BMM Panel, based on PN3/55, to accommodate 20 'Type 25' relays. Replacement for PN1/26 in some applications. SCPd 1978.
PN010036 PN1/36	Ventilation Panel. 483mm x 44mm dummy panel with protected expanded metal slots to provide ventilation. Anodised to match BMMs. Similar to PN1/19. ED 1978.
PN010037 PN1/37	Transformer Panel. Based on PN3/67 General Purpose Panel with equipment mounting plate drilled to accept 8 LL238/H12 transformers. (16 if they are mounted on both sides) and

back panel drilled for wire access. BMM replacement for PN5/3 in some applications. SCPD 1978.

PN010038 PN1/38	Input Interface Panel. Un-equipped 4U BMM rack wired to take up to 8 UN26/29 interface units for Monitoring and Information Centres. The application is similar to PN1/32. CH1/54. Sub-units UN26/29 and PS2/195A. DD 1980.
PN010039 PN1/39	Termination Panel. Mounting for two TV36 camera cable connectors. The plate is surface mounted. Connectors held at 75mm from surface at angle of 75° deg. (Template in possession of ED Mechanical Workshop.) 10cm (H) x 20cm (W) x 8.8cm (D). SCPD-TSTU 1981.
PN010040 PN1/40J	Front Panel. 4U J Width front panel with protective cover and coding index for use with CH1/79 wire wrap board. DD 1982.
PN010041 PN1/41	Loudspeaker Amplifier Panel. 2U high panel to mount two Loudspeaker Amplifiers type AM8/17 into a 19" rack system. Sub-units AM8/17. DD 1982.
PN010042 PN1/42A-H	Transparent Front Panel. Front panel for 4U BMM card frame. Manufactured from neutral density perspex to permit viewing of indicators etc. on cards. Only F & H width drawn at 9.1.84. Parent equipment MP1/29. SCPD 1984.
PN010043 PN1/43A&B	Fan Panel. Consists of a 1U Tray which can be mounted in the FW1/15 series of bays. Two versions are available. 'A' Version - capable of mounting two Fan Modules. (code MP2/33) 'B' Version - capable of mounting three Fan Modules. (code MP2/33). Note: The Fan Modules are not included and must be ordered separately. Power requirements 240 V ac when equipped. 'A' version - 483 x 410 x 44 'B' version - 483 x 550 x 44. ED 1984.
PN010044 PN1/44	Panel. Addition to BMMCS metalwork to allow two 4U unsupported printed boards to be mounted on an 'A' width front panel. Only one board (the left one, when viewed from the front) has a connector (double sided, 112 pole), and the other hinges when released (compare with CH1/64 used with supported printed boards). Conforms to dimensions of 4U 'A' width chassis. DD 1984.
PN010045 PN1/45A-E	Dummy Panel. These panels cover un-equipped apertures in a 483 mm Bay. (Similar to PN1/31 series). PN1/45A - 1U Height PN1/45B - 2U Height PN1/45C - 3U Height PN1/45D - 4U Height PN1/45E - 5U Height ED 1984.
PN030023 PN3/23C	Accommodates 5 sound amplifiers in CH1/18C and Monitoring Jack Unit UN6/2 and Power Supplier in CH1/18B. DD 1962. DD Spec 3.324.
PN3/23F	Accommodates 6 sound amplifiers and power supplier. Used

in place of PN3/23C where suitable jacks are available on jackfields. DD 1966. DD Spec 3.490.

PN030066 PN3/66 Decoder Panel. Rack to house a variable number of Pilot Tone Demodulators DM1/2A and DM1/2B, AM6/19, DM1/5. Number and type of units variable according to site. used in Monitoring and Information Centre, and Monitoring and Collection Points. Power requirements $\pm 5V$, $+9V$. PN3/23. DD 1978.

PN030067 PN3/67 General Purpose 2U Panel based on PN3/55. Recessed equipment mounting plate, rear connector plate (both undrilled), and screw-on front cover. Basic metalwork from which relay panels, transformer panels etc. can be derived. SCPD 1978.

PN030069 PN3/69A-H Panel (Portable). This panel, with carrying case CS2/26A-H and termination panel PN3A/51A-H, will allow units to be mounted in a portable manner. No power requirements. 2U BMM. DD 1980.

PN030070 PN3/70A-H Panel (Portable). This panel with carrying case CS2/27A-H and termination panel PN3A/50A-H, will allow units to be mounted in a portable manner. No power requirements. 4U BMM. DD 1980.

PN030071 PN3/71A,B,D Panel. Back panels for use with PN3/58 and CH1/82, in A, B and D versions, at SCPD's request. ED 1980.

PN030072 PN3/72 1U Panel. 1U high bay mounting panel, internal size 40mm H x 360mm D x 416mm W. Top cover part hinged for access. Intended to house printed circuit boards on base plate using spacers or similar. DD 1983.

PN3/72A&B 1U Panel.
'A' Version. 1 U high bay mounting panel, internal size 40 mm H x 360 mm D x 416 mm W.
'B' Version. 1 U high bay mounting panel, internal size 40 mm H x 410 mm D x 416 mm W.
Intended to house printed circuit boards on base plate using spacers or similar. DD 1985. DDMI 1.265(85). DDHB 1.193(85).

PN030073 PN3A/73 Termination Panel. This termination panel or cover fits a 2U frame (PN3/56) and consists of one end bracket for an XLR mains connector and a cover together with a lacing bar. Used mostly on 305mm deep bays, where the panel is to be 'hard wired' to the bay. DD 1976. DDMI 1.245(79).

PN3/73 General Purpose Panel. Panel to mount 5 Power Suppliers PS3/71. Power requirements 240 V ac. 3 U main frame. DD 1985. DDMI 3.752(85).

PN030074 PN3A/74 General Purpose Termination Panel. This panel fits the rear of a PN3/55 (2U) frame, to which it is hinged. It would be used in addition to a normal metal or printed circuit board back plate to carry the plugs and sockets for external connections. DD 1976. DDMI 1.194. DDMI 3.752(85).

PN3/74 General Purpose Panel. Panel to mount 8 amplifiers AM7/25

and 1 Power Supplier PS3/71. Power requirements 240 V ac.
3 U main frame. DD 1985. DDMI 3.752(85).

PN030075 PN3A/75A-H,J Dummy Panel. 2U panels to fit the 483mm frame PN3/55 and to blank off any empty space. Eight widths A to H together with the narrow 'J' size. DD 1976. DDMI 1.230(79). DDMI 3.752(85).

PN3/75 General Purpose Panel. Panel to mount 10 amplifiers AM7/25. Power requirements ± 24 V. 3U Main Frame. DD 1984. DDMI 3.752(85).

PN030076 PN3A/76A-H,J Dummy Panel. 3U panel to fit the 483mm frame PN3/58 and to blank off any empty space. Eight widths A to H together with the narrow 'J' size. DD 1976. DDMI 1.236(79).

PN3/76 Auto-Phase Panel. Panel to accommodate one PS3/64, one UN26/601, and up to eleven AM1/614s or AM4/536s with corresponding termination panels, in any combination. PN3/54. DD (8) 1985.

PN030077 PN3/77 Control Panel Chassis. This chassis holds the two Control Panels (PA6/170 & PA6/171) for the EP5M/529 Digital Vision Mixer. It consists of BMM component parts, so that the panels themselves mount like standard BMM chassis. D&ED (V) 1987.

PN030078 PN3A/78 G.P. Termination Panel. This panel consists of a simple bracket with four captive screws. It fits a 2U frame and can only be used with either the PN3A/51A or a P.O. mother board. It is 'A' size (53mm wide) and is punched for a mains connector. DD 1977. DDMI 1.237(79).

PN030079 PN3A/79 G.P. Termination Panel. This panel consists of a simple bracket with four captive screws. It fits a 4U frame and can only be used with either the PN3A/50A or a P.C. mother board. It is 'A' size (53mm wide) and is punched for a mains connector. DD 1977. DDMI 1.226(78).

PN030080 PN3A/80 Termination Panel or cover to fit a 2U frame (PN3/56). It consists of a full width cover supported on pillars from the main termination panel and a lacing bar. Used mostly on shallow bays, where the panel is to be 'hard wired' to the bay. DD 1977. DDMI 1.244(79).

PN030081 PN3A/81 Panel to fit the 2U frame PN3/55 and cover up unsupported P.C. boards. It is retained by a clip on its lower edge and a thumbscrew on its top edge. Usual 8 widths designated A-H, supersedes the hinged cover PN3A/7 2. DD 1977. DDMI 1.228(79).

PN030082 PN3A/82 Panel to fit the 3U frame PN3/58 and cover up unsupported P.C. boards. It is retained by a clip on its lower edge and a thumbscrew on its top edge. Usual 8 widths designated A-H, supersedes the hinged cover PN3A/6 8. DD 1977. DDMI 1.229(79).

PN030083 PN3A/83 Panel to fit the 4U frame PN3/54 and cover up unsupported P.C. boards. It is retained by a clip on its lower edge and a thumbscrew on its top edge. Usual 8 widths

designated A-H, supersedes the hinged cover PN3A/66. DD 1977. DDMI 1.235(79).

PN030084 PN3A/84 Panel to fit the 5U frame PN3/56 and cover up unsupported P.C. boards. It is retained by a clip on its lower edge and a thumbscrew on its top edge. Usual 8 widths designated A-H, supersedes the hinged cover PN3A/69. DD 1977. DDMI 1.234(79).

PN040001 PN4/1C,D Termination Panel. Panel to enable CH1/65C and CH1/65D with horizontal G06 connector to be used in either PN3/55 or CS2/24. DD 1977.

PN040002 PN4/2 Termination Panel. General purpose termination panel for 4U A-width BMM units. Comprises PN3A/79, PN3A/50A, PN3A/60C, fitted with XLR-LNE-52-1 mains socket and 4-pole mains plug (not wired) and 32-pole signal connector. User to fit and wire any other connectors required. DD 1978.

PN040003 PN4/3 Recoded PA20/519.

PN040004 PN4/4A Termination Panel. BMM 4U high 'A' width termination panel to house 11 wy ERNI connector. DD 1983.

PN040005 PN4/5A Termination Panel. 4U high, 'A' width termination panel and cover. Similar to PN3A/79A but punched for rectangular XLR type mains socket. DD 1984.

PN040006 PN4/6A Termination Panel. 4U high, 'A' width termination panel and cover. Similar to PN3A/54A, but punched for rectangular XLR type mains socket. DD 1984.

PN040007 PN4/7A-H 2U Termination Cover. To fix directly to the rear of a PN3/55 2U rack equipped with a PN3A/51. The removable cover may be used to carry connections to external equipment. TCPD 1987.

PN040008 PN4/8B-D Termination Panel. This is similar to the PN3A/51B-D, but with the addition of mains connector cut-outs alongside existing cut-outs. D&ED (D.O.) 1987.

PS010042 PS1/42A Modification of Power Supplier PS1/42. Modification consists of mounting additional transformer to supply groove location lamp of RP2/9, 10.5V at 1.75A d.c. DD 1978.

PS010045 PS1/45 Standby battery power supplier containing seven 6 volt 1.1 amp-hour, maintenance free, lead acid batteries. The output fuse is alarmed and provision is made to load test the battery while monitoring voltage. First used to maintain the telephone supply to DK4/26, DK4/27 and DK4/28 desks. 50V d.c. constant voltage. CH1/64B. SCPD 1977.

PS010046 PS1/46 Power Supply Cabinet accommodating 8 fuses switched by an isolator and up to 12 solid state signal light relays. An isolated bar is provided for the distribution of noise free earth. Doors finished ED138. Power requirements 240V a.c. 1 phase. Maximum total current 30A. Cabinet size 600mm x 165mm. SCPD 1977.

PS010047 PS1/47 Power Supply. Provides the entire power requirement of RP2/10. Fits inside the rear of the crate AM16M/16. Provides +140V 5mA; +36V unregulated 0.5A; +32V regulated 0.22A; +9V unregulated 1A; +5V regulated 1A; 10.5 V a.c. 1.75A unregulated. Power requirements 240V $\pm$ 6%. Custom aluminium panel 360mm x 210mm. DD 1978.

PS010049 PS1M/49 Power Supplier. Contains 2 off PS2/274 Power Suppliers plus maintaining unit PS5/5 for use in CAR Sub-router project. Power requirements 210-260V ac at 250 VA. PN3A/54/55. Sub-units 2 off PS2/274, 1 off PS5/5. DD 1981.

PS010050 PS1/50 Standby Battery Power Supplier. Provides a regulated 5V supply to maintain memory contents in RD1M/1 in the event of mains failure. Contains 7 sealed Ni-Cad cells of 4 Amp Hour capacity, which are trickle-charged during normal operation. Power requirements +18V. CH1/64A. Parent equipment RD1M/1. DD 1982.

PS010051 PS1/51 Master Unit. The unit provides current limited 24V and logic control (DC switching) to SE2/24 (Line Changeover), SE2/25 (Line Changeover Slave) and SE5/13 (Data Interface) units as used with PCM stereo transmitter equipment. Fault indication inputs are matrixed to four fault report outputs. Power requirements 24V A&B. CH1/64A. Parent equipment SE2/24, SE2/25, SE5/13. TCPD 1982.

PS010052 PS1/52 Battery Maintained Power Supplier. This unit regulates +12 V failing the NiCad battery will support the output at 3 V (approx) for 100 mA hours. The +5 V input will support the output at 4.4 V (approx) in the event of the +12 V only failing. Power requirements +5 V, +12 V. Parent equipment EP1M/39A, EP1M/41. DD 1984.

PS010053 PS1/53A Power Supply Cabinet. Power supply cabinet for use in OB support vehicles. From 240 V ac input, it delivers 240 V ac supply feeds and 24 V dc feeds for vehicle internal services. Power requirements: 240 V ac plus standby 24 V dc. D & ED 1986.

PS1/53B Power Supply Cabinet. Power Supply Cabinet for use in O.B. support vehicles similar to PS1/53A, but modified for welfare facilities. Power requirements: 240 V ac plus standby 24 V dc. D & ED 1986.

PS1/53C Power Supply Cabinet. Power Supply Cabinet for use in O.B. support vehicles. Similar to PS1/53A, but modified for lighting only facilities. Power requirements: 240 V ac plus standby 24V dc. D & ED 1986.

PS010054 PS1/54A Power Supply Cabinet. Power supply cabinet for use in OB support vehicles. From 240 V ac input, it delivers 240 V ac supply feeds and 12 V dc feeds for vehicle internal services. Power requirements: 240 V ac plus standby 12 V dc. D & ED 1986.

PS010055 PS1/55 Power Supply Box. Power Supplier used on OB semi-trailers to provide 24V, 6A unsmoothed dc for lighting and auxiliaries. Die-cast weather-proofed box for external

mounting. Power requirements 240Vac. D & ED (Prod. Group) 1987.

PS020121	PS2/121A-V	Comprises combinations of one or two PS2/119A, PS2/119B or PS2/120A, PS2/120B, PS2/120C mounted in CH1/12A. DD 1971. DD Spec 7.206. DDTM 7.171. EDI 10088(1)MAY71. ACO.
	PS2/121W	Stabilised Power Supplier 12V and 12V. As PS2/121K but with coding pins in positions 2 and 11. DD 1977. ACO.
PS020164	PS2/164A	Power Supplier. Power supply unit for UHF Test Equipment EP14M/507. A replacement unit for PS2/164 which will in most cases be made by replacing the modules inside the existing PS2/164 metalwork. Power requirements 240V A/C. 95mm W x 260mm L x 130mm D of metal box for PS2/164. Supersedes PS2/164. DD 1982.
PS020184	PS2/184A	Power Supplier. Provides stabilised low voltages of +12V, -12V and +5V from a mains input. Derived from PS2/184 with current limiting arrangements altered from fold back to constant current. Power requirements 24 0V a.c. CH1/64A (as PS2/184). DD 1979.
	PS2/184B	Stabilised Power Supplier. Power supplier providing +12 V, -12 V and +5.25 V. Similar to PS2/184 but with increased output current capability of 1.5 A on the 5.25 V rail. Power requirements ac mains 220-240 V. B.M.B. 4U. DD 1983.
PS020187	PS2/187D	Comprises PS2/185 on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187E	Comprises PS2/186A and PS2/186C on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187F	Comprises PS2/186A and PS2/186B on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187G	Comprises 2 x PS2/186A on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187H	Comprises PS2/185 and PS2/186A on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187J	Comprises PS2/186B and PS2/186C on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187K	Comprises 2 PS2/186B on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187L	Comprises PS2/185 and PS2/186B on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187M	Comprises 2 x PS2/186C on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187N	Comprises PS2/185 and PS2/186C on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187P	Comprises 2 x PS2/185 on CH1/64A. DD 1975. DDMI 7.316. DDHB 7.211. EDI 10238(1)FEB75.
	PS2/187R	Power Supplier. As PS2/187G, except front panel engraved front +12V rear -12V. DD 1980.
	PS2/187S	Power supplier. A 6V and 6V Power Supplier, using 2 PS2/279 Printed Circuit Boards giving 6V O/P. Power requirements 220 - 260V a.c. CH1/64A. Sub-unit PS2/279. DD 1981.
	PS2/187T	Power Supplier. PS2/187H with 5.25V supplier modified for 6V output. Power requirements 240V AC. CH1/64A. DD 1981.

PS020190	PS2/190	Logic Power Supplier provides 5V at 6A from commercial switching, regulated power supply module. Front panel meter displays output volts. CH1/64A. SCPD 1975.
	PS2/190A	New commercial, switching regulated power supply module because existing module no longer made. Front panel has mains on/off switch, 5V LED and meter. Power requirements 240V a.c. mains. CH1/64A. SCPD 1978.
PS020194	PS2/194A	Stabilised Power Supplier. As PS2/194 but fitted with a magnetically shielded mains transformer. CH1/65B. DD 1977. DDMI 9.209(75).
	PS2/194B	Stabilised Power Supplier. As PS2/194A - But modified to increase available current on unregulated +8V to 1.8Amps and the 12V rails to 0.7Amps. Modified for use with the CD4M/8. DD 1983.
	PS2/194C	Stabilised Power Supplier. A version of the PS2/194A Power Supplier for use with FASOR (EP5S/27) synchronizer. +12 V at 750 mA. -12 V at 500 mA. +5 V at regulated) at 1 A for the combination. +8 V unregulated) Power requirements 250 V ac. Parent equipment RD4S/21. DD 1984. DDMI 7.528(85).
PS020195	PS2/195A	Stabilised Power Supplier. Upated PS2/195. Accepts unregulated d.c., 7.5 volts to 30 volts and gives two separate supplies each of 5V, 2.75 amps. DD 1977.
PS020198	PS2/198	Stabilised Power Supplier providing either +5.2 volts at 3 amps or +12 volts at 1 amp and either -5 volts at 1A or -12 volts at 1A from unstabilised supplies. The output voltages are set by linking pins on the socket into which this unit plugs. Module 130mm x 130mm x 50mm. DD 1975.
	PS2/198A	Stabilised Power Supplier. PS2/198 with improved mechanical layout. Accepts unregulated d.c., 7.5 volts to 30 volts to give 5V, 2.75 amps regulated, and -7.5 to -30 volts to give -5V, amp regulated. The output may be raised to +12V by a wired link to the connector. DD 1977.
PS020205	PS2/205A-F	Stabilised Power Supplier with current limitation and thermal protection providing a dual power supply. (A) 2 x 5V at 700mA; (B) 2 x 12V at 500mA; (C) 2 x 13.5V at 500mA; (D) 2 x 15V at 1A; (E) 1 x 5V at 700mA and 1 x 12V at 500mA; (F) 2 x 15V at 500mA. CH1/64A. RD 1976.
	PS2/205G	Power Supplier stabilised, with current limitation, and thermal protection full chassis printed circuit board providing a dual power supply of 12 V at 1 A dc. Power requirements 240 V ac mains. CH1/64A. RD 1978.
PS020212	PS2/212	Stabilised Power Supplier providing 6V at 2A d.c. for use in PA18M/529 but suitable for general purpose use. Based on PS2/118 but mounted CH1/64A. DD 1976. DDMI 8.580(77).
PS020214	PS2/214	Stabilised Power Supplier providing 12V at 2A d.c. designed for use in PA18L/529 but suitable for general use. CH1/64B. DD 1977. DDMI 8.581(77).
PS020215	PS2/215	"Advance" series regulator controlled stabilised power supply type PMG 12-2.7 mounted in CH1/64B with its output

on a 32 way McMurdo connector. Provision for front panel voltage adjustment and external sensing of load voltage. CH1/64B. RD 1977.

PS020216 PS2/216 Stabilised Power Supplier, designed for use with TE1/514. Accepts d.c. at +13.3V, +6.3V and -7.3V and delivers reference potentials at +12V, +5V and -6V. Printed circuit board 91mm x 91mm with 21 way edge connector. Improved version of PS2/174 which it replaces. DD 1977. DDMI 8.591(77).

PS020217 PS2/217 Stabilised Power Supplier. Mains input, 16/5V at 2 amps output. Part of VHF Radio Control and Indication Panel. CH1/64A. DD 1977.

PS020220 PS2/220 Regulator card designed for use in the Studio Managers Panel designed by SCPD OB Unit to supply +5V at 0.5A and -5V at 120mA for the Matrix Remote Control Equipment Coder CD2L/516. Inputs of 10/7V a.c. and 12V d.c. are required. Constructed on a card 90mm x 60mm. DD 1977. DDMI 8.595(78).

PS020221 PS2/221 Regulated Power Supplier. Supplies 24V via two separate lamp regulators to OS2/48 Bias and Erase Oscillator. Power requirements 240V 250mA. CH1/64A. For use in EP1/17. DD 1977.

PS020223 PS2/223 Power Supply. Kingshill regulated 50V 0.5A power brick type NM1050 mounted on ISEP chassis. Input on Cannon 'D' connector, output on McMurdo 'Red' range connector. Power requirements: 240V a.c. mains 50Hz. ISEP unit form chassis 140mm W x 178mm H x 254mm D. SCPD 1977.

PS020224 PS2/224A Power Supplier. 24V DC 8A commercial switched mode PSU (Gould). Assembled in an ITT "B" with Plug-in chassis. Increased current version of PS2/224. Power requirements 240V AC. ISEP "B" with plug-in brick. SCPD 1981.

PS020225 PS2/225 Power Supplier. Provides 24V at 2A for OS2/48 Bias and Erase Oscillator. Power requirements 240V, 250m A. CH1/64A. Parent equipment EP1/17. DD 1977. DDMI 7.435(80).

PS020226 PS2/226 13.5V; 4A Power Supply. Used initially in TM4/2. Power requirements 210-260V a.c. 4U card. DD 1978. DDMI 5.361(78).

PS020227 PS2/227 Power Supplier accepting two main inputs and supplying 5V d.c. and 5A for Apology Caption Generator. Power requirements 240V a.c. CH1/64B. Parent equipment GE8M/1. DD 1978.

PS020228 PS2/228 This power supplier provides +18V, 600mA and -5.2V, 500mA outputs with mains inputs of 220V-260V a.c. Mains fusing and output short circuit protection prevent damage under fault conditions. The supplier was designed specifically for use with the RC5L/8. RC5L/10 and RC5L/11 receivers. Power requirements 220V-260V a.c./50Hz. CH1/64A. DD 1978.

PS020229 PS2/229	Battery Charger for recharging up to 10 Uher 4000 series portable tape recorders when fitted with sealed lead-acid batteries. Provides 10 outputs of 6.55V with 300mA current limit. Individual circuit charging indication and switched metering of charging current. First used PRDU replaces individual commercial units. Drawings TSR 2102 series. Power requirements 240V a.c. main 50W. Supersedes Commercial Equipment. 483mm panel in Imhof-Bedco Datum DB4UH Case. TSR 1978.
PS020230 PS2/230	Dual Output Power Supplier. This power supplier is electrically and mechanically identical to the PS2/187L, with the exception of the side plates, which are made of mu-metal to reduce stray magnetic radiation. Power requirements 240V a.c. CH1/64A. DD 1978.
PS020231 PS2/231	Power Supplier 2 x -24V d.c. stabilised. For starting Band II Power Amplifiers AM14/26 and AM14/27. Power requirements 240V a.c. 50Hz mains. Full width panel 2U high. TCPD 1978.
PS020232 PS2/232	Gould Advance Power Supplier MMG 5-5 fitted to BMM CH1/64A chassis. Providing 5V at 5A d.c. Power requirements 240V a.c. mains at 0.5A maximum. RD 1978.
PS020233 PS2/233	Gould Advance Power Supply MMG 12-2/5 fitted to BMM CH1/64A chassis. Providing 12V at 2.5A d.c. Power requirements 240V a.c. mains at 0.5A maximum. RD 1978.
PS020234 PS2/234	Stabilised Power Supplier providing 5V 1A from mains if present otherwise from 50V d.c. feed. CH1/64B. DD 1978.
PS020235 PS2/235	Stabilised 30V Supply. One of two units providing 30V d.c. supply for AM14/26A Band II Amplifier. Power requirements 240V 50kHz a.c. Commercially made case 381mm x 203mm x 203mm. Variant of PA1/73. TCPD 1978.
PS020236 PS2/236	24V d.c. commercially produced power supply unit. Power requirements 240V a.c. mains. CH1/64. TCPD 1978.
PS020237 PS2/237	Power Supplier panel used on AM14/26 and AM14/27 (modified BA13/15) to feed two PA9/15. Comprises two 3 4V 18A constant voltage transformers and two receivers on 483mm x 310mm panel occupying 480mm of bay height. Power requirements a.c. mains. Panel 483mm x 310mm. DD 1978. .
PS020238 PS2/238	Power Supply for apology caption equipment. Has 2 mains inputs (for stand-by-mains). Consists of 3 regulators supplying:- +5V at 3A d.c. -5V at 0.1A d.c. +12V at 0.1A d.c. CH1/64B. DD 1978.
PS020239 PS2/239	Power Supplier. As PS2/187G but without fold-back current limiting. Power requirements 240V. CH1/64A. Parent equipment SE1M/501. DD 1978.
PS020240 PS2/240	12V Power Supplier. Stabilised power supply using commercial power supplier 12V 0.5A. Front panel consists of mains on/off switch L.E.D. to meter. Power requirements a.c. mains. CH1/64A. SCPD 1978.

PS020241 PS2/241 5V and 12V Power Supplier. Stabilised power supply using commercial power suppliers 12V 0.5A and 5V 6A. Front panel consists of 2 switches mains on/off, 2 L.E.D.'s 2 meters. Power requirements a.c. mains. CH1/64B. SCPD 1978.

PS020242 PS2/242 Power Supplier. As PA2/186A but without fold-back current limiting. Power requirements 240V. Half CH1/64A. Parent equipment PS2/239. DD 1978.

PS020244 PS2/244 Power Supplier. Stabilised power supply. Provides $\pm 15V$ at 500mA and +5V at 3A from mains output. Power requirements mains. CH1/64B. Parent equipment TM4M/3. RD 1978.

PS020245 PS2M/245 Power Supplier Rack providing 24V d.c. regulated output with remote sensing to 3 EP8 connectors at rear. Power requirements 240V a.c. Unit form 483mm 4U chassis (modified). Sub-units PS2/222. SCPD 1979.

PS020246 PS2M/246 Power Supplier Rack provides 24V d.c. regulated at 2A, and two 50V d.c. supplies regulated at 0.5A in to 3 EP8 connectors at rear. Unit uses commercial power bricks mounted in modular form plug in units. Power requirements 240V a.c. 3A. Unit form ISEP 356mm 4UH chassis (modified). Sub-units PS2/224 and PS2/223. SCPD 1979.

PS020247 PS2/247 Power Supplier.
5V, 20A. Provided by advance switching power supply, type MG5-20.
24V, 12V and 6V. Provided by two sub-boards mounted within the chassis.
 Functions provided 5V, 20A.
 $\pm 24V$, $\pm 12V$, $\pm 6V$.
 500mA distributed in the +VE rail.
 500mA distributed in the -VE rail.
 Current limited by transformer.
 Mains input. CH1/64B. RD 1979.

PS020248 PS2/248 Power Supplier.
5V, 40A. Provided by Advance Switching Power Supply, Type MG5-40B. Output to McMurdo Red Range Connector.
5V, 700mA. Provided by sub-board conventionally mounted within chassis. This sub-board is identical to that listed in PS2/502A. Output to G06 connector.
 Power requirements mains input. CH1/64D. RD 1979.

PS020249 PS2/249 Power Supplier. 5V, 40A. Provided by Advance Switching Power Supply. Type MG5-40B. Power requirements mains input. CH1/64C. RD 1979.

PS020250 PS2/250 Power Supplier. A regulator battery and charger unit which supplies +6V, -6V stabilised. In the event of an output power failure the supply is maintained by the internal battery. Power requirements +12V, -12V stabilised d.c. from a PS2/163. CH1/65A. Parent equipment PS2M/251. DD 1979.

PS020251 PS2/251 Power Supplier Rack. 3 x PS2/167 mounted in a 2U BMM frame together with regulators to provide +5V x -9 V with common mains inputs. Outputs provided are +12V, +5V, -9V. Power

requirements 240V a.c. mains. PN3/55 2U BMM frame. Sub-units 3 x PS2/167 with provision for 2 additional regulators. DD 1979.

PS020252 PS2/252 Power Supplier Rack. 4 x PS2/163 mounted in a 2U BMM frame, having a common mains input but with 4 separate outputs of +12V, 0, -12V. Power requirements 240V a.c. mains. 2U BMM frame PN3/55. Sub-units 4 x PS2/163. DD 1979.

PS020253 PS2/253 Power Supplier Rack. 4 x PS2/167 mounted in a BMM 2U frame, having a common mains input but with 4 separate outputs of 12V. Power requirements 240V a.c. mains. 2U BMM frame PN3/55. Sub-units 4 x PS2/167. DD 1979.

PS020254 PS2M/254 Power Supply Rack. 2 x PS2/166 mounted in left half of a BMM 2U frame, having a common mains input but with 2 separate outputs of 50V. Power requirements 240V a.c. mains. 2U BMM frame PN3/55. Sub-units 2 x PS2/166. DD 1979.

PS020255 PS2/255 Power Supplier Rack. 3 x PS2/163 mounted in a 2U BMM chassis together with a regulator and standby battery having a common mains input. 2 separate outputs of +12V, 0, -12V are provided and one of +6V, 0, -6V. The latter supply is maintained by an internal battery in the event of mains failure. Power requirements 240V a.c. mains. PN3/55 2U BMM frame. Sub-units 3 x PS2/163 and PS2/250. DD 1979.

PS020256 PS2/256 Power Supplier. This power supplier, used in conjunction with external power transistors takes in 34V to 40V and gives a regulated 28V output. The output is current limited at a value chosen to suit the external transistors used and can be up to 6A. It is designed to power a range of VHF power amplifiers. Power requirements 34-40V, current required depends on parent equipment. 99mm x 27mm. Parent equipment AM14/29 and AM14/30. DD 1979. DDMI 5.391(80).

PS020259 PS2/259 Power Supplier. Two +18V, 500mA, using voltage regulators μ A7818C. Two -18V, 500mA, using voltage regulators μ A7918C requirements mains input. CH1/64B. RD 1979.

PS020260 PS2/260 Semi-Stabilised Power Supplier. This power supplier is 482mm rack mounting and consists of a L.V.T. with twinsecondaries, bridge rectifiers and smoothing capacitors. It provides 2 main outputs of 36-40V d.c. at 5.5A each and a third output derived from these of 36-40V, 1.5A. An auxiliary output of 3-0mA maximum is available. Power requirements 190-260V a.c. 3A maximum. Parent equipment AM14/39A-B, AM14/40A-B, AM14/41 and AM14/42. DD 1979.

PS020261 PS2/261 Power Supplier. 6 sub-boards mounted within chassis giving 3 independent sources each side and providing $\pm$ 24V and $\pm$ 12V at 500mA distributed in each positive and negative rail. Current limited by transformer. Power requirements mains input. CH1/64B. RD 1979.

PS020262 PS2/262 Power Supplier. +12V 750mA, using voltage regulator 7812K. +30V 300mA, using voltage regulator 7824K and with 6.2V. Zener Diode. Power requirements mains. CH1/64A. RD 1979.

PS020265 PS2/265 Power Supplier. Identical to PS2/194 with the exception of front panel engraving and colour of front panel LED's to meet EBU requirements. Power requirements mains. CH1/65B. Parent equipment ME3M/501. DD 1979. DDMI 9.248(79). DDHB 9.157(79).

PS020266 PS2/266 Battery Unit. Battery compartment holding 12 HP2 cells. Fitted with rocket switch, fuse and voltage regulator board. Part of OB test set ME2P/3. 508mm x 51mm x 95mm. Parent equipment ME2P/3. DD 1979. DDHB 9.283(83)

PS2/266A Battery Unit. Similar to PS2/266 but with voltage regulator board incorporating audio sweep generator for use in conjunction with ME2/4. Power requirements 12 x HP2 batteries. Chassis: 19" x 2 $\frac{3}{4}$ " x 3 $\frac{3}{4}$ ". Parent equipment ME2P/3. DD 1982. DDHB 9.169(84). DDMI 9.280(84).

PS2/266B Battery Unit. Similar to PS2/266A but with Sweep controls removed and wiring revised for Sweep generator to work with ME2/5A. Power requirements 12 x HP2 batteries. Chassis 19" x 2 $\frac{3}{4}$ " x 3 $\frac{3}{4}$ ". Parent equipment ME2P/3A. DD 1982. DDHB 9.179(84).

PS020267 PS2/267 Power Supplier. Stabilised power supply of 5V d.c. output from 240V a.c. input. Output is maintained at 5V d.c. by battery in case of mains failure. Power requirements 240V a.c. CH1/64B. DD 1980.

PS020268 PS2/268 Re-coded PS4/7.

PS020269 PS2/269 Floppy Disk Power Supplier. this supplier is part of the RD3M/1 floppy disk data store. It provides the d.c. power requirements of two Caldisk type 142M floppy disk drives, plus filtered and switched mains outputs for the disk drive motors. The outputs are, for each disk drive, +5V d.c. unswitched at 1A maximum, +24V d.c. at 1.5A maximum (switched) and 240V mains (switched). Two logic-level inputs allow remote switching of the 24V d.c. and mains outputs to the drives independently. The 24V and mains are switched together. Power requirements 24V a.c. mains. Special 1U chassis, full width, for mounting in modified PN3/54. Parent equipment RD3M/1. DD 1980. DDHB 2.472(82).

PS020270 PS2/270 Battery Supplier for power needed to operate Sennheiser and AKG microphones. Facilitates 5° of bass-cut, and can introduce 16 or 32dB pad. Power requirements 2 x PP3. Eddystone box type 7124P. SCPD 1980.

PS020271 PS2/271 Power Supplier. 24V at 2A; +12V at 1.5A; -12V at 1.5A. Mains output through SSR switch by d.c. control voltage (3-30V). (Separately fused). Uses Toroidal Transformers, suitable for use near magnetic recording media. Mains power requirements. CH1/64A. DD 1980.

PS020272 PS2/272 Power Supplier. Supplies 13.5V at 1A stabilised from mains, with DC monitoring facilities. Unit also has the

facility of feeding through RF signals from TNC socket on the front panel to SMB socket on the rear panel. Power requirements 240V AC. CH1/64A. DD 1980. DDMI 5.396(81).

- PS020273 PS2/273 Battery Unit. Standby power unit for automatic fault reporters TM1M/1, TM1M/1A, TM1M/1B and TM1M/1C, comprising sealed lead-acid battery and automatic recharging circuit. Power requirements Mains (240V, 50Hz, 40VA). Unit housed in plastic box 267mm x 207mm x 150mm. DD 1980. DDHB 2.481(83).
- PS020274 PS2/274 Power Supplier. 5V-5A stabilised PSU with overload protection i.e. over current and over voltage. Power requirements 210V-260V a.c. mains. BMM CH1/64B printed circuit board half 4U CH1/64 mounted. DD 1980.
- PS020275 PS2/275 Power Supplier. Plug in replacement for PS2/187K having the same code plate and connections. Uses commercial PSU module. Output is two separate 18V 1 amp supplies. Power requirements AC mains. CH1/64A. DD 1980. DDMI 6.381(81). DDHB 6.237(83).
- PS020276 PS2/276 Power Supplier. 12V, 5A. Provided by Advance miniature switching power supply, type MMG 12 - 5 output to McMurdo red range type connector. Power requirements Mains input. 3 x J Width Chassis. RD 1980.
- PS020277 PS2/277 Power Supplier. 5V, 20A and 2 x 12V, 2A. Provided by ACDC power supply model RT 101. Output for 5V to McMurdo red range type connector. Output for 12V to ERN1 11-way type connector. Power requirements Mains input. 5 x J Width Chassis. RD 1980.
- PS020278 PS2/278 Power Supplier. This power supply contains a MELCHER LSR 3005-7 Chopper Power Supply 5 volt at 6 amp. Power requirements 240v AC 50Hz. CH1/12A. Supersedes PS2/134. Parent equipment EP8/504 and EP8/505 and EP8/506. DD 1980.
- PS020279 PS2/279 Power Supplier. Supplies 850mA at 6V with foldback current limiting and overvoltage protection. This is a modified PS2/185. Power requirements 240V AC Mains. PCB to half fill CH1/64A. Parent equipment PS2/187S. DD 1981. DDMI 1.248(81).
- PS020280 PS2M/280 Power Supplier. The PS2M/280 comprises 4 off PS5/6, DC to DC converters together with their associated rectifier units PS3/65. All sub-units slide out from the front of the unit for maintenance. Power requirements 4 x (40V RMS, 40A). 12U 19" Rack Mounting. Parent equipment AM14/51. Sub-units PS3/65, PS5/6. DD 1981.
- PS020282 PS2/282 Power Supplier. $\pm 15V$ Power Supplier, 200mA continuous per rail. Power supplier incorporates Glen Sound Services 3.6" stabiliser PSU card GS426) mounted within a 3U chassis (CH1/82B) for use with PN3/58 rack. Note: This is a ONE off packaging used at Cardiff Studio Suite 1 Cubicle. Power requirements 240V mains (AC). CH1/82B (Coding positions: 1, 3, 5). SCPD/SSRU 1981.

PS020283 PS2/283 Power Supplier. Power supplier - stabilised outputs of +12V, +5V and -6V. Part of UN26/562. Power requirements 240V mains. Parent equipment UN26/562. DD 1982.

PS020284 PS2/284 Power Supplier. Provides 3 stabilised DC output voltages of:
 5V at 5A max.
 +12V at 1A max.
 -12V at 1A max.
 Common earth. Total power 35W. Mains input. Uses Hewlett Packard switched mode power supplier. Power requirements Mains. CH1/64A. DD 1982.

PS020285 PS2/285 A-C Power Supplier. Positive and negative power supply for operational amplifier supplies.
 PS2/285 A $\pm 12V$ 750mA
 PS2/285 B $\pm 15V$ 600mA
 PS2/285 C $\pm 18V$ 500mA
 Power requirements mains input. CH1/64A. RD 1982.

PS020286 PS2/286 Power Supplier. Power supply for use with two "Silver Streak" transposers TM4M/502 and two 10W amplifiers. Power requirements mains 450 watts. 506mm (L) x 164mm (W) x 113mm (D). DD 1982.

PS020287 PS2/287 Provides two separately regulated floating 5V 1A supplies. Based on LM317 regulators with current limit and thermal overload protection. Developed for use with Ident and Countdown Generator. Power requirements 240V mains. CH1/65B. Open University 1982.

PS020288 PS2/288 Power Supplier. The Power Supply is a constituent part of the CINETRACE system. It provides supplies of $\pm 50V$ unregulated, $\pm 12V$ regulated, and +5V regulated for the Telecine Control Rack. Power requirements 240V AC, $\pm 18V$ unregulated, +8V unregulated. CH1/82B. Parent equipment EP1M/550. DD 1982.

PS020289 PS2/289 Power Supplier. 5V, 60A provided by Advance Switching power supply type MG5-60B. Output to McMurdo red range connector. Power requirements mains input. CH1/64D. RD 1982.

PS020290 PS2/290 Power Supplier. Stabilised Power Supply, delivering 800mA at $\pm 12.5V$, can also be used to supply +25V or -25V. Electrically identical to PS2/163. Power requirements as PS2/163. CH1/82B. SCPD 1982.

PS020291 PS2M/291 Dual 16V Power Supplier. First developed for Outside Broadcast communications in television. Rack unit contains three 16V 8A switching regulators $\pm 16V$ outputs. Failure of either main output, switches the third regulator into circuit, an indicator alarm warns of this event. Power requirements 240V AC 50Hz. 3U high Euro Chassis with 3 card mounted Gould switching regulators type 15V 8A PS4/20. Supersedes PS2/264, PS2/263, PS2/224. Sub-units PS4/20 (3 off). SCPD 1983.

PS020292 PS2/292 Power Supplier. First developed for Outside Broadcast communications in television. The unit uses two integrated circuit regulators to provide $\pm 7.5\text{V}$ for all panel circuits and lights external to the communications racking, up to a maximum current of 5A. Power requirements $\pm 16\text{V}$ 2A. 100mm x 220mm Eurocard. Supersedes PS2/218, PS2/219. DD 1983.

PS020294 PS2/294 Stabilised Power Supplier. Power supply Gould switchcuits 30V 4A power brick mounted on ISEP chassis. Input on to a Cannon "D" connector output on McMurdo 16-pin "red" range connector. Power requirements 240V AC. ISEP 3U 140mmW x 178mmH x 254mmD. SCPD 1983.

PS020295 PS2/295 Stabilised Power Supplier. Power supplier for EP5M/23. From 190-260 Vac input supplies are:- $\pm 12\text{ V}$ 800 mA audio circuitry supply. $+ 12\text{ V}$, 1A lamp supply. $+5\text{ V}$ 300 mA logic supply. Power requirements 240 V. CH1/82B. Parent equipment EP5M/23. DD 1983. DDMI 3.740(85).

PS020296 PS2/296 Stabilised Power Supplier. Provides outputs of
 5.25 V at 1.5 A
 12 V at 0.5 A
 12 V at 0.5 A
 (An updated PS2/184 specification). Power requirements 240 V $+6 -10\%$. CH1/64A. DD 1983. DDMI 6.419. DDHB 6.251(84). EDI 10496(1)JUL 84.

PS020297 PS2/297 Stabilised Power Supplier. Supplies $+5\text{ V}$ at 3 A , $+15\text{ V}$ at 250 mA , -15 V at 250 mA . For GE1SM/20, Stereo Tone Sequence Generator. Power requirements 240 V. CH1/82B (3U). Parent equipment GE1SM/20. DD 1984.

PS020298 PS2M/298 Stabilised Power Supplier. 4U rack containing two 'half-width' plug in modules. Each module contains a Kingshill stabilised P.S. type S1510 (set at 8 V) and an alarm PCB (SP27690). Power requirements 240 V ac. SCPD, RBSS 1984.

PS020299 PS2/299 Stabilised Power Supplier. 24 V regulated power supplier for use in Local Radio VHF drive byas to power control unit. Power requirements 240 V ac. CH1/64A. TCPD 1984.

PS020300 PS2/300 Stabilised Power Supplier. For powering amplifiers AM7/20 and AM7/25 $\pm 24\text{ V}$ at 1.5 A . Power requirements 240 V ac $\pm 6\%$. 3U chassis, panel width 84.4 mm. DD 1984.

PS020301 PS2/301 Stabilised Power Supplier. Mains input and two isolated regulated 12 V at 300 mA max. outputs. Front Panel Indicator is one L.E.D. (Yellow). Mains transformer is toroidal for minimum external field. Power requirements 240 V, ac at 10 VA . CH1/65A. TCPD 1984.

PS020302 PS2/302 Stabilised Power Supplier.
 Supplies 5 V at 2 A . $+15\text{ V}$ at 350 mA . -15 V at 350 mA .
 Power requirements 240 V ac. 50 Hz. CH1/82B (3U 'B'-width chassis). Parent equipment RD1SM/2. DD 1985. DDMI 3.746(85). DDHB 3.317(85).

PS020303 PS2/303 Stabilised Power Supplier. A stabilised power supplier delivering +24 V at 250 mA and +5 V at 500 mA from 240 V ac mains supply. Used to supply to the Telephone Select Unit UN21/60 which forms part of the Telephone Effects Unit UN4/10. The unit is modular with an enclosed chassis plug. Non-BBC H 114 mm x D 194 mm x 50 mm. Parent equipment UN4/10. Communications and Engineering Services 1985.

PS020304 PS2/304 24 V Stabilised Power Supplier. 24 V, 5 A continuously rated stabilised power supply of simple design. Thermally protected and capable of surges up to 8 A. It incorporates indication of AC available from transformer and DC out. Unstabilised dc is available on pins a 10 and b 10 of rear plug for monitoring of supply status. Power requirements 240 V ac. CH1/82B. R.E.S 1985.

PS020305 PS2/305 Battery Charger Power Supplier. Battery charger for up to 4 UHER 4000 series portable tape recorders fitted with sealed lead-acid batteries. It incorporates storage space for each machine and is fitted with individual locks. Individual charging indication is by way of 3-way traffic light device to show faulty batteries. First used prdu. to replace individual commercial units. Drawings R.E.S. 2276 series. 240 V ac at 3A. Technical Facilities (R.E.S) 1985.

PS020306 PS2/306 Stabilised Power Supplier. +8 V, 1 A; -8 V, 1A. Stabilised supply provided by 2 x M461C transformers. Output via 17 pole plug. Each output adjustable from front of unit, with test points on rear panel. Power requirements 240 V ac. RD 1985.

PS020307 PS2/307 Stabilised Power Supplier. Stabilised supply providing 5 V, 750 mA and 30 V, 250 mA. Output via G06, 32 way connector. Power requirements 240 V a.c. Chassis CH1/64A. RD 1985.

PS020308 PS2/308 Stabilised Power Supplier. Linear Power Supply for use in the RC1S/515 Datacast Receiver. The following outputs are available: +5 V at 0.6 A, +12 V at 0.3 A, -12 V at 0.15 A +40 V at 10 mA (unstabilised). Power requirements 220-260 V ac, 20 W. PCB 366 mm x 203 mm. Parent equipment RC1S/515. D & ED(V) 1986.

PS020309 PS2/309 Stabilised Power Supplier. Provides outputs of +15 V at 800 mA. A stabilised supplier provided by 2 x M462C transformers. The output is via a 17-pole plug. Each output is adjustable from the front of the unit with test points on the rear panel. Power requirements: 240 V ac. 2 U 'B' width chassis. RD 1986.

PS030048 PS3/48 Unstabilised Power Supplier, 750mA d.c. at 22V (approximately). Intended to power four amplifiers type AM10/10. Diecast box, 120mm x 95mm x 55mm. DD 1972. DDMI 3.561. DDHB 3.133.

PS030052 PS3/52A 10V Power Supplier. Unregulated Power Supplier, the version fulfils a requirement for a 10 volt AC Lamp Supply. Power requirements mains 240 volts. ED 1981.

PS030053 PS3/53 Unstabilised Power Supply for use with two AM6/16. 35V at 500mA d.c. and -19V at 500mA d.c. from nominal 240V a.c. input. CH1/65B. DD 1975. DDMI 6.287(77).

PS030057 PS3/57 Power supplier for Monitoring and Information Centres, providing 6 supplies of ± 16 volts nominal at 1.6 amps and 6 supplies of ± 16 volts nominal at 100mA from three separate mains inputs. PN3/54 modified. DD 1977.

PS030059 PS3/59 Power Supplier. Provides 117V at 3A for RD4/12. Contains 240-117V transformer and associated switch, fuse and indicator lamp. Power requirements 240V 50Hz. Metal box 203mm x 178mm x 152mm. Parent equipment EP1/17. DD 1977. DDMI 7.440(80).

PS030060 PS3/60 Power Supplier. Provides two ± 80 V unstabilised feeds with 20mA current limiters for Monitoring and Information Centres. Also house a 7.5V Ni-Cad battery for mains failure back up of main store power supplies, and small logic board for deriving data failure and alarm signals. Power requirements 240V a.c., 5V d.c. 2U BMM 483 mm rack. DD 1978.

PS030061 PS3/61 Power Supplier. Provides ± 15 V at 1.6A and +9V at 6A to feed Visual Display Unit UN12M/6 from mains. Supplies are unstabilised. Power requirements 240V a.c. 2U BMM 483mm rack. DD 1978.

PS030062 PS3/62 Power Supply. Provides a smoothed by unregulated supply at +9V 1.5A, -20V 100mA. Power requirements 240 V at 1A a.c. mains. 3U high ISEP card. DD 1978.

PS030063 PS3/63 24V Power Supplier. Coutant BPS-500/24 fitted into CH1/64D with suitable "plug-in" mains and DC connectors. To supply unregulated 24 volts DC at maximum current of 5 amps. Power requirements Mains (240v). CH1/64D. SCPD 1981.

PS030064 PS3/64 Power Supplier. Supplies ± 18 V, 2 A for powering up to 12 AM4/536. Power requirements 240 V, 50 Hz. CH1/64B. CH1/64B. DD 1981. DDMI 8.630(82). DDHB 8.372(81).

PS030066 PS3/66 Unstabilised Power Supplier. This Power Supplier is similar to PS3/64 and is pin compatible. It provides 18V - 0 - 18V unregulated d.c. at 1.6A max. (For use with the AM4/24. Power requirements 240V AC. CH1/64A. TCPD 1982.

PS030067 PS3/67 Unstabilised Power Supplier. Supplies ± 18 V 1A for up to 6 AM4/536. Power requirements 240V 50Hz. CH1/64A. DD 1982. DDMI 8.646(83).

PS030068 PS3/68 Unstabilised Power Supplier. ± 24 V at 5A unregulated Power Supplier for 50 AM7/20. Options include PCB for paralleled operation of 2 units (5 Amp. Max.) plus PCB for relay alarm. Power requirements mains. CH1/64D. Parent equipment PA9M/25. SCPD 1982.

PS030070 PS3/70 Unstabilised Power Supplier. Enables the O.B. version of Nica~~m~~ 3 to be run off 240 V ac mains or nominal 24 V

battery. Power requirements 240 V ac mains or nominal 24 V dc. 'Klippon' box 350 mm x 160 mm x 100 mm. DD 1984. DDHB 6.265(85).

PS030071 PS3/71 Unstabilised Power Supplier. For powering amplifiers AM7/20 and AM7/25 ± 24 V at 1.5 A. Power requirements 240 V ac $\pm 6\%$. 3U chassis - panel width 84.4 mm. DD 1984. DDHB 3.325(85).

PS3/71A Unstabilised Power Supplier. Version of PS3/71 on standard 'B' width BMM chassis for use with existing amplifier designs e.g. AM7/21. Power requirements 240 V ac $\pm 6\%$. 3U - B width chassis. DD 1985. DDMI 3.749(83).

PS030072 PS3/72 Unstabilised Power Supplier. Unstabilised power supplier for use with PA6/165. Provides outputs of 9 V and ± 16 V, from an input of 220-260 V ac. Power requirements 220-260 V, 300 mA. PA1M/583. DDMI 7.551(86). DD 1984.

PS030073 PS3/73 Unstabilised Power Supplier. Provides unregulated supplies of +15 V and -15 V at 1.2 A. Originally intended to power up to six UN16/649 in a UN16L/550C. Power requirements 240 V ac. CH1/82A. Parent equipment UN16L/550A-C. DD 1984. EDI 10523(1)SEP85.

PS030074 PS3/74 Unstabilised Power Supplier. Unstabilised power supply supplying +34 V and -19 V dc to a single limiter, type AM6/16. Power requirements 240 V ac. CH1/65A. Parent equipment PA1M/91A. Chassis extender CH1A/45, CH1A/46. TCPD 1985.

PS040001 PS4/1 Switched Mode Power Supplier. Uses a commercially available power supplier to provide 5V at 60A. The supplier uses direct on line switching techniques and was first used on the digital field store standards converter CO6/510. CH1/64D. DD 1977. DDMI 1.217(78). DDHB 1.146(78).

PS040002 PS4/2 Switched Mode Power Supplier. Uses a commercially available power supplier to provide 12V at 25A from 240V a.c. mains. Uses direct on line switching techniques and was first used on the digital field store standards converter CO6/510. CH1/64D. DD 1977. DDMI 1.219(78). DDHB 1.148(78).

PS040003 PS4/3A-D Switched Mode Power Supplier. The unit houses a 25W switch mode power supply (Gould MMG series) and versions A to D provide outputs at 5V, 12V, 15V or 24V d.c. Power requirements 220V-10% to 240V+10% approximately 125VA. CH1/64A. DD 1979.

PS040005 PS4/5 13.5V 4A Switched Mode Power Supplier. Power requirements 240V a.c. 70VA. STD 4U BMM card. Previously coded as PS2/243. Parent equipment AM14/31. DD 1979. DDMI 5.383(80).

PS040006 PS4/6 Switched Mode Power Supplier. O/P (1) +5V d.c. at 4A maximum; (2) +5V d.c. at 5A maximum; (3) -5V d.c. at 5A maximum; (4) +12V d.c. at 2.4A maximum; derived from four commercial switched mode suppliers. (5) +15V d.c. at 100mA

maximum; (6) -15V d.c. at 100mA maximum; derived from commercial d.c.-d.c. converter fed internally from (1) above. Power requirements 220V to 240V a.c. mains. PN3/55 modified. DD 1980.

PS040007 PS4/7

Power Supplier. Provides 5V and 12V from switching type Commercial Power Units. The 5V output drives a 12V DC-DC converter which can supply up to 470mA. At this output on the 12V line the 5V output current is 3.2A maximum. For no load on the 12V line the 5V current is 5A maximum. The power units are Gould Advance MMG-5 and Gresham Lion type Gemini 903. Power requirements 220-240V a.c. mains. CH1/64A. DD 1980.

PS040008 PS4/8

Switched Mode Power Supplier. Commercially available power supplier fitted with a front panel termination panel. The unit supplies 28V at 8A from 240V a.c. mains. First used on the UHF television transposer type TM4M/502. Power requirements 240V a.c. 113H x 164W x 271D. Parent equipment TM4M/502. DD 1980. DDMI 5.402(81)

PS4/8A

Switched Mode Power Supplier. Similar to PS4/8 but using an alternative commercially available Power Supplier. (FARNELL) Power requirements 240V AC. Chassis size 113H x 164W x 271D (As revised PS4/8). Parent equipment TM4M/502. DD 1981. DDMI 5.402(81).

PS4/8B

Switched Mode Power Supplier. Similar to PS4/8, but using an alternative commercially available Power Supplier (Coutant). Power requirements 240V AC. Chassis size 113H x 164W x 271D (As revised PS4/8). DD 1981.

PS040009 PS4/9 A-D

Switched Mode Power Supplier.

PS4/9A - 5V 6A Chopper Power Supply Module Melcher type LSR 3005-6

PS4/9B - 12V 2.5A Chopper Power Supply Module Melcher type LSR 3012-6

PS4/9C - 2V 2A Chopper Power Supply Module Melcher type LSR 3015-6

PS4/9D - 24V 1.25 Chopper Power Supply Module Melcher type LSR 3024-6

Power requirements 176 - 264V r.m.s. AC 40 - 400Hz or 220 - 372 DC. CH1/64A. Supersedes PS4/9. DD 1982. DDHB 2.463(82).

PS040011 PS4/11

Switched Mode Power Supplier. This unit provides: +12V, 8A; -12V, 7.6A; +5V, 60A; and -5V, 400mA. It is based on a Gould MGT 400 switched mode power supply. Power requirements Mains. CH1/64E (non standard). DD 1981. DDMI 1.266(85). DDHB 1.186(84).

PS040012 PS4/12

Switched Mode Power Supplier. As PS4/10 but fitted with Farnell Modular Stabilised Power Supply Type G24/1.4, which can be adjusted to give an output between 16 and 26 volts at 1.4A. Power requirements 220 -240 V ac 45 -440 Hz. CH1/64A. SCPD 1981.

PS040013 PS4/13

Switched Mode Power Supplier. Uses Astec Type 9231 50W switched mode supply providing:
+5V at 5.0A) Common -ve
+12V at 2.5A)

5V at 0.5A) Isolated

12V at 0.5A)

Mechanically adapted to bolt to interior of chassis frame, provide mains protection and connect to standard power supply rear connectors. Power requirements 240V AC. Parent equipment PA6/131, PA6/132. DD 1982. DDMI 2.460(83).

PS040014 PS4L/14

Switched Mode Power Supplier. This code defines the combination of a PS4/11 and an un-wired termination panel. The termination panel is fitted with mains and power connectors to mate with PS4/11, and the user must wire to the connectors. No rear over is provided. Power requirements mains. CH1/64E + 'A' width term. panel (Requires E width space in PN3/54). Sub-units PS4/11. DD 1982. DDMI 1.267(85). DDHB 1.186(84).

PS040015 PS4/15

Switched Mode Power Supplier. Switch Mode 24V supply for Neve sound desk. Used as pairs in Power Chassis. First used in Type 5 Colour Mobile Control Rooms. Power 240V AC mains. CH1/82D. Supersedes PS2/222. Parent equipment PS4M/16. Sub-units FL4/74 must be used at sound desk power inputs. SCPD 1982.

PS040016 PS4/16

Dual Power Supplier. Chassis containing two 24V 10A Switched Mode Power Suppliers PS4/15 for Neve sound desk. First used on Type 5 colour Mobile Control Rooms. Power requirements 240V AC. PN3/58. Supersedes PS2/264. Sub-units PS4/15. SCPD 1982.

PS040017 PS4/17

Switched Mode Power Supplier. The unit houses a "Gould" SMPSU type MMG24-1.4 which gives an output of 24 V at 1.4 A maximum.

Regulation 0.1% worse condition

Ripple & Noise 10 mV RMS

Insulation 4 KV RMS

RFI To BS 800 PT3 & VDE 0875N

Power requirements 240 V mains. CH1/64A. TCPD 1982.

PS040018 PS4/18 & A

Switched Mode Power Supplier. Triple O/P Power Supply, 2 x 12V 2A, 1 x 5V 10A. Maximum total load 50W. Comprises commercial Switched Mode Power Supply card mounted in CH1/64A chassis with two additional 12V regulators. Two versions: PS4/18 fitted with G06 32-way connector. PS4/18A fitted with Erni heavy duty 11-way connector. Power requirements mains 240V a.c. CH1/64A. DD 1982. DDHB 9.194(83).

PS4/18B

Switched Mode Power Supplier. Switched mode stabilised mains power supplier which uses the Coden type L55M513T module. It provides two 12 V supplies at 1.8 A each and 5 V at 8 A. Designed to be pin compatible with superseded power suppliers (see below) and therefore use identical coding slot positions to be superseded power suppliers. Power requirements 240 V ac. CH1/64A using one G06 32-way connector. Supersedes PS4/10, PS4/9, PS4/3A. Parent equipment CD2M/17, CD3M/33, CD2M/23 etc. DD 1983. DDHB 9.194(83).

PS040019 PS4/19 Switched Mode Power Supplier. Switched Mode Power Supply with 5A availability at 5V, and pre-set +ve and -ve supplies at approximately 120mA at 8-18V. Rated for use in ambience up to 50°C. Power requirements 240V AC 50Hz. CH1/64A. Parent equipment EP1P/33. Sub-unit Melcher Power Supplier Inverter not coded. DD 1982.

PS040019 PS4/19 A-H Switched Mode Power Supplier. Series of SMPSUs using Melcher PSU and Inverter, providing a selection of output voltages as follows:

A	+5V	4.2A	B	+5V	4.2A
	+12V	250mA		+12V	400mA
	-12V	250mA		-5V	100mA
C	+5V	2.4A	D	-5V	2.4A
	+12V	250mA		+12V	500mA
	-12V	250mA		-12V	500mA
	+12V	400mA			
	-5V	100mA			

E-H not yet designated
The PS4/19 A-H is pin compatible with the PS2/184. Power requirements 240V AC 50Hz. CH1/64A. Parent equipment EP1P/33. DD 1982.

PS040020 PS4/20 Switched Mode Power Supplier. Module incorporates a Gould power supply type MG15-8B mounted on a printed circuit board. Power requirements 250V 50Hz mains. 100mm x 220mm Eurocard with 96 way Euro-connector. Parent equipment PS2M/291. SCPD 1983.

PS040022 PS4/22 Switched Mode Power Supplier.
+12V at 1.25A }
-12V at 1.25A } Provided by Coden module PSU
+5V at 6A } type L60M512Ts
Max power 60W Output to 11-way erni.
Coding pin positions: 3, 7, 45. Power requirements mains input. CH1/64A. RD 1983.

PS040023 PS4/23 Switched Mode Power Supplier. A commercial power supply GOULD MGT400 housed in a modified CH1/64E chassis. Main +5V output rated at 60A max. Aux.A +12V. Aux.B -12V. A -5V output at 5 Amps max is derived from the Aux.B output via a voltage regulator I.C. Modified CH1/64E (requires E width space in PN3/54) DD 1983.

PS040024 PS4L/24 Switched Mode Power Supplier. This code defines the combination of a PS4/23 and an un-wired termination panel. The termination panel is fitted with mains and power connectors to mate with the PS4/23, and the user must wire to the connectors. No rear cover is provided. CH1/64E (Requires E width space in PN3/54). Sub-units PS4/23. DD 1983.

PS040026 PS4/26 Switched Mode Power Supplier. Uses a commercial PSU (Coden C30M515T) to produce stabilized voltages of +5 V, +15 V, -15 V. Power requirements mains. CH1/82A. Parent equipment EQ3M/38. DD 1983. DDHB 6.284(86).

PS040027 PS4/27 Switched Mode Power Supplier. Uses a commercially available power supplier to provide +5 V at 4 A, +12 V at 1.5 A and -12 V at 1.5 A from 240 V ac mains. Power requirements 240 V ac. Parent equipment GE8L/511 (VT clock). C&ES 1983.

PS040028 PS4/28 Switched Mode Power Supplier. 5V, 20A & 2 x 12V, 1.75A provided by Advance switching mode power supply type MGT5-20B. Output to McMurdo red range connector. Power requirements mains input. CH1/64C. RD 1984.

PS040029 PS4/29 Switched Mode Power Supplier. Uses two commercial modules, the Gould Advance MGT 400 and the Melcher NSR512-9LiPC. Output supplies: +5 V, 60 A max.
-5 V, 12 A max.
+12 V, 8 A max.
-12 V, 8 A max.
Power requirements: 176-264 V ac or 99-132 V ac, 3.5A rms. Chassis: Modified CH1/64E. DD(1) 1984. DDHB 1.186(84).

PS040030 PS4/30 Switched Mode Power Supplier.
Input 40-0-40 V ac at 14 A twice.
Output 28 V dc at 15 A twice regulated
28 V dc at 4 A regulated
50 V dc at 250 mA unregulated. Power requirements 40-0-40 V ac at 14 A twice. Special 12 U 'B' width compatible with BMM runners. Supersedes PS2/281. Parent Equipment AM14/58 series. DD 1984. DDHB 5.461(85).

PS040031 PS4L/31 Switched Mode Power Supplier. This code defines the combination of a PS4/29 and an un-wired termination panel. The termination panel is fitted with mains and power connectors to mate with the PS4/29 and the user must wire to the connectors. No rear cover is provided. Power requirements Mains 176 V - 264 V at 45 Hz - 440 Hz. 3 A rms typical at 240 V. CH1/64E (Requires E width space in PN3/54). Sub-units PS4/29. DD 1984. DDHB 1.186(84).

PS040032 PS4/32 Switched Mode Power Supplier. Provided by two 'Power General' supply units type 1050-1, 50 W. Two independant outputs via 11 way Erni connector: 5 V, 10 A. Power requirements 240 V ac. CH1/64A. RD 1984.

PS040033 PS4/33 Switched Mode Power Supplier. Provided by 'Power General' supply unit type 1100-1, 100 W. 5 V 20 A output via 11 way Erni connector. Power requirements 240 V ac. CH1/64A. RD 1984.

PS040034 PS4/34 Switched Mode Power Supplier. Provided by 'Power General' supply unit type 3050-3, 50 W. Two outputs via 11 way Erni connector: 5 V, 6 A; ± 12 V, 2A. Power requirements 240 V ac. CH1/64A. RD 1984.

PS040035 PS4/35 Switched Mode Power Supplier. Provided by 'Power General' supply units type 1050-1, 50 W and 3050-3, 50 W. Independant outputs via 11 way Erni connector: 5 V, 10 A; 5 V, 6 A; ± 12 V, 2A. Power requirements 240 V ac. CH1/64A. RD 1984.

PS040036 PS4/36 Switched Mode Power Supplier. Provided by 'Power General' supply units type 1050-1, 50 W and 3050-4, 50 W. Independant outputs via 11 way Erni connector: 5 V, 10 A; 5 V, 6 A; ± 15 V, 2 A. Power requirements 240 V ac. CH1/64A. RD 1984.

PS040037 PS4/37 Switched Mode Power Supplier. Provided by 'Power General' supply unit type 1050-1, 50 W. Output via 11 way Erni connector: 5 V, 10 A. Power requirements 240 V ac. CH1/64A. RD 1984.

PS040038 PS4/38 Switched Mode Power Supplier. Provides 5 V at 0-5 A and two supplies (A&B) of 12 V at 0-1 A with adjustment, indication and control within one integral unit. Power requirements 240 V ac. CH1/64 chassis. May replace PS4/19A-D in usual configurations. DD 1985.

PS040039 PS4/39 Switched Mode Power Supplier. 5 V, 20 A provided by a 'Technitron' supply unit type ES-05020, 100 W output via 11 way ERNI connector. Power requirements 240 V ac. CH1/64A. Supersedes PS4/33. RD 1985.

PS040040 PS4/40 Switched Mode Power Supplier. 2 x 12 V, 2 A provided by a 'Technitron' supply unit type ESK 50-1212 W, 50 W output via 11 way ERNI connector. Power requirements 240 V ac. CH1/64A. RD 1985.

PS040041 PS4/41 Switched Mode Power Supplier. +5 V, 7 A; -5 V, 1 A; +12 V, 2 A provided by a 'Technitron' supply unit type ESK 70-1205., 70 W output via 11 way connector. Power requirements 240 V ac. CH1/64A. RD 1985.

PS040042 PS4/42 24 V Switched Mode Power Supplier. Switched Mode Power Supplier. This power supplier uses a Lambda module type LJS-13A24-0-V-V giving an output of 24 V at 1.4 A max. Directly compatible with PS4/17. Power requirements 240 V ac. CH1/64A. Chassis extender CH1A/43. TCPD (D.O) 1985.

PS040043 PS4/43 Switched Mode Power Supplier. +5 V, 10 A; -5 V 0.5 A; +12 V, 1.5 A. Provided by 'Technitron' supply unit type ESK 80-1205, 70 W output via 11 way ERNI connector. Power requirements 240 V ac. CH1/64A. Chassis extender CH1A/43. RD 1985.

PS040045 PS4/45 Switched Mode Power Supplier. A switched mode power supplier that uses a Volgen (Technitron) supply unit type ESK50-1212, 50 W. The outputs are: +5 V, 5 A; +12 V, 1 A; -12 V, 1 A. The output connector is an 11-way ERN1. Power requirements 240 Vac. BBC Chassis Code CH1/64A. RD 1986.

PS040046 PS4/46 Switched Mode Power Supplier. Switched mode Power Supplier based on Gould Hi-Hex unit. Maximum power of 750 W, with internal forced cooling. Outputs: +5 V, 60A; -5 V, 30A; +12 V, 12 A; -12 V, 12 A. Power requirements 240 V a.c. BBC Chassis Code 4U BMM, E Width. Parent equipment EP2M/524. DD(8) 1986.

PS040047 PS4/47 Switched Mode Power Supplier. +5 V 5 A, +15 V 0.8 A, -15 V 0.8 A. Uses a Volgen (Technitron) supply unit type ESK 50 - 1515, 50 W. Output supplies: +5 V, 5 A; +15 V, 0.8 A; -15 V, 0.8 A. Power requirements: mains. CH1/64A. RD 1986.

PS040048 PS4/48 Switched Mode Power Supplier. +15 V, 10 A; +12 V, 1.5 A; -12 V 0.5 . Uses a Volgen (Technitron) Supply Unit type ESK80 - 1212A. Output supplies: +15 V, 10 A; +12 V, 1.5 A; -12 V, 0.5 A. Power requirements: mains. CH1/64A. RD 1986.

PS040049 PS4/49 Switched Mode Power Supplier. A 4 U crate containing one or two switched mode power supply modules, depending upon options. The SMPS modules are Advance Powerflex 500, each of which provides +5 V, 60 A; +12 V, 7 A; -12 V, 7 A; 2 x -5 V, 7 A. Power requirements 240 V ac. Chassis PN3/54. D & ED (V) 1986.

PS040050 PS4/50 Switched Mode Power Supplier. A free standing, i.e. it is not rack-mountable, 24 V d.c. switched mode power supply. Used to power 1 off EP1MP/61 + 1 off EP1P/60 Radio Mic. Receiver Equipment or 4 off EP1P/60. Power requirements 240 V a.c. D & ED (RF) 1986.

PS040051 PS4/51 Switched Mode Power Supplier. This is a commercial Power Supplier mounted in a 6U plug-in module, and provides +5V and $\pm 18V$. It is used in the 6 channel NICAM II Decoder, CD3M/58. Power requirements 240Vac (<100VA). Plug-in 6U chassis. Parent equipment CD3M/58. D&ED (A) 1987.

PS040052 PS4/52 Switched Mode Power Supplier. This unit provides two 15V rails at 1.5A, using a Volgen PSU type ESK50 via an 11-way ERNI connector. Power requirements 240Vac. CH1/64A. RD 1987.

PS050001 PS5/1 Voltage Regulator reduces -24V 0 +24V to -12V 0 +12V and inter-connects a 23 way plug to hard wiring. It consists of two I.C. voltage regulators with heat sinks, mounted on a printed circuit board which fits the chassis bars via adaptors. Pins are provided for hard wiring. It is intended for use only where an AM6/17 is fitted in a CALREC chassis. -24V and +24V in at 150mA. Printed circuit board 115mm x 45mm. DD 1977. DDMI 3.645(78).

PS050002 PS5/2 Microphone Phantom Power Supplier. Jackfield mounting printed circuit board to supply phantom power for up to 20 microphones from a stabilised 50V, negative earth supply. Provision is made for the option of over-voltage protection. PCB 432mm x 89mm. SCPD 1978.

PS050003 PS5/3 Battery Maintained Regulator. A regulator that will provide an output of +6V, 0V, -6V at 800mA from an input of +12V, 0V, -12V, with -50V percent, from station battery, the unit's internal batteries will maintain the output in the event of input volts failure. Power requirements +12V, 0V, -12V (PS2/163) -50V, 0V (Station Battery). CH1/65A. Parent equipment PS2M/255. DD 1980. DDHB 3.272(81).

PS050004 PS5/4	Power Supplier. The unit forms part of the OB Link Diversity Switch, SE1P/503, and delivers outputs of ± 12 V d.c. at 1.5A and +5V at 2A. Power requirements -36V d.c. (from vehicle battery) or 240V mains. CH1/64B. Parent equipment SE1/503. DD 1980.
PS050005 PS5/5	Standby Power Supplier. Used in conjunction with 2 off PS2/274 to maintain those supplies during short periods of mains interruption. Also provides alarm facilities for associated power suppliers. Power requirements 210 - 260V a.c. at 60VA. CH1/64D. Parent equipment PS1M/49. DD 1981.
PS050007 PS5/7	Power Supplier. Mercher DC to DC converter (24V to 5V) mounted on a self supported, shortened 4U card to mount in TCPD Sender Interface units. Power requirements 24V d.c. 4U card 180mm long. Parent equipment TCPD Sender Interface. DD 1984.
PS050008 PS5/8	Power Supplier. Enables a Nicam 3 Coder to be run off a nominal 24 V dc power supply. Power requirements +24 V. CH1/64B. Parent equipment CD2M/17. DD 1984. DDHB 6.264(85).
PS050009 PS5/9	Power Supplier. To supply 5 V dc at 5 A from twin 24 V dc maintained supplies on quickly replaceable chassis. Power requirements 2 x 24 V dc input. 4U 'A' width chassis. DD 1984.

RC010012 RC1/12A	F.M. Band II Receiver. Band II Crystal controlled high sensitivity VHF F.M. receiver with internal stereo decoder, stereo pilot detector and 23/76 kHz tone detectors. Power requirements mains or D.C. CH1/64A. DD 1978.
RC1/12B	Band II F.M. Receiver. Similar to RC1/12A but improved RF and Mixer stages and narrow-band I.F. produce improved reception (Monophonic) with hostile adjacent signals. Power requirements: Mains or ± 12 V. BBC chassis CH1/12A. TCPD 1986. Superseded by RC1/19. OBSOLESCENT.
RC010017 RC1/17	VHF Band II FM Programmable Tunable Receiver high sensitivity medium grade with stereo decoding. Multiplex, audio left and right output signals. Front panel or remotely programmable tuning, pre-set muting, carrier indication and stereo pilot indication with opto-isolation relays at the rear connector. Power input is Mains or ± 12.5 V or ± 14.5 V minimum. CH1/64 chassis. DD 1976. DDMI 5.326(77). DDHB 5.123(77). EDI 10313(1)DEC77. Superseded by RC1/30. OBSOLESCENT.
RC1/17A	VHF FM Receiver. Band II FM receiver, high sensitivity with front panel or remote tuning. Similar to RC1/17 except that the de-emphasis of the multiplex output is independent of the stereo left and right output. Power requirements d.c. or mains. CH1/64A. DD 1978. DDMI 5.364(79). DDHB 5.147(79). Superseded by RC1/30. OBSOLESCENT.
RC010019 RC1/19	FM Band II Receiver, crystal controlled with high sensitivity and narrow bandwidth with stereo decoding. Multiplex, audio left and right output signals. Front panel pre-set muting, carrier indication and stereo indication with opto-isolation relays at the rear connector. Mains or ± 12.5 V or ± 14.5 V minimum power supply. CH1/12A chassis replaces RC1/8 and RC1/10 (mains only). DD 1976. DDMI 5.318. DDHB 5.111. EDI 10288(1)OCT76.
RC010020 RC1/20	Portable Pocket Receiver operating at 141.8575MHz for "calling" use only. It emits an audible note when triggered. Internal PP3 battery. Diecast box 89mm x 38mm x 32mm. DD 1977. DDMI 5.336(77), 5.350(78). DDHB 5.127(77).
RC010021 RC1M/21	Field strength (magnetic and electric) measuring receiver for LF and MF bands. 150-1600kHz with digital readout in dB's above 1 μ V/metre and signal analysing. For use in vehicle. Power requirements 12V vehicle supply. Modular construction in 'Major' case. RD 1977.
RC010022 RC1/22	MSF Receiver for 60kHz transmissions via ferrite rod aerial and decodes data to supply Monitoring and Information Centre clock unit. Power requirements +12V d.c. Plastic box 178mm x 127mm x 127mm. DD 1978.
RC010023 RC1/23	Receiver 60 kHz Standard Frequency. Receives the 60kHz Rugby Transmission. Provides outputs of 60kHz, 200kHz and 1MHz. Also timecode and signal fail logic. Fitted with an a.g.c. level indicator. 50 Ω aerial input also provides power for a Receiving Aerial. Pin compatible with RC3/13

where appropriate. Power requirements +12V and -12V. CH1/65A. Parent equipment ME6M/3. DD 1978.

- RC010024 RC1/24 60kHz Receiving Aerial. To be used with the 60kHz Standard Frequency Receiver RC1/23. This aerial comprises an earthed bunch of six ferrite rods, tuned circuits and pre-amplifier. A TNC connector provides the output and power supply connection. Power requirements 10V at 10mA approximately. Plastic tube 305mm x 51mm diameter. DD 1978. DDTM 5.134(78).
- RC010025 RC1/25 This unit receives and demodulates the 60kHz MSF signal broadcast from Rugby. It uses an integral ferrite-rod aerial and provides a TTL-compatible data output containing time and date information. It is mounted in a waterproof enclosure for outdoor use. Power requirement +15V to +20V. Outside dimensions 175mm x 125mm x 125mm excluding connector. DD 1978.
- RC010026 RC1/26 MSF Timecode Receiver. Receives and decodes the slow code 60kHz from Rugby, for use with the BH selector system. Power requirements 240V at 1A. CH1/64B. DD 1979. DDTM 1.157(80).
- RC010027 RC1/27 Band II Data Receiver. This Band II receiver is designed specifically for the reception of data pilot within the range 23-76kHz. A monophonic audio output is also provided for monitoring purposes. The receiver is fixed frequency crystal controlled. Power requirements 190-260V a.c. 10Va. CH1/64A. DD 1979.
- RC010028 RC1M/28 ENG Receiver. Purpose:
(a) Receives control signals via PO line from SCAR to select aerials and polarisation.
(b) Receives signal strength signal from vehicle and provides meter indication.
(c) Sends signal strength and alaram data back to SCAR.
Power requirements 240V 50Hz. 4U BMM Chassis PN3/54 with PN3A/55 Hinged Rear Panel. Sub-units FL1/45, DM3/9, CO10/5, UN21/52, CO1/13, SE2/26, ME1/10, CO1/14. DD 1982. DDHB 2.479(82).
- RC010029 RC1/29 Band II F.M. Receiver. VHF Band II FM fixed tuned crystal controlled receiver. High sensitivity, medium grade. Multiplex, audio left and right channel output signals. Stereo pilot indication with opto-isolator output. Link programmable tone detector with opto-isolator output. Designed to be used with Termination Panel PA20/30. Power requirements mains. CH1/64A. Supersedes RC1/12A. DD 1983. DDMI 5.450(84). EDI 10486(1)JUN 85.
- RC010030 RC1/30 Synthesised Band II F.M. Receiver. VHF Band II FM synthesiser tuned receiver. 50kHz step size. High sensitivity, medium grade. Multiplex, audio left and right channel output signals. Stereo pilot indication with opto-isolator output. Link programmable tone detector with opto-isolator output. Designed to be used with Termination Panel PA20/30. Power requirements mains. CH1/64A.

Supersedes RC1/17. DD 1983. DDMI 5.442(84). DDHB 5.174(84). EDI 10486(1)JUN 85.

- RC010031 RC1/31 EBU Video Receiver. This unit receives digital video data according to the EBU parallel interface specification. It times the data to the local clock, decodes the incoming TRS, and demultiplexes the luminance and chrominance. Power requirements +5 V, -5.2 V. 6 U Eurocard 280 mm deep. Termination Panel: PA20/39. DD(8) 1985.
- RC010032 RC1/32 EBU Video Receiver. This unit receives digital video data conforming to the EBU parallel interface specification and synchronises the incoming data to the local reference using up to one TV line of storage. It decodes the TRS, applies digital blanking and de-multiplexes the luminance and chrominance signals. Power requirements: +5 V, -5.2 V. Chassis: 6 U Euro-card 280 mm deep. Chassis extender: CH4/13. Parent equipment: EP5M/524, EP5M/526. Supersedes RC1/32. D & ED (V) 1986.
- RC010509 RC1/509 UHF Receiver. This receiver provides six video outputs and an audio output at standard levels for in-house distribution, off air cue and continuity purposes. Ten pre-set channels are available on the front panel or by remote operation. Features include a synthesised local oscillator and a Surface Acoustic Wave IF filter. Power requirements Mains. PN3/55. DD 1980.
- RC010510 RC1/510 UHF Receiver. This is a grade 2 receiver which provides one audio and two video outputs. Features include a specially designed Surface Acoustic Wave IF filter and demodulator which ensures low distortion and good teletext performance. Tuning is push-button with AFC. Option for seven video O/P's if required, RC1/510A. Power requirements mains. PN3/55. DD 1982. DDMI 5.422(82). DDHB 5.167(83).
- RC1/510A UHF Receiver. This is a grade 2 receiver which provides one audio and seven video outputs. Features include a specially designed Surface Acoustic Wave IF filter and demodulator which ensures low distortion and good teletext performance. Tuning is push-button with AFC. Power requirements mains. PN3/55. DD 1982.
- RC010511 RC1/511 UHF Receiver. This is a grade 2 receiver which provides one audio and two video outputs. Features include a specially designed Surface Acoustic Wave IF filter and demodulator which ensures low distortion and good teletext performance. Tuning is synthesised. Option for seven video O/P if required, RC1/511A. Power requirements mains. PN3/55. DD 1982. DDHB 5.172(84).
- RC1/511A UHF Receiver. This is a grade 2 receiver which differs from the RC1/511 in that it contains a 6 dB Video Distribution Amplifier, AM4/536 and thus provides one audio and seven video outputs. Features include a specially designed Surface Acoustic Wave IF filter and demodulator which ensures low distortion and good teletext performance. Tuning is synthesised. Sub-units AM4/536. Power requirements mains. PN3/55. DD 1982.

RC010512 RC1/512	UHF Receiver. This is a grade 2 receiver which provides one audio and two video outputs. Features include a specially designed Surface Acoustic Wave IF filter and demodulator which ensures low distortion and good teletext performance. Tuning is synthesised with remote control available. Option for seven video O/P if required, RC1/512A. Power requirements mains. PN3/55. DD 1982.
RC1/512A	UHF Receiver. This is a grade 2 receiver which provides one audio and seven video outputs. Features include a specially designed Surface Acoustic Wave IF filter and demodulator which ensures low distortion and good teletext performance. Tuning is synthesised with remote control available. Power requirements mains. PN3/55. DD 1982.
RC010513 RC1/513	280 Mbit Optical Receiver. Photo-diode, Amplifier, Filter and Limiter to regenerate incoming bitstream, and 280MHz phase-locked loop to regenerate clock from bitstream. Power requirements +12V 10mA, +5V 74mA, -5V 250mA. BMM 4U unsupported Panel. Parent equipment RC1M/514. DD 1982.
RC010514 RC1M/514	280 Mbit Optical Fibre Receiver. Experimental equipment for the digital transmission of television signals over a fibre optic cable. This equipment can be used as a single or dual channel receiver. The input bit-rate for single channel use is 140 Mbit/s, for dual channel use it is 280 Mbit/s. Power requirements 240V a.c. 50VA. PN3A/54, 4U card frame. Sub-units C09/506, C010/501, RC1/513. DD 1982. DDHB 6.238(84).
RC010515 RC1S/515	Datacast Receiver. A Datacast Adapter receives a given Datacast service from a U.H.F. television transmission. The Datacast service is presented as an RS232 signal for connection to an external unit. The required Datacast service is selected either by external or internal switches or under external computer control. Encrypted transmissions will be catered for. Power requirements 240 V a.c. $\pm 8\%$, 250 mA. Chassis: W 324 mm x H 88.4 mm x D 27.8 mm. Sub-units RC1S/516 and CD3S/550. DD(1) 1986.
RC010516 RC1S/516	U.H.F. Tuner. Receives television transmissions on channels 21 to 69 inclusive and produces 2 x 1 V, 75 Ω video outputs. The design has been optimised for teletext reception. No sound output is available. The tuner is synthesised so as to achieve stable performance and ease of operation. Power requirements +5 V, 100 mA; -12 V, 100 mA; +12 V, 180 mA; 40 V, 1 mA. PCB 195 mm x 95 mm. Parent equipment RC1S/515. DD(1) 1986.
RC010518 RC1S/518	UHF Tuner. This unit combines a synthesised UHF tuner and a suitable mains power supply. The tuner is controlled via the I ² C bus, using an on-board microprocessor. An interface to the CD3S/550 Datacast Decoder is available. Power requirements 240Vac, 20W. 180x200mm. Parent equipment RC1S/515. Supersedes RC1/517. D&ED (V) 1987.
RC020003 RC2/3	Studio Communication Receiver. UHF receiver used in television studios to receive signal from EP8/6 transceiver. Previously coded RC4/5. DD 1976. DDMI 5.340(77).

RC020004 RC2L/4	2048 kbit/s TFM Receiver Modem. The unit accepts a 7.5 MHz 2048 kbit/s TFM modulated signal as input and produces the corresponding HDB3 data stream as output. Power requirements 240 V ac. Half of PN3/54. Sub-units DM4/6, CD3/48. DD(5) 1985. EDI 10518(1)JUL85. Superseded by RC2L/5. OBSOLESCE.
RC020005 RC2L/5	2048kbit/sec TFM Modem. This unit accepts a 7.5MHz 2048kbit/sec TFM modulated signal as input, and produces the corresponding HDB3 data stream as output. Power requirements 240Vac. Modified PN3/54, half-width. Sub-units DM4/10, CD3/56. Supersedes RC2L/4. D&ED (RF) 1987.
RC030015 RC3/15	VHF Monitoring Receiver. Crystal controlled low sensitivity Band II FM receiver medium grade with stereo decoding. Multiplex, audio left and right output signals. Front panel pre-set muting, carrier indication and stereo pilot indication with opto-isolation relays at the rear connector. Power input is Mains or $\pm 12.5V$ or $\pm 14.5V$. CH1/64 chassis. DD 1976. DDMI 5.358(78). DDHB 5.132(78), 5.141(78). Superseded by RC3/18. OBSOLESCE.
RC030016 RC3/16	AM Monitoring Receiver for broadcast band, crystal controlled. Front panel pre-set carrier mute and carrier drop with indication and opto-isolation relays at rear connector. Push, pull audio output and plain carrier output at rear connector. Mains, $\pm 12.5V$ or $\pm 14.5V$ power supply. CH1/64 chassis. Equivalent to RC3/10 (CH1/12A). DD 1976. DDMI 5.331(77). DDHB 5.125(77). EDI 10314(1)JUL77.
RC030018 RC3/18	Band II F.M. Monitoring Receiver. Crystal controlled low sensitivity Band II FM receiver medium grade with stereo decoding. Multiplex, audio left and right output signals. Front panel carrier, stereo and presetable tone indicators, with opto-isolator outputs at the rear connector. Designed to be used with Termination Panel PA20/30. Power requirements mains. Supersedes RC3/15. DD 1983. DDHB 5.178(84). EDI 10486(1)JUN 85. DDMI 5.451(84).
RC030019 RC3/19	Band II F.M. Monitoring Receiver. VHF Band II FM synthesiser tuned receiver, 50 KHz step size. Low sensitivity medium grade with stereo decoding, multiplex, audio left and right output signals. Front panel carrier, stereo and presetable tone indicators with opto-isolator outputs at the rear connector. Designed to be used with Termination Panel PA20/30. Power requirements mains. CH1/64A. DD 1983. DDMI 5.449(84). DDHB 5.175(84). EDI 10486(1)JUN 85.
RC030020 RC3/20	FM Monitoring Receiver. The unit monitors an FM signal and detects tones therein. Power requirements $\pm 12 V$, $-12 V$ at 170 mA. CH1/65A. TCPD 1985.
RC030021 RC3SL/21	Radio Data Monitoring Receiver. This is a bay-mounted Monitoring Receiver for the BBC Radio Data Service. It is electrically identical to the RC3SP/21. Power requirements 240Vac. Fits into PN3/54. Sub-units RC1/30, CD4S/23,

PS4/18A. D&ED (A) 1987.

RC3SP/21 Radio Data Monitoring Receiver. This is a portable Monitoring Receiver for the BBC Radio Data Service. It is electrically identical to the RC3SL/21. Power requirements 240Vac. CS2/25D modified. D&ED 1987.

RC040004 RC4M/4 Radio Link Receiver for use with TM3M/6 (185MHz). PN3/23. DD 1974. DDHB 5.95. EDI 10209(P)FEB74.

RC040007 RC4M/7 UHF Radio Link Receiver (Audio). UHF link receiver used in Local Radio Service to receive programme audio from TM3M/7 transmitter in Radio cars. Contains AM7/18A, AM21/5, CO2/20, FL2/14 and OS2/49. 2U BMM panel. DD 1977.

RC040008 RC4M/8 UHF Radio Link Receiver (Audio). Mains or battery operated portable radio link receiver operating in range 470MHz-475MHz. For use by Communications Department to receive programme or multiplex from transmitter TM3M/8. Contains AM7/18B, AM21/6, CO2/20, FL2/14 and OS2/49. C & N waterproof case. DD 1977. DDMI 5.346(77). DDHB 5.128(79).

RC4M/8A Radio Link Receiver, audio and control identical to RC4M/8 but with additional facility for switching between two operating frequencies e.g. 473.00MHz and 476.4MHz. Power requirements 240V a.c. mains or 22-60V d.c. Parent equipment Transmitter TM3M/84. Sub units CO2/20A, OS2/49A, AM1/16, AM7/18. DD 1978. DDHB 5.128(79).

RC4M/8B UHF Radio-Link Receiver. Similar to RC4M/8A, switching between two frequencies, e.g. 427.8125 MHz and 446.5625 MHz. However two switchable input filters are used due to the wide spacing of the channels. Power requirements 240 V a.c. Power requirements 240 V a.c. Parent equipment used with Transmitter TM 3M/8B. Sub-units CO2/20B, OS2/49A, AM21/6A, AM7/18, FL2/25A (2 off). DD 1983. DDHB 5.170(84). DDMI 5.441(84).

RC4M/8C UHF Radio Link Receiver. Modified version of RC4M/8 to receive two channels not more than 18 MHz apart in the range 850-900 MHz. Used in conjunction with transmitter TM3M/8C. Power requirements 240 V a.c. mains or 22-60 V d.c. C and N chassis and case. Sub-units FL2/25, CO2/20, AM2/6, OS2/49, AM7/18. DD 1983. DDHB 5.168(83). DDMI 5.441(84).

RC4M/8D UHF Radio Link Receiver. Similar to RC4M/8B, however switching between two frequencies e.g. 455 MHz and 469 MHz. Power requirements 240 V a.c. mains or 22/66 V d.c. C and N case 442 mm x 132 mm x 378 mm. Used with transmitter TM3M/8D. Sub-units CO2/208, OS2/49A, AM21/6B, AM7/18, FL2/25A, (2 off). DD 1983. DDHB 5.170(84).

RC040009 RC4/9 Band I FM Receiver. FM receiver for Band I radio microphones. Power requirements 6 watts approx. from +12V, +24V or 190 - 240V AC. Special Box (Very approx. 8" x 9" x 2.5"). Supersedes RC4/1. DD 1981 DDHB 5.414(82).

RC050008 RC5L/8 Band II FM Rebroadcast Link Receiver. Crystal controlled to receive fixed channel in the range 88-108MHz. Maximum RF input is 100mV into 50Ω with an output of 1V p-p multiplex into 75Ω for 75kHz deviation. The receiver

consists of a PS2/228 and RC5/9. Power requirements 240V 50Hz mains. PN3A/53B. DD 1977. DDHB 5.138(77).

RC050009 RC5/9

F.M. Band II Rebroadcast Receiver. Crystal controlled to receive a single fixed channel in the range 88-108MHz. Maximum R.F. input is 100mV into 50Ω with an output of 1V p-p multiplex into 75Ω for 75kHz deviation. Power requirements +18V, -5.2V. CH1/64B. For use in RC5L/8, RC5L/10. DD 1977.

RC050010 RC5L/10

Band II Rebroadcast Link Receiver. The RC5L/10 is electrically identical to the RC5L/8 with the addition of a stereophonic decoder (CD3/23). The three sub-units plug into a PN3A/53D, which houses the input and output connectors. The principal outputs are audio left and right channels which deliver +10dBm balanced into 600Ω for 68kHz deviation. Power requirements 240V, 50Hz mains. PN3A/53D. Sub units PS2/187L, RC5/9, CD3/23. DD 1977. DDHB 5.138(78).

RC050011 RC5L/11

This Rebroadcast Receiver is identical to the RC5L/10 with the exception of the decoder unit, CD3/23 which is replaced by a mono De-emphasis unit FL4/67. Thus the receiver output consists (A+B) at 10dBm balanced from a nominal 75Ω source. Power requirements 240V 50Hz. PN3A/53D. Sub units FL4/67, PS2/228, RC5/9. DD 1978. DDHB 5.138(78).

RC050503 RC5M/503

UHF Television Re-Broadcast Receiver. UHF Television Rebroadcast Receiver used for high quality rebroadcasting and for remote monitoring of unattended transmitters. It can be pre-set to any channel in Band IV or V. Power requirements 240 V, 50 Hz ac. 4 U, 19" panel. Supersedes RC5M/501, 502. Sub-units AM4/539, AM21/507, CO2/558, DM2/514, FL2/568, OS3/512. DD(5) 1985.

RD010001 RD1M/1

Modular Audio Recording Equipment. This equipment enables up to 10 short speech messages or musical jingles to be recorded digitally in Random Access Memory. Each message is replayed continuously, with the option of inserting audio from an external source (e.g. tone) between cycles. Bandwidth is 3.25 or 6.5kHz and message lengths up to 33 seconds, depending on the types of strobe cards fitted. Digital coding is 8-bit A-Law instantaneously companded. Power requirements 240V mains. 4U BMM frame. Sub-units PS4/10, PS2/187K, PS1/50, CO8/11, UN27/16A,B,C, PA6/143A,B. DD 1982. DDMI 6.416(83). DDHB 6.244(83). EDI 10454(1)SEP 83.

RD010002 RD1SM/2

Speech and Tone Identification Recording Equipment. Used in conjunction with a BBC microcomputer to record a speech and tone sequence in EPROM for use with the GE1/19 Line Identification Signal Generator. It accepts a zero programme level signal and programs an EPROM with 8-bit A-law encoded data under user control. Will encode a maximum of 4 seconds at one time. Power requirements 240 V ac 50 Hz. 3U main frame, PN3/58. Sub-units PS2/302, CO8/16, UN27S/27. DD 1985.

RD030001 RD3M/1	Floppy Disk Data Store. This unit incorporates two Caldisk 203mm floppy disk drives and a D.C. power supplier in a 4U 483mm rack mounting assembly. No disk controller is included, the data and control signals to the drives are daisy-chained and brought to a rear connector. The power supplier has a remote control facility whereby the mains and +24V supply to the disk drives can be switched by logic signals from a disk controller. Power requirements 240V a.c. mains. 4U x 483mm bay mounting, modified PN3/54. Sub-units PS2/269. DD 1980. DDHB 2.473(82). DDMI 2.465(83).
RD3M/1A	Floppy Disk Data Store. As RD3M/1 but with two Caldisk 143M-1 drives and with 50-way connector. Power requirements 240V AC 3A max. 19" Rack, 4U Depth (Max) 380mm. DD 1982.
RD030002 RD3M/2	Floppy Disc Drive Equipment. This unit contains 2 BASF type 6108 5½" floppy disc drives mounted in a 2U high chassis. It is self powered (using mains) but needs an external disc controller for data input/output. Power requirements 240V a.c. ±10% at less than 50 watts. 2U high 19" mounting crate. Parent equipment C04/19. DD 1982.
RD030501 RD3/501	'ELECTRALOG' VT Editing Data Storage Equipment. This equipment is used with the VT Edit Control system, RD4/509 (ELECTRA) to store all the edit decision points in RAM and then on floppy disc. It consists of a computer system with associated twin floppy disc drive. There are two control panels mounted next to the Edit Control System. Power requirements 240V a.c. mains. Sub-units UN3/76, UN3/77, EP1L/37, EP1/36. DD 1983. DDMI 7.530(85). HB 7.334(86).
RD040007 RD4/7	Variable Audio Delay Magnetic Recorder. This replaces commercial equipment not now available. Normally used in conjunction with echo room or EMT reverberation plates. The electronics consist of a relay amplifier, a recording amplifier and a power supplier (PS2/163). Its mechanical construction is a gantry carrying 3 magnetic heads placed above a Garrard 401 turntable, the turntable carrying a stretched oxide coated membrane on which the heads rest. It is free standing or bay mounted. Overall sizes 394mm deep x 356mm high x 483mm wide. DD 1979.
RD040011 RD4/11	Intrinsically Safe Magnetic Tape Recorder complying with BS.1259:1958 and approved by Health and Safety Executive for use in coal mines. Modified UHER 4000 IC and associated equipment. Replacement for RD4/6. Radio Services 1977.
RD040012 RD4/12	Tape Recorder Modified Scully 270 tape recorder to operate at 100ins/sec. Power requirements 117V 3A. Scully 270 tape recorder in Dexion frame 711mm x 533mm x 457mm. Parent equipment EP1/17. DD 1977. DDMI 7.446(80).
RD040013 RD4/13	Recoded C05/9.
RD040014 RD4/14	Recoded C05/8.

RD040015 RD4/15	Timecode Recording Amplifier. The amplifier includes all the circuitry to record and replay a timecode waveform on an additional track on a Studer B62 tape recorder. Power requirements +12V and -12V from the machine. Special printed circuit card to fit into Studer B62. DD 1978. DDMI 7.450(80).
RD040016 RD4/16	Wideband Timecode Head Amplifier. Amplifies and equalises timecode signals from a tape recording head. Designed to plug into a Studer A80 recorder in the control rack. Power requirements +24V. Special unsupported card approximately 100mm x 110mm to fit Studer A80. Equipment superseded AM16/12. DD 1978.
RD040017 RD4/17	Tape Machine Fader Unit. Folded box construction with top panel designed to occupy the blank space in the standard wide Telefunken M15A tape machine trolley providing stereo replay fader, comprehensive headphone monitoring and transport control switching for local/remote start facilities. D.C. power is obtained from the parent machine. TS(R) 1978.
RD4/17A	Tape Machine Fader Unit. Similar to RD4/17, but manufactured by Studer for use with Studer A80 RC tape machines in wide trollies. Power requirements DC Power from parent unit. Technical Services (Radio) 1981.
RD040018 RD4/18	B62 Time Code modified tape recorder. The equipment is a Studer B62 twin-track audio recorder modified to provide centre-track time code facilities. Power requirements 240V mains. Sub-unit RD4/15. DD 1980. DDHB 7.277(80) Iss. 2.
RD040019 RD4/19	A80 Centre-track Time Code Recorder. This equipment is a Studio A80 .25" twin-track audio tape recorder suitably modified to incorporate a Time Code Rec/Rep/ Erase head and drive electronics (AM15/11) to provide a Centre-track EBU Time Code recording and reproducing facility. Power requirements Mains 240V. Sub-unit AM15/11. DD 1981. DDHB 7.291(81) Issue 2.
RD040020 RD4/20	B67 Centre-track Time Code Recorder. This equipment is a Studer B67 .25" twin-track audio tape recorder modified to provide a centre-track EBU Time Code recording and reproducing facility. Power requirements Mains 240V. Sub-unit AM15/12. DD 1981. DDHB 7.297(82).
RD040021 RD4S/21	'FASOR' Recording Equipment. This 2U bay width panel houses the main electronics of the FASOR FILM AUDIO SYNCHRONISER. Power requirements mains 240 V. Panel based on PN3/55 with horizontally mounted 4U PCBs. Parent equipment EP5S/27. Sub-units PS2/194A, CO5/507, UN26/46, CD3/39. DD 1984. DDMI 7.526(85).
RD4S/21A	'MAXIM' Recording Equipment. This 2 U, full width crate houses the main electronics of the MAXIM Synchroniser, RD4L/511. It is based on, and developed from, the RD4S/21 'FASOR' recording Equipment. Power requirements mains, 240 V NOM. Based on PN3/55, with horizontal 4 U cards. Parent equipment RD4L/511. Sub-units PS2/194A, CO5/507, UN26/46, CD3/39. Equipment Department 1985.

RD040505 RD4/505 Tape Transport Control Unit. Forms part of tape machine synchronising equipment and derives tape transport control signals from various error signals to synchronise a tape machine to a master machine. Also allows the transport to be controlled by remote inputs (Play, Stop and Wind) to the unit. Power requirements ± 12 Volts. DD 1977. DDMI 7.408(78).

RD040508 RD4M/508 Floppy Disk Field Store. To store a low resolution monochrome field on a single-sided, single density floppy disk. It handles a 6 bit signal samples at 8MHz, with 2 bits/sample available for other information. It is microprocessor controlled, and requires a suitable field store to provide and receive the stored data. The mother board conforms to the BBC Z80 bus structure. Power requirements 240V mains a.c. 200mA. BMM 6U crate (non-standard). Sub-units UN26/38, UN27/7, UN23/130, PS2/271, UN23/675, PS4/3A and C010/2. DD 1980.

RD040509 RD4M/509 Video Tape Editing Control Equipment. This equipment will control 3 video tape machines (1 edit and 2 playback) so that edits can be rehearsed and executed. It uses time code signals recorded on all machines to time the edit points. The equipment comprises an electronics crate and a control panel for each machine. There is also an 'events' system comprising an electronics crate and control panel. Power requirements 240v a.c. mains. 4U BMM chassis. Sub-units one edit machine: EP10M/501, PA6/123; each Playback machine: EP10M/502, PA6/124; one Events Control: GE2L/14, PA6/125. DD 1981. DDHB 7.286. (Maintenance). DDHB 7.288(81) (Operational).

RD4/509A Video Tape Editing Control Equipment. This is a 4 machine control system (1 edit, 3 playback) version of the RD4/509. Power requirements 240v a.c. mains. 4U BMM. Total bay mounted height, 20U (35"). Sub-units one Edit M/C Control: EP10M/501, PA6/123A; three Playback M/C control: EP10M/502, PA6/124; one Events Control: GE2L/14, PA6/125. DD 1981. DDMI 7.458(81). DDHB 7.286(81). (Maintenance). DDHB 7.288(81) (Operational).

RD040510 RD4L/510 Two Machine Edit Control Equipment. The equipment controls various functions on two Ampex VPR2 video tape recorders to provide a two machine edit control system. The Edit machine uses the built-in Ampex edit control circuitry. Editrace controls the playback machine (parking, edit preview) and starts and synchronises the Edit machine. Power requirements 240V a.c. mains. PN3A/53C. Sub-units CD3/39, UN26/46, C05/503, PS2/184. DD 1981. EDI 10459(1)MAY 84.

RD040511 RD4L/511 Timecode Tape Synchroniser. Used to synchronise a tape machine to a master machine using timecode from the master and timecode recorded on the synchronised machine. The equipment contains sufficient storage to hold 99 offsets and cue points. Microprocessor controlled. The unit contains an interface card C05/507, to suit the machine being controlled. Power requirements 240 V ac mains. B with assembly, PN3A/53B connector Panel. 4U BMM. Supersedes RD4L/506, RD4L/507. Sub-units PS2/184, CD3/39,

UN26/46, CO5/507. Control Panel PA6/140. DD 1982.
DDHB 7.319(84). DDMI 7.522(84). EDI 10498(1)AUG 84.

RD040512 RD4L/512 ANIMACE Animation Control Equipment. The unit controls an Ampex VPR2 videotape machine and a 16mm Sepmag machine as part of a system to assemble a series of animated video effects from an Electronic Stills Store onto videotape. Power requirements 240V a.c. mains. C width, 4U BMM assembly, PN3A/53C back connector. Sub-units CD3/39, UN26/46, CO5/506, PS2/184. DD 1982. DDMI 7.512(83). DDHB 7.310(83). DDHB 7.310(83).

RD040513 RD4L/513 Timecode Update Equipment. This equipment receives bi-phase mark serial timecode and capstan drive pulses from a VCR. It decodes the timecode waveform and at slow tape speeds it updates the timecode using the capstan pulses. The updated time is displayed on an eight digit display panel and the updated timecode is also available for external use. Power requirements 240V mains. 'C' width of 4U chassis, PN3/54. Supersedes EPIM/34. Sub-units PS2/184, UN26/46, CD3/45, PA1/127. DD 1982. DDMI 7.508(83). DDHB 7.305(82)

RD040514 RD4SL/514 Edifilm Control Unit. The unit accepts commands from the Edifilm control panel and controls a V.T. machine accordingly. Power requirements 240 V ac, 15 W. PN3A/53C. Parent equipment EPI0S/503. Sub-units UN26/46, CD3/39, PS2/184, CO5/503 (Modified). DD 1984.

RD050003 RD5/3 Modified paper take up unit designed to clip on to the front of the RD5/501 from which it is powered. DD 1977. DDMI 9.233(78).

RD050004 RD5P/4 Data Logger. This unit is designed to interface with the Automatic Measurement Unit, ME2/8 and embodies a 14+2 character printer using 37mm paper. Power requirements 240V mains. ABS case, 8" x 14" x 4" deep. DD 1982. DDHB 9.197(85). DDMI 9.304(85).

RD050005 RD5/5 Data Logger. The unit consists of a printer and processor to work in conjunction with the Automatic AF Receiver ME2/8. Power requirements 240 V ac. CH1/65D. Chassis extender CH1A/46, CH1A/61. Termination panel PA20/33. DD(9) 1985.

RD050502 RD5/502 Teletext Printer. From a feed of 625 line video this unit provides a hard copy of a page of teletext data. It also provides outputs to enable this teletext data to be displayed on a monochrome or colour monitor. Power requirements mains. Case size approximately 380mm deep x 260mm wide x 180mm high. DD 1979. EDI 10375(1)M AR80.

RP020001 RP2/1D As RP2/1B but fitted with new control panel and transistorised electronic equipment. DD 1975. DDMI 1.187(75).

RP020008 RP2/8A Disk Reproducer. As RP2/8, but replacing Gates turntable with Technics SP10 Mk.2, and "Gray" pickup arm replaced with MP1/18. ED 1980.

RP020009 RP2/9	Stereo Disk Reproducer. This is the fully modernised version of the RP2/1 with stereo facilities. It comprises the RP2/1C updated with the RP2/9 Kit whereby the existing turntable, pickup arm and groove location are replaced with new designs including the Technics SP10 mark 2P turntable. DD 1978. DDMI 1.224(78).
RP2/9A	Mono Disk Reproducer. This is the fully modernised version of the RP2/1 with mono facilities. It comprises the RP2/1D updated with the RP2/9A Kit. Whereby the existing turntable pickup arm and groove location are replaced with the new designs including the Technics SP10 mark 2P turntable. DD 1978.
RP020010 RP2/10	Disk Reproducer including amplifier AM16/16 and Turntable Technics SP10 Mk II. DD 1977. DDMI 1.196(76). DDTM 1.Reproducer. Table top disk reproducer 33, 45, 78 r.p.m. stereo and mono. Minimum facilities version for Continuity use. Includes scratch filter, variable attenuator for signal level, line output amp. Groove location. Floor standing by use of CT1/5 plinth. Power requirements 240V a.c. $\pm 6\%$. 2U BMM unsupported cards. Supersedes RP2/1, RP2/6 and RP2/8. Sub-units PS6/96A and AM16M/16. DD 1980. DDHB 1.159(81).
RP2/10B	Full Facilities Disk Reproducer. Table top disk reproducer: 33, 45, 78 r.p.m. stereo and mono. Full facilities version for Radio and External Broadcasting. Includes fader, RSA scratch filters, main line o/p amp and auxiliary o/p amp and headphone monitoring amp. Groove location. Floor standing by use of CT1/5 plinth. Power requirements 240V a.c. $\pm 6\%$. 2U BMM unsupported cards. Supersedes RP2/1, RP2/56 and RP2/8. Sub-units PS6/96B and AM16M/16. DD 1980.
RP2/10C	Television Disk Reproducer. Table top reproducer 33, 45, 78 r.p.m. Stereo and mono. Full facilities version for Television Studios. Includes Fader, RSA, Scratch filters, line o/p amp, Bussing mixer, groove location. Floor standing by use of CT1/5 plinth. Power requirements 240V a.c. $\pm 6\%$. 2U BMM unsupported cards. Supersedes RP2/1, RP2/6 and RP2/8. Sub-units PS6/96C and AM16M/16. DD 1980.
RP2/10D	Mono Disk Reproducer. Table top disk reproducer: 33, 45, 78 r.p.m. Mono facilities only using single channel version of the stereo electronics. Includes Fader, auxiliary o/p amp. Main line o/p amp, RSA, scratch filters, headphone monitoring. Power requirements 240V a.c. $\pm 6\%$. Supersedes RP2/1. Sub-units RA6/96D and DM16M/16. DD 1980.
RP030501 RP3/501	Precision Slide Mounting Table. Self contained back projection unit enables 35mm film to be aligned accurately relative to the reference edges of a standard slide prior to mounting in an Agfa Type K self-adhesive slide mount according to BS5115. The screen displays a x 4 image of a whole frame and incorporates a precision graticule. Register pins operated by lead screws for positioning hold the film strip and integral cutting blades isolate the required frame. Existing slides can also be checked. No setting up adjustments are required, accuracy is maintained by rugged construction. An illuminated surface enables the frames in a film strip to be compared. Weight 10kg. Power

requirements 240V ac 75W. DD 1981. DDMI 7.421(79). DDHB 7.271(79). EDI 10364(1)SEP79.

RP030502 RP3/502

Shot Change Detector. Equipment used with Telecine pre-programming equipment to identify the start of each shot in a film and to produce a half second negative-going TTL pulse 100mS after the change starts. Unit includes a picture detector for checkerboard working. Power requirements input 240V AC fused, 100mA A/S. 4U BMM. Equipment superseded, UN20/545. DD 1981. DDMI 7.453(80). DDHB 7.283(80)

RP030503 RP3/503

Autotariff Monitor. Produces control signals for TARIFTWO (EP6L/509) by monitoring uncorrected RGB input signals. control signals can be modified by manual control input. Power requirements 240V. Terminal panel PN3A/53. DD 1978.

RP030504 RP3/504

Automatic Lift and Gain Control. Accepts, red, green and blue video inputs and provides d.c. control voltages for TARIFTWO (EP3L/509) to control master lift and gain. Comprises RP3/505 with termination panel. Power requirements 210-260V at 150mA. CH1/61A + PN3A/79 termination panel. Parent equipment EP6L/509. DD 1979.

RP030506 RP3/506

Automatic Lift and Gain Control. Used in RP3L/504. Accepts red, green and blue video inputs and provides d.c. control voltages for TARIFTWO (EP6L/509) to control master lift and gain. Power requirements 210-260V at 150mA. CH1/64A. DD 1979.

RP3L/506

TARIFTWO Control Store. For use with TARIFTWO (EP6L/509) in transparency scanners. Stores tariff control voltages for up to 64 slides. Includes battery maintained supply for memory. Comprises RP3/507, with termination panel. Power requirements 210-260V at 150mA. CH1/64A and PN3A/79 termination panel. Parent equipment EP6L/509. DD 1979. EDI 10361(P)MAY80. DDMI 7.456(80).

RP030507 RP3/507

TARIF TWO Control Store. Used in RP3L/506. Stores tariff control voltages for up to 64 slides. Includes battery maintained supply for memory. Power supply 210-260V at 150mA. CH1/64A. Parent equipment RP3L/506. DD 1979. DDMI 7.455(80).

RP030508 RP3L/508

Shot Change Detector. Equipment with pre-programming equipment to identify the start of each shot in a film and to produce a half second negative-going TTL pulse 100mS after the change starts. Unit includes a picture detector for checkerboard working. Power requirements input 240V AC fused 100mA A/S. 4U BMM. Supersedes UN20/545. DD 1981. DDMI 7.454(80). DDHB 7.283(80). EDI 10400 (1) NOV 81.

RP030509 RP3/509

16mm Film Splicer. The CIR type M2-16mm film splicer which uses self-adhesive transparent tape to join the film, is modified to ensure a higher accuracy of join and also to reduce the film pitch at this point thus allowing for stretch in the jointing tape when it passes through a telecine machine. Full instructions are given for the manufacture of templates and gauges to assist in the

adjustment of a batch of splicers to the accuracy required.
DD 1980. DDMI 7.452(80).

RP030510 RP3/510 Autotarif Monitor. Provides control signals, with manual trim, for TARIF TWO (EP6L/509) to automatically optimise gain and lift correction. The uncorrected signals (RGB) are monitored. Functions are auto gain, auto lift and colour balance at black or manual only. Power requirements $\pm 12V$ DC, 250mA. +5V DC, 2A. CH1/64A. Supersedes RP3L/503*, RP3L/504*, RP3/506*. Parent equipment EP6L/509. DD 1981. DDMI 7.490(82).
* NONE OF THIS EQUIPMENT MANUFACTURED.

RP030511 RP3/511 Shot Change Detector. Detects changes in picture content from a telecine and after a 100ms processing delay indicates this by a board mounted LED and TTL output signal. Provision is included to disregard picture movement. Similar in action to RP3/502 Shot Change Detector but can only be used with sequential scan flying spot telecine machines. Power requirements $\pm 12V$ and 5V supplied by 'Digiscan' telecine. Rank-Cintel ISEP. DD 1981. DDHB 7.309(83). DDMI 7.511(83). EDI 10471(1)MAY83.

RP030512 RP3L/512 Auto Tarif. Generates Tarif 2 control voltages to automatically compensate for poor quality film running on a Telecine machine. Comprises RP3/510, power supply and back panel. Power requirements 250v AC 50Hz. Sub-unit RP3/510. DD 1981. DDHB 7.295(82). EDI 10455 (1) MAR 82. DDMI 7.489(82)

RP030513 RP3/513 Tarif Remote Control Unit. The equipment comprises an Intel microcomputer system with analogue-to-digital and digital-to-analogue, converters fitted as supplied. Two units may be used as a means of transmitting up to eight analogue voltages in the range +5V to -5V and various digital signals for the remote control of Tarif equipment. Power requirements mains 240V AC. Sub-units CO4/514. DD 1982. DDHB 2.471(82). EDI 10467(1)NOV 83.

RP030514 RP3/514 CINETRACE Equipment. A computer-based data preparation and replay system controlling a pair of modified Rank-Cintel Mk.IIIc Digiscan telecine for the action area transmission of wide screen films. Chassis code various. Sub-units to be decided. DD 1982.

RP030515 RP3/515 CINETRACE Data Preparation Equipment. Comprises an intelligent control panel (PA6/153) and a floppy disc drive equipped S100 comuter system with associated Steenbeck film edit bench (video modified). Action Area decisions for cinemascope films are displayed as a bright line box generated by an S100 graphics card, superimposed over the letter box picture from the film bench. Power requirements 250 VAC, Filtered. Sub-units PA6/153. DD 1983.

RP030516 RP3/516 Jumpscan Shot Change Detector. Detects changes in picture content from a telecine and, after a 115 ms processing delay, indicates this by a board-mounted L.E.D and TTL output signal. Provision is included to disregard picture movement. This unit is a modified version of the RP3/511 Shot Change Detector (designed for use with the Rank-Cintel 'Digiscan' telecine) and is similar in action. Pulse widths and timing are adjusted to suit the requirements of the Rank-Cintel MK III 'Jumpscan' telecine. Power requirements $\pm 12 V$ and 5 V supplied by the 'Jumpscan' telecine. Rank-Cintel I.S.E.P. DD 1984.

SC010004 SC1/4	Control System Input Scanner, used in conjunction with SC1/5 or SC1/6 to code information for transmission on remote control systems. CH1/63. DD 1975.
SC010007 SC1/7	Scanner Store. Automatic MIC Store. Power requirements +5V. 4U 57 way double-sided unsupported board with PNI/29J panel. Supersedes UN23/57. Parent equipment PA1M/99 and PA1M/100. DD 1979. (Code originally allocated in 1976, this now <u>cancels UN23/57</u> . Required due to units under SC1/7 designation being in service.)
SE010001 SE1/1	Clock Drive Changeover Cabinet, for use with a CA1/6, or similar and contained in an identical cabinet. Comprises a seconds slave clock to monitor main drive input and manual changeover switch to select an alternative, unmonitored, drive source, for driving one clock lamp. Drawing series SP25197 refers. Power requirements None. SCPD 1978.
SE010002 SE1/2	Preset Time Switch Unit. Receives two feeds of timecode from GE7/6's, selects one as master and compares with thumbwheel setting. If primed changes state of control relay when two are equal, and cancels priming. When not primed sounds an alarm. Used to control changeover between audio sources. Power requirements 5V 500mA. CH1/48B. DD 1978.
SE1/2A	Preset Time Switch Unit. As SE1/2 but contains a 5V regulator to enable unit to be installed remote from power supplier. Power requirements 8V d.c. 500mA. CH1/64B. DD 1980.
SE010003 SE1/3	5 Minute Selection Switching Matrix. Contains four pinboards each with selection of day of week and time in 5 minute steps. Different size pins used to select 'on' or 'off' pulse output. Driven by pulses from C010/1. Output triggers normally fed to UN14/13 delay unit (used for transmitter on/off switching). Power requirements 5V 200mA. CH1/65H. DD 1978.
SE010004 SE1/4	Quarter Hour Selection Switching Matrix. Contains four pinboards each with selection of day of week and time in quarter hour steps. Driven by pulses from C010/1. Output triggers normally fed to UN14/13 delay units (used for transmitter on/off switching). Power requirements 5V 200mA. CH1/65H. DD 1978.
SE010005 SE1L/5	Band II Multiplex Diversity Switch. This unit is designed for use in conjunction with two RC5L/8 re-broadcast receivers, to form a diversity reception system, switching at multiplex. This unit also contains a stereo decoder to provide left and right programme feeds. Power requirements 190-260V 50Hz 25VA. PN3A/53C. Sub-units SE1/6 and CD3/23. DD 1980. DDMDI 5.379(81).
SE010006 SE1/6	Band II Multiplex Diversity Switch. This unit forms part of the SE1L/5 multiplex switching which provides off-air diversity reception on Band II. Power requirements 190-260V a.c. 50Hz 25VA. CH1/64B. DD 1980. DDMDI 5.379(81).

SE010008 SE1/8	Modem Switching Equipment. For use with Gandalf modem, for changing over lines and modem units, changes over digital and audio signals. Power requirements 24V DC derived from Gandalf units. CH1/64B. Parent equipment PA1M/126. DD 1982.
SE010010 SE1/10	Remote Indicator Switching Equipment. This unit provides 20 sets of relay contacts under the control of a single TTL input. It is intended for controlling indicator lamps on remote studio desks to show the state of the GE1SM/20 Stereo Tone Sequence Generator. Power requirements +5 V at 250 mA. 3U unsupported card. Parent equipment GE1SM/20. DD 1984.
SE010012 SE1/12	Transmitter Inhibit Switch. This unit is used to inhibit transmitters, when diesel alternators are being operated under local or automatic tests. In particular, it interfaces with a GEC-GEM80 control system. It is used with an MN1/33 Audio Alarm and Monitor. Power requirements 2 off 50Vdc. CH1/64B. Parent equipment EP1L/63. Chassis extender CH1A/43. TCPD 1987.
SE010013 SE1/13	DF System Switch. Used in a DF system, it enables the change-over of Audio/RF and power at transmitters. Power requirements 50Vdc. CH1/64C. Chassis extender CH1A/43. TCPD 1987.
SE010501 SE1M/501	Relay Diversity Switch. The unit is fed with the vision and sound outputs from two receivers and automatically selects the better vision signal. Designed for use at relay transmitter sites where propagation abnormalities require diversity reception. Power requirements 240V. PN3/54 with hinged rear panel. Sub-units EQ5/542, PS2/239, UN1/723A, UN23/662, SE3/504, SE2/7 and AM1/611. DD 1978. DDHB 9.162(79).
SE010502 SE1/502	Syncs-Programme Switch. This unit consists of two 12V changeover relays mounted on a printed board inside a type 6908 Eddystone box. Power requirements +12V d.c. Eddystone box type 6908. Parent equipment GE8M/1. DD 1979.
SE010503 SE1P/503	O.B. Diversity Switch. The unit has similar facilities to the SE1M/501 but has interface and power supplies arranged for use on Television O.B.'s. Power requirements 240V mains of 36V d.c. PN3/54 frame housed in Camper-Nicholson transit case. Sub-units AT3/512, UN1/723B, EQ5/557, SE2/7A, UN23/662A and SE3/504A. DD 1980.
SE020001 SE2/1	Switch Unit. 24 way latch unit for use on CMCr telephone system. 3U high ISEP. SCPD 1977.
SE020002 SE2/2	12 way Latch Card. This card functions as a 12 way 2 pole interlocking switch for use with audio or d.c. The card contains latches, lamp drivers, and relay matrix and requires a one make push button for operation. The same wire is used for the select button and to drive an indicator lamp. The reset of the cards can be linked to provide multiway switching. Power requirements 0 - +24V. ISEP 3U chassis 112mm high. SCPD 1978.

SE020004 SE2/4 Stereo O.S., P.H., Switching Matrix giving 4 stereo (or mono) outputs from 11 stereo (or mono) O.S., music line inputs. Consists of 8 printed circuit boards of 3 types. Power requirements +12.5V, 0, -12.5V, +6V, 0, -6V. CH1/76. Parent equipment DK2/24. SCPD 1978.

SE020005 SE2/5 Cubicle Monitoring Switching Matrix. Electronic change-over switch with two stereo inputs and one buffered stereo output. CMOS logic drive. First used in PA6/82 module (Radio Continuity Control Desk, Monitoring Panel). Power requirements +12.5V - 0 - -12.5V, +6.0V - -6.0V. CH1/77 (printed board is BMM 3U short). Parent equipment PA6/82 (module in desk DK2/24). SCPD 1980.

SE020006 SE2/6 Studio Monitoring Switching Matrix. Two electronic change-over switches. Each switch similar to SE2/5. First used in DK4/31 (Radio Continuity Studio Control Desk). Power requirements +12.5V - 0 - -12.5V; +6.0V - 0 - -6.0V. CH1/76 (printed circuit board is BMM 4U long). SCPD 1980.

SE020007 SE2/7 Audio Matrix. The unit accepts two sound feeds from two television rebroadcast receivers and switches the signals in accordance with vision selection. Power requirements +12V, -12V. CH1/64A. Parent equipment SE1M/5 01. DD 1978.

SE2/7A Audio Matrix. As SE2/7 but with input and output jacks fitted on front panel. Some code pins as SE2/7. Power requirements +12V, -12V. CH1/64A. Parent equipment SE1P/503. DD 1980.

SE020008 SE2/8 AF Switch. Electronic selection switch with six stereo inputs and one stereo output. Power requirements +12V, 0, -12V; +6V, 0, -6V. BMM 3U printed circuit board. Parent equipment EP10/18. DD 1978. DDMI 3.681(81). DDHB 3.247(81).

SE020009 SE2/9 AF Switch. Special purpose switching and buffer amplifier card, provides facilities required for the PA6/85 group module in Regional Continuity desk. Power requirements +12.5V, 0, -12.5V; +6V, 0, -6V. 3U BMM printed circuit board. parent equipment PA6/85. DD 1978. DDMI 3.692(81). DDHB 3.253(81).

SE020010 SE2/10 Audio Switch Unit. 24 input 1 output Audio Switch Unit. Used to drive telephone handset, earpiece has remote gain control. Uses CMOS bilateral switches. CMCR telephone system. Power requirements 12V 6V. 3U ISEP card. SCPD 1979.

SE020011 SE2/11 A.F. Switch. Electronic selection switch with six stereo inputs and one stereo output. Capable of being connected by external straps to two selector switches each with 3 stereo inputs and one stereo output. Power requirements ±12V, 0, -12V; +6V, 0, -6V. BMM 4U printed circuit board. Parent equipment EP10/18. DD 1979. DDMI 3.693(81). DDHB 3.252(81).

SE2/11A AF Switch. Unsupported 4U BMM card mounting a 6-1 stereo switch. The switch has a overall loss of -9dB. Similar to SE2/11 but with increased loss. Power requirements ±12.5 volts. 4U BMM card. Parent equipment EP5M/16. DD 1981.

SE020012 SE2/12 Timecode Switching Unit. Accepts 16 balanced timecode inputs and switches the output to one of these. 4 bit binary control input. Power requirements $\pm 12\text{V}$ d.c. 4U unsupported card. DD 1979.

SE020013 SE2/13 Echo Selector Switch. Printed circuit board containing interface circuits for the echo selector switch in Radio continuities. Power requirements $+12\text{V}$, 0, -12V ; $+6\text{V}$, -6V . 3U unsupported card. Parent equipment PA6/85. DD 1979. DDMI 3.694(81). DDHB 3.253(81).

SE020014 SE2/14 Stereo Changeover Switch. This unit is a remotely controlled stereo programme cubicle changeover switch. First used in the Radio Continuity Cubicle Control Desk to provide switching between mixer output and direct inputs. Lamps on the front panel indicate the 'state' of the switch. Power requirements -50V at 50mA . CH1/65A. Parent equipment DK2/24. DD 1979. DDMI 3.672(80). DDTM 3.238(80). DDHB 3.238(80).

SE020015 SE2/15 Audio Stereo-Mono Switch Unit. Double 1 into 2 Audio Logic Controlled Switch Unit. Designed to perform stereo-mono switching for tape/gram channels. Sub-assembly used on AM1/58. Power requirements $+12.5\text{V}$, 0, -12.5V programme supply $+6\text{V}$, 0, -6V Logic. Parent equipment AM1/58. DD 1979. DDHB 3.242(80). DDMI 3.675(80).

SE020016 SE2/16 Audio Switch. Printed circuit board containing electronic switching for echo fine-hear, lamp drive circuit and other miscellaneous functions. Power requirements $+12\text{V}$, 0, -12V ; $+6\text{V}$, 0, -6V . Parent equipment PA6/85. DD 1980. DDMI 3.696(81). DDHB 3.253(81).

SE020017 SE2M/17 Mixer/Direct Switching Equipment. Provides switching from mixer output to direct input. Line drive amplifiers incorporated. Consists of PN3/55 containing 4 x AM7/11 and 2 x SE2/14 with 1 PS2/163. Power requirements 240V a.c. -50V d.c. PN3/55. Parent equipment DK2/24. DD 1980. DDMI 3.677(80). DDHB 3.245(80).

SE020018 SE2/18 As SE2/13 but printed circuit board now $178\text{mm} \times 78\text{mm}$. Power requirements 24V d.c. (UNREG). Supersedes SE2/3. SCPD 1980.

SE020019 SE2/19 Divert Switching Unit. One card containing two identical relay circuits mounted on a PN1/29J chassis. Four such units are employed in a particular system for the purpose of diverting certain of the normal signal paths of a 32 channel audio mixing console to provide 8-track record/mix-down facilities. Power requirements 24V DC. PN1/29J, 4U. Communications and Engineering Services 1980.

SE020020 SE2/20 Monitoring Switching Unit. One card containing two identical relay switching circuits of 3 x 1 configuration mounted in a PN1/29J chassis for the purpose of monitoring audio signals. Four such units, which are used together with the equivalent number of LOGIC SWITCHING UNITS (SE2/21), form part of the record/ mix-down facility in an

8-track installation. Power requirements 24V DC. PN1/29J, 4U. Communications and Engineering Services 1980.

- SE020021 SE2/21 Logic Switching Unit. One card containing two identical circuits employing TTL logic and designed to operate in conjunction with a MONITORING SWITCHING UNIT (SE2/20) provides two channels of switching in the audio monitoring selection facility of an 8-track record/ mix system. Power requirements 24V DC and 5V DC. PN1/29J, 4U. Communications and Engineering Services 1980.
- SE020022 SE2/22 Audio Frequency Switching Unit. AF Switch. Electronic selection switch with 2 channels each consisting of two independently switchable inputs to one output. Development of AM5/28. Power requirements at 250mA +12.5v; 0V; -12.5v. 3U Printed Circuit Board. Parent equipment PA6/80. DDMI 3.265(81). DD 1981.
- SE020023 SE2/23 Audio Switch. An unsupported 4U card mounting 5 audio stereo switches. To switch Outside Source inputs to Clean Feed Network on London Continuity EP10/19. Power requirements ± 6 volts, ± 12.5 volts. 4U BMM. Parent equipment EP5M/18. DD 1981. DDMI 3.698(81). DDHB 3.266(81).
- SE020024 SE2/24 Line Changeover Switch. The unit switches line 'A' or 'B' to output as determined by PS1/51 or by internal logic and front panel selector. For stereo operation the unit requires a SE2/25 slave unit to switch other line. Unit condition is reported to PS1/51 master unit for use with PCM stereo transmitter input equipment. Power requirements 24V. CH1/64J. Parent equipment PS1/51, SE2/25. TCPD 1982.
- SE020026 SE2/26 Switching Unit. Receives 2 tone audio and detects their presence or absence. A timer measures the length of the tone burst and operates relays for a time proportional to the tone burst time. Links are provided to vary the time. Power requirements +12V +5V -5V. 4U unsupported PCB with PN1/29J front panel assembly. DD 1982.
- SE020027 SE2/27 Switching Unit. This unit contains the circuitry for the Audio inputs and the Mono A, Mono B and Phase Reversal switching. Power requirements ± 12 Volts. 3U BMM unsupported. Parent equipment UN26/51. DD 1982.
- SE020028 SE2/28 Audio Switching Matrix. First developed for outside Broadcast communications in television. The unit contains two separate matrices each having eight inputs and four outputs. The inputs are for use with virtual earth amplifiers enabling cross point switching and mixing to take place without level loss. The switches are CMOS devices which are arranged in an unbalanced format. Power requirements $\pm 16V$ 12mA. 100 x 220mm Eurocard. Mounted on 0.6" width front panel for 3U high racking. With 96 way Eurocard connector. Supersedes MA2/2. SCPD 1983.
- SE020029 SE2/29 10 x 2 Sound Programme Matrix. Unit has ten balanced inputs and two balanced outputs. CMOS switches are used to

provide over 90 dB of cross talk separation. Expansion of both inputs and outputs is possible by addition of further cards. Cross points can be driven either directly from push button or via a Bailed Logic Unit. UN23/691. Power requirements ± 15 V 50 mA. 100 x 220 mm Euro card with 3U high Front Panel 0.6 wide using 96 way Euro connector. SCPD 1983.

SE020031 SE2/31	Switch and Monitor. The unit monitors an audio signal and when instructed, it switches the route of the signal for a limited period. Power requirements 240 V ac, 5 VA. 1U x 19". TCPD 1984.
SE020032 SE2/32	Audio Switch. Contains four 4 input, 1 output switchers and four 2 input, 1 output switchers. Audio inputs must be limited to ± 7.5 V p-p ($+16$ dBm). Some inputs are balanced, some are common to each type. Logic inputs are ± 7.5 V, 12 V and are partially priority encoded. Power requirements ± 15 V, 25 V unregulated. 222 x 100 mm. SCPD 1985.
SE020036 SE2/36A	Programme Changeover Unit. As SE2/36C but without mono deriving hybrid transformer. Power requirements 24 Vdc. BBC Chassis: CH1/64A. Chassis extender: CH1A/43. TCPD 1986.
SE2/36B	Programme Changeover Unit. As SE2/36C but without either hybrid transformer. Power requirements 24 Vdc. BBC Chassis: CH1/64A. Chassis extender: CH1A/43. TCPD 1986.
SE2/36C	Programme Changeover Unit. Provides switching of audio programme feeds (Main, Reserve and opt-out) in the Transmitter Input Equipment bay used on high and medium power stereo VHF/FM transmitting stations. Also contains a hybrid transformer to split the reserve programme to the 'A' and 'B' halves of the bay and another similar hybrid to derive mono output from the Main/Reserve selected programme. Power requirements 24 Vdc. BBC Chassis: CH1/64A. Chassis extender CH1A/43. TCPD 1986.
SE2/36D	Programme Changeover Unit. As SE2/36C but without reserve splitting hybrid transformer. Power requirements 24 Vdc. BBC Chassis: CH1/64A. Chassis extender CH1A/43. TCPD 1986.
SE020037 SE2/37	Longitudinal Timecode Switch. This 8x8 matrix switcher connects timecode output from any one VTR machine to any number of the other machines which are controlled by the VANTAGE Edit Control System, PA1M/589. Power requirements ± 12 V at 200mA. 6U Eurocard. Parent equipment PA1M/589. D&ED (C) 1987.
SE020038 SE2/38	Programme Changeover Unit. This switch is used for opt-outs on Local Radio TIE bays. It accepts two inputs (one each mono and stereo), and provides one stereo output. The input is selected by a relay, which is usually driven from an external tone detector. CH1/65A. TCPD 1987.
SE020039 SE2/39	Programme Changeover Unit. This switch selects one of two programme feeds, and gives front panel status information. CH1/64A. Chassis extender CH1A/43. TCPD 1987.

SE020040 SE2S/40	Audio Line Changeover Unit. This unit is capable of simultaneously switching four audio line channels. Two fault inputs per side are provided. The input and operational configuration can be altered via an EPROM and DIL headers. The unit can be made compatible with existing Band II audio line changeovers. Power requirements +24V or +24V, +5V. Chassis CH1/64J. Chassis extender CH1A/44. TED 1987.
SE2S/40A	Audio Line Changeover Unit. This unit is the same as the SE2S/40 except for the front panel legend. (The word 'line' is replaced by the letter 'A', and the 'link' is replaced by the letter 'B'). Power requirements +24Vdc, +5Vdc (optional). CH1/64J. Chassis extender CH1A/44. TED 1987.
SE030501 SE3/501	Video Relay Panel. 12 relays (with bases) mounted on bar which is supported from sub-panel by 4 spacers. The sub-panel is mounted on a general purpose panel. Control connector is 20 pole Varicon plug. Video connectors are 18 off BNC (or MUSA) and may be grouped to suit individual requirements. Two 12 way tag strips are provided to mount diodes etc. Power requirements 6V, 12V, 24V or 48V. 1U high general purpose panel and sub-panel 483mm. Supersedes 1 row of PN1/5 or PA17/515. SCPD 1979.
SE030502 SE3/502	2 x 1 Video Switch. This unit will, when commanded by a TTL level signal, switch to any two video inputs to a common output. Inputs and Outputs are at zero level. Power requirements +12V, -12V. CH1/12A. DD 1978.
SE030503 SE3/503	2 x 1 Video Switch. When commanded to do so by an external TTL signal, this unit will fast switch between two video input signals to form a main video with inserted signals. Power requirements +12V, -12V, +5V. CH1/64A. Parent equipment AM1L/609. DD 1978.
SE030504 SE3/504	Video Matrix. The unit accepts feeds from two rebroadcast receivers and selects the better signal as commanded by Decision logic unit UN23/662. Power requirements +12V, -12V, +5.25V. CH1/64A. Parent equipment SE1M/501. DD 1978.
SE3/504A	Video Matrix. As SE3/504 but with output connectors on front panel. Same code pins as SE3/504. Power requirements +12V, -12V, +5.25V. CH1/64A. Parent equipment SE1P/503. DD 1980.
SE030505 SE3L/505	Wipe Effects, Split Screen Switch. Provides simple wipe effects between two input video signals. Comprises SE3/505 split screen switch unit, GE1/594 waveform generator, UN26/546 processing unit, UN23/666 logic unit and PS2/187H power supplier (+12v, 6V). Power requirements mains. 4U 'D' width. Sub-units SE3/506, GE1/595, UN23/666, UN26/546 and PS2/187H. DD 1979. DDHB 8.365(80).
SE030508 SE3/508	Video Switching Amplifier. This unit will insert externally generated test signal components into a main video signal by operating as a 2 into 1 video switch. The switching action is controlled by an external logic signal.

Power requirements $\pm 15V$. CH1/65B. Parent equipment GE4M/569. DD 1980.

- SE030509 SE3/509 Decoder and Bypass Switching Unit. Relay unit with two sets of three video inputs (Y, U, V) either set of which may be switched to the output while the other inputs are terminated with 75 Ω . Also a system input and bypass input may be switched to the fourth output. The control signals are +12v for relay energised, 0V unenergised. Power requirements +12v at 200mA. 4U unsupported J Width (PN1/29J). Parent equipment C06/511. DD 1981.
- SE030510 SE3/510 Video Relay Switching Unit. A 4U x 'A' width chassis housing five sets of relay pairs. Each pair of relays has two video input Musa ports, and will select either to one output port. Each of the relay pairs can be actuated separately via separate DC control skts. Power requirements 24V 1A max. CH1/64A. TSTU 1981.
- SE030511 SE3/511 Split Screen Switch. Two channel video switch with essentially linear transfer characteristic. Can be controlled by either 0.7 V key signals or faders. These controls can either drive both switch elements (wipe or cross fade mode) or be split for mix mode on high quality CSO applications. Power requirements +12 V, 350 mA, -12 V, 200 mA. ± 12 V. CH1/64J. Supersedes SE3/506. DD 1982. EDI 10484(1)MAY 84.
- SE030514 SE3/514 YRGB Switching Amplifier. Switches YRGB sequentially and inserts peak white reference in the vertical interval. Input: 1 V standard level. Push-Pull output, 10 mA peak-to-peak, equivalent to 700 mV. Power requirements +12 V, +5 V, -12 V. BBC chassis: 2 U Unsupported Card. Parent equipment MN6M/513. DD 1984. MI V1009(86).
- SE030515 SE3/515 Vertical Interval Timecode Switch. This 8x8 matrix switcher connects the timecode output from any one VTR machine to any number of the other machines controlled by the Vantage Edit Control System, PA1M/589. D&ED 1987.
- SE030516 SE3/516 Monitoring Switch. This unit accepts the input and output video, and up to eight input and output audio feeds, from a VTR and slaved ATR being controlled by the VANTAGE Editing System. It switches either the input or output signals to the monitoring system, under control of the microcomputer which forms part of the VANTAGE VTR Interface. Power requirements $\pm 12V$, +5V. 6U Eurocard. Parent equipment PA1M/588. D&ED (C) 1987.
- SE040001 SE4/1 R.F. Switch. Two separate changeover switches made with PIN diodes and controlled by a d.c. current. Designed to switch band II receiving aerial feeds. Part of Receiver Tuning Unit SE5/3. Power requirements Nil. Diecast box 64mm x 114mm x 32mm. DD 1978.
- SE040002 SE4/2A&B Drive Changeover Unit used for VHF sound broadcasting. Splits output from a drive unit 'A' equally between two amplifiers or aerials whilst drive unit 'B' is fed into a dummy load, or alternatively interchanges the functions of

drives 'A' and 'B'. CH1/64A. Equipment superseded PA18/17A. TCPD 1978.

SE4/2 C & D Drive Changeover Unit. Units will be identical to SE4/2A and 2B with the exception of the drive changeover relays which will be 12V relays, series connected giving 24V independent control facilities. Will enable either unit to be remoted from parent SE4L/3 without the disablement of the remaining unit. No power required. CH1/64A. Parent equipment SE4L/3. ED 1980.

SE040003 SE4/3 VHF Drive Changeover. Comprises one SE4/2A and one SE4/2B which forms a complete VHF drive changeover system. The SE4 units are mounted together onto a PN3A/50B termination panel fixed to a PN3A/53B termination box which carries a 20 way Varicon socket. Power requirements 50V, 24V or 12V d.c. 2U wide, 4U high for use in PN3/ 54 panels. Sub-units SE4/2A, SE4/2B, PN3A/50B and PN3A/53B. TCPD 1978.

SE050001 SE5/1 Unit distributes caption and caption box defining signals to, and accepts, television line and field trigger units from, two EPlM/549 caption insertion units. Part of Apology Caption Generator. Power Requirements 5V d.c. CH1/64J. Parent equipment GE8M/1. DD 1978.

SE050002 SE5/2 Address Selector. Selects store address for upper and lower displays of Monitoring and Information Centre VDU's. Power requirements +5V d.c. CH1/64J. Parent equipment UN12M/5. DD 1978.

SE050003 SE5S/3 Receiver Tuning Unit. Tunes a Revox Band II VHF Receiver and switches aerial feeds as necessary, by control signals from the Receiver Tuning Drive Unit. Power requirements +9V d.c., -15V d.c. 1U rack as TM1/2. Sub units SE4/1. DD 1978.

SE050004 SE5/4 Address Selector Unit. Stores address switching unit for use in Monitoring and Information Centre remote VDU. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/6. DD 1978.

SE050005 SE5M/5 Switching System Terminal. Primarily intended for the remote operation of a switching matrix. Receives instructions from a control position in the form of crosspoint connections and generates an output signal containing serial binary data, usually in the form of FSK tones. It receives similar signals from an incoming circuit and converts these to outputs usually in the form of relay connections, to operate acknowledgement circuits related in some way to the original crosspoint instructions. Power requirements $\pm 9V$ d.c. unregulated. PN3/23. Sub units CD3/11, DM3/8, FL2/15, MD3/12, PS2/189, SC1/2, SC1/4, SC1/5, UN1A/5, UN12/2, UN23/38, UN23/39 and UN23/40. Supersedes EP15M/6. DD 1978. DDHB 2.438(78).

SE050006 SE5M/6 Switching System Terminal. Primarily intended to operate a switching matrix from a line signal. A line signal usually in the form of FSK tones containing serial binary data is decoded to provide relay connections to operate the matrix. Crosspoint connections into the equipment from the matrix

allow a signal similar to that on the incoming circuit to be generated and sent to line providing an acknowledgement at the remote terminal of the matrix operation. Power requirements $\pm 9V$ d.c. unregulated. PN3/23. Sub units CD3/10, DM3/8, FL2/15, MD3/12, PS2/189, SC1/2, SC1/4, SC1/6, UN1A/5, UN12/2, UN23/38, UN23/39, UN23/40. Supersedes EP15M/7. DD 1978. DDHB 2.438(78).

SE050007 SE5/7

Data Switch Unit. The unit is a 32 bit two way changeover switch - two inputs, one output. 5 to 12V CMOS levels in and out. It is intended for switching timecode times (26 bit and sign) or user bits (32 bit). Power requirements +5V to +12V $\leq 1mA$. 4U BMM unsupported card. Parent equipment RD4L/507. DD 1978. DDMI 7.424(79).

SE050008 SE5/8

Processor Input Switch. Accepts up to 64 digital inputs and selects one block of 8 bits at the output. Used with a Microprocessor card which controls the 8 bit selection. Power requirements +5V $\leq 10mA$. 4U BMM unsupported card. Used in EP10/501 and EP10/502. DD 1980. DDMI 7.459(81).

SE050009 SE5/9

Remote Switching Timer/Controller. Provides 4 independent switching outputs which can be programmed over a weekly cycle to energise and de-energise remote facilities at up to 18 daily or weekly set times. Each switching output has an associated alarm circuit which operates 10 minutes before switch-off times and a lamp drive circuit which provides a continuing indication that an alarm has been cancelled or overridden. Programming is accomplished via an integral keypad and there are comprehensive displays of time of day, day of week and switching states. Based on the Texas TMS 1122 timer, the prototype unit was developed for standby/normal switching of camera channel CCUs. Power requirements 240V AC mains. CH1/64B. Open University 1981.

SE050010 SE5/10

Talkback Switch Unit. Provides switching of six talkback outputs with a Latching/Non-latching selection being available. Power requirements $\pm 7.5v$ 20mA. 3U x 7". SCPD 1981.

SE050011 SE5/11

Display Interface. The unit comprises multiplexers for address and data lines between Z80 μP and Display RAM, Display Driver Counter, and 4 byte FIFO, to achieve a 'Glitch Free' display of Ram contents with full μP access. It is used in conjunction with modified UN12/10. GE7/5, and GE8/3. Power requirements +5V DC at 1A. CH1/64J (Unsupported 4U card). Parent equipment UN12M/513. DD 1981.

SE050012 SE5/12

Data Switching Unit. The unit is designed to be used with a CO4/14 data interleaver, to bypass the unit in event of failure. Additionally, signal processing is available for inputs 2, 3 and 4 of the interleaver. Power requirements 5V DC at 100mA. 3U unsupported $\frac{1}{2}$ card with double sided 21-way edge connector. Parent equipment TM1M/1A, 1B, 1C, 1D, 1E, 1F. DD 1981. DDHB 2.488(83).

SE050013 SE5/13 Data Interface Switch. The unit conveys logic selected PCM data to a relay chaneover output with validity of output indicated on front panel. 8 data channels each unit. Logic and power is provided by PS1/51. For use with PCM stereo transmitter input equipment. Power requirements 24V. CH1/64J. Parent equipment PS1/51. TCPD 1982.

SE050501 SE5/501 Datacast Switching Equipment. The Datacast Switching Unit switches between main and backup Datacast Transmission Equipments. V24 ports and video ports are switched under manual control of a front panel switch. Power requirements 240 Vac. BBC Chassis Code 3 U BMM Panel PN3/58. RD 1986.

SE060001 SE6/1,1A Master Power Switch. Master switch box, intended for use in sound studio areas to switch mains and logally-generated 50V supplies. Differs from BX6/8 in that it has no 50V indicator, but has an additional label to state source of incoming mains supply and maximum loading of unit. SE6/1A same as SE6/1 but for flush mounting only. BX6/8 was original code. SCPD 1979.

SE060002 SE6/2 A-D Operational Master Switch. Master switch box intended for use in sound studios, housing four pole 30 amp switch for switching mains and 50 volt supplies. Four versions available:
 'A' Surface mounting with mains & 50V lamp indicators
 'B' Surface mounting with mains lamp indicator only
 'C' Surface mounting with mains & 50V lamp indicators
 'D' Surface mounting with mains lamp indicator only
 Supersedes BX6/8 and SE6/1. SCPD 1983.

SE060003 SE6/3 Lamp Switching Equipment. A unit mounting 2 mains input XLR-LNE fixed plugs and 2 XLR-LNE fixed sockets, for mains and signal lamp drive, on its front panel. The unit houses 2 solid state relays mounted on a P.C.B. for switching the mains lamps. The relays are driven by 5 V logic inputs. THIS UNIT MAY BE USED ONLY IN EP5M/23, BEING PART OF NEWS CONTRIBUTION EQUIPMENT, EP5/22. USE IN ANY OTHER EQUIPMENT OR CONFIGURATION IS TOTALLY PROHIBITED. Power requirements +5 V 300 mA. CH1/82A. Parent equipment EP5M/23. DD 1984. DDMI 3.741(84).

SE060004 SE6/4 Transmitter Control Switching Equipment. Control box with remote key switching of two transmitters with lamp indication of status. Diecast box 188 mm x 120 mm x 52 mm. TCPD 1985.

TE010025 TE1/25	Peak Programme Meter Tester, designed as an aid to maintenance and standardization. Provides facilities for checking scale alignment, frequency response time, and reverse polarity test. Portable carrying case. DD 1975. DDMI 3.633. DDTM 3.153. DDHB 3.186(76). EDI 10254(1)JUN76.
TE010031 TE1P/31	Audio Termination Tester. To enable measurements of impedance and balance to be made on all types of audio termination used in conjunction with conventional audio test equipment. Portable carrying case 197mm x 197mm x 102mm. Supersedes TE1/29. DD 1977.
TE010032 TE1/32	UHF Talkback Pocket Set (EP8/6) Test Box. The unit consists of an Eddystone box fitted with meter, switches and jacks. It has a wired pigtail terminated in a Fischer connector that can be plugged into an EP8/6 pocket set. It provides facilities to assess the pocket set battery voltage and condition, and the EP8/6 can be switched Off/On and from receive to transmit. Two jacks allow connection of a test microphone and test earphones or alternatively injection of a test signal from a tone source and measurement of received signal levels on an ATM. A fixed Fischer socket enables the normal headset to be connected to the EP8/6 via the test box to facilitate fault diagnosis when either EP8/6 or headset may be suspect. Power requirements operate from 9V PP3 battery in EP8/6. Eddystone box 86mm x 60mm x 27mm. ED 1977.
TE010033 TE1/33	Test Jig for testing Data and Event Recorder RD5/501. 178mm x 114mm x 51mm Eddystone Box Type 6827p. DD 1977.
TE010034 TE1/34	A.C.E. Test Unit. Assembles control signals to test Apology Caption Equipment before or after I.C.E. system. Also assembles signals suitable for controlling the Apology Caption control unit. Used in Monitoring and Information Centres. Power requirements 5V d.c. Eddystone box 127mm x 203mm x 76mm. DD 1978.
TE010035 TE1/35	Test Unit to read from, and write to, any location in the Monitoring and Information Centre store PALM/101. Power requirements 5V d.c. CH1/64A. Parent equipment PALM/501. DD 1978.
TE010036 TE1/36	UHF Talkback Power Test Meter incorporating two 50 input parts type 'N', connected, via peak detectors, to a common meter scaled 0-30mW and 0-3W. The meter is used to check the power output of the EP8/6 pocket talkback transmitter and its associated base transmitter TM2/3. Power requirements None. Eddystone box 111mm x 60mm x 27mm. ED 1978.
TE010037 TE1/37	Natlock Test Frame. Provides interface connections between MN5/503 and MN3/501A and UN26/515A via interc onnecting cables between one TE1/514 frame; a second interconnecting cable link to a NATLOCK control panel UN23/654 as used in O.B. van. The engineering control panel facilities are now part of this apparatus TE1/37. DD 1979.

TE010038 TE1/38	Transposer Tester. This unit may be used to control the channels, offsets, power, maximum gain and frequency response of a UHF Television Transposer type TM4M/503. Control is by means of code switches, toggle switches and potentiometers and the unit is powered via a 25 way plug that is used to connect all the controls to the transposer. The tester also contains a low noise 15V regulator that may be used to facilitate the testing of transposer sub-units OS3/509 and AM21/506. Power requirements +28V and +15V. DD 1980. DDMI 5.409(82).
TE010039 TE1P/39	Automatic Tester. Provides 320 ways of output and 160 ways of programmable I/O accessed via a 24-line bus. I/O is TTL level, with 80 outputs available at -50V also. Intended to interface a microcomputer to a logic unit under test, and may be interfaced via ports, or directly off the Zeus bus. Power requirements 240V a.c. mains. Mounted in a suitcase, 450 x 340mm x 200mm. DD 1981. DDHB 2.470(82).
TE010040 TE1/40	ADC Calibration Tester. A plug-in module for use with an analogue-digital converter allowing the gain and DC reference to be pre-aligned before installation of the parent unit. Power requirements from main board. Parent equipment C08/7. DD 1981.
TE010043 TE1/43	Automatic Tester. Portable test box for the automatic testing of UN26/30 by means of a self test programme contained in P 2716 EPROM. Direct plug in connection with printed board an encapsulated power supply. Full instructions and fault diagnosis manual available. Power requirements 210 - 250V AC. ED 1982.
TE010044 TE1/44	Phase Reference Tester. This unit functions as a phase reference for AM14/45 500W Power Amplifiers, to enable manufacturing and maintenance personnel to obtain consistent performance over an extended time scale. Power requirements 240V a.c. 20V. Eddystone Box. DD 1983.
TE010045 TE1/45	Audio Polarity Tester. Comprises two units, GE4/13 and DM4/4 for testing phase polarity of audio pairs and circuits. Sub-units GE4/13, DM4/4. DD 1983. DDHB 9.203(84). DDMI 9.327(85). EDI 10493(1)JUL 84.
TE010046 TE1/46	Module Tester. First developed for Outside Broadcast communications in television. Unit is powered externally for bench use and has signal input and output connectors with switches for testing the functions of the following units. UN23/160, UN3/73, UN23/159. Power requirements $\pm 16V$. SCPD 1983.
TE010047 TE1/47	Module Tester. First developed for Outside Broadcast communications in television. The unit is powered externally for bench use and has signal input and output connectors, with rotary switches for testing the functions of the following coded units: AM9/23, AM8/18, AM7/23, FL2/24, UN21/53, UN3/72, PS2/292, CD2/26, OS3/12, MN1/25, SE2/28. Power requirements $\pm 16V$ 250mA. SCPD 1983.

TE010048 TE1/48	Input/Output Impedance Balance Tester. Used in conjunction with a tone generator and its high impedance voltmeter, input and output stages of amplifiers can be tested for common mode and input impedance balance to differential mode signals. Diecast box 187.7 x 119.5 x 77.8. DD 1983.
TE010049 TE1/49	RFI Tester. Used in conjunction with an A/M RF generator and an audio voltemter, tests can be carried out to determine rejection of RF signals by audio equipment in the frequency range 100kHz to 30MHz. Diecase box 187 x 119 x 52. DD 1983.
TE010050 TE1/50	Interleaver Tester. To allow the semi-automatic testing of a C04/14 Data Interleaver and SE5/12 Data Switching Unit. Test programs are stored within the test jig to enable the microprocessor in the C04/14 to effect the testing functions. Power requirements 240V AC. Eddystone diecast box 190 x 120 x 70mm overall. DD 1983.
TE010052 TE1/52	Logic Function Tester. Designed to test logic functions of UN23/160 and UN10/57. Power requirements $\pm 15V$ d.c. 20mA. Contained in Die Cast Box with two 96 way Euroconnector H55mm W147mm L225mm. SCPD 1984.
TE010053 TE1/53	Control and Programme Matrix Tester. Designed to test control and programme matrix functions of SE2/29 Sound Programme Matrix together with the UN23/691 Interlocking Latch Unit. Power requirements $\pm 15V$ d.c. 20mA. Contained in Die Cast Box with 96 Way Euroconnectors H55mm W147mm L225mm. DD 1984.
TE010055 TE1/55	Loudspeaker Tester. A 12-bit ADC for use in conjunction with Bruel & Kjaer test equipment and a BBC micro. Accepts both control and signal voltages from the Bruel & Kjaer chart recorder and converts them under software control to 2 bytes per conversion of 8-bit data. The circuit includes some analogue signal buffering and processing. Power requirements $\pm 18 V$. 3 U BMM unsupported card. Chassis extender CH4/10. DD(3) 1985.
TE010056 TE1S/56	Interface Tester. Microprocessor controlled system for testing sub-unit cards required by the Synthesizer Interface and the Sender Interface units prior to installation. Power requirements 220/240 V ac. PN3/54. DD(2) 1985.
TE010059 TE1P/59	Auditor Calibrator and Tester. A stand-alone, portable piece of equipment to provide a calibration tone for the Auditor equipment and a facility for testing the operation of the Auditor equipment by momentarily attenuating the audio input to it. Power requirements +9 V, -9 V, (2PP9 Batteries). Chassis: 200 x 160 x 100. DD(7) 1986.
TE010060 TE1/60	Tester, Data Distribution Amplifier. Supplies a test waveform to the AM24/5 Data Distribution Amplifier at typical Tristran output levels and check that the data is correctly amplified and returned. A simple Go/No Go indication indicates correct equipment operation. Power

requirements: battery. Chassis: Eddystone box 187 x 119 x 52 (0027437). Parent equipment: EP1S/42. D ED (C) 1986.

TE010061 TE1/61 RS 422 Transceiver Tester. Supplies worst-case RS422 waveforms to check the performance of receiver units and to check that transmitters will satisfy worst case receiver requirements. Power requirements: 24 V from device under test. Chassis: Eddystone box 187 x 119 x 77 (No. 0250274). Parent equipment: EP1S/42. D & ED (C) 1986.

TE010062 TE1/62 TV Demodulator Tester. Test box to facilitate the testing of the individual units of the DM1M/506 TV Transmitter Demodulator. D&ED (RF) 1987.

TE010063 TE1/63 Transmitter Demodulator Tester. This unit facilitates the testing of a DM1M/506 Transmitter Demodulator; it is similar to a TE1/62, which is used for testing the sub-units. D&ED (RF) 1987.

TE010523 TE1/523A Studio Mixer Group Card Tester. Version of TE1/523 to permit testing MX1/515A. See DDCF 12558 for details. DD 1978.

TE010558 TE1/558 Tester for loan to manufacturers of UN9/597 Matrix Shunt Switch Module to standardise testing procedure. Diecast box. DD 1975.

TE010559 TE1/559 TARIF TWO Line-up Tester. Produces reference control voltages for line-up of TARIF TWO (EP6L/509). Powered from TARIF TWO Diecast box 188mm x 120mm x 51mm. DD 1977. DDMI 7.418(79).

TE010562 TE1/562 Video Amplifier Tester. To test AM4/530 Video Distribution Amplifiers as called up in the test specification. Constructed in an Eddystone box. Contains meter, switches and appropriate connectors to mate with amplifier under test. Outputs to feed oscilloscope. Power requirements 240V a.c. ED 1977.

TE010563 TE1/563 Tarif Two Test Control Panel. Provides control voltage for tarif two (EP6L/509) for use in initial tests at Equipment Department. Power requirements +12V, -12V (from EP6L/509). Diecast metal box 273mm x 171mm x 51mm approximately. DD 1979.

TE010564 TE1/564 Genlock Control Tester. To assist in testing and maintenance of UN3/574. The unit enables:

1. I/Ps and O/Ps of UN3/574 to be monitored.
2. UN3/574 to be switched to genlock or natlock mode.
3. The output control signals of the UN3/574 to be switched out of the control loop. A logic '0' or '1' can be switched onto any control path.

The -6 V for the unit is supplied from the UN3/574 it is testing. Power requirements -6 V dc approx. 75 mA max. 187.7 x 119.5 x 52.4 mm diecast box connected by cables to G06 32-way plug and socket. Parent equipment UN3/574. DD 1981.

TE010565	TE1/565	Triple DAC Test Jig. DAC Calibration Tester. A binary Ramp Generator which counts from binary 16 to a maximum preset number (up to 255) to enable gain and DC reference alignment of C09/509 Triple DAC. Power requirements ± 12 V, ± 5 V, all at 500 mA. Eddystone Box; 187.7 x 119.5 x 55 mm. Parent equipment C09/509. DD 1984.
TE010566	TE1/566	Diversity Switch Tester. This tester enables the luminance and chrominance amplitudes of a composite video signal to be varied independently, as required, for alignment of diversity switches, UN9M/602, SE1M/501 and SE1P/503 as well as the TIE Equaliser, EQ5/560. A video noise-generator is incorporated for calibration of diversity switch comparator systems. Power requirements 240 V mains. Chassis: Commercial case, 265 x 220 x 90. Supersedes TE1/560, TE1M/561P. D & ED (A) 1986.
TM010001	TM1M/1A	Fault Reporting Transmitter, for use in main transmitter sites, capable of signalling via a sound tone channel (23kHz) or via insertion communication equipment. Units in PN3/23. DD 1975. DDTM 2.412(75).
	TM1M/1D	Fault Reporting Transmitter. TM1/1A equipped with new muting facility and battery box. Sub-units now become: PS2/159 - Power Supplier SC1/3 - Sub-scanners UN23/32 - Sequencer MD1/3 - Sub-carrier Modulator UN26/30 - Fault Processor UN23/133 - Battery Control Unit PS2/273 - Battery Box CO4/14 - Interleaver (optional) CO8/5 - A to D Converter (optional) Power requirements Mains 240 V ac. TM1/1A is <u>not</u> superseded by TM1/1D. Sub-units as above. DD 1981.
	TM1M/1E	Fault Reporting Transmitter. TM1M/1B equipped with new muting facility and battery box. Sub-units become: PS2/159 - Power supplier GE2/7 - Timing Pulse Generator SC1/3 - Sub-scanners UN8/16 - Dialling Unit UN10/24 - Telephone Unit UN23/32 - Sequencer UN25/1 - Modem BX1/13 - AFR Isolating Box UN26/30 - Fault Processor PS2/273 - Battery Box CO8/5 - A to D Converter (optional) Power requirements Mains 240 V ac. TM1/1B is <u>not</u> superseded by TM1M/1/. Sub-units as above. DD 1981.
	TM1M/1F	Fault Reporting Transmitter. TM1/1C equipped with new muting facility and battery box. Sub-units become: PS2/159 - Power Supplier SC1/3 - Sub-scanners UN10/24 - Telephone Unit UN23/32 - Sequencer UN26/30 - Fault Processor UN23/133 - Battery Control Unit PS2/273 - Battery Box CO4/14 - Interleaver (optional)

C08/5 - A to D Converter (optional)
Power requirements mains 240 V ac. TM1/1C is not
superseded by TM1/1F. Sub-units as above. DD 1981.

TM010002 TM1S/2 & A	Transmitter, Fault Reporting. Fault - reporting Transmitter for communicating changes of state at unattended transmitters to manned sites by encoding the information and relaying it over the P.O. Switched Telephone Network. Similar in principle to the TM1M/1 but accepts a reduced number of fault codes. Enclosed metal case suitable for rack mounting (1U high). Used with BX1/13. DD 1985.
TM010003 TM1M/3	M.I.C. Fault Reporting Transmitter. Equipment utilising units from TM1M/1 family in simplified Fault Reporter for Monitoring and Information Centre housekeeping indications. power requirements 9V d.c. PN3/23. Sub units GE2/6A, PS2/195, SC1/1, SC1/3, UN1A/6, UN23/32. DD 1978.
TM010004 TM1M/4	ENG Transmitter. The purpose of this unit is twofold: (a) Sends 14 channels of data via PO line to CP to control aerial positions. (b) Receives signal strength and alarm data via P.O. line from C.P. Power requirements 240 V 50 Hz. 4U BMM Chassis PN3/54 with PN3A/55 Hinged Panel at rear. Sub-units C05/22, C011/3, MD3/14, C01/13, FL1/45. DD 1982. DDHB 2.479(82).
TM010005 TM1/5	Fibre Optic Transmitter/Receiver. Unit containing a fibre optic transmitter and receiver. Data input and output at RS422 standard. Power requirements 24V DC or 240V AC selectable. Diecast box 188mm x 120mm x 57mm. DD 1982.
TM010006 TM1/6	EBU Video Transmitter. This unit sends digital video data according to the EBU parallel interface specification. It receives separate luminance and chrominance data, and multiplexes with the TRS to form the standard 27 MHz data stream. Power requirements +5 V, -5.2 V. 6 U Eurocard 280 mm deep. Termination Panel: PA20/46. DD(8) 1985.
TM010007 TM1/7	Digital Output Transmitter. This unit is the output driver for the GE6SM/571 DINGO Graphics Generator. Two full-specification CCIR Rec. 656 outputs are provided; these can be arranged as either two video signals, or one video and one key. Power requirements $\pm 5V$. 4U unsupported pcb. Parent equipment GE6SM/571. Chassis extender CH4/5. D&ED (V) 1987.
TM010503 TM1/503	280 Mbit Optical Transmitter. Solid state laser (850nm) and drive circuit, with Modulator suitable for 280 Mbit/s transmissions. Power requirements +5V 50mA, -12V 250mA. BMM 4U unsupported panel. Parent equipment TM1M/504. DD 1982.
TM010504 TM1M/504	280 Mbit Optical Fibre Transmitter. Experimental equipment for digital transmission of television signals over a fibre optic cable. This equipment can be used as a single or dual channel transmitter. The output bit-rate for single channel use is 140 Mbit/s, for dual channel use it is 280

Mbit/s. The inputs can be composite PAL video signals. Power requirements 240V a.c. 50VA. PN3/54, 4U card frame. Sub-units C08/509, C011/502, TM1/503. DD 1982. DDHB 6.238(84).

TM020003 TM2/3	Studio Communication Transmitter. This FM transmitter produces 1.5W at 720MHz for use as the base transmitter in the Studio Communication System. Mounted in CH1/64A. DD 1976. DDMI 5.305(76).
TM020004 TM2/4	Calling Unit. Given instructions from M.I.C. and SE5/14 Address Selector Unit, it transmits signals and receives signals, it informs M.I.C. of received signals and resets SE5/14. Power requirements +9 V +5 V -5 V. CH1/64J. TCPD 1983.
TM020005 TM2/5	L.R. Security Unit. At a transmitter it controls the audio input, receives and transmits audible signals via a telephone line appropriate to the transmitter mode. Power requirements 240 V ac. 19" x 1U. TCPD 1983.
TM020006 TM2L/6	2048 kbit/s TFM Transmitter Modem. The unit accepts a 2048 kbit/s HDB 3 serial data bitstream as input, and produces a 7.5 MHz phase modulated signal as output. Power requirements 240 V ac. Half of PN3/54. Sub-units CD2/31, MD4/5. DD(5) 1985. EDI 10517(1)JUL85. Superseded by TM2L/7. OBSOLESCE.
TM020007 TM2L/7	2048kbit/sec TFM Modem. This unit accepts a 2048kbit/sec HDB3 serial data stream as input, and produces a 7.5MHz TFM signal as output. Power requirements 240Vac. Modified PN3/54, half-width. Supersedes TM2L/6. Sub-units CD2/40, MD4/8. D&ED (RF) 1987.
TM030007 TM3M/7	UHF Radio Link Transmitter producing 15 watts output in range 450MHz-470MHz. Used as programme quality link from cars in local radio service. Battery operated. Comprises several units fixed to C & N chassis in waterproof case. DD 1976.
TM030008 TM3M/8	UHF Radio Link Transmitter (Audio). Portable UHF Radio Link Transmitter producing 15 watts output in the range 470MHz-475MHz. For use by Communications Department to carry programme audio or multiplex signals. Mains or battery operated. Comprises several units fixed to C & N chassis in waterproof case. DD 1976. DDHB 5.137(79).
TM3M/8A	Radio Link Transmitter, audio and control identical to TM3M/8 but with additional facility of switching between two operating frequencies, e.g. 473.00MHz and 476.4MHz. Power requirements 240V a.c. mains or 22/60V d.c. Camper and Nickolson case 178mm x 445mm x 406mm. Parent equipment RC4M/8A Receiver. Sub units C02/19A, MD3/9, UN3/52A. DD 1978. DDHB 5.137(79).
TM3M/8B	Portable Radio-Link Transmitter. 15W Radio-link Transmitter similar to TM3M/8A. Dual frequency operation; switching between e.g. 427.8125MHz and 446.5625MHz. Power requirements 240V a.c. mains or 22/60V d.c. C & N case 178mm x 445mm x 406mm. Parent equipment used with receiver RC4M/8B. Sub-units C02/19B, MD3/9, UN3/52B, AM14/24B. DD

1983. DDHB 5.171(84). DDMI 5.440(84).

TM3M/8C Portable Radio-Link Transmitter. Radio-link transmitter, modified TM3M/8, for the 870-970MHz band. Power requirements 240V AC mains or 22/60V DC. C & N case 7" x 17½" x 16". Sub-units MD3/9, CO2/26, UN3/52A, AM14/57. DD 1983. DDHB 5.169(83).

TM3M/8D Portable Radio-Link Transmitter. 15 W Link Transmitter similar to TM3M/8B. Dual frequency operation ac mains or 22/66 dc. C and N case 178 mm x 445 mm x 406 mm. Used with Receiver RC4M/8D. Sub-units CO2/19C, MD3/9, UN3/52B, AM14/24A. DD 1983. DDMI 5.440(84).

TM030009 TM3P/9 Band I Radio Mic Transmitter. Band I Radio Mic Transmitter. Portable, 3.5 W output. 15 kHz deviation FM, Music quality. BBC F15 compander. Power requirements: 24 V battery. D & ED (RF) 1986. MI R.1002(8\$).

TM040001 TM4/1 Band II Transmitter Drive Equipment. Accepts an audio signal (mono or multiplexed stereo) and converts this to a frequency modulated signal at a centre frequency between 88MHz and 108MHz suitable for feeding to a Band II transmitter. The output power can be preset between 5 and 10 watts. Power requirements 240V a.c. CH1/64D. Equipment superseded, EP7L/8. Codes of sub-units, MD3/13, AM14/25, PS2/226. DD 1977. DDHB 5.139(78).

TM4L/1 Band II Transmitter Drive Equipment. Accepts an audio signal (mono or multiplexed stereo) and converts this to a frequency between 88MHz and 108MHz suitable for feeding to a Band II transmitter. The output power can be preset between 5W and 15W. Options available:-
Option 1: Equipment fitted with output filter (FL2/17);
Option 2: Equipment fitted with balun or monophonic input. Power requirements 210V-260V a.c. PN3A/52D. Sub-units TM4/2 and CO2/23. Equipment superseded EP7L/8. DD 1978. DDMI 5.371(79). DDHB 5.139(79). EDI 10376(1)APR80.

TM4L/1A Band II Transmitter Drive Equipment. Same as TM4L/1 but with mains voltage range at 190-260V a.c. CH1/64D with PN3A/52D. Sub-units CO2/23A and TM4/2A. DD 1979. EDI 19376(1)APR80.

TM040002 TM4/2 Band II Transmitter Drive. Used in conjunction with CO2/23 to make a Band II frequency modulator and power amplifier. Power requirements 210V-260V a.c. CH1/64D. Sub-units MD3/13, AM14/25 and PS2/226. Parent equipment TM4L/1. DD 1978. DDMI 5.372(80).

TM4/2A Band II Transmitter Drive. Same as TM4/2 but with mains voltage range 190-260V a.c. CH1/64D. Parent equipment TM4L/1A. Sub-units AM14/25, MD3/13 and PS2/243. DD 1979. DDMI 5.372(80).

TM040003 TM4M/3 Transmitter Drive. This equipment generates a signal at constant amplitude to drive the CARFAX transmitter. The drive can be switched automatically from a constant frequency (usually 526.5kHz) to a signal with three fixed types of frequency modulation (125Hz and 200Hz tones and bi-f.s.k.). The modulation is performed digitally. Power requirements mains (240V, 50Hz). BMM 4U chassis. Sub-units UN23/111, PS2/244, GE7/8, CO9/5 and MD3/15. RD 1978.

TM040004 TM4M/4,4A Band II Stereo Receiver Drive Equipment. This unit receives an off-air Band II stereo transmission, demodulates to multiplex, then re-modulates to any pre-determined Band II channel spaced more than 600kHz from the input channel. R.F. input required 300 μ V-100mV; output 5W-15W. The TM4M/4A version includes an FL2/17 output harmonic filter. Power requirements 150VA. PN3/54. Sub-units TM4/2, RC5L/8, RC3/15 and FL2/17 (option 'A'). DD 1978.

TM040005 TM4L/5 Band II Transmitter Drive. This equipment provides an 18W frequency modulated output at a centre frequency between 75.5MHz and 104.5MHz. The input may be either a multiplex signal or a monophonic signal. A changeover unit is included to allow two of these units to be used together. Power requirements 240V a.c. at 100VA. PN3/54H. Sub-units AM14/31, TM4/6 and SE4/2. DD 1978. DDHB 5.153(80). EDI 10384(1)MAY80. DDMI 5.389(80).

TM040006 TM4/6,6A Band II Transmitter Drive. Low power version of TM4/2 in 'A' width chassis. TM4/6 version (incorporating C02/24) output power is in range 250mW-1W. TM4/6A version (incorporating C02/24 option 1) output power is in range 1W-4W. Power requirements 12-15V at 1A. CH1/64A. Sub-units MD3/13A, C02/24 or C02/24 option 1. DD 1980. DDMI 5.384(80).

TM040007 TM4L/7,7A Band II Transmitter Drive. A CH1/64A 13/5V power supplier with:- TM4/6 Band II transmitter drive (1W) = TM4L/7 or with TM4/6 Band II Transmitter drive (4W) = TM4L/7A. A 600 Ω balanced (earth free) monophonic input can be called for as option A on either version. Power requirements 240 V.A.C. PN3A/53B. Sub-units PS2/272, TM4/6 or TM4/6A. DD 1980.

TM040008 TM4M/8,8A Band II Stereo Receiver-Drive Equipment. Functionally similar to TM4M/4 but incorporating the lower-powered drives in place of the TM4/2. TM4M/8 contains TM4/6 drive to produce 0.25-1W output; TM4M/8A contains TM4/6A, output 1-4W. TM4M/8A contains TM4/6A, output 1-4W. A TM4/2 can be retro-fitted if the output power is subsequently changed. Option 1 - Calls for an output harmonic filter FL2/7; Option 2 - Calls for an input balancing transformer for monophonic use. Power requirements 240V a.c. 100Va maximum. PN3/54. Sub-units TM4/6 or TM4/6A, RC5/9, PS2/230, PS2/272, RC3/15, FL2/17 (option 1 only). DD 1980.

TM040009 TM4L/9 Band II Transmitter Drive Equipment. TM4/2A drive and RC3/15 drive monitoring receiver with common termination panel. Equipment similar to TM4L/1 plus RC3/15 and PA20/12. Power requirements 190-260V a.c. at 100W. PN3A/52E. Sub-units TM4/2A and RC3/15. DD 1980.

TM040501 TM4/501 BBC/Pye 10W Transposer. Two 10W UHF transposers mounted in an Imhof rack type RE 45U15 providing BBC-1 and BBC-2 services. Comprises LPT EP16M/502, Pye T.V.T. BLX 98 (6

off) Advance-Gould SMPS type MG24-5B V049. Power requirements 240V mains. TCPD 1978.

TM040502 TM4M/502

Quadruple UHF Television Transposer. Set of four UHF television transposers, four personality panels, two power suppliers, one group filter and one distribution amplifier. Intended for the transposition of four television services at small, low cost relay stations that serve small communities. Power requirements 240V a.c. Bay mounted panel 650mm high approximately. Sub-units TM4M/503, PA1M/579A, PS4/8, FL2/558A-C and AM14/535. DD 1980. DDMI 5.404(81). DDHB 5.156(81) Part 1 and 2.

TM040503 TM4M/503

UHF Television Transposer. Low cost television transposer that can receive a television signal on a channel in Bands IV or V and transpose it to another channel in Bands IV or V. It has no controls so that all transposers of this type are interchangeable without alignment. All of its parameters (channels, power etc.) are set by a passive personality panel (PA1M/579A). Power requirements +28V 2A approximately. 500mm x 450mm x 70mm. Parent equipment TM4M/502. Sub-units AM14/561, AM21/506 and OS3/509. DD 1980. DDMI 5.394(81).

UN010006 UN1A/6	Connector Unit for linking TM1M/1A, SC1/3 external wiring. Printed circuit board, 114 mm x 25 mm, with Painton socket and Greenline edge connector. DD 1975. DDMI 2.412.
UN010139 UN1/139	Automatic Crossfader Unit for remote cross fading of 2 pairs of signals (e.g. stereo). Z in: 14k Ω . Z out: 750 Ω . Gain: 0dB. For zero volume operation. CH1/18C. DD 1971. DD Spec 3.541. DDTM 3.118. EDI 10139(1)JUN72.
UN010163 UN1/163A-D	Directional Receiving Aerial Unit. Pre-tuned broadcast band directional receiving aerial with pre-amp to match into 50 Ω cable. 'A' version medium wave; 'B' version long wave; 'C' and 'D' versions intended for use with standard frequency receivers, RC1/23 and RC3/13 in areas of high RF field. 'C' version tuned to 60kHz (previously coded RC1/24); 'D' version tuned to 200kHz. Power requirements 10V 10mA. Free mounting 60mm diameter x 300mm plastic tube. TNC socket at one end. DD 1978. DDMI 5.288(74). DDHB 5.113(76). EDI 10231(3)SEP79.
UN010173 UN1/173	Telephone Balance Unit, to enable public telephone calls to be included in programmes and incorporates AGC capable of handling variations in PO line levels of 30dB. Mains or +24V d.c. operation. SCPD 1975.
UN1/173A	Telephone Balance Unit. As for UN1/173 except for front panel to SP23759.6.2A3 detail 2, finished BBC double anodised to specification ED138. SCPD 1977.
UN010184 UN1/184	Tape Measuring Unit. Measures magnetic tape sensitivity and detects dropout edge damage. 4U unsupported board with PN1/29J front panel. DD 1977. DDMI 7.436(80).
UN1/184A	Tape Measuring Unit. As UN1/184 but with tape sensitivity acceptance window opened to 3dB. DD 1980.
UN010185 UN1/185	Interface Unit. Forms interface between UN23/61 and UN23/62 and Sculley tape transport. 4U unsupported board with PN1/29J front panel. DD 1977.
UN010186 UN1/186	Input Store Unit. Accepts a series of ASCII 7 bit characters and stores them as a single 40 bit word. Forms part of instruction decoding system for Monitoring and Information Centres. 4U unsupported card with J size front panel. DD 1977.
UN010187 UN1/187	Switching Store Unit. Contains eight separate stores for variable length BCD numbers, each with separate clean and strobe inputs. Stores have common input data bus. Part of source selection equipment for Monitoring and Information Centres. 4U unsupported card with J size front panel. DD 1977.
UN010188 UN1/188	Combining Unit. Combines 1MHz frequency modulated IF signals to single composite 1 volt signal into 75 Ω for transmission over video circuit. Used in VHF stereo link systems. CH1/12A. DD 1977.
UN010189 UN1/189	Provides various functions in EP1M/21, including a Line Dispersion Simulator, high pass filter, attenuator, etc.

needed in audio processor for external broadcasting.
CH1/65C. DD 1977. DDMI 6.324(78).

UNO10614	UN1/614A	As UN1/614 but also indicates presence of S-i-S information. DD 1970. DD Spec 11.121. EDI 10092(MAY)71.
UNO10614	UN1/614P,AP	As UN1/614A. OBSOLESCE.
UNO10709	UN1/709	Oscilloscope Conversion Unit, modification kit for the Tektronix 1481R Waveform Monitor to provide full coder calibration facilities. 2 printed circuit boards and switch. DD 1975. DDMI 9.218. DDTM 9.127(76).
UNO10715	UN1/715	Amplitude Measuring Unit. Video signal measuring unit used with an oscilloscope for accurate measurement of amplitude, coder and oscilloscope calibration. For bay mounting, a termination panel PA20/523 is required. Power requirements 240V mains. CH1/65D. DD 1981. EDI 10285(1) JUL 76. DDMI 9.216(76). DDHB 9.118.
	UN1P/715	Amplitude Measuring Unit. Measurement of video signal amplitudes as UN1/715 but in portable carrying case CS2/24D. Power requirements 240V at 25W. Sub-unit UN1/715. DD 1980.
	UN1/715A	Multi-standard Amplitude Measuring Unit. A number of UN1/715s are to be modified by the addition of a small PCB and a switch on the front panel, to measure EBU and NTSC parameters, as well as those of the BBC measured on the UN1/715. Power requirements 240V mains. CH1/65D. Parent equipment UN1/715. DD 1982.
UNO10721	UN1/721	Subcarrier Phase Unit. This unit provides a variable calibrated 10 phase shift at 4.43MHz. Printed circuit board. DD 1976. DDTM 9.130(76). EDI 10275(1)APR76.
UNO10721	UN1/721A	Subcarrier Phase Unit. UN1/721 mounted on CH1/12A chassis. DD 1976.
	UN1/721B	Subcarrier Phase Unit. UN1/721 mounted in an Eddystone box. DD 1976.
UNO10722	UN1/722P	A.F.R. Interrogator. Accepts F.S.K. tones from an Automatic Fault Reporter over telephone lines and decodes them to give a 7 segment display of numbered fault conditions. Will also generate instruction tones to the Automatic Fault Reporter. 240V a.c. mains supply required. Portable case, 305mm x 178mm x 178mm. DD 1976.
UNO10723	UN1/723	Noise Comparator Unit. The unit accepts two composite video signals and derives a control signal indicating which signal has the lower noise (measured on lines 12 and 325). Part of Diversity switch UN9M/602. CH1/6 4J. DD 1976.
	UN1/723A	Noise Comparator Unit. The unit accepts two composite video signals and derives a control signal indicating which signal has the lower noise (measured on lines 12, 325). As UN1/723 with revised panel indication. Power requirements +12V, -12V, +5.25V. CH1/64A. Parent equipment SE1M/501. DD 1978.
	UN1/723B	Noise Comparator Unit. As UN1/723 with revised panel indication. Code pins as for UN1/723 and UN1/723 A. Power requirements +12V, -12V, +5.25V. CH1/64A. Parent equipment SE1P/503. DD 1980.

UN010728 UN1/728	Events Selector Unit. This unit compares two tones (BCD Mins, Secs, Frames) and gives a coincidence pulse when the two times are the same. The unit contains two comparator chains each with an output in the form of a relay make/break contact. 5U CDX double sided printed circuit board. DD 1977.
UN010729 UN1/729	Time Comparator Unit. Compares to times in hours, minutes, seconds and frames in parallel BCD form. Output in parallel BCD form with sign. Supersedes UN1/682. 4U BMM unsupported card. DD 1977.
UN010730 UN1/730	Combining Unit. Part of PA18M/529. Combines one, two or three input caption video signals in non-additive mixer to form single combined caption video signal. Includes selection and lamp drive logic. 4U unsupported printed circuit board. DD 1977.
UN020509 UN2/509	Colour Calibration Unit, superseding and compatible with UN2/503, UN2/503A. Incorporates PS2/120B. CH1/12A. DD 1975. DDMI 9.187(83). DDHB 9.180(83).
UN2M/509P	Comprises UN2/509 in CS2/13. Supersedes UN2M/504. DD 1975. DDMI 9.187. DDHB 9.180(82).
UN030052 UN3/52	Frequency Control Unit. Part of TM3M/7. Contains a voltage stabiliser, audio drive stage and automatic frequency control stages for TE3M/7. Printed board 250mm x 145mm mounted within frame of TM3M/7. DD 1976. DDMI 5.356(78).
UN3/52A	Automatic Phase Control Unit for use in radio link transmitter TM3M/8A. Identical to UN3/52 but with additional facility for switching control loop to operate from two transmitter final frequencies. Power requirements +12V d.c. CH1/64 printed board. DD 1978.
UN3/52B	Phase Control Unit. Similar to UN3/52A, switching control loop between two transmitter frequencies e.g. 427.8125MHz and 446.5625MHz. Channel spacing in this unit is, however, 12.4kHz. Power requirements +12V d.c. CH1/64A chassis. Parent equipment TM3M/8B. DD 1983. DDMI 5.432(84).
UN030056 UN3/56	Relay Latching Control Unit. Allows the use of non-latching buttons to operate relays: sequential operation or simultaneous operation if two or more buttons operated simultaneously. Intended primarily for use with vision relays. Printed circuit board 122mm x 38mm. SCPD 1977.
UN030057 UN3/57	Data Exchange Control Unit. Part of Monitoring and Information Centre processing equipment. 4U unsupported card with J size front panel. DD 1977.
UN030058 UN3/58	Television Foreign Commentators OB Control Unit. Provides microphone switching, monitoring and communication facilities for two commentators. Works in conjunction with DK4/29. Initial equipment to be produced by Glen Sound Services to BBC Outline Specification TV.286. SCPD 1977.
UN030059 UN3/59	OB Producers Control Unit. Works in conjunction with UN3/58 (OB Commentators Control Unit) and provide monitoring and telephone facilities for a producer working

in conjunction with foreign commentators. Initial equipment to be produced by Glen Sound Services to BBC outline specification TV.286. SCPD 1977.

- UN030061 UN3/61 Radio talk back control unit. Provides channel selector, squelch and carrier on and off controls for "ST ORNO" base station. ISEP 70. 3U high x 178mm PCB with 31mm wide front panel. SCPD 1977.
- UN030062 UN3/62 Clock Remote Control Unit. Free mounting PCB required for Monitoring and Information Centre desk to control the clock unit. Communication is multiplexed on to two audio pairs. Requires clock display unit MSF Receiver and clock unit for complete system. Power requirements 5V, 12V d.c. Card 102mm x 140mm. DD 1978.
- UN030063 UN3/63 Timecode Control Unit. The unit has three functions: 1. Front panel controls to allow adjustment of video time display (GE8/502). 2. Circuitry for processed timecode output for dubbing purposes. 3. @12V power supplies to power other units in CD3M/535. Power requirements 240V a.c. mains. Parent equipment CD3M/535. DD 1978. DDMI 7.405(78). DDHB 7.244(78), 7.248(78).
- UN030064 UN3/64 Desk Control Unit. Accepts signals from desk mounted switches and encodes them into a serial data stream for feeding the C04/3 Rugby locked clock. It also receives serial data from the C04/3 and decodes it into a form suitable for driving the UN12/14 display. Opto-isolators are used on the serial input and output. Power requirements +8V to +20V at 120A, -15V to -20V at 30mA. PCB 150mm x 95mm, G06 32-way connector. DD 1978.
- UN030065 UN3/65 Store Control Unit. Logic Card for store control and interface for use with VIDIPRINT. Power requirements +5V. PN1/29J. Parent equipment GE8M/504. DD 1979.
- UN030066 UN3/66 Clock Manual Control Unit. This unit forms part of the electronic Network Clock. Front panel switches allow for manually advancing or retarding the clock by one hour (for BST/GMT changes) or by one second. Another switch permits local selection of Open University of Network Two formats. This unit also performs the interfacing between a standard Gent 0.5Hz loop and the clock. Power requirementw +5V. 4U BMM unsupported card with 57-way double sided edge connector and PN1/29J panel. DD 1980.
- UN030067 UN3/67 Edit Machine Data Control Unit. Used in conjunction with Videotape Editing Equipment EP10M/501 to enter and display timecode data. The unit is a sub-assembly consisting of a switch and LED mounting printed circuit board (card 1) and an electronics printed circuit board (card 2). It forms part of the Edit Machine Control Pane 1. Power requirements +5V from the EP10M/501. Approximately 152mm x 229mm printed circuit board. DD 1980. DDMI 7.470(81).
- UN030068 UN3/68 Playback Machine Data Control Unit. Used in conjunction with Videotape Editing Equipment EP10M/502 to enter and display timecode data. The unit is a sub-assembly

consisting of a switch and LED mounting printed circuit board (card 1) and an electronics printed circuit board (card 2). It forms part of the Playback Machine Control Panel. Power requirements +5V from the EP10M/502. Approximately 127mm x 178mm printed circuit board. DD 1980. DDMI 7.474(81).

UN030069 UN3/69

Events Panel Data Control Unit. Used in conjunction with Timecode Events Pulse Generator GE2M/14 to enter and display timecode data. The unit is a sub-assembly consisting of a switch and LED mounting printed circuit board (card 1) and an electronics printed circuit board (card 2). It forms part of the Events Control Panel. Power requirements +5V from the GE2M/14. Approximately 279mm x 102mm printed circuit board. DD 1980. DDMI 7.475(81).

UN030070 UN3/70

Store Control Unit. Electrically similar to UN3/65, but fitted with improved opto-coupler. Fitted with 2 additional IC's not related to the working of this unit. Power requirements +5V d.c., +12V d.c., -12V d.c. CH1/64J. Parent equipment GE8M/504. DD 1980.

UN030071 UN3/71

Store Control Unit. Similar to UN3/65 but with a different opto-coupler. Also has SN75150 dual line driver and an SN75152 dual line receiver added. Power requirements +5V d.c. CH1/64J. Parent equipment GE8M/506. DD 1981.

UN030072 UN3/72

Tarif 2 Control Unit. Main Circuit board of Tarif 2 control panel PA6/145, contains all the active circuitry of the PA6/145. Non-standard size card for hard wiring into panel. Power requirements +12 V dc from Tarif 2 EP6L/509. PCB size = 160 mm x 65 mm. Parent equipment PA6/145. DD 1982. DDMI 7.502(82).

UN030073 UN3/73

Amplifier Remote Control Unit. AM7/20 Level Control Unit. Provides 3 bit binary code for level control (0 dB in 2 dB steps to -10 dB) of AM7/20. Parent equipment PA6M/149. SCPD 1982.

UN3/73A

Amplifier Remote Control Unit. Provides a set binary code for level control with fixed level engraving on front panel. 2U unsupported P.C.B. with front panel. Parent equipment PA6M/149. SCPD 1983.

UN3/73B

Amplifier Remote Control Unit. Provides a variable binary code via thumbwheel switch for level control in 6 steps of 2 dB from 0 dB to +10 dB. 2U unsupported P.C.B. with front panel. Parent equipment PA6M/149. SCPD 1983.

UN030074 UN3/74

Radio Talkback Control Unit. Intended for TV Outside Broadcast communications. The unit remotely controls a Storno base station for channel selection, squelch level transmitter on the talkthrough functions. Power requirements ± 16 V 25 mA. Mounted on 0.6" width front panel for 3U racking with 96 way Euro connector 100 mm x 220 mm Eurocard. Supersedes UN3/60. SCPD 1983.

UN3/74A

Radio Talkback Control Unit. Complements UN3/74 but allows SWTB input to override PTB or talk through selection. Power requirements ± 15 V dc, 140 mA. 222 mm x 100 mm Eurocard. Chassis extender CH4/7. SCPD 1985.

UN030076 UN3/76 Editor's Data entry Control Unit. This unit is part of ELECTRALOG - The Data Logging System used with ELECTRA Video Tape Editing Systems. The unit is a small control panel assembly which is normally mounted on the Events Panel (PA6/125) in the Edit System. It provides circuitry to serially encode press button switch inputs for transmission to the ELETRALOG computer. It also receives serial data to operate switch indicator lamps. Two PCBs 155 x 65 mm, boards 1 and 2. Parent equipment PA6/125. DD 1983.

UN030077 UN3/77 Assistant Editors Control Panel. This unit is part of ELECTRALOG - the Data Logging System. The unit is an assembly of push buttons and a vacuum fluorescent display which mounts on an existing panel in the Edit Suite. It provides circuitry to serially encode push button switch inputs for transmission +5 V and ± 12 V. Parent equipment RD3L/501. DD 1983.

UN030078 UN3/78 Camera Communications Control Unit. Intended for TV Outside Broadcast communications. Enables up to 8 camera production talkback, programme sound, and mixed camera talkback circuits to be individually switched from local to remotely sited. Used in conjunction with SE2/28, UN23/160 or UN23/176. Mounted on 0.6" width front panel for 3 U high racking. Power requirements ± 15 V. 100 mm x 220 mm. Chassis extender CH4/7. SCPD 1985.

UN030079 UN3/79 Datacast Control Unit. Enables the Datacast Decoder (CD3S/550) to be set up via a switch bank. Power requirements +5.0 V, 10 mA. PCB: 200 mm x 40 mm. Parent equipment CD3S/550. DD(1) 1986.

UN030556 UN3/556 Control Unit, used in EQ5M/507. CH1/64D, with 13 control potentiometers and a light emitting diode. DD 1974. DDMI 6.255.

UN030569 UN3/569 Data Store Control Unit. This unit forms part of the EP1M/528 P.T.C. data store. It controls the operation of recording and reading data to and from the disk drive and the P.T.C. The computing element is a Motorola 6800 Microcomputer. 4U BMM unsupported card. DD 1976. DDMI 7.410(79).

UN030570 UN3/570 Programmable Sequence Control Unit designed to control the Programmable sequencer logic unit UN23/639. Together, their additon to a GE1/591 signal generator enables either of two user programmed sequence to control the generator functions. Printed circuit board. DD 1976. DDMI 9.254(79).

UN030571 UN3/571 Local Control Panel. This forms part of the Colour Synthesiser and Coder CD2L/515. Consists of a CH1/64B chassis into which are mountd 2 off PS2/186A and 1 off PS2/185 half card power supplies. The front panel carries controls for the colour synthesiser. DD 1977.

UN030572 UN3/572 Control Switching Unit. Pat of modification to EP1M/527. ISEP card. DD 1977.

UN030573 UN3/573 Teletext Decoder Control Unit. Remote control keypad for Teletext Decoder CD3/532. Incorporates signal processing to enable keypad functions to be coded into serial form pulses. Powered by current fed down the lead from the CD3/532. Mounted in small diecast box. DD 1977.

UN030574 UN3/574 Genlock Control Unit. This unit will enable drive units GE6/535 and GE5L/508 to have their outputs made synchronous to a video source, with the ability to offset the output pulse timing ad subcarrier phase. Power requirements A.C. mains. CH1/64A. DD 1977. DDMI 1.246(80). DDHB 1.168(82). EDI 10473 (1) JUN 83.

UN030575 UN3/575 Timecode Generator Control Unit. Forms part of GE7L/501; Timecode Generator, and contains thumbwheels, display and control switches on front panel. Halfcard 12V power supply, PS2/186A, supplies power to rest of generators as well as the UN3/575. Power requirements 240V a.c. mains. CH1/64. DD 1978. DDMI 7.416(79). EDI 10473(1)JUN 83.

UN030576 UN3/576 Used in conjunction with Joysticks or control switches to provide control voltages for TARIFTWO EP6L/509. May be powered from TARIFTWO. Power requirements +12V, -12V at 50mA. Printed circuit board 150mmx 68mm. Supersedes UN1/627 (not direct replacement). DD 1978. DDMI 7.419(79)

UN030577 UN3/577 Fader Interface. Two channel fader interface for driving the Linear Split Screen Switch SE3/511. Each channel contains a curve bender to BBC spec., and has a Cut facility. External logic can also turn either or both channels hard ON or OFF. Power requirements +12V, -12V, +5V (from SE3/511). CH1/64J. DD 1982. DDHB 8.395(83).

UN040005 UN4/5P Telephone Effects Unit. This unit provides full telephone effects for up to 8 phones. Any 2 phones may be interconnected (and conversation held between them) by a simulated phone call and full tone effects are provided. The tones and ringing signal may be those used in the U.K., the Continent orNorth America. The unit it portable and fits into an Imhof case (Type 1280B) 406mm x 229 x 191mm. DD 1976. DDMI 3.650(78). DDHB 3.210(78). EDI 10335(2)SEP79.

UN040006 UN4/6 Voiceover Effects Unit. This unit accepts input programme at -20dB, -10dB or 0dB volume (selected on rear connector) and passes it through an amplifier whose gain may be reduced in respnse to a second 'voiceover'contribution are not however mixed within the unit. This unit is a BMM replacement for UN4/4. CH1/65A. DD 1977. DDMI 3.640.(77). DDHB 3.203(77). EDI 10327(P)OCT77.

UN040007 UN4/7 1:1 Direct Injection Box. Box contains input and output socket (XLR in and out) and special safety transformer, LL256SP to provide interface from commercial to BBC equipment. Voltage ratio 1:1.
150 mm x 80 mm x 50 mm Box. Sub-units LL256SP transformer. DD 1981. DDMI 3.708. EDI 10453(1)JUL 82.

UN040008 UN4/8	20:1 Direct Injection Box. Box contains input and output (JACK IN, XLR(M) OUT) and special safety transformer, AL 103 SP to provide interface from commercial to BBC equipment. 150mm x 80mm x 50mm Box. Sub-units AL 103 SP Transformer. DD 1981. DDMI 3.709. EDI 10453(1) JUL 82.
UN040010 UN4/10	Telephone Effects Unit, consisting of MJS Telephone Effects Generator, 3 x UN21/60 Telephone Select Units and a Stabilised Power Supplier PS2/303. The unit is portable and housed in a 3 U case. The unit provides full telephone effects for up to three phones. The phones may be interconnected and conversations held between them, together with full tone and ringing effects selectable to U.K., Continental and U.S.A. standards. Power requirements +24 V and +5 V. 3 U 19" Case W483 x H 133 x D 254 mm. Sub-units MJS Telephone Effects generator (not BBC) UN21/60, PS2/303. Communications and Engineering Services 1985.
UN040509 UN4/509	Caption Synthesiser Effects Unit, used in PA18L/529 to process a monochrome caption infill signal and produce independently determined letter and background colours. Unsupported 4U high printed circuit board of binary metric modular chassis system. DD 1975. DDMI 8.545.
UN4/509A	Synthesiser specifically for use with the Caption Insertion Equipment PA18M/530. D.D. Change Form 125 47 details the modification which enables blanking and clamp pulse generation during the sync pulse period. Power requirements +12V and -6V at 300mA. Unsupported 4U p.c.b. to fit PN3/54. DD 1977.
UN040510 UN4/510	Desaturator Effects Unit. Part of the UN4M/511P. CH1/12A. DD 1977. DDMI 9.229(77).
UN040511 UN4M/511P	Desaturator Effects Unit. This unit reduces the amplitude of the chrominance on a coded signal. The reduction may be coded from 0 to 6dB. An optional internal connection enables the burst to be left unchanged when necessary. The unit contains a UN4/510 and a PS2/182 in a carrying case. CS2/17B. DD 1977. DDMI 9.229(77).
UN050003 UN5/3A	Housephone Unit. Housephone Unit for 24-way ring-main selection. As UN5/3 but with deeper diecast box. 121 x 95 x 76mm. SCPD 1983.
UN080024 UN8/24	Switching Signalling Unit. The unit encodes switching information from two independent, and one of seven grouped, inputs and produces signals at 6-0-6 voltage levels for transmission on telegraph circuits. The complementary receiver is also within the unit giving decoded outputs in the form of changeover relay contacts. CH1/64J. DD 1976. DDMI 2.435(76). DDHB 2.428(77).
UN090038 UN9/38	Relay Switching Unit. This unit is an active encapsulated circuit providing the energising current for a 50 volt relay when an earth is applied to one of its terminals. The circuit includes a relay suppression diode. 4 lead encapsulated assembly approximately 16mm x 14mm x 9mm. DD 1976. DDMI 3.636(77). DDTM 3.196(77).

UN090039 UN9/39	Switching Unit. Interprets position of switches on indication panel for VHF Radio Control and Indication Panel. CH1/64J. DD 1977.
UN090040 UN9/40	Store Switching Unit. Three separate logic changeover "switches" all two way, one with eight poles, two with six poles. Used in MIC switching system for fast changeover between two pre-selected sources. CH1/64J. DD 1977.
UN090041 UN9/41	Test Tone Switching Unit. 10 printed circuit boards mounted Lippa Issostatt changeover switches on 3U high ISEP card with edge connection to 80 way UECL connector. SCPD 1977.
UN090042 UN9/42	Switch Unit. 3U high ISEP card containing 3 x 8 way solid state destination routing switches (unbalanced). Used on CMC R EMX systems. SCPD 1977.
UN090602 UN9M/602	Diversity Switch Unit. The unit is fed with the vision and sound outputs from two receivers and automatically selects the better signal. Designed for use at transmitter sites where propagation abnormalities require diversity reception; incorporates automatic equalisation. PN3/54 with hinged rear cover carrying relay sub-assembly etc. Sub-units EQ5/542, MA1/3, MA1/503, PS2/184, PS2/187G, UN1/723, UN23/636. DD 1977. EDI 10325(P)OCT77.
UN090603 UN9/603	Code Switching Unit. Part of modification to EP1M/527. BBC ISEP card. DD 1977.
UN090604 UN9/604	Three Way Switch Unit used to switch between three 26 bit parallel digital inputs i.e. 26 pole, 3 way digital switch - TTL levels. 5U CDX unsupported card. DD 1977.
UN100012 UN10/12	Telephone Unit superseding UN10/7 for use with Telephone No.713. Not suitable for Telephone PO No.246 or handset with differential transmitters. Printed circuit board x 54mm. DD 1967. DD Spec 3.466. ACO .
UN100033 UN10/33	Telephone Dialling Unit for OB's used in conjunction with UN10/34. Provides the OB with dialling facilities over links and accepts incoming calls. Diecast box 178mm x 127mm x 57mm. Power requirements +24V d.c. DD 1976. DDMI 6.295(77). DDHB 6.138(76).
UN10/33A	Telephone Dialling Unit. Provides the OB with dialling facilities over links and accepts incoming calls. As UN10/33 but mounted on a CH1/65B chassis. Power requirements -36V or -24V. CH1/65B. SCPD 1983.
UN100035 UN10/35,35A	Telephone Interface Unit. Interfaces between incoming line and telephone instrument 713 with P03 handset. Unit includes a ring detector and ring out relay. Incorporates a bell, receive amplifier and facilities for switching to high impedance listen only. "A" version does not have high impedance listen mode. Intended for use with UN10/36. SCPD 1977.
UN100036 UN10/36	Telephone Line Selector Unit. Provides ring detection and selection for 5 telephone lines. Latched indication of

call incoming on each line and latched and unlatched indication of call on any line. Controlled by d.c. only, hence eliminating speech through selector keys. Intended for use with UN10/35. SCPD 1977.

UN100037 UN10/37 External Line Telephone Unit for use in PA19/14. Provides call/answer key and external line switching buttons to five local extensions and three distributions. Updated version of UN10/20. Not interchangeable. SCP D 1977.

UN100038 UN10/38 2-4 Wire Converter for control line telephones. UN10/28 on a smaller printed circuit board and with min or modifications. SCPD 1977.

UN100039 UN10/39 Ring Detector Telephone Unit. Two identical circuits each providing telephone ringing detection and thyristor latch. Dual improved version of UN10/29. SCPD 1977.

UN100040 UN10/40 Provides lamp and tone caller flashing facility for control line telephones. UN10/30 with fewer outputs on a smaller printed circuit board. SCPD 1977.

UN100041 UN10/41 Voice frequency ringer telephone unit which may be preset to receive one of four single tones from line and apply 17Hz ringing current to a local handset when the tone is present. It will also send tone to line when it receives 17Hz ringing current from the local handset. External ringing current and voice frequency oscillators are required. Operates from a supply in the range 12 to 50 volts. Replaces UN10/13 on a BMM chassis. CH1/ 65A. DD 1977. DDMI 6.304(77).

UN100042 UN10/42 Voice Frequency Ringer. Similar to UN10/41 but it also contains OS3/11 ringing current and voice frequency oscillators. CH1/65A. DD 1977. DDMI 6.305(77).

UN100043 UN10/43 Voice frequency ringer telephone which may be preset to receive one of four single tones from line and apply 17Hz ringing current to a local handset when the tone is present. It will also send one of four preset tones to line when it receives 17Hz ringing current from the local handset. Internal voice frequency and 17Hz ringing oscillators are provided, but external oscillators may be used if desired. Power requirements 12V to 33V d.c. at 320mA maximum. PO Chassis type 62. Supersedes UN10/13. DD 1977. DDMI 6.331(78).

UN100044 UN10/44 & 44A Telephone Ringing Detector Unit, to provide mains signal lamp calling and bell muting, used in conjunction with P.O. telephone. Basic version operates on 50V and "A" version operates on 24V. Power requirements 50V. Eddystone box 121mm x 95mm. Supersedes BX5/22. SCPD 1977.

UN10/44C Telephone Ringing Detector Unit. Telephone ringing detection. Provides switched loop output at ringing cadence. Unit can provide bell mute where line is terminated on Line jack unit. For use on New Plan wiring only. Power requirements 24 V or 50 V. Chassis 85 mm x 145 mm (M.K. double wall box). Supersedes UN10/44B. Comms. Dept. 1985.

UN100045	UN10/45	Telephone Interface Unit. This unit provides 2 wire to 4 wire conversion, noise gating on the incoming signal and limiting on the outgoing. Power requirements 240V a.c. mains or Post Office line power. 100mm x 10 0mm pcb. DD 1978. DDMI 6.345(79). DDHB 6.170(79). EDI 10369(1)FEB80.
	UN10/45C	Telephone Interface Unit. Similar to UN10/45A but for use on GPO 4 wire circuits, the UN10/45A being for use on 2 wire circuits. Power requirements mains. 180mm x 60mm. DD 1979. EDI 10369(1)FEB80. DDMI 6.345(79). DDMI 6.345(79). DDHB 6.170(79).
UN100046	UN10/46	Telephone Data Signal Combining Unit. Converts a telephone input from two-wire to four-wire and combines this input with a switching system data signal (PSK Tones) for transmission to line. Provides the reverse facility for incoming signals. Power requirements $\pm 6V$. CH1/12A. DD 1978.
UN100047	UN10/47	Telephone Control and Balance Unit. This unit provides 2 wire to 4 wire conversion, noise gating. On the incoming signal and limiting on the outgoing signal A.G.C. and voiceover control are applied to the incoming signal. Power requirements 240V a.c. mains. Equipment superseded UN1/173. DD 1978. DDMI 6.346(79). DDHB 6.171(79). EDI 10367(1)FEB80.
UN100049	UN10/49	Telephone Hybrid Unit used on CMCR Telephone System. Has facility for balancing line and also necessary circuitry for driving UN10/48. Power requirements 24V 12V 6V. 3U ISEP card. SCPD 1979.
UN100050	UN10/50	Telephone Hybrid and Data Decoding Unit. Telephone hybrid unit used in UN10/48 on CMCR telephone system. Also contains circuitry for decoding and sending data signals. Power requirements 12V. 3U ISEP card. SCPD 1979.
UN100051	UN10/51	DEL/EMX AGC Unit. Eddystone Box housing connectors and necessary wiring to interface EMX connections UN10/45A (Telephone Interface Box), and Relay Box (UN21/48). Remote switching of PO line (DEL) into EMX, as used in OB vans. SCPD 1981.
UN100052	UN10/52	Ringling Current Detector Unit. Telephone Ringling Detector Unit, provides fleeting and latching outputs on detection of 80 V 17-25 Hz ringling current. One latching output is an isolated loop closure. Works on 24 V and 50 V power supplies. (Derived from UN20/23). Power requirements 24 V or 50 V. SCPD 1981.
UN100053	UN10/53	Telephone Unit. Cased Telephone Unit for use with CMCR EMX. Contains UN10/54 PCB mounted along with 12V 1.8Ah sealed lead Acid battery, Rep coil and call buzzer. Handset mounted on front panel escutcheon. Unit can be used in horizontal or vertical positions. Connections via 3-pin XLR. Power requirements Phantom powered 30V 90mA. Case size 315 x 250 x 148 Overall external. Supersedes UN10/48. Sub-unit UN10/54. DD 1982. DDMI 9.290(83). DDHB 9.186(83).

UN100054 UN10/54 Telephone Hybrid and Signalling Unit. Printed Circuit Board, Telephone Hybrid as used in UN10/53. Also contains circuitry for decoding and coding of CMCER EMX data signals and for charging the associated 12V 1.8Ah sealed lead acid Battery. Phantom power recovered from separate Rep coil. PCB designed to mount behind the panel carrying the subscriber select switches and handset. Power requirements Phantom powered 30V 90mA. PCB size 272 x 204mm nominal. Parent equipment UN10/53. DD 1982.

UN100055 UN10/55 Telephone Ringing Detector Unit. PCB electrically identical to UN10/52 but fitted with 15 way 'D' connector for external wiring. Mechanically similar to UN20/23 in that it can be mounted behind and hence easily wired to the telephone ring/answer key. Power requirements 50 or 24 volts. PCB Dimensions 96 x 61mm. Supersedes UN10/52, UN10/53. SCPD 1983.

UN100056 UN10/56 Telephone Latch Unit. Provides 6 independant circuits to indicate unanswered control line telephone calls. Drawing SP.30447. Power requirements 24 V dc. PCB 111.76 x 111.76. SCPD 1983.

UN100057 UN10/57 Latch Logic and Lamp Driver Unit. Unit provides 8 electronic latching circuits with lamp drivers. Each circuit is programmed to be latching or non latching by a front panel switch. Additional inputs to the lamp driver logic permits call and engaged functions to be remotely operated. Power requirements ± 15 V dc. 100 mm x 220 mm Euro Card mounted on 0.6" width front panel for 3U high racking with 96 Way Euro connector. SCPD 1983.

UN100059 UN10/59 Telephone Ringing Detector Unit. Contains the telephone ringing detector and ringing lamp drive circuits also the telephone divert relays for the EP5M/22 NCA Equipment. Power requirements ± 12 V 100 mA. 3U unsupported card. DD 1983. DDMI 3.739(84).

UN100060 UN10/60A Telephone Hybrid Unit. 2-4 wire convertor used to interface TMC ICBX telephone installation in Type 5 CMCRS with comms system. Supersedes UN10/60 and is fully compatible with UN10/60 function. Includes circuitry to detect main telephone on and off hook. Power requirements none-line powered. SCPD Mark 2 comms system Eurocard. SCPD 1985.

UN100061 UN10S/61 Telephone Connection Unit. This unit enables a standard DTMF telephone to be connected to a control line. It provides supervisory tones and ringing signals. Power requirements 240 V ac. Sub-units UN26S/72. DD 1984.

UN100062 UN10/62 Telephone Divert Unit. The Telephone Divert Unit replaces the BT telephone divert facilities not available on new phones. It is a self-contained, stand-alone unit, powered from studio supplies. The unit is suitable for both NCA and Network Studios. The unit is designed to be pluggable into a new type telephone Line Jack Unit. Any type telephone can be plugged into it on a Line Jack socket at the back. Incoming telephone calls can be answered via the

telephone instrument, or automatically by the unit (by its inbuilt ringing detector). All external circuits are opto-isolated and appear on a varicon fixed plug on the rear unit. Power requirements 50 V, approx. 560 mA. At 24 V, approx. 360 mA. At 12 V, approx. 250 mA. Non-BBC chassis: Dimensions 300 x 128 x 66 mm. Communications 1985.

UN100063 UN10/63

Telephone Interface Unit. To interface between new style P.O. telephones and EMX control lines. On-board ringing detector for a.c. or d.c., 4 c/o cradle lift contacts and facility to put ringing on the line when used with a phone with a recall button. Can be used on its own or with a separate ringing detector. Power requirements 50 V or 24 V. SCPD 1985.

UN100064 UN10/64

Control Line Telephone Unit. Provides 17 Hz ringer, ring detector and hybrid circuit for telephone communication over Control-Line circuits. Supplied complete with handset and ring button. Housed in base of Ackermann telephone handset unit type 10191 and uses Ackermann handset type 20050NI, components are mounted on pcb and connection is by means of screw terminals. Power requirements 12 V dc, max 1A. Handset base approx. 200 mm x 65 mm x 105 mm high. SCPD 1985.

UN110009 UN11/9

Line Holding Transformer Unit. Transformer providing correct d.c. conditions to hold PO telephone line when diverted from telephone instrument. BBC equipment (Telephone Balance Units etc.) may be connected to other winding. Diecast box 171mm x 120mm x 106mm. SCPD 1976.

UN110012 UN11/12

Commentators communication phantom unit provides 3 sets of transformer send circuits for commentators feeds of programme sound, production talk back and auxiliary input and cue circuit detectors. Power Requirements: 24V D.C. ISEP 70 3U high x 178mm P.C.B. with 45mm wide front panel. SCPD 1977.

UN110013 UN11/13

Mains Isolating Transformer Unit. Replacement for TU/4 Transformer Unit. Input 240V. Output 240V to BC 1363 socket. Output 115V to Americal 3 pin socket. Total loading 250Va. Built into plastic case: fuse fitted in mains input with changeover switch to select either outlet. Earth pin of outlets not connected, but earth terminal fitted. Commercial unit to BBC requirements. Radio O&M 1980.

UN110014 UN11/14

Transformer Mounting Printed Circuit Board. Printed circuit board for mounting 12 LL88 (A-size) transformers. First used in conjunction with AM7/19 (Short Line Driver Amplifiers) for the mounting of the associated output transformers. CH1/76 (printed circuit board is BMM 4U). SCPD 1980.

UN110015 UN11/15

Transformer and Gain Adjust Unit. For use in Network Supervision Mixer, London. The card mounts the input transformers and gain adjustment controls for the

programme, tone, and GTS circuits. Power requirements $\pm 12\text{V}$ at 15mA . 4U BMM card. DD 1980. DDHB 3.269(82).

UN110016 UN11/16 Line Transformer Isolating Unit. For use in TV outside broadcast communications. The unit provides 10 isolation transformers for 0dB level line drive from a source impedance of $75\ \Omega$. Mounted on $1.2''$ width front panel for 3U high racking with 96 way euro connector $100\text{mm} \times 220\text{mm}$ Euro Card. SCPD 1983.

UN120006 UN12M/6 Visual Display Unit. Monitoring and Information Sub-Centre display accepts Data from MIC for lower display only, having no keyboard facility. Upper display may show information sent by operator at main MIC. Display is added to standard video signal for showing on standard picture monitors. PN3/54. DD 1977.

UN120007 UN12/7 Display Control Unit. Provides a 3-digit decimal read-out of Fault Reporter codes and provides controls for monitoring and instructing a Fault Reporter. Contains circuits for serial-parallel conversion of the Fault Reporter bitstream, decoding and driver stages for the decimal readout and instruction encoding to operate the Modem unit. Power requirements $+5\text{V}$. CH1/64B (modified). Part of CD3M/20. DD 1977.

UN12P/7 Clock Display Unit. This unit provides an eight digit display of hours, minutes, seconds and frames together with $\pm$ sign. The digits are 18mm high and the display is intended for medium distance viewing. It is contained in a B size 4U BMM portable carrying case and consists of a Timecode Decoder, a Display Unit and a power supply. Sub-units CD3/530, CD3/29 and PS2/187A. DD 1979.

UN120008 UN12/8 Clock Unit. Provides BCD outputs of 24 hour real time and also a front panel miniature 7-segment display (24 hour clock). The clock can be set either by reference to a group of thumb-wheel switches on the front panel or a serial time-code obtained from a MSF (Rugby) receiver. Power requirements $+5\text{V}$, -12V d.c. and 50Hz for clock timing. PN1/29J. 114 way connector. Parent equipment CD3M/20. DD 1977.

UN120009 UN12/9 Clock Display Unit. Free mounting PCB with L.C.D. clock time display and drivers to indicate time or date on Monitoring and Information Centre desk. Requires clock remote control card, clock unit and M.S.F. receiver to complete. Power requirements PCB card $114\text{mm} \times 70\text{mm}$. DD 1978.

UN120010 UN12/10 Video Unit. Inserts caption and boxing signals into video waveform and separated line and field trigger pulses. $\pm 12\text{V}$, $+5\text{V}$ d.c. CH1/64J. Parent equipment UN12M/5, UN12M/6. DD 1978.

UN120012 UN12/12 Display Unit. Indicates on four 7×5 dot matrix display a four character word as sent by the Remote Display Driver. Power requirements $+9\text{V}$, -12V d.c. Plastic box $140\text{mm} \times 76\text{mm}$ high. DD 1978.

UN120013 UN12/13	Remote Indicator Unit for desk mounting indicating the states of up to four VHF radio services. Indications are System normal, priority 1, 2 and 3 alarms. Unit contains an audible alarm and cancel button. Associated with VHF Radio Control and Indication Panel PA6M/70. Power requirements None. Diecast box 96mm x 121mm x 32 mm. DD 1978.
UN120014 UN12/14	6 digit liquid-crystal display with associated seven-segment decoders/drivers. It is intended for use with the UN3/64 to provide the desk display/control section of the Monitoring and Information Centre clock. Power requirements +5V. PCB 112mm x 65mm. Parent equipment CO4/3, UN3/64. DD 1978.
UN120015 UN12/15A,B	Band II CIP. Displays panel showing mimic diagram of state of two VHF transmitters. Panel also carries switches to enable muting of fault indications and to select A or B transmitter drive. A: includes Antenna Feeder indications on service 1. B: No Antenna Feeder Indications. Power requirements +5V. Equipment superseded PA11/19A. Parent equipment PA6M/97. DD 1978.
UN12/15F	Band II CIP Display. Mimic diagram display for master (upper) CIP showing feeders and two PCM-fed services. Power requirements +5 V. Supersedes UN12/15A-D. Parent equipment PA6M/97. Transmitter Dept. 1985.
UN12/15G	Band II CIP Display. Mimic diagram display for slave (lower) CIP showing one PCM-fed service without feeders. Power requirements +5 V. Supersedes UN12/15C. Parent equipment PA6M/97. Transmitter Dept. 1985.
UN12/15H	Band II CIP Display. Mimic diagram display for slave (lower) CIP showing one service with miscellaneous programme source and no feeders. Power requirements +5 V. Parent equipment PA6M/97. Transmitter Dept. 1985.
UN12/15J	Band II CIP Display. Mimic diagram display for master (upper) CIP showing feeders and two multiplex-fed services - special for Londonderry. Power requirements +5 V. Parent equipment PA6M/97. Transmitter Dept. 1985.
UN12/15K	Band II CIP Display. Mimic diagram display for slave (lower) CIP showing one multiplex-fed service without feeders - special for Londonderry. Power requirements +5 V. Parent equipment PA6M/97. Transmitter Dept. 1985.
UN12/15L	Band II CIP Display. Mimic diagram display for slave (lower) CIP showing one service with miscellaneous programme source (above) and one PCM-fed (below); without feeders. Power requirements +5 V. Supersedes UN12/15B. Parent equipment PA6M/97.
UN12/15M	Band II CIP Display. Mimic diagram display for slave (lower) CIP showing one PCM-fed service (above) and one service with miscellaneous programme source (below); without feeders. Power requirements +5 V. Supersedes UN12/15B. Parent equipment PA6M/97. Transmitter Dept. 1985.
UN12/15N	Band II CIP Display. Mimic diagram display for master (upper) CIP showing feeders and two services with miscellaneous programme sources. Power requirements +5 V. Parent equipment PA6M/97. Transmitter Dept. 1985.
UN12/15P	Band II CIP Display. Mimic diagram display for slave (lower) CIP showing two services with miscellaneous

UN12/15Q	programme sources and no feeders. Power requirements +5 V. Parent equipment PA6M/97. Transmitter Dept. 1985. Band II CIP Display. Mimic diagram display for slave (lower) CIP showing two PCM-fed services without feeders. Power requirements +5 V. Parent equipment PA6M/97. Transmitter Dept. 1985.
UN120016 UN12/16	Clock Display Unit. This receives multiplexed data from a modified CO4/3 which it then de-multiplexes and displays on a ten digit numerical LED display. The five pairs of digits correspond to the current clock time (day, month, hour, minute and second). Four individual LED's indicate status information. A 16-bit parallel output is provided which is intended for feeding the time information to a PDP11 computer. Power requirements +5 V at 1A typical. Printed circuit board 305mm x 165mm. Parent equipment GE7/7. DD 1978.
UN120017 UN12P/17	Timecode Display Unit. This unit provides an eight digit display of Hours, Minutes, Seconds and Frames together with $\pm$ sign. The digits are 0.8" high and the display is intended for medium distance viewing. It is contained in a B size 4U BMM portable carrying case and consists of a Timecode Decoder, a Display Unit and a power supply. 4U BMM 'B' size carrying case. Sub-units CD3/530, CD3/29 and PS2/187A. DD 1979. DDMI 7.279(80). DDHB 7.274(79). EDI 10373(1)APR80. DDMI 7.481(81).
UN120018 UN12/18	AGC Display Unit. Provides outputs to 2 sets of 3-digits 7-segment displays. These outputs are derived from 11-bit BCD parallel inputs. Strobe pulses to output latches are enabled by sensing indicator voltages through opto-isolators. Power requirements +5V. 3U unsupported card 190mm long. DD 1979.
UN120019 UN12/19	Lamp Drive Expander. Provides additional indicator L.E.D. drive outputs 39-39. Requires 6 bit BCD input from CD2/519. Power requirements +5V 100mA. Parent equipment CD2L/518. Sub-units UN23/656 and CD2/519. SC PD 1980.
UN120020 UN12/20A	MF CIP Display. Display panel showing mimic diagram of the state of four MF transmitters. The panel also carries mute switches to enable selected blocks of indications to be muted. Versions available: A: 4 services. Upper two 3 transmitter, parallel Lower two 2 transmitter, changeover Power requirements +5V. Parent equipment PA6M/97C. DD 1981.
UN120021 UN12/21	AGC Display Unit. Provides outputs to 2 sets of 3-digit, 7-segment displays. These outputs are derived from 11-bit BCD parallel inputs. Strobe pulses to output latches are enabled by sensing indicator voltages through opto-isolators. 4U version of UN12/8. Power requirements +5V. CH1/64J. Parent equipment PA6/132. DD 1981.
UN12/21A	AGC Display Unit. Provides output of 2 sets of 2-digit, 7-segment displays. These outputs are derived from 11-bit BCD parallel inputs. Strobe pulses to output latches are enabled by sensing indicator voltages through opto-

isolators. 4 U version of UN12/8. 'A' version allows up to eight inputs to be monitored via the opto-isolators. Power requirements +5 V. CH1/64J. Parent equipment PA6/157. Chassis extender CH1A/43. DD (2) 1985.

UN120022 UN12/22 Indication Unit. Displays information on 3-digit readout according to numbers selected on 3-digit push button switches. Power requirements +5V 300mA. 4U 'B' width front panel with p.c.b. fitted on rear. Parent equipment EP1M/30. DD 1982.

UN120023 UN12/23 Alpha-numeric Display Unit. Display unit fitted with two digits to indicate the output state of UN26/52 via an 11-way Painton Plug. Power requirements from UN26/54. Die-cast box, 30mm x 25mm x 20mm approx. Parent equipment UN26/52. DD 1982.

UN120024 UN12/24 Status Display Unit. This unit is part of each Mixer in the MX5M/504. It displays on its Front Panel the current mixer status. It also organises the control and tally lines to be suitable for IDC connectors. Power requirements 5V at 50 mA. 4U unsupported board. Parent equipment MX5M/504. DD 1983. DDHB 8.401(85).

UN120025 UN12/25 MCP Display Unit. Microprocessor (8031) controlled L.C.D. for use in source switching at Monitoring and Collection Points. Accepts up to 40 characters from a parallel keyboard input and sends characters in serial form to switching system. Also takes serial data from switching system and displays present state of switching. Provision made for fitment of PS2/195A for increased 5 V O/P. Power requirements 9-12 V 800 mA. 260 wide x 133 high x 180 deep 'U' frame for mounting within T.C.P.D. control desk frame. DD 1983.

UN120026 UN12/26 Sound Level Remote Indicator. The unit provides a bright-light desk-top indication of 100 and 105 dBA sound pressure level when driven from the ME2P/9. It will only be powered when the ME2P/9 is operated from an external 24 V supply. RD drawing No. RES 2326 series. Power requirements 24 V dc, 120 mA (fed via ME2P/9. PCB: 64 x 51mm. RD 1986.

UN120027 UN12/27 Indicator Panel. Indicator Panel for monitoring of station alarms. Power requirements +5 V (derived from PA6M/169). BBC chassis: 4U x E Width. Parent equipment PA6M/169. D & ED (C) 1986.

UN120028 UN12/28 Over-Temperature Display Unit. This unit is used in Marconi B6526 10kW and 20kW transmitter control racks. It provides indication as to the state of the Blower relay contact (energised or de-energised), and indication of whether a cavity or cubicle over-temperature trip has occurred. Power requirements 50V (100mA). CH1/64A. Chassis extender CH1A/43. TED 1987.

UN120509 UN12/509 Display Unit. Combines 7-segment display and Decoder/Driver using CMOS integrated circuit type MC14511 CP and Monsanto 0.7mm display module with common cathode

configuration. Intended as a low current replacement for the TEC MDA6107 module and the UN12/508 Display Unit. DD 1976. DDMI 7.383.

UN120510 UN12/510 Remote Display Unit for use with the ME1/518 Video/Sync timing meter. The unit contains a mains power supply and derives its display data via a multiway cable terminating in a Varelco connector on the printed circuit board. DD 1977.

UN120511 UN12M/511 Time Comparator. Accepts two timecode inputs A and B and displays one of three times:- Time A; Time B; Difference time A-B; in Hours, Minutes Seconds and Frames. Self-contained desk top console type box with power supply. Contains two CD3/530 and one UN1/729. DD 1977. DDMI 7.404(78). DDHB 7.238(77). EDI 10333(1)MAR7 3.

UN120512 UN12/512 Caption Display Unit. This unit is for use with GE8M/504 Vidiprint Caption Generator. Mixed syncs are generated internally onto which the Caption from the UN3/65 is inserted. The Caption may then be displayed on a monitor in the form of "Blackened Syncs". When used in the GE8M/504 the UN26/534 which is normally fitted will not be necessary. Power requirements +5V DC. CH1/64J. Parent equipment GE8M/504. DD 1980.

UN120513 UN12M/513 Visual Display Unit. Monitoring and Information Centre VDU. Accepts data from MIC processor to display. Local alphanumeric keyboard also enters data to display which may then be sent, via the processor, to a printer or ADX network at 110 baud. Display is added to standard video showing on standard 625 line Picture Monitors. Power requirements +5V DC at 9A, $\pm 12V$ DC at 200mA. PN3/54. Supersedes UN12M/5. Sub-units UN12/10, GE7/5, GE8/3, UN27/12 x 4, SE5/11, UN27/1, UN26/31, UN26/44, UN23/130, UN26/45. DD 1981.

UN130510 UN13/510 Overvoltage Clamp. Presettable over voltage clamp for addition to output of Power Supplies. Adjustable clamp voltage 37V to 43V. Maximum current 2A. Also includes 3 LED power on isolators. 125mm x 95mm x 30mm printed circuit board, and ALUM. Bracket and Flying Lead. DD 1979.

UN130536 UN13/536 Sync Separator Unit. This unit forms part of the Teletext Decoding Margin Meter ME15M/502. Power requirements +12V, -12V, +5V. CH1/65A. DD 1978. DDMI 9.234(78), 9.249(79).

UN140012 UN14/12 Audio Delay Unit. This unit will delay an audio signal by a preset time between 1.5mS and 5mS in 20 μ s steps. Power requirements +24V d.c. CH1/65C. Parent equipment EP1M/23. DD 1978. DDMI 6.332(78).

UN140013 UN14/13 Pre-settable Delay Unit. Input on and off trigger pulses are delayed in one minute steps up to 15 minutes, and combines with one minute pulses delayed in 5 second steps to control and input relay. Power requirements 5V at 100mA d.c. CH1/64A. DD 1978.

UN140014 UN14/14 Time Signal Delay Unit. To delay the Greenwich Time Signal keying waveform by up to 200ms in steps of 5ms. Power requirements +12.5V 50mA. CH1/65A. DD 1980.

UN140015 UN14/15 Audio Delay Unit. The function of this equipment is to delay a monophonic audio signal in steps of 0.1 milliseconds over the range 0.1 to 1.4. The bandwidth for correct delay operation is 4kHz. The design is intended to obviate the use of the more expensive Audio Delay Unit UN14/12 in some applications. Power requirements +25V. CH1/65A. Parent equipment EP1M/25. DD 1980. DDMI 6.384(80). DDHB 6.184(81).

UN140016 UN14/16 Link Unit. (Zero Delay). A skeleton 2U A size plug-in chassis intended for use in the main frame EP1M/25. The EP1M/25 Polarity Comparator takes in two audio signals for comparison. In cases where an input is required to be fed directly to the comparator (MN1/22) without delay, this unit provides a through link on the 17-way back connector. No power required. CH1/65A (Modified). Parent equipment EP1M/25. DD 1980. DDMI 6.385(81).

UN140017 UN14/17 Timecode Delay Unit. Card for use in Studer A80 audio tape M/C. Delays time code to allow for physical offsets of heads. Power requirements +12v at 150mA; -12v at 20mA from A80's supplies. Card for A80's chassis. Parent equipment Studer A80 tape M/C. DD 1981.

UN140018 UN14/18 Variable Delay Unit. This unit can store up to 448 x 12-bit NICAM 3 sample words. By either inhibiting the input write clock (nominal 64kHz) or the output read clock (nominal 64kHz) the number of samples stored will be variable. This unit will also reinsert NICAM 3 single channel frame codes. Power requirements +5V at 500mA; +18V at 70mA; -18V at 70mA. CH1/64J. Parent equipment CD2M/23 and Options 1 to 4. NICAM 3 Insertion equipment. DD 1981. DDMI 6.400(82). DDHB 6.221(83).

UN140019 UN14/19 Timecode Delay Unit. The unit corrects timecode offsets introduced by audio/timecode head spacing of RD4/18 (B62), RD4/20 (B67) and a third unspecified 6.3mm audio tape machine modified for centretrack timecode working. Power requirements +12V and -12V from tape machine at approx 50mA each. Non standard Box, Approx. 200 x 150 x 50. Parent equipment; add on unit to RD4/18 and RD4/20. DD 1982. EDI 10504(1)MAY 85.

UN140019 UN14/19A-C Timecode Delay Unit. The unit corrects timecode offsets introduced by audio/timecode head spacing of RD4/18 (B62), RD4/20 (B67) and a third unspecified 6.3mm audio tape machine modified for centretrack timecode working.
 'A' Version for B62 machine.
 'B' Version for B67 machine.
 'C' Version for unspecified 6.3mm audio tape machine.
 Power requirements +12V and -12V or +5V from tape machine at approx. 100mA each. None Standard Box, approx. 200 x 150 x 50. Parent equipment Add on unit to RD4/18 and RD4/20. DD 1984. EDI 10504 (1) MAY 85.

UN140526 UN14M/526A Video Display Unit. Part of EP5/512B. Provides switched delays to the input channel video signals to compensate for effects desk delays. See DD/CF/12486. 3U special panel for bay mounting. DD 1977.

UN14M/526B Key Delay Unit. Part of EP5/512B. Provides switches key signal delays to compensate for delays in effects desk. Used with UN14M/526A on independent bank mixer operations. See DD/CF/12486. 3U special panel for bay mounting. DD 1977.

UN140532 UN14/532 Pulse Delay Unit. This unit provides up to 6 different delay lines simultaneously for Standard Studio pulses. Up to 4 delay lines, each $1\mu s$ in 50ns steps, may be fitted as required. Up to 2 separate chains of pulses may be fed to the unit. CH1/65A. Supersedes UN14L/533. DD 1976. DDMI 8.554. DDHB 8.333. EDI 10253(1)N OV76.

UN140534 UN14/534 Adjustable Delay Unit. This unit comprises a sectioned 75Ω delay line and an emitter follower. The delay line can be connected to give any multiple of 5ns up to 155ns delay. The unit is part of the modification kit to incorporate the FL1/526 into the PAL Coder GE1M/526. Printed board approximately 76mm x 18mm. DD 1976. DDMI 8.548. DDTM 8.334.

UN140537 UN14/537 Pulse Delay Unit. The unit provides a means of delaying standard television pulses for up to a maximum of $6\mu s$. It will contain six $1\mu s$ tapped delay lines which may be shared between two separate pulse feeds if required and ten output amplifiers which may be connected to any point on the delay lines. Power requirements 190V to 260V a.c. approximately. 10VA. CH1/64A. DD 1978. DDMI 8.600(79). DDHB 8.357(79). EDI 10355(1)MAY80.

UN140538 UN14/538 Television Line Delay Unit. 4U free card providing 2 x 1 line delay using glass delay lines. $63.73\mu s$ ec. for PAL system. Power requirements +12V, -12V at 50mA. DD 1978.

UN140539 UN14/539 Television Line Delay Unit. 4U free standing card providing 2 x 1 line delay using glass delay lines. $63.29\mu s$ line for NTSC. Power requirements +12V -12V, 50mA. DD 1979.

UN140540 UN14/540 Field Drive Pulse Delay for television OBs type 5 CMCR's. Variable delay from 0-20mS. Used to synchronise picture monitors when using an external generator. Power requirements 50mA at 24V. ISEP board 189mm x 113 mm. SCPD 1979. DDMI 9.308(83).

UN140541 UN14/541 Digital Quadruple Line Delay. Based on TTL Bi-Polar technology for 8-bit Quantised video signals, at sampling frequencies up to 15MHz. The unit contains four 8-bit video delays having separate data inputs and outputs, and identical delay lengths which may be pre-set to any value between 4 and 1028 sample periods. Coding positions 3, 5, 19. Power requirements 5 volts 3 amps. 4U BMM Unsupported Card. Parent equipment Electronic Stills Store PA1M/580. RD 1981.

UN140542 UN14/542 2 Fsc Line Delay Unit. Used in the predictor chain of the CD2M/525 and CD3M/541 DPCM coder and decoder to delay 10-bit samples by 565 clock periods of the 2 x Fsc clock. Power requirements +5V at 1.4A; -5V at 100mA. BMM 4U Unsupported Card. Parent equipment CD2M/525, CD3M/541. DD 1982.

UN140543 UN14/543 2 Fsc Field Delay Unit. Used in the predictor chain of the CD2M/525 and CD3M/541, DPCM coder and coder, to delay 10 bit samples by 176491 clock periods of the 2 Fsc clock. Power requirements +5V at 1.7A; -5V at 0.1A. BMM 4U unsupported card. Parent equipment CD2M/525, CD3M/541. DD 1982.

UN140544 UN14/544 Line Delay Unit. The card contains two, one line delays for digitised waveforms sampled at twice subcarrier rate. It configures itself to operate in either pre or post filter modes, and forms part of the filter section in the 68 Mbit/s digital transmissions system. Power requirements +5V d.c. at approx 4.6A. Parent equipment C09M/508 & C08M/510. DD 1982. DDHB 1.173(83).

UN140545 UN14S/545 Programmable Frame Delay. This unit will delay a 4 bit word from 20 to 589,852 clock periods (0.02 to 682 TV ISSUE lines at a clock frequency of 13.5 MHz). The delay may be programmed into on-board PROM'S which give 32 pre-programmed delays selected by a 5-bit input. Alternatively a 20-bit input word may be used to select the delay. A bypass circuit is provided which introduces one clock delay together with an output-disable control (TRI-STATE). Power requirements +5V and -5 V. 4 U BMM unsupported card. DD 1985.

UN014546 UN14/546 Digital TV Delay Unit. Delays a Digital TV Signal (8 bit and clock) by a preset amount up to 1.4 μ s. Power requirements ± 5 V. 4 U Unsupported Card with 'J' Width Front Panel. Chassis Extender CH4/5. DD(1) 1984.

UN14/546A Digital TV Delay Unit. As UN14/546, but without a 'J' width front panel. Power requirements ± 5 V. 4 U Unsupported printed board. Chassis Extender CH4/5. DD(1) 1985.

al TV Delay Unit. Delays a Digital TV Signal (8 bit + clock) by a preset amount up to 1.4 μ s. Power requirements ± 5 V. 4U unsupported card. DD 1984. DDMI 1.282(85). DDHB 1.203(85). EDI 10540 (1) APR 86.

UN140547 UN14/547 Digital TV Delay Unit. Delays an 8 bit parallel TV signal by up to 18 μ s to automatically align it with local references. Power requirements 240 V ac. PN3/72. DD 1984. HB V.1002(86). MI V.1000(86).

UN140548 UN14/548 Video Black and Burst Delay Unit. This unit provides 4 delayed outputs from a single input. The delay of each output is continuously adjustable in the range 20-520 ns. Passive delay components are mounted on a separate plug-in board. Power requirements 250 mA at ± 18 V nominal. 4U unsupported card, G06 Connector. DD 1984.

UN140549 UN14/549 Digital TV Switched Delay Unit. Delays a Digital TV Signal (8 bit and clock) by a switched amount up to 1.4 μ s. Power

requirements ± 5 V. 4 U unsupported card. Chassis extender CH4/5. DD(1) 1985. EDI 10540(1) APR 86. MI 1.283(86).

UN14/549A Digital TV Switched Delay Unit. As UN14/549, but with a 'J' width front panel. Power requirements ± 5 V. 4 U unsupported printed board with 'J' width front panel. Chassis extender CH4/5. DD(1) 1985. MI 1.283(86). HB 1.203(86). EDI 10540(1) APR 86.

UN140549 UN14/549 Digital TV Switched Delay Unit. Delays a Digital TV Signal (8 bit and clock) by a switched amount up to $1.4\mu\text{s}$. Power requirements ± 5 V. 4 U Unsupported Card with 'J' width Front Panel. Chassis Extender CH4/5. DD(1) 1985.

UN14/549A Digital TV Switched Delay Unit. As UN14/549, but without a 'J' width front panel. Power requirements ± 5 V. 4 U Unsupported Printed Board. Chassis Extender CH4/5. DD(1) 1985.

UN140550 UN14/550 Colour Phasing Delay Unit. This unit adjusts the relative delay between the active line (including the burst) and the syncs of a PAL colour video signal, in response to control signals from a suitable phase comparator. It can be used to phase a signal at a mixing point, or to adjust subcarrier-to-horizontal phase (S/C-H). Power requirements 240Vac. CH1/64A. Termination Panel PA20/544. Chassis extender CH1A/43. D&ED 1987.

UN160004 UN16/4 Separator Unit. Separates 1 volt composite signal to 1MHz and 1.6MHz frequency modulated IF signals. Used in VHF stereo link systems. CH1/12A. DD 1977.

UN160005 UN16/5 Mic Splitter Unit accepts multicore connector type 62GB and provides 7 XLR connection to each quad. Used by Television Outside Broadcasts. SCPD 1978.

UN160006 UN16/6A MK IV Cable Splitter Unit. Break-out box for MK IV replacement cable assemblies (PIF44/1M) used on Type 6 CMCs. Gives connector access to mains, audio, and video pairs, and includes mains safety interlock loop. Supersedes UN16/6. SCPD/TOBS 1985.

UN160007 UN16/7A Commentators Splitter Unit. Accepts MK4 camera cable and 7 pair quad multicore on 62 GB connectors. Allows connection of 2 Commentators units to CMC. Also contains Talkback Microphone Mixing Amplifier and Two Max components. Mains powered via MK4 connector and loop for operating mains pilot loop relay. Power requirements 240V AC. 344 x 282 x 155. Supersedes UN16/7. Sub-unit CD2L/516. SCPD 1983.

UN160008 UN16/8 NICAM 3 Demultiplexer. This unit receives a 2048kbit/s HDB3 bitstream and recovers clock from it. It feeds up to three (plus spare) CD3M/33's with demultiplexed bitstreams and shift pulses. Power requirements +5V, at 200 mA, +18V at 100 mA, -18V at 100 mA. Parent equipment CD3M/33. DD 1980. DDMI 6.379(80). EDI 10443(1)AUG82. DDHB 6.227(83).

UN160009 UN16/9 NICAM 3 Demultiplexer. This unit is part of the CD3M/33A. It receives either a 338 or 676 kbit/s HDB8 bitstream and recovers a 676kHz clock. It provides a 16MHz system clock

for the CD3M/33A together with bitstreams and shift pulses. Power requirements +5V at 200mA, +18V at 100mA; -18V at 100mA. CH1/64J. Parent equipment CD3M/33A. DD 1981. DDMI 6.380(82). DDHB 6.228(83) EDI 10444(1) AUG 82.

- UN160537 UN16/537 Sync and Burst Separator. Part of AM18L/526 Stabilising Amplifier for Television News. Isolates Syncs and burst from one of two incoming video signals. Power requirements $\pm 12V$. CH1/64J. DD 1978. DDMI 8.604(79).
- UN160538 UN16/538 Sync and Burst Separator. Used in AM18L/525 stabilising amplifier. Isolates syncs and burst from incoming video signal. Power requirements $\pm 12V$ d.c. CH1/64J. Parent equipment AM18L/525. DD 1979.
- UN160539 UN16/539 Sync Separator. Similar to UN16/535. Small circuit change only and addition of front panel monitor point. Power requirements +12V, -12V, +5V. CH1/65J. Parent equipment ME3M/501. DD 1979. DDMI 9.249(79).
- UN160540 UN16/540 Sync Separator and Signal Identification Unit. To separate synchronising pulses and to identify Test Signal Type and Sync Pulse Characteristics. Provides 1MHz and 20MHz Logic Clock Pulses locked to Line Sync, and signals to drive the associated GE1/596 which also controls the output of Identification Data onto a Microprocessor Bus. Power requirements +5V, +12V, -12V. Parent equipment ME3M/502. DD 1980. DDMI 9.308(83).
- UN160541 UN16/541 Picture Monitor SIS Sync Separator. Sync separator unit to enable picture monitors to operate with sound-in-syncs signals. Has single output of mixed syncs. Video power inputs are looped-through. Power requirements 240V a.c. Diecast Box 188 x 120 x 56mm. DD 1982. DDMI 9.297(83). DDHB 9.190(83). EDI 10490(1) MAY 84.
- UN160542 UN16/542 Sync Separator Unit. This unit is a Sync Separator intended as a direct plug-in replacement for the SIS Sync Separators, fitted in either the PYE SIS Coder LDM1801 or PYE SIS Decoder LDM1803. The unit has been designed for use when an improved performance with poor quality video signals is required. Power requirements +12V, -12V, +5V. 231mm x 111.5mm PCB fitted with ISEP 25-way connector. DD 1983. Superseded by UN16/552. OBSOLESCE.
- UN160545 UN16/545 TRS Decoder & Sync Regenerator Unit. Used in the CD3M/546 Digital PAL Decoder, this unit decodes Timing Reference Signals (TRS) to regenerate analogue mixed syncs. It may operate in either 625 line or 525 line modes. It also contains a multiplexer and output driver stage to form the parallel studio interface signal at 27 Mbytes/s from the component Y, Cr & Cb 13.5 Mbytes/s signals. Power requirements +5.35 V at 2.5A, -5.2V at 1.5A. 4U unsupported printed board. Parent equipment CD3M/546. Chassis extender CH4/5. DD(1) 1985.
- UN160546 UN16/546 S.I.S. Sync Separator. Requires a video input of 1 V, +3 dB, -6 dB. Input impedance greater than 15 k Ω . Outputs of mixed syncs., line syncs., field syncs and even field at

LSTTL level. Power requirements +12 V, +5 V, -12 V. 2U unsupported card. Parent equipment MN6M/513. DD 1983. DDMI 9.329(85). DDHB 9.207(85).

UN160547 UN16/547 Picture Monitors SIS Sync Separator. For modifying 'Ikegami' 5½ inch picture monitor, type PM-550 to operate on sound-in-syncs video. Power requirements +12V, 110mA. 132 x 104mm. DD 1984. HB V.1002(86).

UN160548 UN16/548 Digital TRS Decoder and Dimultiplexer. This unit demultiplexes the luminance and colour-difference signals (YUV) and decodes the Timing Reference Signal (TRS) from a received 8-bit word parallel digital video and clock signal at 27M words/s as defined in the 'EBU Parallel Interface for 625-Line Digital Video Signal'. The digital luminance signal is clocked out at 13.5MHz and the colour difference signals at 6.75MHz, both in 8-bit word parallel form. Line blanking field blanking, mixed blanking and odd/even field information is extracted from the decoded TRS signal. Power requirements +5.0V 1.5A, -5.2V 800mA. Unsupported 4U card with 112 pole edge connector and PN1/29J front panel to fit BMM chassis. DD 1984. DDMI 1.264(85). DDHB 1.191(84). EDI 10515(1) JUN 85.

UN160549 UN16/549 SIS Dual Sync. Separator. For use with picture monitors to enable operation with SIS video. The video input is high impedance. A single output of mixed syncs. at 2 V in 75 Ω is provided from each of the two separators. Power requirements +15 V -15 V at 200 mA. 3U unsupported card. Parent equipment UN16L/550A-C. DD 1984. DDMI 9.334(85). DDHB 9.212(85).

UN160550 UN16L/550A-C Multiple SIS Sync. Separator. Enables the operation of a number of picture monitors with SIS video. Up to 2, 4, or 6 UN16/549 dual separators can be fitted to suffixes A to C. The power supplier for use with this assembly is the PS3/73. Power requirements 240 V ac. 3U, B,C, or D widths. Sub-units PS3/73, UN16/549. DD 1984.

UN16M/550A-D Multiple SIS Sync Separator. For use with 19" racks of miniature picture monitors to enable operation with SIS video. Contains 1 to 4 sync separator boards, UN16/549 according to code A to D. Power requirements 240 V ac. Sub-units UN16/549. DD 1984.

UN160551 UN16/551 S.I.S. Sync Separator. Input is 1 V pk-pk video, 75 Ω or HI-Z. Output is 300 mV black level and syncs into 75 Ω. Power requirements ±12 V dc. 4U unsupported card. DD 1984. DDMI 9.331(85).

UN160552 UN16/552 Sync Separator Unit. This unit is a sync separator intended as a direct plug-in replacement for the SIS sync separators, fitted in either the PYE SIS Coder LDM1801 or PYE SIS Decoder LDM1803. The unit has been designed for use when an improved performance with poor quality video signals is required. This unit replaces the UN16/542. Power requirements +12 V, -12 V, +5 V. 231 mm x 111.5 mm pcb fitted with ISEP 25-way connector. Supersedes PYE Sync Separator (C3) 625 3913 446 50290, PYE Sync Separator (D4) 625 3913 446 72000. Parent equipment PYE SIS Coder LDM1801 PYE SIS Decoder LDM1803. DD 1985.

UN160553 UN16/553	S.I.S. Sync Separator Unit. Requires a video input of 1 V ± 6 dB to provide outputs of mixed syncs, line syncs, field syncs and even field. This unit has circuit and performance identical to that of UN16/546. The pcb outline is compatible with CH1/64 bar spacing or may be trimmed to a smaller size where required. Power requirements +12 V, +5 V, -12 V. PCB 144 mm x 90 mm. DD(9) 1985.
UN160554 UN16/554	S.I.S. Digit Blanker and Clamp. The unit accepts either S.I.S. or non-S.I.S. standard video signals and produces an output free of S.I.S. suitable for locking colour and monochrome monitors. Additionally the unit has a clamped unblanked output. It is mechanically identical to the AM4/536 and has similar power requirements. Power requirements +12 V, 100 mA. PCB: 4U unsupported half card. P.I.D. Tel 1986.
UN160555 UN16/555	S.I.S. Digital Blanker & Clamp. The unit accepts either S.I.S. or non-S.I.S. standard video signals and produces an output free of S.I.S. suitable for locking colour and monochrome monitors. Additionally the unit has a clamped unblanked output. It has an integral mains P.S. Power requirements 240 V ac. Chassis code: CH1/64A. CH1A/43. P.I.D. Tel. 1986.
UN170530 UN17/530	Synchroniser Unit used to synchronise a playback video tape machine in an editing suite. Accepts parallel frames and seconds information and generates analogue control signal for the VT machine. 5U CDX unsupported card. DD 1977.
UN180513 UN18/513	Chrominance Unit, used in EQ12L/504 to make line by line measurement of "burst" errors and feed information to UN1/704; also read information from stores and applies it to a video equaliser. CH1/46A. DD 1975. DDMI 7.309.
UN200023 UN20/23A	Telephone Ringing Detector Unit. Telephone ring detector unit, providing 'call' and 'ring' function for EMX telephone lines, with outputs for latching local indicators and fleeting common buzzer. Power requirements -50V. Printed Circuit Board with mounting brackets to fit TMC type key. SCPD 1980.
UN200552 UN20/552	Code Detector Unit. Part of modification to Data Buffer Equipment EP1M/527. BBC ISEP card. DD 1977.
UN200553 UN20/553	Advance Time Detector Unit. Detects when a 26 bit parallel time input is zero or a certain number of seconds. Used in EP1M/548. 5U CDX unsupported card. DD 1977.
UN210040 UN21/40	Relay Unit. Contains one each audio and video changeover circuits. Requires d.c. supplies of ± 12 V or 24V. CH1/65A. DD 1977.
UN210041 UN21/41	Printer Drive Unit. Relay unit converting TTL logic levels to relay contact reversal for driving Monitoring and Information Centre logging and ADX printers from any voltage up to 80V. Power requirements 5V d.c. CH1/64J. Parent equipment PA1M/100. DD 1978.

UN210043 UN21/43	Relay Unit. 2U card with 2 x 6 pole c/o relays mounted. All contacts available. 2U unsupported boards. Parent equipment UN23M/109. SCPD 1978.
UN210044 UN21M/44	Tape Transport Relay Unit. Controls the a.c. supplies to the motors in the RD4/12 tape reclamation transport. Consists of solid state relays and 3 sub-units. Power requirements 3 x 120V a.c. 1 x 24V a.c. Custom built metalwork. Parent equipment RD4/12. Sub-units 2 x AM1/55 and UN23/125. DD 1979. DDMI 7.429(80).
UN210045 UN21/45	Muting Unit. The unit contains two reed relays which mute the audio channels of an RD4/9 or RD4/9A when modified for use with Timecode Synchronisers. Power requirements -24V. Printed circuit board 60mm x 30mm. DD 1979.
UN210046 UN21/46	Relay and Isolator Unit. Bypasses Compressor/Limiter and provides logic buffering in EP2M/7C. Power requirements +5V, +8V obtained from PS2/194A within EP2M/7. CH1/65A. Parent equipment EP2M/7C. SCPD 1980.
UN210047 UN21/47	Relay Unit. PCB with 3 relays each with coil and four change-overs brought out to edge connector which mates with "Hytip" connector. Power requirements 24V d.c. pcb to fit 3U BMM panel. SCPD 1981.
UN210048 UN21/48	Relay Unit. Eddystone box housing a relay to switch, remotely, DEL (PO line) into EMX system as used in OB vehicles. SCPD 1981.
UN210049 UN21/49	Relay Unit. Contains 32 relays, powered from +5V, each having a separate coil connection to the rear connector. Similarly a contact on each relay is taken to a rear connector pin and the contact common connections are grouped in four sets of eight, wired to four rear connector pins. Power requirements +5V. CH1/64J. DD 1981.
UN210050 UN21/50	Telegraph Line Relay Unit. To provide 80-0-80v line drive from TTL or RS 252 input. Power requirements mains. BMM 4U size chassis + covers. DD 1982.
UN210051 UN21/51	Capstan Control Relay Unit. Capstan frequency control in M/C; unit consists of change over relay. Power requirements 12V. 30 x 20mm. Parent equipment Studer A800. DD 1982. DDMI 7.504(82).
UN210052 UN21/52	Relay Unit. This unit is fitted with 16 122V relays each driven from an open collector NAND gate. Indication of the relay in use is given by a red LED on the front panel. Power requirements +12V and +5V d.c. 4U unsupported PCB with PN1/29J front panel assembly. Parent equipment RC1M/28. DD 1982.
UN210053 UN21/53	Relay Unit. First developed for Outside Broadcast communications in television. The unit contains eight transistor assisted relays with operating input circuits which provide 5V of noise immunity. Each relay has two sets of change over contacts. Power requirements ±16V 50mA. 100mm x 220mm Eurocard. Mounted on 0.6" width front

panel for 3U high racking with 96 way Euro-connector.
Supersedes UN21/39. SCPD 1983.

UN210054 UN21/54 UHF Filter Relay Unit. The unit contains two relays which will select either of the two UHF input filters to allow frequency changeover in the RC4M/8B type receiver. Connections are made by SMB flying leads. Power requirements +12V d.c. pcb 100mm x 40mm. Parent equipment RC4M/8B. DD 1983. DDMI 5.428(83).

UN210055 UN21/55 Relay Unit. Used to switch the outputs of VHF & UHF quality monitoring receivers remotely via relays. Power requirements +5V DC 250mA. 4U unsupported PN1/29J. Parent equipment EP15M/9, EP15M/10 (MIC). DD 1983.

UN210056 UN21/56 Outgoing Relay Unit. Provides 12 TTL driven relay circuits with contacts rated at 0.5 Amp. Drawing SP.30446. Power requirements 7.5 V dc. PCB 111.76 x 254. SCPD 1983.

UN210058 UN21/58 Synthesiser Interface Relay Unit. Contains relays to control of a Marconi sender and revertive input lines. Power requirements +5 V. Diecast box, 93.7 mm x 119.1 mm x 52.4 mm. Parent equipment PA1/130. DD 1984.

UN210059 UN21/59 Relay Unit. Contains 16 relays for driving on-air cues and external equipmet associated with the EP1M/519 TK-PPA mixer. Located in the EP1M/152 Analogue Interface unit. Power requirements +5 V. CH1/79 - (W-Wrap). Parent equipment EP1M/38A. DD 1984.

UN210060 UN21/60 Telephone Select Unit. Relay Unit. Transistor-driven interface relay unit for use in Telephone Effects Unit UN4/10. The unit interfaces any standard approved British Telecom telephone instrument with a ring/tone effects generator. The unit consists of a select/de-select key, and LED indicators for 'selected', 'ringing' and 'engaged' (handset lifted). Power requirements +24 V and 25 V regulated. Non-BBC, H 114 x D 203 x W 50 mm (3U). Parent equipment UN4/10. Communications and Engineering Services 1985.

UN210061 UN21/61 Relay Unit. 8 x 4 changeover relays, identical to that design covered by S.C.P.D Drawing SP31846, but fitted on a longer P.C.B. Power requirements +24 V. 3 U Eurocard (100 mm x 220 mm) Parent equipment UN23S/175A & B. SCPD (TBSS) 1985.

UN210062 UN21/62 P.A. Relay Unit. A Panel with Relays and Tag Block that switches (on demand) control lines and audio pairs through to P.A. as an extended or remote control/monitoring facility. BBC chassis 2U x 19". TCPD 1986.

UN230015 UN23/15A Clock Generator Unit. Similar to UN23/15 but with additional circuits to enable unit to be used with P .C.M. coder monitor. IMHOF CDX. Parent equipment BA1/4. DD 1979.

UN230025 UN23/25B	Data Output Decoder. As UN23/25, but uses alternative O/P I.C. to give inverted logic (especially for Glasgow PCM). 3U CDX single width. Parent equipment BA1/5. DD 1979.
UN230040 UN23/40	Sequencer Unit. The unit converts two 6 bit parallel inputs to labelled 8 bit words and provides a serial output in 20 bit monitoring code. Used in switching and remote control systems. CH1/63. DD 1977.
UN230061 UN23/61	Machine Control Unit, controls in conjunction with UN23/62 and UN1/185, all machine facilities necessary for automatic operation of Tape Reclamation Equipment EP1/17. 4U unsupported board with PN1/29J front panel. DD 1977. DDMI 7.437(80).
UN230062 UN23/62	Monitor Control Unit, controls in conjunction with UN23/61 and UN1/185, all machine facilities necessary for automatic operation of Tape Reclamation Equipment EP1/17. 4U unsupported board with PN1/29J front panel. DD 1977. DDMI 7.438(80).
UN230063 UN23/63	Manual Override Logic Unit. Contains switches to insert BCD numbers on to parallel three decade and two decade outputs. Unit also provides system operating pulses. Part of instruction decoding system for monitoring and information centres. 4U unsupported card with B size panel. DD 1977.
UN230064 UN23/64	Logic Comparator Unit. Addresses, in three decade BCD consecutive locations in a read only memory comparing the 20 bit output with a reference word. Search is stopped when a match is found. This unit forms part of the instruction decoding system used in Monitoring and Information Centres. 4U unsupported card with J size front panel. DD 1977.
UN230065 UN23/65	Readout "Q" Drive Logic Unit. Data selector switching eight variable length BCD words to a common bus. Used to obtain a VDU display of information held in Monitoring and Information Centre switching stores. 4U unsupported card with J size front panel. DD 1977.
UN230066 UN23/66	Qualifier Gating Unit. Part of MIC switching system. Series of gates to combine the outputs of two qualifier drive units. CH1/64J. DD 1977.
UN230067 UN23/67	Readout Control Unit. Part of MIC switching system. Scans output store units and converts to captions, in ASCII code for sending to VDU. This provides a table showing the current conditions. CH1/64J. DD 1977.
UN230068 UN23/68	Qualifier Verification Unit. Part of MIC switching system. Used to check that qualifier part of system instruction is valid. CH1/64J. DD 1977.
UN230069 UN23/69	Automatic Fault Reporter. Contains internal signals and drives MIC compatible indications for input to TM1M/1 fault reporter family. Part of VHF Radio Control and Indication Panel. CH1/64J. DD 1977.

UN230070 UN23/70	Input Unit. Terminates input lines and derives indications for VHF Radio Control and Indication Panel. CH1/64J. DD 1977.
UN230071 UN23/71	Row Drive Unit. Contains circuitry for strobing rows of matrixed display used in VHF Radio Control and Indication Panel. CH1/64J. DD 1977.
UN230072 UN23/72	Column Drive Unit. Contains circuitry for strobing columns of matrixed display in VHF Radio Control and Indication Panel. Modified CH1/64J (provision for additional front edge connector). DD 1977.
UN230073 UN23/73	Printer Interface Logic Unit. Accepts BDC in parallel form and produces an 8 column print instruction in the form of a timed sequence of print head drive pulses. Used only with UN23/59 Printer Interface Unit. CH1/ 64J. 114 way rear connector. DD 1977.
UN230074 UN23/74	Logic Changeover Unit. This unit forms part of the VHF/FM Translator changeover unit, EP1M/22. CH1/64A. TX 1977.
UN230078 UN23/78	Translator Unit. Provides 20 voltage translators from +24V, 0V to $\pm 7.5V$ for CMOS logic. Also telephone to headset, private and non private logic. Power requirements $\pm 7.5V$, 0V 250mA. 3U high x 178mm deep ISEP. PCB with UECL connector. No front panel. SCPD 1977.
UN230079 UN23/79	Stereo DAC Logic Unit. This unit provides logic switching of pulses feeding two DAC's type C09/1 in the PCM coder monitor MN4M/4. +9V 1A, +28V 100mA, -16V 100mA. 5U CDX card with 2 x 72 way edge connector. Parent equipment MN4M/4. DD 1977.
UN230080 UN23/80	Mono DAC Logic Unit. This unit provides logic switching of pulses feeding two DAC's type C09/1 in the PCM coder audio monitor MN4M/4. +9V 1A, +28V 100mA, -16V 100mA. 5U CDX card with 2 x 72 way edge connector. Parent equipment MN4M/4. DD 1977.
UN230081 UN23/81	Lamp Driver Unit. This unit accepts logic signals from UN23/79 and UN23/80 and drives a number of lamps on the control panel PA8/412. Power requirements +9V 1A, -16V 100mA, +28V 1A. 5U card with 2 x 76 way edge connector. Parent equipment MN4M/4. DD 1977.
UN230082 UN23M/82	Control Unit. Houses control logic, signal recording and reproducing amplifiers and machine interface components. Power requirements 240V 400mA. PN3/54. Parent equipment EP1/17. Sub-units AM15/9, AM16/15, OS2/48, PS2/187D, PS2/187G, PS2/225, UN1/184, UN1/185, IN23/61, IN23/62. DD 1977. DDMI 7.432(80).
UN230083 UN23/83	Control Interface. Provides an interface between the control panel of the RP2/10 and the circuitry of the Technics SP10 Mk.II turntable. Power requirements 5V 1A. 2U unsupported card. Parent equipment RP2/10. DD 1977.

UN230084 UN23/84 Start Mode Control. Contains all the interfacing circuitry to provide the facilities of local, fader or remote start in RP2/10. +5V 150mA. 2U unsupported card. Parent equipment RP2/10. DD 1977.

UN230085 UN23/85A Store Control Unit. Unit shares the MIC store among the various peripheral units requiring access. This version accommodates an extra 8 peripheral units, compared with the UN23/85, whilst remaining pin-compatible. It also assesses the priority of peripherals in a fashion which is more compatible with microprocessor-controlled units. Power requirements 5 V dc. PNI/29J with 2 boards. Supersedes UN23/85. Parent equipment PA1M/101. DD 1984.

UN230087 UN23/87 Buffer Unit. Card to plug into TM1M/1A or C to buffer clock and serial data lines to produce two feeds of each. Used to feed local fault reporters into Monitoring and Information Centre equipment. Power requirements 5V d.c. Unsupported card 63mm x 102mm with edge connector. DD 1978.

UN230088 UN23/88 Measure Control Unit. Performs all logic functions connected with the display on the Monitoring and Information Centre VDU or measurements of ITS parameters. Power requirements +5V, -12V d.c. CH1/64J. DD 1978.

UN230089 UN23S/89 Apology Caption Control Unit. Generates control signals to feed I.C.E. for remote control of Apology Caption Generator (A.C.E.) from Monitoring and Information Centres (MIC) Control signals are derived from MIC switching panel EP15M/10. Power requirements $\pm 5V$, 12V d.c. CH1/64J. DD 1978.

UN230090 UN23/90 D.C.P. Interface Control Unit. Derives main store address for D.C.P. output from Monitoring and Information Centre main store. Power requirements 5V d.c. CH1/64J. Parent equipment PA1M/101. DD 1978.

UN230091 UN23/91 M.C.P. Interface Control Unit. Derives control signals for M.C.P. output from Monitoring and Information Centre mainstore. Power requirements 5V d.c. CH1/64J. Parent equipment PA1M/101. DD 1978.

UN230092 UN23/92 Logic Unit. Perform miscellaneous logic functions for Monitoring and Information Centre VDU's. Power requirements +5V d.c. CH1/64J. Parent equipment UN12M/5. DD 1978.

UN230093 UN23/93 Alarm Unit. Part of PA6M/70 VHF Radio Control and Indication Panel PA6M/70. Contains up to six indications which do not naturally fall in the main displays, and contains an audible alarm and alarm cancel button. Power requirements 16.5V d.c. 1U rack as TM1/2. Superseded by PA1/107. DD 1978.

UN230094 UN23/94 Logic Unit. Performs miscellaneous logic functions in Monitoring and Information Centre remote VDU. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/6. DD 1978.

UN230095 UN23/95	Radio Telephone Control Unit. Controls selective calling equipment for radio telephone equipment at Monitoring and Information Centres from signals derived from the main MIC keyboard. Power requirements $\pm 12V$, 5V d.c. CH1/64J. Parent equipment EP15M/10. DD 1978.
UN230098 UN23/98	Emergency Lighting Timer. The timer is used for emergency lighting when the mains fails (the presence of mains overrides the timer to set the output to an off state). An external push button or a reset button mounted on the unit reset the timer to the start if its sequence, the reset button also gives an indication when the timer is up to 80% of its timed output. Two outputs are available, one remains on for the full timing period, the second output can be switched off before this time by pressing the external push button. Timing period from 10m to 90m in 10 minute intervals can be selected by a front panel control. Power requirements +12V 100mA. 32mm 3U ISEP front panel. 3U 178mm board with 80w UELL connector. SCPD 1978.
UN230099 UN23/99	Control Logic Card. Contains all logic used in PA6/72 and PA6/73 control panels in DK4/31 Radio Continuity Studio Desk. Provides VCA drives and outputs to select prehear tape start and echo insert. Power requirements $\pm 12.5V$, $\pm 6V$, +12V. 3U PCB as used in CH1/77. RD 1978. DDMI 3.651(78). DDHB 3.220(79).
UN23/99A	Cartridge Machine Control Unit. As UN23/99, except start function latch omitted, giving "momentary" start switch action <u>and</u> indication. Fader start action unchanged. Used when momentary cartridge start required. Power requirements as UN23/99. Chassis code as UN23/99. Parent equipment PA6/72. DD 1981.
UN230100 UN23/100	Data Control Unit. Used in the RD4L/507 to control the arithmetic and storage functions of the unit. Power requirements +12V at 10mA. 4U BMM unsupported card. DD 1978. DDMI 7.425(79).
UN230101 UN23/101	CIP Switching Control Unit. Sub-unit of PA6M/97 VHF transmitters. A pair of units will handle the requirements of two transmitter service for each of transmitter start and drive changeover. Power requirements +5V. 4U printed circuit board. Equipment superseded UN9/39. Parent equipment PA6M/97. DD 1978.
UN230102 UN23/102A	Input Logic Unit. This is a version of the UN23/102 with all 64 inputs TTL compatible. Power requirements +5v. 4U BMM unsupported card. Parent equipment PA6/97. DD 1981.
UN230103 UN23/103	CIP Front Panel Interface Unit. A sub-unit of PA6M/97 provides the interface between PA6M/97 (CIP main frame) and UN12/15 (CIP front panel). Power requirements +5V. 4U printed board. Equipment superseded UN23/71 and UN23/72. DD 1978.
UN230104 UN23/104	Colour Balance Interface and Control Logic Unit. Interfaces external selection and indication and provides control logic to produce control signals for the colour balance processor. Power requirements +9V 100mA d. c.

Printed circuit board 3U x 178mm. ISEP with 40 way UECL connector. DD 1978.

UN230105 UN23/105 System Control Unit for Band II VHF drive bays. Power requirements 24V d.c. CH1/64A. TCPD 1978.

UN230106 UN23/106 Diode Matrix. Allows the selection of any of 55 cross points by control from 11 points using diode logic. 3U ISEP board 114mm x 190mm. SCPD 1978.

UN230107 UN23/107 Switch Latch. Converts 4 momentary latching buttons into interlocking action electrically with override. Power requirements 5V, 24V. 2U unsupported board. Parent equipment UN23M/109. SCPD 1978.

UN230108 UN23/108 Time and Indication Unit. Rapid lock timer for SPG, Natlock voltage to lamp indicators. Power requirements 5V, 24V. 2U unsupported board. Parent equipment UN23M/109. SCPD 1978.

UN230109 UN23/109 Natlock Routing Panel. Interfaces 2 ICE/NATLOCK decoders CO4/510, 2 Tone decoders CO3/501B, BBC Mixer comparator or Natlock system analyser MN1/518 and 2-SPG GE6M/512. Power requirements 1 x 24V, 2 x 5V. PN3/55. Sub-units UN23/107, UN23/108 and UN21/43. SCPD 1978.

UN23M/109A Natlock Routing Panel. Interfaces 2 ICE/Natlock decoders CO4/510, 2 tone decoders CD3/501B, Natlock system analyser MN1/518 and 2 SPG GE5M/512. Power requirements 24V, 5V and 12V. 2U BMM chassis. Sub-units UN2 3/107, UN23/108, UN23/43 and UN23/112. SCPD 1979.

UN230110 UN23/110 Apology Caption Control Unit. This unit is for use with apology caption equipment. It will select a number of previously programmed captions stored in the main apology caption equipment. Power requirements +5V d.c. Eddystone box type 6357. Parent equipment GE8M/1. Sub-units UN26/9, UN27/2, GE6/4, GE8/2, SE5/1 and PS2/23 8. DD 1978.

UN230111 UN23/111 Control Board. Provides the control signals to the signal generator and an external transmitter. Provides clock signals for the TM4M/3 unit. Power requirements +15V, +5V. CH1/64B. Parent equipment TM4M/3. RD 1978.

UN230112 UN23/112 Interconnection Board. Printed wiring board to facilitate the connection of audip pairs to a printed circuit board connector. 2U BMM printed circuit board. Parent equipment UN23M/109. SCPD 1978.

UN230113 UN23/113 Lamp Drive Unit. This unit accepts 20 CMOS logic inputs and drives 20 12V lamps at the output. Power requirements +6V, 0, -6V (logic) 0+12V (lamp). 3U BMM card. First used in PA6/86. DD 1978. DDMI 3.657(79). DDTM 3.323(79).

UN230115 UN23/115 24-Way Lamp Driver Unit used to drive lamps on subscribers telephone panel. Uses CMOS control logic. Has provision for buzzer drive circuit. Used on CMCR telephone system. Power requirements 12V. 3U ISEP card. SCPD 1979.

UN230116 UN23/116	Subscribers Logic Unit to provide necessary switching for internal subscribers on CMCB telephone system. Uses CMOS devices. Power requirements 12V. 3U ISEP card. SCPD 1979.
UN230117 UN23/117	Shift Register Logic. 2 Section Unit, one half used to convert 32 input signals to serial output signals, second half used to convert serial input signals to 32 outputs each separately latched; uses CMOS integrated circuits. Power requirements 12V. 3U ISEP card. SCPD 1979.
UN230118 UN23/118	Data Entry Control Logic 1. Part of PA6/98 Entry Control Panel assembly, as used in the SYPHER 2 dubbing suite. Power requirements 5V at 60mA. 4U unsupported card. Parent equipment PA6/98. DD 1979.
UN230119 UN23S/119	Data Entry Control Logic 2. Part of PA6/98 Data Control Panel assembly, as used in the SYPHER 2 dubbing suite. Power requirements 5V at 100mA. 4U unsupported card. Parent equipment PA6/98. DD 1979.
UN230120 UN23/120	Data Interface Logic Control 1. Part of Data Interface between RD4L/507 and PA6/98, as used in the SYPHER 2 dubbing suite. Power requirements 5V at 100mA. 4U unsupported card. Parent equipment RD4L/507. DD 1979.
UN230121 UN23/121	Data Interface Logic Control 2. Part of Data Interface between RD4L/507 and PA6/98 as used in the SYPHER 2 dubbing suite. Power requirements 5V at 100mA. 4U unsupported card. Parent equipment RD4L/507. DD 1979.
UN230122 UN23L/122	VHF Drive System Control Unit. Controls drive selection on VHF FM relay stations. Comprises one UN23/105 control unit with a PS2/236 Power Supply, mounted together in a PN3A/50B termination panel fixed to a PN3A/ 53M termination box. Power requirements 240V a.c. 50Hz mains. CH1/64A. Sub-units UN23/105 and PS2/236. TCPD 1979.
UN230123 UN23/123	Studio Signalling Control Unit. Printed circuit board mounting 2 studio red light signalling circuits. Power requirements $\pm 12V$, $-50V$, $\pm 6V$. 3U card. Parent equipment EP10/18. Sub-unit PA6/90. DD 1979. DDMI 3.673(80). DDTM 3.239(80).
UN230124 UN23/124	Splice and End of Tape Detector. This printed circuit board is mounted on the tape transport deck of the EP1/17 tape reclamation equipment. It carries the splice and end of tape detectors to provide the control logic output associated with these functions. It also carries the current sense resistors for the erase and record head and the bias adjustment control. Power requirements +5V at 10mA. Printed circuit board approximately 100mm x 30mm. Parent equipment EP1/17. DD 1979. DDMI 7.444(80).
UN230125 UN23/125	Motor Relay Interface Control Unit. This unit carries the logic circuitry which interfaces the switches of the PA6/71 control panel to the solid state relay of the PA17/171, all forming part of the EP17/1 tape reclamation equipment. Power requirements +12V at 30mA. Printed circuit board

148mm x 117mm 25 way edge connector. Parent equipment EP1/17. DD 1979. DDMI 7.431(80).

UN230126 UN23/126 Footage Counter Unit. This small printed circuit board together with mechanical details converts the rotation of a pulley into a series of pulses to enable the metering of tape footage being compiled on the tape-up spool of the EP1/17 tape reclamation equipment. It also senses the presence/absence of tape being fed to the tape-up spool for control purposes. Power requirements +5V d.c. 5mA. 75mm x 50mm approximately plus mechanical parts. Parent equipment EP1/17. DD 1979. DDMI 7.443(80).

UN230127 UN23/127 Spool Size Detector Unit. This small printed circuit board together with opto-coupler and mechanical parts detects the presence/absence of an NAB spool on the feed side of the EP1/17 tape reclamation equipment for motor control purposes. Power requirements +5V d.c. 5mA. 50mm x 30mm approximately plus mechanical details. Parent equipment EP1/17. DD 1979. DDMI 7.442(80).

UN230128 UN23/128 Input Interface Unit. Interfaces Grass Valley Mixer Channel Selector buttons to 5V logic. Also includes 20 way indicator driver. Power requirements 9V (on board regulated to 5V). 3U ISEP 254mm long fitted with G 07 connector. SCPD 1979.

UN230129 UN23/129 Indicator Driver Unit. Drives 2 sets of seven segment LED indicators from 16 switch inputs. Incorporates priority register. Power requirements 5V. 3U ISEP 254mm long fitted with G07 connector. SCPD 1979.

UN230130 UN23/130 Programmable I/O Unit. Programmable I/O card for Designs Department Z-80 bus, contains two Intel 8255A P I/O chips, providing four 8 bit data ports with control and bit set/reset lines. The bus signals are connected to wiring side of the edge connector and the outputs to the component side. Wire-wrap posts enable the selection of the port addresses and select which interrupt lines are connected to the bus. Power requirements 5V (<1A). 4U J width unsupported card. DD 1979. DDHB 8.369(81).

UN230131 UN23L/131 VHF Control Indication Unit. Drives control and TM1M/1 indication unit for VHF relay stations. Consists of one UN23/132 and one PS2/236 connected together via a PN3A/53B termination box. Power requirements a.c. mains 240V +10% -20%. TCPD 1979.

UN230132 UN23/132 VHF Control Indication Unit. Drive control and TM1M/1 indication unit for VHF relay stations. Part of UN23L/131. Power requirements 24V d.c. CH1/64A. TCPD 1979.

UN230133 UN23/133 Automatic Fault Reporter Battery Control Unit. Controls unit for battery backup supply to TM1M/1A-C automatic fault reporters. Power requirements 5V d.c. 20mA. CH1/63. DD 1980. DDHB 2.487(83). DDMI 2.466(83).

UN230134 UN23/134 Edit Machine Control Panel Logic. The unit is used in the Edit Machine Control Equipment EP10M/501. It contains

miscellaneous control switching logic associated with the Control Panel. Power requirements +12V. 4U unsupported card. Parent equipment EP10M/501. DD 1980. DDMI 7.467(81).

UN230135 UN23/135 Events Control Logic Unit. Used in the GE2M/14. Performs miscellaneous logic and interface functions. Power requirements +12V. 4U unsupported card. DD 1980. DDMI 7.468(81).

UN230136 UN23/136 Playback Machine Control Panel Logic. The unit is used in the Playback Machine Control Equipment EP10M/502. It contains miscellaneous Control Switching logic associated with the Control Panel. Power requirements +12V. 4U BMM unsupported card. DD 1980. DDMI 7.463(81).

UN230137 UN23/137 Splice and End of Tape Detector (Optical). This printed circuit board is mounted on the tape transport desk of the EP1/17 tape reclamation equipment. It carries the optical splice and end of tape detector to provide the control logic output associated with these functions. It also carries the current sense resistors for the erase and record head and the bias adjustment control. Power requirements +5V at 10mA. Printed circuit board approximately 100mm x 30mm. DD 1980.

UN230138 UN23/138 BBC Z80 Bus Extension System. This unit consists of two UN26/47 connected together via two 40-way ribbon cables. It is used to interconnect two separate 4U crates, one of which contains a CPU. Each UN26/47 can be designated as 'master' (with CPU), or 'slave' (without CPU). Full bus control (including DMA) is possible from either the master or slave crate. Connection of the 5V and $\pm 12V$ is optional via 'handbag' links. Power requirements 5V (provided by the bus). 4U unsupported card. Sub-unit UN26/47. DD 1981. DDHB 8.384(82).

UN230139 UN23/139 Palantype Keyboard Buffer Logic. The unit consists of a through-hole-plated PCB which carries tri-state CMOS buffers for Palantype keyboard switching. Power requirements 5V at 50mA. Printed Circuit Board 130mm x 300mm. DD 1981.

UN230140 UN23/140 Clean Feed Switching Control Unit. An unsupported 4U card mounting the control logic for driving the Clean Feed Switching of the London Continuity EP10/19. Power requirements ± 6 volts. 4U BMM. Parent equipment EP5M/18. DD 1981. DDMI 3.705(82).

UN230141 UN23/141 Output Switching Control Unit. An unsupported 4U card mounting the control logic for driving the output switching of the London Continuity EP10/19. Power requirements ± 6 volts, -50 volts. 4U BMM card. Parent equipment EP5M/17. DD 1981. DDHB 3.270(82).

UN230142 UN23/142 Transcoder Control Unit. Provides local push-button control of main Transcoder function, and includes logic for remote control. Also provides outputs to Monitoring System to indicate Transcoder operating mode. Power requirements

+12V, +5V. 4U 'B' size unit. Parent equipment C06/511. DD 1981.

- UN230143 UN23/143 Muting and Start Mode Control Unit. The unit fits into a Technics control centre SH10-EP, and provides an output to drive a relay within the PA3/6, which momentarily mutes the signal passing through the PA3/6 during the run-up time of the turntable. Mute duration is adjustable by means of 3 potentiometers on the board. The unit also provides the control logic for the start mode of the turntable. Power requirements 5 volts DC. Parent equipment RP2/9A, Sub Ass. 'A'. ED 1981.
- UN230144 UN23/144 Red Light Control Unit. Plug in card providing electronic control studio buzz in/out and operation of the studio red light from control room. Module provides interface with control room signalling and a transistor switched output to operate studio red light relay. An electronic buzzer is mounted on the card. Power requirements 50V 100mA max. 20mA quiescent. PCB Short BMM. SCPD 1981.
- UN230145 UN23/145 Link Changeover Control Unit. Logic Unit used in link supervisory systems as main control unit for link changeovers dependent on input fault status. Provides for manual and remote switching as well as fault reporter information. Power requirements Mains or provision for external DC input. CH1/64B. Supersedes UN23/634. TCPD 1981.
- UN230147 UN23/147 Timing Logic Unit. Derives timing waveforms from mixed blanking for Ident and Countdown Generator, GE8/5. Power requirements 5V DC. CH1/65J. Open University 1982.
- UN230148 UN23/148 Disk Interface Unit. This S100 board provides an interface between Cromemco 16FDC and Caldisk 143M disk drives, a set of 7 lamp drivers plus 18V Power Supply, and a parallel I/O port for the drivers and panel switches. Power requirements +18V max 1A from S100 bus. PCB dimensions 254 x 135.25mm. Parent equipment C04/18. DD 1982.
- UN230149 UN23S/149 Memory Control Unit. Memory control card for digital test card generator. Power requirements +5V, -12V. 4U unsupported card. Parent equipment GE6M/559. DD 1982. DDHB 8.397(83).
- UN230150 UN23/150 3 Camera Talkback Logic Unit. accepts $\pm 12V$ from camera, and logic either calls engineer or puts camera speak to MCTB. Also arranges for engineer to call, speak and listen to camera. Capable of providing these facilities with up to 3 cameras. Power requirements +12V 0V -12V. ISEP 3U board with 2 part connector. SCPD 1982.
- UN230151 UN23/151 Switch Logic Unit. Enabling non-locking push buttons to be used for switching. Six integrated circuits on PCB provides one make and one change over circuit for each input. HY Tip connector. Power requirements 24V d.c. PCB to fit 3U BMM panel. SCPD 1982.

UN230152 UN23/152	Analogue Control Interface Unit. Interface for standard Z80 I/O bus to four $\pm 5V$ digital-to-analogue converters and two 8-bit buffered output latches. Power requirements $\pm 12V$ 5V 0V. 4U unsupported board. DD 1982. DDHB 8.391(83).
UN230153 UN23/153	I/O Bus Driver Unit. Extends the standard Z80 I/O bus by means of differential drivers (RS422A standard). Power requirements +5V, 0V. 4U unsupported board. DD 1982. DDHB 8.410(84).
UN230154 UN23/154	I/O Bus Receiver Unit. Converts standard Z80 I/O bus from differentially driven lines (RS422A stanard) to TTL. Power requirements 5V, 0V. 4U unsupported board. DD 1982. DDHB 8.411(84).
UN230155 UN23/155	Keyswitch Interface Unit. Interface for six, 8-bit input latches with debounce buffering to standard Z80 I/O bus. Latch input levels are TTL. Any or all of the latches may be set with wire links to accept a strobed input, as from keypad. Power requirements +5V, 0V. 4U unsupported board. DD 1982. DDHB 8.392(83).
UN230156 UN23/156	Rotary Encoder Interface Unit. Interfae for two 8-bit and foru 10-bit up/down counters to standard Z80 I/O bus. All counters are protected against overflow and underflow. Clock and up/down inputs are differential, RS422A standard. Power requirements +5V, 0V. 4U unsupported board. DD 1982.
UN230157 UN23/157	Prehear Logic Control Unit. Mounts the logic control circuits for the Studio Prehear. Power requirements ± 6 volts. 4U unsupported board. Parent equipment EP10/19. DD 1982.
UN230158 UN23S/158	Caption Generator Control Unit. This unit produces the addresses for the caption store card UN27/22. It receives data from the Timer Card UN23/690 ad to which count down numeral to display. Power requirements +5V, -12V. 4U unsupported card. Parent equipment GE8M/508. DD 1982.
UN230159 UN23/159	Camera Intertalk Selection Matrix. First developed for Outside Broadcast communications in television. The unit uses diode logic to enable up to 9 cameras to communicate together in any combination. The matrix is controlled externally by switched push buttons. Power requirements $\pm 16V$ 10mA. 100mm x 220mm Eurocard. Mounted on 0.6" width front panel for 3U high racking with 96 way Euro-connector. Supersedes UN23/97. SCPD 1983.
UN230160 UN23/160	Camera Talkback/Cue Logic Unit. First developed for Outside Broadcast communications in television. The unit provides the listening, calling and speaking logic for three cameras, Producer and Engineer. Cue director on air information is transferred to relay contacts by double wound relays which can interrupt either on or off conditions. Power requirements $\pm 16 V$, 25 mA. 100 mm x 220 mm Euro Card. Mounted on 0.6" width front

panel for 3 U high racking with 96 Way Euro connector. Supersedes UN23/77, UN23/96, UN8/25. SCPD 1983.

UN230161 UN23/161 Equaliser Logic Control Unit. Contains Serial/Parallel conversion and logic to control the equaliser and filter cards of the EQ3/38. Power requirements +5V, $\pm 15V$. 3U unsupported card. Parent equipment EQ3/38. DD 1983.

UN230162 UN23/162 Prehear Control Logic Unit. A logic circuit board which is fitted to the desk panels of the Continuity Equipment EP10/19, to give the facility that Fader Overpress has priority over Prehear select. Power requirements ± 6 volts 5mA. 132 x 52. Parent equipment PA6/85, PA6/87, PA6/88, PA6/89, PA6/90. DD 1983.

UN230163 UN23/163 Interface Control Logic Unit. Interfaces card between ZEUS system and COXBOX IV colour synthesizer. Provides 9 analogue control voltages ranging from - 9 V to 0V derived from digital information from the ZEUS. Power requirements + 12 V, -12 V, +5 V. 4U BMM unsupported P.C. board. SCPD 1983.

UN230164 UN23/164 Interface Unit. This unit interfaces between the mixer electronics and its control panel. The logic inputs are opto-isolated, and the tally outputs are driven by lamp drivers (100 mA each). Links are provided for setting certain operating conditions of the mixer. Power requirements +5 V. CH1/65J. Parent equipment MX5L/505. DD 1983. DDHB 8.435(85).

UN230165 UN23/165 Animation Store Control Unit. Memory controller for use on BBC1 Logo Generator - O.W.L. Provides memory addressing for both the sequential memory and the fixed memory. It also generates control signals, e.g. digital blanking. Power requirements estimated + 5 V at 2.3A, -5 V at 0.1A. 4U unsupported. Parent equipment GE6MS/565. DD 1984.

UN230166 UN23/166 Test Generator Control Unit. Provides an interface to remotely control both a Sound Test Generator type GE4/6C and a Video Test Generator type GE1/591. Also provides revertive information as to the selected waveform on each generator. Video test waveforms are selectable via a ROM. Power requirements +5 V 150 mA max. 4U unsupported card J width Front Panel. DD 1984.

UN230167 UN23/167 Miscellaneous Logic. Unit with two serial UARTS, watchdog time and drives to RS232 and RS422 external circuits. Part of Remote Control System for B.T. Earth Station to meet EBU requirements. Power requirements +5 V, +12 V, -12 V. Parent equipment EP1S/50. DD 1984.

UN230168 UN23/168 Rotary Encoder Interface Unit. The unit Buffers and conditions the output of optical incremental shaft encoders. It is a dual channel device. It is designed to drive the UN23/156, over balanced lines at some distance. Power requirements 5 V dc. 100 x 160 'Euro card' unsupported P.C.B. SCPD 1984.

UN230169 UN23/169 Remote Control Interface Unit. This 3U card interface up to 24 remote control switches to a GE7S/16, Digital Tone Generator used in GE1S/20, Stereo Tone Sequence Generator. Power requirements 5 V at 200 mA. 3U printed circuit board. Parent equipment GE1S/20. DD 1984.

UN230170 UN23S/170 Parallel Audio Data Transmitter. Parallel output card which decimates from 96 kHz sample rate to 32 kHz and sends alternate A and B channel samples to a NICAM ADC substitute card. It also provides zero samples for the transversal filters. Power requirements +5 V, 325 mA (500 mA max). BMM 4 U unsupported card. Parent equipment C01M/15. Chassis extender CH4/5. DD(3) 1985.

UN230171 UN23/171A,B A. System control unit for use in Local Radio VHF Drive Bay.
B. System control unit for use in Local Radio VHF Receiver Drive Bay.
Power requirements 24 V dc. CH1/64A. TCPD 1984.

UN230172 UN23L/172 VTR Control Unit. This unit controls a VTR and associated VCR via their parallel remote control inputs in response to signals received via an EBU serial control bus. It converts parallel machine status information to serial format. The unit forms part of the Record Bank Project. Power requirements 240 V ac. PN3/54. DD 1984. DDMI 7.540(86).

UN230173 UN23/173 Studio Reproducer Control Unit. Studio reproducer control unit for use in EP10/17 Radio Continuity Suites. Provides remote start facilities and indication for up to four reproducers, which plug into individual 56 way Varicon sockets on the case of the unit. These sockets also carry audio outputs from the reproducer to a 38 way Varicon plug. A bank of switches allows each channel to be individually configured to suit the machine in use on that channel. Indicator inputs from the reproducer are opto-isolated. Remote start is catered for by an isolated changeover relay contact. Each reproducer socket carries -12 V and -50 V through 680 Ω for machines that may require these for remote control. Power requirements -12 V, 400 mA; 50 V, 500 mA. Diecast Box 187.7 x 119.5 x 77.8. Parent equipment EP10/17. Radio Engineering Services 1985.

UN230174 UN23/174 PAL-PAL Transcoder Control Unit. Controls the function and status of a PAL-PAL Transcoder. Using CMOS Logic via 'Control' socket on C06/512 back panel. Selects Synchroniser, TBC, Auto Mode, ITS off, Data Reverse, and Test and their indication by placing suitable Logic level on 'Control' socket pins to Circuit Diagram SP32015.1A1. Power requirements +12 V dc from C06/512. CH1/64A. Parent equipment C06/512. SCPD 1985.

UN230175 UN23/175A&B Switching Matrix Control Unit. Microprocessor-controlled General Purpose 16-Channel Switching Matrix Controller. Expandable up to 128 channels, in steps of 8. Options include 'pre-select' and 'Take' (with timeout option) or 'Direct Take' channel selection, and pulsed or latched outputs.

The 'A' version has a switching regulator and is the Master.

The 'B' version has a linear regulator and is the Slave. Power requirements +24 V unreg. PCB - 3U Eurocard (220 mm x 100 mm). DD (1) 1982.

UN230176 UN23/176 Camera Communication Control Unit. Camera communications control logic module. Developed for Type 6 CMCs. Used in conjunction with UN3/78 and SE2/28 to provide engineering talk back, routing control and call-in logic for four engineers and two cameras. Mounted on 0.6" width panel for 3 U high racking. Power requirements ± 15 V dc. 100 mm x 220 mm Eurocard. Chassis extender CH4/7. SCPD 1985.

UN230177 UN23/177 Overlay Processor Control Unit. Provides selection of one of six colour axes plus a $\pm 30^\circ$ variation about the chosen axis for the UN26/599 overlay processor. All control signals are TTL level, BCD, carried on 20-way twisted pair cable. Powered from UN26/599. Power requirements 5 V dc. pcb 10 cm x 7 cm approx. Parent equipment UN26/599. DD(8) 1985.

UN230180 UN23/180 Serial Data Interface Unit. Unit electrically inserted into serial data lines to and from MIC VDU (TTL balanced drives) to extract data for and insert data from MIC output peripherals in EP1M/53. Power requirements 5 V dc. Unsupported card, with 56-way edge connector 4 U x 85 mm. Parent equipment: EP1M/53. Chassis extender CH4/5. DD 1985.

UN230181 UN23/181 CPU Control Interface Unit. Interface between the CPU control hardware and digital mixer hardware. This unit also buffers ECL signals from the GE7/509 Clock Generator. Power requirements +5 V; -5 V. Termination Panel PA20/38. Chassis: 6 U Eurocard Triple Depth. Parent equipment EP5M/524. DD(8) 1985.

UN230182 UN23/182 Bi-Directional Bus Control Unit. Provides directional on/off control of an 8 bit bus. Up to 8 such busses may be controlled simultaneously. Power requirements +5 V PCB: 4U Card 175 mm long. Chassis extender CH4/5. Parent equipment TE1S/56. D & ED (C) 1986.

UN230183 UN23S/183 Digital Audio Bus Control Unit. Operating on the Digital Audio Multiphase Bus D.D.T.M. 3.291 (84), this programmable unit uses phase 63 to communicate with other bus devices. In particular it is required to control the UN26S/86 TMS 320 processor. The unit also accepts information from, and pass commands/information to an external console such as the DK4S/45 Digital Mixer Console, by means of a serial link. Power requirements: 0 V and +5 V from the Multiphase Bus. Chassis: 4U BMM Unsupported Card with 'J' width Front Panel. Chassis extender: CH4/5. Parent equipment EP11SM/13. D & ED (A) 1986.

UN230184 UN23/184 Run Length Control Unit. Takes run length data from UN27S/28 and produces digital YUV data at 13.5 MHz pixel rate. Blanking to PAL system I standard can be applied so that pixels at the start and end of the line are at black

level and those in the transitional regions between blanked and unblanked have an appropriate weighting. Power requirements: +5 V, -5 V. 5 U unsupported PCB. Chassis extender: CH4/11. Parent equipment: GE6SM/571. D & ED (V) 1986.

UN230185 UN23/185 Bargraph Interface Unit. Fits Mixer Control Panels so as to interface a processor bus to two 100-element LED bargraph displays. Provides moving dot or moving bar type displays. Power requirements: +5 V. 3 U card with IDC plug and 64-way G06 Connectors. D & ED (V) 1986.

UN230186 UN23/186 Encoder and Interface Unit. Fits inside mixer control panels to provide up/down counters for three rotary encoders and drives for three 3 digit displays so that they can be used with a processor bus. Power requirements: +5 V. 3 U card with 40-way IDC plug and 64-way G06 connectors. D & ED (V) 1986.

UN230187 UN23/187 Switch and Lamp Interface Unit. Fits inside mixer control panels to convert switch closures to processor bus-compatible signals. Also drives indicator lamps from the processor bus. Provides 16 inputs and 16 outputs. Power requirements: +5 V. 3 U card with 50-way IDC plug and 64-way G06 connectors. D & ED (V) 1986.

UN230188 UN23/188 Bus Receiver and Decode Unit. This unit is used to interface a PA6/172, PA6/173, or PA6/174 Control Panel with Bus connection, to an EP1M/35B Panel Supervisor, within the EP5/521 Vision Effects System. Power requirements 24Vdc, 5 Vdc. PCB 100x160mm Eurocard. Parent equipment EP1M/35B. Replaces uncoded card, previously made by PID (Tel) to SP30510. D&ED (S) 1987.

UN230189 UN23/189 Lamp Latch Drive Unit. This unit is used to interface the Assign Indicator Lamp information, between a Pro-bel matrix controller and a PA6/172 or PA6/174 Control Panel, within the EP5/521 Video Effects System. Power requirements 24Vdc, 5Vdc. PCB 100x160mm Eurocard. Parent equipment EP1M/35B. Replaces uncoded card, previously made by PID (Tel) to SP 30942. D&ED (S) 1987.

UN230190 UN23/190 Digital Interface Unit. This unit uses a 40-way bus to provide a communication link between a digital vision mixer and a Pro-Bel video matrix, allowing digital control information to be received and transmitted. Power requirements +5V. 3U unsupported pcb. D&ED (V) 1987.

UN230191 UN23/191 VHF/FM System Control Unit. This unit provides control functions within the VHF/FM Transmitter Input Equipment bay, used on NICAM-fed VHF Radio transmitter stations. Power requirements +24Vdc, +5Vdc. CH1/64A. Chassis extender CH1A/43. Termination Panel PA20/58. TCPD 1987.

UN23/191A VHF/FM System Control Unit. Similar to the UN23/191, this unit includes a tone supervisory sub-unit, which may be configured to control the sending and/or receiving of pulsed 23kHz tone used in certain transmitter control applications. Power requirements +24Vdc, +5Vdc. CH1/64A.

Chassis extender CH1A/43. Termination Panel PA20/58. TCPD 1987.

UN230192 UN23/192 MkIII Telecine Interface Unit. This unit converts the parallel data signals from the CINETRACE computer to the appropriate analogue signals required to control the Cintel MkIII Telecine machine. Power requirements $\pm 12\text{V}$, $+5\text{V}$. 4U unsupported pcb with 'A' width front panel. Parent equipment PA1M/590. Chassis extender CH4/5. D&ED (V) 1987.

UN230537 UN23/537 Blanking Unit. Part of AM18L/525 and AM18L/526 Stabilising Amplifier. Removes syncs and burst from incoming signals. Power requirements $\pm 12\text{V}$. CH1/64J. DD 1978. DDMI 8.612(79).

UN230610 UN23/610A Interface Outgoing Logic Unit. Used in television studio routing systems to give isolated 10 Ω outputs from logic inputs. Twelve similar reed relay circuits on P.C.B., for mounting in I.S.E.P. chassis, with Hytip connector. Similar to UN23/610, but with R1-R12 reduced from 100 Ω to 10 Ω . Power requirements 7.5 V 150 mA (Max.). P.C.B. 114 x 254 mm. SCPD - TSS 1983.

UN230635 UN23L/635 CSO Logic Unit used in modification of EP5/512, Studio Mixer, for new CSO. Consists of 2 x UN23/630 new CSO logic units, modified 4U single termination panel and connectors. Equipment does not include 4U frame. DD 1976. DDMI 8.561.

UN230637 UN23/637 CSO Interface Logic Unit. This is used in the new CSO modifications to the Studio Mixer EP5/512. It acts as an interface unit between the new CSO mixer logic UN23L/635 and the 10 x 1 Michael Cox Electronics RGB switching matrix which requires -9 V to switch on a crosspoint. It also accepts inputs from the studio effects desk. These inputs are optically isolated from the internal logic. Half width 4U BMM chassis. CH1/64J. DD 1976. DDMI 8.562.

UN230638 UN23L/638 CSO Interface Logic Unit. This is used in the new CSO modifications to the Studio Mixer EP5/512. It acts as an interface unit between the new CSO mixer logic UN23L/635 and the 10 x 3 Michael Cox Electronics RGB switching matrix which requires -9V to switch on a crosspoint. It also accepts inputs from the studio effects desk. These inputs are optically isolated from the internal logic. The unit consists of 3 interface units UN23/637 and a 5V Power Supplier PS2/187D and a half width dummy panel. Fully wired 4U BMM unit requires 3 chassis widths (160.0mm) of space in a BMM panel frame PN3/54. DD 1976. DDMI 8.563.

UN23L/638A CSO Logic Unit. Simplified UN23L/638 used in TCL. Comprises two UN23/645 boards on modified PN3A/62 mounting. SCPD 1977.

UN230639 UN23/639 Programmable Sequence Logic Unit. The addition of this unit with the Programmable sequencer control unit UN3/570 to a GE1/591 signal generator enables either of two user programmed sequences to control the generator functions. Printed circuit board. DD 1976. DDMI 9.255(79).

UN230643 UN23/643	Lamp Drive Logic Unit for use in Television Studio Communications Panels. Has 10 circuits UN23/643 drive circuits and fits in 24 way Cinch edge connector. SCPD 1977.
UN230644 UN23/644	Sequencer Logic Unit to control the run up and run down times of a klystron amplifier. Part of EP1M/546. PN1/29J. TX 1977.
UN230645 UN23/645	Fault Processor Unit for klystron amplifier protection. Part of EP1M/546. PN1/29J. TX 1977.
UN230648 UN23/648	CSO Interface Unit. This unit is used with the New CSO modifications to the Studio Mixer EP5/512. It acts as an interface unit between the New CSO mixer logic UN23L/635 and a 10 x 1 Michael Cox Electronics RGB switching matrix which requires a TTL logic level to switch on a crosspoint. CH1/64J. DD 1977.
UN230649 UN23S/649	Waveform Generator Logic Unit. Contains logic to enable the GE6/540 to generate video 3-tone test signal and single phase colour bars and to switch off the generator output replacing it with a 75ohm termination. Connects to the GE6/540 by a 56-pole connector. Power requirements +5V. PCB 47mm x 173mm. DD 1977. DDMI 9.238 (79).
UN230652 UN23/652	Waveform Generator Logic Unit. Contains logic to enable the GE6/540 to generate 1T pulse and bar and composite chrominance pulse and bar. Power requirements +5V. PCB 47mm x 150mm. DD 1977. DDMI 9.241(79).
UN230653 UN23/653	Matrix Interface. This card accepts the parallel data from the CD3/534 Serial Data Decoder and provides outputs to control 25 cross points on a vision matrix. The card also has an input of mixed synchronising pulses and generates picture rate pulses which control the switching time when changing source cross point selections. This card together with the CD3/534 'Serial Data Decoder' and Mother card from the CD3L/531 'Matrix Remote D ecoder'. Power requirements +5V. 4U BMM unsupported card with PN1/29J. Front Panel. DD 1977. DDMI 8.597(79).
UN230654 UN23/654	Natlock Control Units (2 off) housed in the Natlock Control Panel PA6M/541. Power requirements 10-60mA depending on lamp display. DD 1977.
UN230655 UN23/655.	Control Panel Interface. This card accepts as its input up to 25 momentary action push buttons or four sets of BCD coded thumbwheel switches and generates six bit BCD coded data. For the first twelve inputs momentary override is provided. This card together with the CD2/520 Serial Data Coder and the MD2/511 form the CD2L/516 Matrix Remote Control Coder. Power requirements +5V. 3U standard ISEP. DD 1977. DDMI 8.603(79).
UN230656 UN23/656	Control Panel Interface. This card is the interface between various types of control panels for the selection of up to 25 sources and the Serial Data Coder CD2/519. It generates a 6 bit BCD output from 25 individual press

buttons or up to four sets of BCD coded thumbwheel switches together with a momentary interrupt for the first twelve selections. Latched outputs are provided to indicate the selection in individual form or to drive seven segment displays. Power requirements +5V. 4U BMM unsupported card with PN1/29J front panel. Parent Equipment CD2L/518. DD 1977. DDMI 8.599(79).

UN230657 UN23/657	Interpolation Control Logic Unit to control the digital multipliers, UN26/535 in the field store standards converter to produce temporal and spatial interpolation. Power requirements 5V d.c. 1.5A. CH1/75A. Parent equipment C06/510. DD 1978.
UN230658 UN23/658	Main Computer Interface. Microprocessor interface board for connecting Ceefax magazine source computer into the Ceefax microprocessor based CVI. This initial version for CAI computers. A second version may be produced to suite a DEC PDP-11 computer. Power requirements +5V. PN1/29J. RD 1978.
UN230659 UN23/659	Subtitle Interface. Microprocessor interface board for connecting input from subtitle computer into the Ceefax microprocessor based CVI. Power requirements +5V. PN1/29J. RD 1978.
UN230660 UN23/660	Output Timing Logic obtains data by direct memory access to microprocessor memory, serialises data and outputs it during field internal data lines. Function set by fusible link read only memories to operate according to Ceefax specification. Power requirements +5V. PN1/29J. RD 1978.
UN230662 UN23/662	Decision Logic Unit. The unit accepts information regarding the sync level, chrominance level and noise of two video signals and generates a decision command to video matrix SE3/504. Power requirements +12V, -12V. CH1/64A. Parent equipment SE1M/501. DD 1978.
UN23/662A	Decision Logic Unit. As UN23/662 but with revised panel indication. Same code pins as UN23/662. Power requirements +12V, -12V. DD 1980.
UN230664 UN23/664	Printer Control Logic. It is driven from a teletext decoder via a pulse processing unit UN2/545. It contains the operation of a matrix printer to provide hard copy of a teletext page. Power requirements +12V +5V -5V. 305mm x 127mm printed circuit board. DD 1978.
UN230665 UN23/665	Interface Logic Unit. Interface and latch board for MA2M/505 incorporating inter-field cut. BMM 4U unsupported printed circuit board. SCPD 1979.
UN230666 UN23/666	Logic Unit. Part of SE3L/505, This unit contains latches for control panel switches and waveform selection matrix. 4U 'J' size printed circuit board with panel. Parent equipment SE3L/505. DD 1979. DDMI 8.622(80).
UN230667 UN23/667	Address Control Card. The unit processes read and write address signals in the C06/510 field stores. Power

requirements $\pm 5V$. 4U unsupported card. Parent equipment C06/510. DD 1979.

UN230668 UN23/668 Data Control Card. The unit processes data in the C06/510 (standards converter) field store. Power requirements $\pm 5V$. 4U unsupported card. Parent equipment C06/510. DD 1979.

UN230669 UN23/669 S.I.S. System Logic Unit. This unit accepts alarm signals from two Sound-in-Syncs decoders and uses them to auto-select video and audio outputs. Manual override facilities are included and the unit provides a remote indication for an automatic fault reporter. Power requirements +24V 200mA, +5V 100mA. CH1/64A. TCPD 1979.

UN23/669A S.I.S. System Logic Unit. Electrically identical to UN23/669 but mounted in a modified CH1/12A chassis. Power requirements +24V 200mA, +5V 100mA. TCPD 1979.

UN230670 UN23/670 Display Control Logic 1. Part of Ceefax Subtitle Display Decoder CD3L/539. 4U unsupported card with 57 way edge connector. DD 1980. DDMI 7.484(81).

UN230671 UN23/671 Display Control Logic 2. Part of Ceefax Subtitle Display Decoder CD3L/539. 4U unsupported card with 57 way edge connector. DD 1980. DDMI 7.485(81).

UN230672 UN23/672 Display Control Logic 3. Part of Ceefax Subtitle Display Decoder CD3L/539. 4U unsupported card with 57 way edge connector. DD 1980. DDMI 7.486(81).

UN230673 UN23/673 Display Control Logic 4. Part of Ceefax Subtitle Display Decoder CD3L/539. 4U unsupported card with 57 way edge connector. DD 1980. DDMI 7.483(81).

UN230674 UN23/674 Clock Control Unit. This unit forms part of the Electronic Network Clock. It produces vertical and horizontal addresses synchronised with the mixed syncs and mixed blanking inputs. Gating signals and "numericals" are generated which, along with the clock hand signals from the GE6/544, are combined to produce the full clock face display. Power requirements +5V at 3A maximum. 4U BMM unsupported card with 57-way double-sided edge connector and PN1/29J panel. DD 1980.

UN230675 UN23/675 Disk Store Interface Unit. Interface unit between Floppy Disk Field Store, RD4M/508 and a suitable field store. It contains 1 line of video data storage for 8MHz sampling (512 bytes), which can be read or written into at video speeds, and under CPU control through a suitable Input/Output module (e.g. UN23/130). The memory addressing counters and control are also on-card. Power requirements 5V d.c. DD 1980.

UN230676 UN23S/676 AGC Control Unit. This unit forms part of the ME3M/502 Television Waveform Analyser. It works in conjunction with the AM18/527 AGC amplifier, and provides control signals to enable the AGC to work on either the peak white or the sync amplitude of the signal. Power requirements +5V, -5V. 4U unsupported card with 57-way edge connector. DD 1980. DDMI 9.305(83).

UN230677 UN23/677	DDB Z80 Bus, Extender Unit. A pair of these units are used on the BBC Z80 BUS to enable two separate 4 U crates to be connected together. Each unit can be switched to either 'Master' or 'Slave' mode depending on whether it is in the crate with or without the CPU. The electrical connection between them is via two 40-way IDC connectors on the front of the cards. BUS acquisition (i.e. DMA) is possible from either the 'Master' or 'Slave' crate. They can be used in systems needing many bus connected units, or for driving custom hardware from a development system (e.g. SDB-80E). Power requirements 5V (provided by the BUS). 4U unsupported card. DD 1980.
UN230678 UN23/678	4-Bit Video Storage Logic Unit. This unit differs from the UN23/642A in that: 1. Higher speed devices are used in certain areas. 2. The data is stored non-inverted. 3. The output shift registers are synchronously loaded. Power requirements +12V 700mA, +5V 350mA, -5V 35mA. 4U BMM unsupported card. Supersedes UN23/642A. DD 1980.
UN230679 UN23/679	Decoder Control Interface Unit. Decoder control interface, accepts control buses and partly decodes this to provide control functions for a picture store based on use of UN27/504 store boards. Part of the 12, 4, 4 electronic stills store system. Coding Positions: 1, 45, 49. Power requirements +5V, 900mA. 4U BMM Unsupported card. Parent equipment Electronic stills store, PALM/580. RD 1981.
UN230680 UN23/680	Programmable Sync 20-bit Buffer Unit. Programmable synchronous 20-bit wide data buffer. Provides 2 to 34 words delay as determined by control word. Designed for 12MHz operation. Coding Positions: 1, 45, 47. Power requirements +5V, 800mA. 4U BMM unsupported card. Parent equipment Electronic stills store, PALM/580. RD 1981.
UN230681 UN23/681	Delay Logic Unit. Used in television studio communications system to provide 12 delays, each with open collector outputs. Printed Circuit Board 114mm x 254mm, for mounting in ISEP Chassis. Power requirements +7.5v DC. 114mm x 254mm. SCPD 1981.
UN230682 UN23/682	Waveform Generator Logic Unit. Contains logic to enable the GE6/540 to generate a waveform identification signal, also contains part of the identification pulse generator. Connects to the GE6/540 by a 56-pole connector. Power requirements +5 V, 90 mA; +12 V, 5 μ A. 47mm x 173mm. Supersedes UN23/650. Parent equipment GE6/540 GE4M/561. DD 1981. DDHB 9.187(83).
UN230683 UN23/683	Digital Field Store Input Control. Generates TTL signals for the control of Y and UV field stores in the C06/511. Balanced clock is fed in and buffered to form the write clocks to the stores, the other store signals generated are multiplexed write addresses, write enables. The unit has inputs, sync error, non-sync out, either one of which, when at a logical 0, will inhibit the write enables and prevent video data being written into the stores. A switch on the unit has the same function. Manual freeze disable input

overrides the write inhibit capability. Power requirements +5 V, -5 V. CH1/79. Parent equipment C06/511. DD 1981.

- UN230684 UN23/684 Digital Field Store Output Control. Generates TTL waveforms for the Control of Y and UV digital field stores in the C06/511 Transcoder. Balanced clock is fed in and buffered to form the read clocks to the stores, the other store signals generated are ROW/ COLUMN B ADDRESS, MIXED BLANKING, READ ENABLE, WRITE and SELECT ADDRESS B, LOAD, RAS and CAS. A UV identification signal is generated and used to demultiplex the UV data signal. Power requirements +5V, -5V. CH1/79. Parent equipment C06/511. DD 1981.
- UN230685 UN23/685 Clock Regenerator Logic Unit. This unit accepts a teleprinter data input at levels up to 80-0-80V PP and converts this to a TTL level data output. A sync clock is also generated. This is TTL square timed such that the edge occurs midway along the data bit line. Baud rate is 110. Power requirements +5V -5V or -12V. PN1/29J Front Panel Assembly. BMM 4U Unsupported board. DD 1981.
- UN230686 UN23/686 DMA Control Unit. Controls the transfer of symbol data from the CPU memory into the scratch pad. It is given the address of a look-up table by the CPU and uses this to access all data for a particular symbol by DMA, on a line-by-line basis. Power requirements 5V. CH1/79. Parent equipment EP5M/517. DD 1982.
- UN230687 UN23/687 Timing Control Unit. Synchronises EAGLE's digital processing to TV standard pulses. Provides correctly timed intercept pulses to the CPU, and controls the DMA operation. Times the DAC for a synchronous and correctly blanked output. Power requirements 5V. CH1/79. Parent equipment EP5M/517. DD 1982.
- UN230688 UN23/688 Interface and Control Unit. The card interfaces and controls the other five cards in the filter section of the 68 Mbit/s digital transmission system. It configures itself to operate in either pre or post-filter modes. Power requirements +5V d.c. at approx. 2.3A. 4U J width, unsupported card, with 57-way double-sided edge connector. Parent equipment C09M/508 & C08M/510. DD 1982. DDHB 1.169(82).
- UN230689 UN23/689 Suppression Control Unit. Generates the control signals required to drive the FIS Combiner and Data Suppressor UN26/584. Requires an 8-bit parallel input of digital video at 4 times colour subcarrier clock rate. Power requirements +5V. 4U 'J' width front panel, single PCB. Parent equipment C09M/508. DD 1982.
- UN230690 UN23/690 Caption Generator Timer Unit. This unit has three independant timers. Each timer can be started or stopped locally or remotely. By counting sync pulses each timer counts down from 9 to zero in 1 minute steps. The numeral to be generated is sent to the relevant control card UN23/158. Power requirements +5V. 4U unsupported card. Parent equipment GE8M/508. DD 1982.

UN230691 UN23/691 10 Input Bailed Logic Unit. Unit provides bailed logic functions for 10 inputs and is expandable to any number of cards. Can be used to drive the cross points of the SE2/29. 10 x 2 Sound Programme Matrix. Power requirements ± 15 V 15 mA. 100 x 220 mm Eurocard with 3U high Front Panel 0.6 wide. SCPD 1983.

UN230692 UN23/692 Coder Comb Control Unit. Control board for 68 Mbit PAL coder comb filter. Together with 2 FL1S/539's it performs HF comb filtering. In addition it converts from a 4 x subcarrier sample rate to 2 x subcarrier. Power requirements +5 V, -5.2 V. 6U - board size. DD 1984.

UN230693 UN23/693 Decoder Comb Control Unit. Control board for 68 Mbit PAL decoder comb filter. Together with 2 FL1S/539's it performs HF comb filtering. In addition it converts from a 2 x subcarrier sample rate to 4 x subcarrier. Power requirements +5 V, -5.2 V. 6U board size. DD 1984.

UN230694 UN23/694 Telecine Scan Interface Unit. This unit forms part of the CINETRACE MARK II INTERFACE PANEL, PA1M/584. It forms an interface between the computer and the telecine on playback for Cinemascope broadcasts, converting parallel data to analogue and switching signals to control the telecine. Power requirements 15 V at 0.5 A; +12 V at 200 mA; -12 V at 200 mA. 4U unsupported printed board. DD 1984. DDMI 7.544(86).

UN230695 UN23S/695 Control Unit. Power requirements +5 V. 2 U unsupported printed board. Parent equipment GE4SM/575. DD 1985. MI V.1050(87).

UN230696 UN23S/696 I/O Interface Unit. Parallel and serial I/O board for use with 8085 microcomputer system - provides one serial V24 port and two parallel ports normally configured for use with papertape reader and punch. Power requirements +5 V, 1 A; ± 12 V, 500 mA. 4 U unsupported board with PN1/29J front panel. Chassis extender CH4/5. RD 1985. Superseded by UN23S/697. OBSOLESCE.

UN230697 UN23S/697 Port Control Unit. The port controller deals with V24 serial communication in the Datacast Transmission Equipment. It is capable of supporting both asynchronous and synchronous (HDLC) protocols. An on-board processor is used to buffer the data and implement the protocol required. This circuit board supersedes the I/O Interface Unit 23S/696. Power requirements 5 V, 2 A. 4 U unsupported printed board with PN1/29J front panel. Chassis extender CH4/5. Parent equipment PA15M/587. Supersedes UN23S/697. RD 1986.

UN250003 UN25/3 Telephone Modem. Demodulates three tone FSK data and produces six tone FSK instructions. For use at MIC for reception of AFR signals. CH1/64J. DD 1977.

UN260006 UN26/6 Bitstream Processing Unit. This unit is part of the receive terminal EP8/5 of the 2048kb/s 6 channel PCM sound multiplex equipment. It re-orders the incoming

bitstream words before decoding is carried out. CH1/6 4J. DD 1977.

UN260007 UN26/7 Input/Output Processor. The unit is intended for use as an input/output interface for microprocessor systems. It has a serial I/O port and 48 parallel I/O lines. On card options include port addresses and serial baud rate adjustments. Power requirements +5V 500mA, $\pm 12V$ 50mA. CH1/64J. 57-way D.S. edge connector. DD 1977.

UN260009 UN26/9 Interface Unit. Part of Apology Caption Generator. Convert a parallel data from ICE to line numbers suitable to drive caption store unit. Also derives caption initiating signal. Power requirements 5V d.c. CH1/64J. Parent equipment GE8M/1. DD 1978.

UN260010 UN26/10 D.C.P. Interface Data Processor. Reads data from Monitoring and Information Centre store and compiles it into a TM1M/1 family compatible message. Power requirements 5V d.c. CH1/64J. Parent equipment PA1M/101. DD 1978.

UN260011 UN26/11 M.C.P. Interface Data Processor. Reads data from Monitoring and Information Centre store and compiles into a message for connection to a main M.I.C. This message differs from the D.C.P. version in that it includes the time and data for each storage block. Power requirements 5V d.c. CH1/64J. Parent equipment PA1M/101. DD 1978.

UN260012 UN26/12 Keyboard Interface. Interface with Monitoring and Information Centre Keyboard and interprets special functions keys for VDU. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/5. DD 1978.

UN260013 UN26/13 Input/Output Interface. Interfaces Monitoring and Information Centre VDU to processor and interprets control characters. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/5. DD 1978.

UN260014 UN26/14 Arithmetic Unit. Calculates cursor address for Monitoring and Information Centre VDU's. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/5, UN12M/6. DD 1978.

UN260015 UN26/15 Receiver Tuning Drive. Converts signals in Monitoring and Information Centre switching system into serial data streams to drive remote tuning equipment controlling a Revox VHF receiver. Power requirements 5V d.c. Parent equipment EP15M/9, EP15M/10. DD 1978.

UN260016 UN26/16 8080 Microprocessor Unit. General purpose unit with 8080 microprocessor, bus drivers and seven interrupt lines. Unit contains no memory but has adjustable automatic wait cycle inserters for use with slow memories. Power requirements $\pm 12V$, 5V d.c. CH1/64J. DD 1978.

UN260017 UN26/17 Remote Display Driver. Converts signals in Monitoring and Information Centre switching system into serial data streams to drive remote display indicating positions of monitor switches. Power requirements +5V, -12V d.c.

Parent equipment EP15M/9, EP15M/10. DD 1978. DDMI 7.547(86).

UN260018 UN26/18 Input Interface Unit. Converts incoming data streams into parallel form, recognises control characters and controls Monitoring and Information Centre remote VDU. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/6. DD 1978.

UN260019 UN26/19 Input Interface Unit. Similar to UN26/2 but delivering data to blocks which are pre-set by internal switches. Power requirements 5V d.c. CH1/64J. Parent equipment PN1/32. DD 1978.

UN260020 UN26/20 CIP Central Processor. Sub-unit of PA6M/97, controls all display, muting, alarm generation and fault reporting functions of the CIP. Power requirements +5V. 4U printed circuit board. Equipment superseded OS2/51, UN23/71 and UN23/71 in part. Parent equipment PA6M/97. DD 1978.

UN26/20A Central Processor. similar to UN26/20 (Electrically compatible). Has minor wiring additions and engraved front panel. Power requirements +5V. CH1/79. Parent equipment EP1M/28-30. DD 1982.

UN260021 UN26/21 Colour Balance Processor. Provides logic to process pulses from an optional wheel to produce a control voltage for a colour balance. Power requirements +9V 100mA and -20V 10mA d.c. Printed circuit board 3U x 178mm ISEP with 40 way UNECL connector. DD 1978.

UN260022 UN26/22 8085 Microprocessor card with 265 bytes of RAM and up to 6k bytes to ROM. The card includes a timer, programmable from 200µs to 1.3 seconds, serial input and output ports, 3 x 8 bit and 5 x 1 bit buffered output ports, 1 x 8 bit and 3 x 1 bit bi-directional un-buffered ports all available on the ren edge connector. Two additional 8 bit, 1 x 4 bit and 5 x 1 bit ports are available for connecting to switches, lamps, test sockets etc. Power requirements 5V d.c. typically 720mA. 4U BMM unsupported card. DD 1978. Superseded by UN26/22A. OBSOLESCE.

UN26/22A 8085 Processing Unit. Partially equipped processor board intended as a sub-assembly for an overall unit. This board is an improved version of the UN26/22 with more RAMs, more ROMs, a choice of processor speed and bi-directional ports. Most software will be upward compatible but down compatability is unlikely. Power requirements 5V d.c. 4U 4U card. DD 1983.

UN260023 UN26/23 Data Processing Unit. Received balanced digital signals and other control signals, selects between two sources and gives out TTL-level signals corresponding to the selected source. Power requirements +12V at 35mA, +9V at 60mA. CDX 3U 'J' card (G06 connector). Parent equipment MN8M/1. DD 1978.

UN260024 UN26/24 Data Strobe Unit. This unit accepts 32 channels of data state, plus 5 different status signals and scans these such as to operate the selection of pages stored in the UN27/9 for display by the GE8/4. Power requirements 9V at 400mA.

CDX 3U 'J' size card (C06). Parent equipment MN8M/1. DD 1978.

UN260025 UN26/25 CIP-AFR Interface Unit. Provides optically-isolated interface between PA6M/97 CIP and TM1M/1 family of AFR's. Power requirements provided by TM1M/1. DD 1978.

UN260026 UN26/26 8085 Processor Unit. Microprocessor unit utilising UN26/22 general purpose board. This unit is tailored to producing a multistandard teleprinter receiver, accepting serial data at 50, 75 and 110 baud and storing characters in ASCII form in an external memory, switches to select various options are available on front panel. Power requirements 5V d.c. 4U unsupported card with edge connector. Parent equipment UN26/22. DD 1979.

UN260027 UN26S/27 8085 Processor Unit. Microprocessor unit utilising UN26/22 general purpose board. This unit tailored to accept data in ASCII serial form and 110 baud and store in an external memory. At a pre-set time or by manual command, a 'collated' output is given, again in serial 110 baud, with messages collated according to their source. Switches to select options, are hidden when unit is inserted in main frame. Power requirements 5V d.c. 4U unsupported card with edge connector. Parent equipment UN26/22. DD 1979.

UN260028 UN26S/28 MCP Output Interface Unit. Microprocessor unit utilising UN26/22 general purpose board. The unit scans a Monitoring and Information Centre (MIC) store composing serial data message for transfer to a master MIC. Power requirements 5V d.c. 4U unsupported card with edge connector. DD 1979. DDHB 8.417(84).

UN260029 UN26S/29 Data Input Interface Unit. Microprocessor unit utilising UN26/22 general purpose board. This unit supersedes a pair of units C01/8 and UN26/2. It receives MIC data in serial monitoring code, translates it to parallel form, locates the correct point for storage in the MIC store and processes the storage. Power requirements 5V d.c. 4U unsupported card with edge connector. Sub-units UN26/22. DD 1979.

UN260030 UN26S/30 Fault Processor. A composite unit to replace GE2/6, GE2/6A, UN23/1 and SC1/1 units in the TM1M/1 series of fault reporters. The unit contains a microprocessor, which scans fault inputs and takes appropriate action. It also contains a 7 day clock function. Power requirements 3 supplies of +5V at 150mA, 630mA and 190mA. Special base on a combination of 3 CH1/63's. Supersedes GE2/6, GE2/6A, UN23/31 and SC1/1. Parent equipment TM1M/1, TM1M/1A, TM1M/1B and TM1M/1C. DD 1979.

UN260031 UN26S/31 Z80 Processor. This unit is intended to be the Central Processing Unit of a microcomputer system. It incorporates a Z80 microprocessor, clock driver circuitry, bus buffers and a small amount of RAM and PROM. The on-card memory allows the unit to run a program in a self-contained manner principally for self-test and diagnostic purposes although it might comprise the entire memory in a

small system. Front panel displays and switches aid in the diagnostic function. Automatic reset circuitry is provided for use in unattended applications. Power requirements 5V at 1.5 A max. 4U BMM unsupported card with 57 way edge connector and PN1/29A front panel. DD 1979. DDHB 2.477(82). EDI 10372(1)MAR80.

UN260032 UN26/32

Vidiprint 8085 Processor. Conversion of serial data in 7.5 or 11 unit codes, at 50, 75 or 110 baud, to parallel data in ASCII format. Edits characters in a row to a maximum of 34, and controls storage of characters in external store in a form suitable for display via character generator unit. Power requirements +5V. Parent equipment GE8M/504. DD 1979.

UN260033 UN26/33

Processing Unit. General purpose card with self-contained power supplier based on an Intel 'UPI-41' processor. The card has provision for 3 V28 or RS-232-C or 80-0-80V inputs with 3kV isolation and 8 V28 or RS-232-C outputs. Switches are provided for input of 8 options and an external divider is available giving the option of two timers. Power requirements 250V, 3W approximately. Card 180mm x 110mm. Parent equipment C04/7. DD 1980.

UN260034 UN26/34

NICAM 3 Compressor. This unit accepts 14-bit samples from the NICAM 3 data bus and compresses them to 10 bits as required by the range control. Power requirements 5V. CH1/64J. Parent equipment CD2M/17. DD 1980.

UN260035 UN26/35

NICAM 3 Expander. This unit accepts 10-bit compressed samples from the NICAM 3 data bus and expands them to 14 bits as required by the range control. Power requirements 5V at 260mA. CH1/64J. Parent equipment CD3M /33. DD 1980.

UN260037 UN26S/37

6800 Processing Unit. The unit incorporates a Prolog PLS 868 Microprocessor Card which plugs into a socket mounted on the UN26/37. The UN26/37 contains an auto reset circuit. Power requirements +5V 1.2A maximum. 4U BMM unsupported card. Parent equipments EP10M/501, EP10M/502 and GE2M/14. DD 1980. DDMI 7.461(81).

UN260038 UN26/38

Z80 Processor. This unit is the Central Processor for the Floppy Disk Field Store, RD4M/508. It contains a UN26/39, Z80 (Main Board), and a customised Front Panel on a PN1/29A. Power requirements 5V 1A. 4U BMM unsupported card with PN1/29A front panel. Sub-unit UN26/39. DD 1980.

UN260039 UN26S/39

Z80 Processor (Main Board). This unit is intended to be the CPU of a microprocessor system. It incorporates a Z80 Microprocessor, clock driver circuitry, bus buffers and a small amount of RAM and PROM memory. This memory allows the unit to run a program in a self-contained manner principally for self-test and diagnostic purposes, but it may be the entire memory in a small system. Automatic reset circuitry is also provided for use in unattended applications. The unit does not include the PROM itself or the front panel. It is the main board for a separately

coded unit. Power requirements 5V 1A. 4U BMM unsupported card. DD 1980.

UN260040 UN26/40 Processing Unit. PCB with 8035 Processor and provision for up to 2K BYTES of ROM. Two serial inputs and one serial output are provided, all nominally RS 422 compatible, with parallel outputs suitable for driving one IEEE 488 (HPIB) Bus load. Power requirements 5V DC. Parent equipment C04/12, C04/12A, C04/13. DD 1980.

UN260041 UN26/41 Nicam 3 Signalling and Monitoring Compressor. This unit performs three functions:

- (a) It accepts 14-bit samples from the NICAM 3 data bus and compresses them to 10 bits.
- (b) It provides access to the eight signalling bits in the stereo bitstream.
- (c) It integrates the monitoring outputs of all the other cards and provides an output to the reserve facilities unit.

Power requirements 5V. CH1/64J. Parent equipment CD2M/17. DD 1980. DDMI 6.368(80). DDHB 6.212(83).

UN260042 UN26/42 Nicam 3 Signalling and Monitoring Expander. This unit performs three functions:

- (a) It accepts compressed samples from the NICAM 3 bitstream and expands them to 14 bits.
- (b) It provides parallel output of the eight signalling bits from the bitstream.
- (c) It integrates the monitoring outputs of all the other cards and provides an output to the reserve facilities unit.

Power requirements 5V. CH1/64J. Parent equipment CD3M/33. DD 1980. DDMI 6.374(80). 6.217(83).

UN260043 UN26S/43 Data Processing Unit. Based on UN26/22 board, designed to be used in MIC main store panel, accepts data from MIC Keyboard, scans MIC store and displays information on MIC upper VDU. Power requirements +5V 0.5 Amp. CH1/64A. Parent equipment inserted into PA1M/101 main store rack. DD 1981.

UN260044 UN26/44 Miscellaneous Pulse Processor. The unit comprises two Z80 CTC's for general timing applications, a buzzer circuit for 'end of line bell' indications in VDU's, and a monostable to allow correction of keyboard strobe pulse durations. It is compatible with Z80 bus structures as far as possible. Power requirements +5V DC at 500mA. CH1/64J (unsupported 4U card). Parent equipment UN12M/513. DD 1981.

UN260045 UN26/45 Parallel I/O Buffer. The unit comprises an 8255 parallel I/O device, and bi-directional TTL buffering for six 8-bit data busses to or from UN23/130 programmable I/O unit. It may be fitted, as in option, into a Zelda chassis PA6M/108 either in place of a UN23/130 or in addition to it. Power requirements +5V d.c. at 500mA. CH1/64J (unsupported 4U card). Parent equipment PA6M/108 (OPTIONAL). DD 1982. DDHB 2.484(83).

UN26/45A	Keyboard Interface. The unit comprises an 8255 parallel I/O device and bi-directional TTL buffering for six 8-bit data busses to or from a UN23/130 parallel I/O unit. This unit is designed for use in the MIC VDU (UN12M/513). Power requirements +5V DC at 500mA. CH1/64J (4U card). Parent equipment UN2M/513. DD 1982.
UN260046 UN26S/46	Microcomputer Unit. The Unit is a self-contained microcomputer based on the Motorola MC 6803. The card provides 20 input lines, 22 output lines, serial RS 422 input and output (1200 BAUD), timer function, 3 interrupt inputs, one analogue output and one generated waveform output from the Processor. It was designed for use in a range of Time Code Units including Editrace, RD4L/510. Power requirements +5V, +12V, -12V. 4U BMM unsupported card. Parent equipment RD4L/510. DD 1981. DDMI 7.496(82). DDHB 7.301(82).
UN260047 UN26/47	BBC Z80 Bus Extender Sub-unit. This unit forms half of the bus extension system. It connects directly onto the microprocessor bus and buffers all signals between the mother board and 2 40-way IDC connectors accessible from the front. It can be designated as the 'master' or 'slave' unit by 'handbag' selection depending whether it shares the bus with a CPU or not. Handbags also select whether the 5V and $\pm 12V$ are connected to the IDC connectors. Power requirements 5V (provided by the bus). 4U unsupported card. Parent equipment UN23/138. DD 1981.
UN260048 UN26/48	Sample Silence Processing Unit. This unit detects and processes samples for a complete NICAM 3 dual channel frame (i.e. 3ms). It produces an output signal known as the 'pause control signal' when all the samples have been $\leq -48dB$ relative to peak programme, for 3ms. Power requirements +5V at 250mA. CH1/64J. Parent equipment CD2M/23 Options 1 to 4 NICAM 3 Insertion Equipment. DD 1981. DDHB 6.220(83).
UN260049 UN26/49	NICAM 3 Interpolator. Used in NICAM 3 Decoder to identify parity errors and correct the samples by first-order interpolation. Also provides error rate display and outputs. Power requirements 5V at 500mA. CH1/64J. Supersedes UN26/36. Parent equipment CD3M/33. DD 1981. DDMI 6.387(81). DDHB 6.216(83).
UN260050 UN26/50	Z80 Processor. This unit is the central processor for the TV Waveform Analyser (ME3M/502) and is based on a UN26/39, Z80 (main board). Power requirements 5 volts $\leq 1A$. 4U BMM Unsupported Card. Parent equipment ME3M/502. Sub-units UN26/39. DD 1981.
UN260052 UN26S/52	8085 Processor. Microprocessor based data filter to sort serial input data (ASCII) at 110 baud, initiate store and print commands. Facilities: 1. To program filter, storing information in separate 8K RAM chassis. 2. To read out 8K RAM contents as required.

3. Provide 110 Baud serial output data (ASCII).

Power requirements 5V. BMM A width unit with unsupported card (UN26/22) and LED indicator card on front panel. Sub-units UN26/22. DD 1982.

UN260053 UN26S/53 Monitor Unit Control Interface. Codes switch settings into 0-5V digital o/p's to feed UN26/51 monitor unit. 2 x 10 way switch (fine and course Vol.) → PROM (add and code convert). Balance pot → A/D convert → Digital o/p and Centre Balance. LED illum. LS cut, Ø rev. latch and lamp drive, 1 of 7 momentary switch latch, lamp drive, Binary o/p. Power requirements ±12.5V. 3U BMM unsupported card. DD 1982. DDMI 3.724(83).

UN260054 UN26/54 Slave Processor Unit. The Slave Processor board is a constituent part of the CINETRACE system. Data is received from the main transmission computer and the machine control functions are up-dated every frame. Power requirements ±12V, +5V. 3U unsupported card. Parent equipment EP1M/550. DD 1982.

UN260055 UN26/55A Data Interface Unit. Interface TTL to RS232 and vice versa printer outputs and data input on UN26/52. Power requirements +12, -12, +5, +6V - battery. 4U unsupported board. Parent equipment EP1P/33. DD 1983.

UN260056 UN26/56 Stereo Signal Processing Unit. This unit contains the coarse and fine gain control switching circuitry for the Loudspeaker Monitor Control MN4M/8. Power requirements ±12 V. 3U BMM unsupported. Parent equipment MN4M/8. DD 1984. DDMI 3.726(83).

UN260057 UN26S/57 'ADZE' Z80 Processor Unit. The front half of the card contains a Z80A-based microcomputer, including Clock Generator, Watchdog Timer, and sockets for up to 8k ROM and 4k RAM. A 36-pin connector at the front allows various displays and switches to be connected. The rear half of the card contains a printed and drilled grid suitable for breadboarding an interface between the microcomputer and the edge connector, using wire-wrap or soldered wire connections. Power requirements +5V. Unsupported 4U card. DD 1982.

UN260058 UN26/58 ZEUS Arithmetic Processing Unit. I/O mapped card residing behind the A width front panel of the UN26/31 CPU. It provides fixed and floating point arithmetic and floating point trigonometric operations. Short 4U unsupported card. Parent equipment Control Panel Supervisor EP1M/35. DD 1983. DDMI 8.417(84).

UN260060 UN26/60 Zeus/Timecode Interface Unit. Interfaces CD3/39 Timecode Reader to Zeus Z80 Microprocessor bus to enable C.P.U to read Timecode. Used in GE6M/561 Breakfast Analogue Time Generator. Power requirements +5 V 250 mA max. 4U unsupported card with front panel and 57 way double-sided connector. Parent equipment GE6M/561. DD 1983.

UN260061 UN26S/61 Z80A Microprocessor Unit. Z80A based microprocessor unit containing battery backed real time clock, 4 channel counter/timer, 16 bit parallel I/O controller and up to 8 Kbytes of ROM/RAM. It has a fully buffered bus and may form part of a larger system or may be used as a "stand alone" controller. Power requirements +5 V. CH1/64A. Parent equipment GE8L/511. C&ES 1983.

UN260062 UN26/62 Dual Z80 CTC. Zeus compatible CTC card. Containing two Z80 CTC's with all 8 clock/trigger inputs brought to the edge connector. Port addresses selected by wire-wrap unsupported card with front panel. Parent equipment EP1M/41. DD 1984. DDHB 8.416(84).

UN260063 UN26/63 Binary Code Interface Unit. To switch the oscillator OS3/510 off when identical channels are selected on both generator and receiver. Power requirements +5 V d.c., -12 V d.c. 145 mm x 70 mm single sided P.C.B. Parent equipment EP14M/507. DD 1984.

UN260064 UN26/64 Multiplier Unit. Used in the BBC1 Logo Generator - O.W.L. The digital key signals from the decoder are used to modulate the foreground and background digital video signals from the fixed memory. Power requirements estimated +5 V at 2.2A -5 V at 0.1A. 4U unsupported. Parent equipment GE6MS/565. DD 1984.

UN260065 UN26/65 Animation Combiner. Used in the BBC1 Logo Generator - O.W.L. The two digital video outputs from the Multiplier unit are mixed, rounded and blanked. Power requirements estimated +5 V at 1.5 A. 4U unsupported. Parent equipment GE6MS/565. DD 1984.

UN260066 UN26S/66 Manual Control Panel Processor. Processers data from CO10/10 to drive CO4/22, CO4/21 cards and enable manual operation from a keypad and display. Power requirements 5V. 4U card 180 mm long. DD 1984.

UN260067 UN26M/67 O.S. Selection Processing Unit. This module can hold up to 4 euro cards 100 x 160 mm, it comprises a motherboard based on Mostek bus SDB-80, reset watchdog circuit and a 5 V regulator. The motherboard contains a ± 12 V dc-dc converter. The euro cards contained are the SBC, Display/Keyboard Interface OS Button In/Inhibit Port. Power requirements 8 V dc at 2.5 A 5 A max. SCPD, RBSS 1984.

UN260068 UN26S/68 'ADZE' Z80 Processing Unit. This card contains a Z80A - based microcomputer similar to the UN26/57, but supporting more memory (up to 48K ROM, 32K RAM) and providing more control signals on the interface connector to the wire-wrap grid area. Power requirements +5 V. Unsupported 4U Card. Supersedes UN26/57. DD 1984. DDMI 6.427(85). DDHB 6.267(85).

UN260069 UN26S/69 Microcomputer Unit. The unit is an alternative to the UN26/46 microcomputer unit but provides some enhanced facilities. The unit is a self-contained microcomputer based on the Motorola MC6803. The card provides 20 input

line, 22 output line, serial RS423 input and output (switch selectable baud rates), timer function, 3 interrupt inputs, 1 analogue output, and 1 generated waveform output from the processor. 32 kbytes of EPROM space is provided. Power requirements +5 V, +12 V, -12 V. 4U BMM unsupported card. Parent equipment RD4S/21. DD 1984. DDMI 7.529(85). DDHB 7.327(84).

UN260070 UN26L/70

Data Insertion Unit. This unit inserts VTR status information into video and incorporates a video and audio switcher. These facilities are controlled by an EBU serial control input. It forms part of the Record Bank Project. Power requirements 240 V ac. 4 U C-width BMM Panel. Sub-units UN26S/71, UN26/600, PS2/296. DD(7) 1985. MI 7.539(86).

UN26M/70

Data Insertion Unit. This unit inserts VTR status information into video and incorporates a video and audio switcher. These facilities are controlled by an EBU serial control input. It forms part of the Record Bank Project. Power requirements mains 240 V. PN3/54. DD 1984.

UN260071 UN26S/71

'BRECON' Microcomputer Unit. General-Purpose interface between serial 'Brecon' data lines and parallel-controlled machines, control panels, etc. Uses processor-driven synchronous communications interface device to handle 'Brecon' protocols, and provides 32 parallel input and 32 parallel output lines together with 8-bit DAC. Power requirements +5 V dc $\pm$ 12 V dc. 4U J-Width 57-way double sided connector. DD 1984. HB 7.335(86). MI 7.534(85).

UN260072 UN26S/72

6502 Microprocessor Unit. This unit is a single board 6502 computer with 2 k of RAM, 16 k of ROM and a 6522 VIA peripheral device. It has two 8 bit ports and two 8 bit timers. Applications may be developed using a BBC microcomputer. It may use CMOS devices. Power requirements 5 V at 1 A. DD 1984.

UN260073 UN26/73

Caption Processing Unit. Provides the captions edge effects for digital mixing. Receives 8-bit key signal and generates a key and infill to include the following edge effects: Plain; All round edge; Drop Shadow; Outline. 6 U triple depth Eurocard. Parent equipment EP5M/524. Termination Panel: PA20/40. DD(8) 1985.

UN260074 UN26/74

Key Processing Unit. 2 channel key processor for digital mixing. Provides conventional variable hardness clipping on 12-bit key signals. 6 U triple depth Eurocard. Termination Panel: PA20/42. Parent equipment EP5M/524. DD(8) 1985.

UN260075 UN26/75

Key Masker. Provides 2 channel key masking facilities. These include the generation of border keys. 6 U triple depth Eurocard. Termination Panel: PA20/43. Parent equipment EP5M/524. DD(8) 1985.

UN260076 UN26/76

Stabilising Unit. Digital equivalent of a Stab. Amp. Provides clipping and blanking to a full RGB signal. Also generates a timed Mixed Syncs. 6 U triple depth eurocard.

Termination Panel: PA20/45. Parent equipment EP5M/524. DD(8) 1985.

UN260077 UN26/77 Footage Counter Interface Unit. Part of the Cinemascope Data Preparation Equipment EP1S/553. It is mounted in the Steenbeck film editing bench and is powered from supplies within the bench. pcb 224 x 30 mm. Parent equipment EP1S/553. DD (7) 1985.

UN260078 UN26S/78 MSS Terminal Unit. Unit based on UN26/22A to convert the MIC apparatus into an MSS terminal. It allows messages to the MSS to be compiled on the MIC VDU and messages from the MSS to be printed and displayed on the MIC VDU. Power requirements 5 V dc. 4 U unsupported board with 'A' width front panel. Supersedes GE7/3. Parent equipment EP1M/53. Sub-units UN26/22A. Chassis extender CH4/5. DD (2) 1985. Superseded by UN26S/90. OBSOLESCE.

UN260079 UN26S/79 Directory Controller. Assembly based on UN26/22A to access revised MIC Directory. Up to seven peripherals may request captions for faults from 16 books of 255 captions each. Serial data from the MIC VDU and the MSS is also decoded and distributed to the MIC peripherals. Power requirements 5 V dc. 4 U unsupported board with 'A' width front panel. Supersedes UN3/49, UN23/55. Parent equipment EP1M/53. Sub-units UN26/22A. Chassis extender CH4/5. DD (2) 1985. Superseded by UN26S/90. OBSOLESCE.

UN260080 UN26S/80 Data Dissemination Unit. Assembly based on UN26/22A to compile messages to be sent to Transmitter Maintenance Teams from the MIC. The unit compiles a serial data stream containing the fault state of all sites in the MIC store which is interrupted by change-of-state messages or VDU/MSS text as they are received. Power requirements 5 V dc. 4 U unsupported board with 'A' width front panel. Parent equipment EP1M/53. Sub-units UN26/22A. Chassis extender CH4/5. DD (2) 1985. Superseded by UN26S/90. OBSOLESCE.

UN260081 UN26S/81 MIC Printer Driver. Assembly based on UN26/22A to compile messages for the MIC printer. These messages are either from changes of state on sites in the MIC area, or text compiled by the operator on the VDU. Power requirements 5 V dc. 4 U unsupported board with 'A' width front panel. Supersedes PA1M/100, UN3/48, CO1/9, UN26/3. Parent equipment EP1M/53. Sub-units UN26/22A. Chassis extender CH4/5. DD(1) 1985. Superseded by UN26S/90. OBSOLESCE.

UN260082 UN26S/82 VDU Drive Unit. Unit based on UN26/22A to compile messages from the MIC lower VDU automatically and to respond to requests from the MIC operator, via the VDU, for data to be displayed on the upper VDU. Power requirements 5 V dc. 4 U unsupported board with 'A' width front panel. Supersedes UN23/52, UN23/51, CO3/16, UN26/4, UN23/49, SE1/7, UN3/50, UN23/54, UN23/50, UN3/51. Parent equipment EP1M/53. Chassis extender CH4/5. DD(2) 1985. Superseded by UN26S/90. OBSOLESCE.

UN260083 UN26S/83 Manual Entry and Safety Unit. Unit based on UN26/22A to insert captions into the MIC store and to scan the store

seeking overdue 'Man on Site'. Power requirements 5 V dc. 4 U unsupported board with 'A' width front panel. Supersedes UN26/8, UN23/56, UN23/86. Parent equipment EPlM/53. Sub-units UN26/22A. Chassis extender CH4/5. DD (2) 1985. Superseded by UN26S/90. OBSOLESCE.

UN260084 UN26/84	ADC Buffer Unit. To interface between two CO8/512 ADCs and the Digital Video internal data standard. Power requirements +5 V, -5 V. BBC Chassis: 4 U unsupported PCB. Chassis Extender CH4/5. DD(8) 1986.
UN260085 UN26/85	DAC Buffer Unit. To interface between the Digital Video internal data standard and the CO9/509 DAC. It also offers Power requirements +5 V, -5 V. BBC Chassis: 4U unsupported PCB. Chassis Extender: CH4/5. DD(8) 1986.
UN260086 UN26S/86	TMS 320 Audio Processing Unit. Digital Signal Processing card using the TMS 32010 microprocessor, designed to perform mixing, fading, limiting etc., on up to 7 high-quality digital audio signals. It interfaces to the digital audio multi-phase bus. Power requirements +5 V at 1.6 A typ., 2.4 A max. 4U Unsupported PCB with PN1/29J front panel. Chassis Extender: CH4/5. DD(3) 1986.
UN260087 UN26S/87	Z80 Processing Unit. Used for the control of digital video equipment. Power requirements +5 V, ± 12 V. PCB: 6 U triple depth. D & ED (V) 1986. HB V.1038(87).
UN260088 UN26S/88	8085 Processing Unit. This unit is based upon the UN26/22A 8085 Processing Unit. Power requirements: +5 V dc. PCB: 4U Unsupported. Chassis extender: CH4/5. Parent equipment PA6M/169. Sub units UN26S/52 A or B. D & ED (C) 1986.
UN260089 UN26/89	Parallel I/O Buffer Unit. Designed for use with CO4/6 Input/Output Unit to provide 2 RS422 ports with handshaking and interrupts. Also provides interrupts from mixed syncs. Power requirements: +5 V, 500 mA max. PCB: 4U Unsupported Board. Chassis Extender CH4/5. Parent equipments EPlSM/56. D & ED (V) 1986.
UN260090 UN26S/90	Universal Processing Unit. A universal replacement for units UN26S/78-83. Based on the UN26/22B card. Power requirements +5 V. PCB: 4U Unsupported Card. Chassis extender CH4/5. Sub units: UN26/22B. Supersedes UN26S/78-83. D & ED (C) 1986.
UN260091 UN26/91	Interface Buffer Unit. Fits inside mixer control panels to receive balanced data, address and control signals and buffer them for use by other I/O cards in a rack. Power requirements: +5 V. 3 U card with 40 way IDC plug and 64-way G06 connector. D & ED (V) 1986.
UN260092 UN26S/92	ES Bus Processing Unit. Single 3 U microprocessor system to control broadcasting equipment using EBU serial remote control standard. A maximum of 128 k of combined ROM and RAM memory is available. Communication is via 4 serial links with user selectable baud rates. External I/O expansion is possible. The unit is powered by a single

+5 V supply. Power requirements: 3 U unsupported Euro-card 280 mm deep. D & ED 1986.

UN260093 UN26/93

Tristran Interface. Buffers the Zeus bus of several COLIOS/11 (Tristran) units to enable them to be connected to a DEC Micro/PDP11 computer. Power requirements 5 V. BBC chassis 4 U unsupported pcb with PN1/29J front panel. Chassis extender CH4/5. Parent equipment CO4SM/31. D & ED (C) 1986.

UN260094 UN26/94

Clock Buffer Unit. Buffer for use with Radio Data. Buffers and splits the output of a 60 kHz Standard Frequency Receiver (RC1/23) to give eight TTL compatible outputs. Power requirements +12 V d.c. Termination Panel PA20/49. Chassis CH1/65A. Chassis extender CH1A/45. TCPD 1986.

UN26/94A

Clock Buffer Unit. As UN26/94 but front panel modified to exclude 2 fixing holes. Power requirements +12Vdc. Chassis code CH1/65A. Chassis extender CH1A/45. TCPD 1987.

UN260095 UN26/95

Error Feedback Unit. This unit forms part of the Digital Vision Mixer system. It converts the 12-bit internal standard to 9 bits using error feedbacks, on both luminance and chrominance. Power requirements +5V. 6U Eurocard, 280mm deep. Dedicated termination panel PA20/52. D&ED (V) 1987.

UN260096 UN26/96

This unit forms part of the Digital Stereo Sound with Terrestrial Television Coder. The output buffer takes 728kbit/sec data and clock signals from the coder processor board at TTL levels, and outputs them at a signal level of 1.0V peak-to-peak into 75Ω. The data and clock signals are available via BNC sockets on the front panel, for sending to other equipment (eg. Modulator Unit MD4S/7). These signals are also available via monitor points located on the front panel. Power requirements +5V, +12V. 4U unsupported p.c.b with PN1/29J front panel. Chassis extender CH4/5. Parent equipment CD2SM/39. RD 1987.

UN260097 UN26/97

Error Checker Unit. This is an optional unit designed for use with the Digital Stereo Sound with Terrestrial Television Demodulator equipment. The unit does not work on programme; instead, it requires a fixed, pseudo-random-binary sequence to be transmitted on the digital stereo signal. The error checker takes clock and data from the demodulator, and checks for bit-errors in the received data sequence. It outputs an error pulse for each incorrect bit. These pulses and data-clock can be used to drive a frequency-counter which will display the bit-error-ratio. The error checker uses a self-synchronising descrambler and resetting circuit, allowing error rates of up to 100% to be displayed. Power requirements +12V (50mA). CH1/64A. Parent equipment DM4M/8. Chassis extender CH1A/43. RD 1987.

UN260098 UN26/98

Events Output Unit. This forms part of the VANTAGE Edit Controller PALM/589. Its function is to provide an interface to the Events Controller, so that up to 30

external events may be controlled. Power requirements 5V 200mA. 6U Eurocard. Parent equipment PA1M/589. D&ED (C) 1987.

UN260099 UN26/99

6 Channel NICAM II Processing Unit (1). This board holds some of the digital processing logic needed for the NICAM Mark II 6 channel decoder, CD3M/58. It uses the incoming HDB3 2048kbit/sec signal to generate system clocks and provides, via an on-board Z80A CPU, switch inputs and display outputs associated with the error rate of the incoming signal. It also provides the NICAM signalling-bits in parallel form. Power requirements $\pm 18V$, +5V. 6U triple depth Eurocard (280mm). Parent equipment CD3M/58. Chassis extender CH4/13. D&ED (A) 1987.

UN260100 UN26/100

6 Channel NICAM II Processing Unit (2). This board holds the majority of the digital processing logic needed for the NICAM Mark II 6 channel decoder, CD3M/58. It produces 6 duplicated digital audio streams (in the Philips inter-chip CD format) for the NICAM II DAC, C09/13, and provides open collector alarm and warning indications. Power requirements +5V. 6U triple depth Eurocard (280mm). Parent equipment CD3M/58. Chassis extender CH4/13. D&ED (A) 1987.

UN260517 UN26/517

Video Processing Unit, used in MN6/510. Contains video processing scanning and power supply circuits. Special chassis. DD 1975. DDMI 9.196.

UN260523 UN26/523

6 Colour Overlay Effects Processing Unit. This is based on the UN26/519 but offers additional facilities in terms of key axis selection. Keying and key colour suppression is available by remote selection on any of the three primary colours or their complements. The unit is mechanically and electrically compatible with the UN26/519 as it is anticipated that these relatively expensive units will replace them for the duration of complex CSO productions only. CH1/64A same coding slots as UN26/519. DD 1976. DDMI 8.557. DDHB 8.342. EDI 10286. Superseded by UN26/551. OBSOLESCE.

UN26/523A

6 Colour Overlay Processing Unit. As UN26/523 except that the Auxiliary key output is a high quality Luminance signal that conforms to PAL system I. Power requirements 240V a.c. CH1/64A. DD 1982.

UN260526 UN26/526

RGB Processing Unit. Used in Tarif Two (EP6L/509) accepts blanked RGB or unblanked RGB video signals from a Cintel telecine channel and produces blanked video for use in Tarif, (blanking non-standard). Includes green to all switching facility and variable black crust/stretch. CH1/64J. DD 1976. DDMI 7.395(77).

UN260529 UN26/529

RGB Processing Unit. Used in Tarif Two (EP6L/509) incorporates RGB lift adders and variable gain amplifiers. CH1/64J. DD 1977. DDMI 7.396(77).

UN260530 UN26/530

RGB Processing Unit. Used in Tarif Two (EP6L/509) incorporates variable desaturation, and monochrome

switching circuits, also video clipping and blanking amplifiers. CH1/64J. DD 1977. DDMI 7.397(77).

- UN260531 UN26L/531 Colour Synthesizer Processing Unit. This unit is a two level synthesizer and will process a monochrome input signal to produce two separate signals corresponding to the light and dark areas present in the incoming video. These two signals are further processed to produce RGB colouring signals with independent control of background and high light colour. Mains powered CH1/64B. DD 1977.
- UN260532 UN26/532 Edit Control Processing Unit. Accepts control switch inputs and processes them. Used in EM1M/548. 5U CDX unsupported card. DD 1977.
- UN260533 UN26/533 Playback Control Processing Unit. Accepts various control switch inputs and processes them. Used in E PlM/547. 5U CDX unsupported card. DD 1977.
- UN260534 UN26/534 Video Processing Unit. Erases an area of a television picture and inserts a caption within this area. The erasure and caption information is supplied to the unit in digital form. Synchronising pulses are derived from the incoming video signal and supplied to the caption generating equipment. The output signal is relay-switched to either the video with inserted caption or a clean feed. Requires 240V a.c. Printed circuit board 250mm x 220mm with front and rear panel attached. Normally fitted into a EP1M/549. DD 1977.
- UN260535 UN26/535 Digital Multiplier Processing Unit which performs the multiplication of two 8-bit digital words to produce a 12 bit rounded output word at a rate of 16MWd/sec. The multiplicand may be varied at 16MWd/sec, the multiplier at line rate. The unit will also add a 12 bit word to the product. All arithmetic is magnitude + sign. Power requirements 5V d.c. 3.5A. BMM 4U unsupported PCB card. Parent equipment C06/510. DD 1978.
- UN260536 UN26/536 Timecode Arithmetic Unit. Accepts two parallel BCD times A and B calculates A + or -B with a B as an offset time, allowing for the 24 hour clock, or calculates an arithmetic difference A-B with the result positive or negative. Power requirements +3V to +15V 10mA. 4U BMM unsupported card. Supersedes UN1/682, UN1/729. DD 1978. DDMI 7.407(78). DDHB 7.241(78).
- UN260538 UN26/538 8085 Central Processing Unit. Basic 8085 microprocessor module for use in bus wired system together with general purpose 32K bit RAM and EPROM memory boards and suitable designed input output interface units to form a complete microprocessor system. Power requirements +5V. PN1/29J. RD 1978.
- UN260539 UN26/539 Analogue Processor. Forms part of the Teletext Decoding Margin Meter ME15M/502. It's main function is as an A.G.C. Amplifier and clamp for the teletext signal. Power requirements +12V, -12V, +5V. CH1/65A. Equipment superseded UN26/527. DD 1978. DDMI 9.235(78).

UN260540 UN26/540 Digital Processor. Forms the major part of the Teletext Decoding Margin Meter ME15M/502. It contains all the logic and processing circuitry to measure the decoding margin. Power requirements +12V, -12V, +5V. CH1 /65A. Equipment superseded UN26/528. DD 1978. DDMI 9.236(79).

UN260541 UN26/541 Digital Multiplier Processing Unit to perform the multiplication of two 8-bit numbers to produce a 12-bit rounded output word at a rate in excess of 16MWd/sec. Its function is similar to the UN26/535 but contains circuits to store two coefficients (multipliers) for separate "gain" control of luminance and chrominance input samples. Power requirements 5V at 3.5A d.c. BMM 4U unsupported PCB card. Parent equipment C06/510. DD 1978.

UN260542 UN26/542 Digital Adder Processing Unit. This digital adder can take in two sets of two 12-bit words and provide either two rounded eight-bit sums or one sum of all four inputs, according to control logic inputs. The adder incorporates a clipper to prevent exceeding peak white or going below black level. Power requirements 5V at 3.5 A d.c., -5V at 300mA d.c. Parent equipment C06/510. DD 1978.

UN260543 UN26/543 Adder to add syncs and burst to video signal from blanking unit UN26/537. Power requirements $\pm 12V$. C H1/64J. Parent equipment AM18L/525, AM18L/526. DD 1978. DDMI 8.606(79).

UN260544 UN26/544 Video Output Processing Unit. Contains a 5.5MHz L.P.F. and a variable equaliser to compensate for the high frequency sin X/X loss caused by sample and hold circuits operating at or above twice subcarrier frequency. Provides one video output of 1V into 75 Ω . Power requirements +12V, -12V. CH1/64A. Equipment supersedes UN 26/520. RD 1978.

UN260545 UN26/545 Pulse and Data Processor. This unit forms an interface between a teletext decoder and the printer control logic UN23/664. Power requirements +5V. 107mm x 38mm printed circuit board. DD 1978.

UN260546 UN26/546 Processing Unit. Part of SE3L/505. Accepts signals from GE1/594 and an external key signal. Incorporates switches and waveform selectors to generate output waveform. Two 75 Ω blanked key waveforms are output. 4U 'J' width printed circuit board with panel- Parent equipment SE3L/505. DD 1979. DDMI 8.616(79).

UN260547 UN26/547 Exclusive Key and Parade Unit. 1. Generates exclusive key signal from red and/or green and/or blue signals. 2. Organises signals fed to camera monitoring transmitter. The unit is mounted and the camera head of an LDK5 Camera and replaces an original Philips unit. Power requirements +6V and -6V supplied by camera. DD 1979. DDMI 8.619(79). DDHB 8.366(80).

UN260549 UN26/549 Video Processing Unit. This unit forms part of the Electronic Network Clock. Its function is to process the clock 'hand' signals from the GE6/544 so as to subjectively improve the stepped effect reseat when a hand is at a

small angle to the horizontal. This is achieved by adjusting the slew-rate of signal transitions according to the angle of the hand. Information on the angles of hands is fed to the unit via a microprocessor bus. Power requirements +5V. 4U BMM unsupported card with 57-way double-sided edge connector and PNI/29J panel. DD 1980.

UN260550 UN26/550 Timecode Slow Speed Correction Unit. Used in video tape editing equipment to update decoded timecode when the tape machine is running very slowly. Power requirements +12V. 4U BMM unsupported card. Parent equipment EP10M/501, EP10M/502. DD 1980. DDMI 7.464(81).

UN260551 UN26/551 CSO Matte Processor. This unit processes the RGB foreground signals so as to generate the advanced CSO key waveform. Key colour suppression is available and operates on all three separation signals so as to matte the background areas to black. The matting can be controlled remotely. The key colour can be any of the six primary or secondary axes. A luminance is also generated for use in shadow effects. Power requirements Mains. CH1/64A. Supersedes UN26/523. DD 1980.

UN260553 UN26/553 Video Processing Unit. This unit is electrically similar to the UN26/534 but does not contain an internal power supply. When used with VIDIPRINT it will allow a message (such as a Reuters feed, or from a VDU keyboard) to be displayed over a picture on a video monitor. This displayed message is set in a box, the background of which may be varied from full picture to black level. Power requirements $\pm 12V$ d.c. and +5V d.c. CH1/64A. Parent equipment GE8M/506. DD 1980.

UN260554 UN26/554 Processing Unit. Part of SE3L/507, this unit accepts key and fader signals and processes them to create a key signal for control of a SE3/506 split screen switch. Also contains switch-logic and lamp drivers to interface with control panel switches. Power requirements +12 V, -6 V (from SE3/506). 4U, J-width p.c.b. with panel and 32-way G06 connector. Parent equipment SE3L/507. DD 1981.

UN260555 UN26/555 Picture Store Output Processor Unit. Digital output processing unit. Accepts two 10-bit wide data signals (W and X) and connects them to outputs 1 and 2 or 2 and 1 respectively. A third output can be selected as connected to either output 1 or 2. Provision is made on the board to allow the data to be replaced by either a preset data word or one transmitted to the unit. Designed to operate at 12MHz. Coding positions: 1, 45, 51. Power requirements +5V, 500mA. 4U BMM unsupported card. Parent equipment Electronic stills store, PALM/580. RD 1981.

UN260556 UN26/556 Digital Blanking Unit. This unit takes in a digitally encoded colour television signal (Luminance, and Multiplexed Chrominance) and blanks it in response to a 1 bit control signal. The rise and fall times of the blanking transitions conform to the system I specification. The unit outputs are:- blanked luminance, U chrominance and V chrominance. Power requirements +5 V, 1.1 A; -5 V,

15 mA. 4U unsupported printed board. Chassis extender CH4/5. DD(1) 1985.

UN260557 UN26/557 Graphics Processing Unit. This unit accepts up to two bits of TTL 625 line synchronous data and will deliver either RGB composite or non-composite signals into 75Ω. The level of RG and B being adjustable via an on-card pin matrix. Alternatively the two bits of data may be considered as a key and infill for insertion of monochrome graphics into the video input signal supplied to the unit. Power requirements ±12V at 400mA +5V at 800mA approx. 4U BMM unsupported card. Parent equipment GE6M/548. DD 1981. DDMI 8.639(82).

UN26/557A Graphics Processing Unit. This unit is electrically and mechanically identical to the UN26/557 with the exception that the pin matrix is not fitted, and the 'Colour Matching Unit' UN26/564 has been fitted in its place. Power requirements +5V and ±12V d.c. Standard 4U BMM unsupported card. Parent equipment GE6M/548A. DD 1982.

UN260558 UN26/558 Digital Processing and Addressing Unit. Provides addressing and control logic used in GE6M/555 and includes control circuitry to interface with UN26/31, GE6/544 and GE6/545 used in GE6M/555. Power requirements 5.25v at 1A. CH1/79. 4U Wire wrap. Parent equipment GE6M/555. DD 1981.

UN260559 UN26/559 Video Input Processing Unit. This card processes 1V input composite sequential video and provides:

1. Mixed Syncs (MS)
2. Line Trigger (LT)
3. Burst Gate
4. VAS PAL square wave (7.8kHz)
5. Field Trigger (FT)
6. Colour/Mono

Power requirements +6V, -6V. 4U free standing. Parent equipment EP5L/516. DD 1981.

UN260560 UN26/560 Sync Monitor Processing Unit. De-serialises sequential data and provides following 'active-low' outputs for each channel:

1. Video present.
2. Videopresent + timed (line and field)
3. Video present + timed (line and field) + colour.

Outputs also provided indicating:

1. Single - step mode.
2. Loss of reference signals.

Power requirements ±6V, approx 150mA. 4U unsupported pcb. Parent equipment EP5L/516. DD 1981.

UN260561 UN26/561 Display Controller and Digital Processing Unit. Provides addressing and control logic used in GE6M/557. Includes control circuitry to interface with UN26/31, GE6/544, GE6/545, GE6/556 in GE6M/557. Power requirements 5.25V at 1.5V. CH1/79, 4U Wire-Wrap. Parent equipment GE6M/557. DD 1981.

UN260563 UN26/563 Fringe Suppressor Unit. Uses the exclusive key obtained from the Exclusive Key and Parade Unit UN26/547 to suppress

the selected colour from the encoded output of an LDK5 Camera Surveillance Unit. Power requirements +12V, +5V, 0V, -6V. Parent equipment UN26/562. DD 1982.

UN260564 UN26/564 Colour Matching Unit. This unit enables the colour graphics RG and B outputs of DOG, GE6M/548 to be precisely matched to another video source or to defined levels. Four sets of three potentiometers are provided for the precise adjustment of four colours. Power requirements +5V DC. Parent equipment UN26/557A. DD 1982. DDMI 8.644(82).

UN260565 UN26/565 ACE/TARIF Interface Unit. The unit provides sync. separation required to drive TARIF TWO EP6L/509, and delays the video required to drive the clock generator GE3/507 in the Standards Converter CO6/510. Power requirements +12V, -12V. 4U PCB with J width front panel and 57-way edge connector. DD 1982.

UN260566 UN26/566 Double Co-efficient Unit. Used in the predictor chain of the DPCM coder and decoder, CD2M/525 and CD3M/541, to generate the first two terms of the prediction and sum these with the sum of the other prediction terms. Power requirements +5V at 0.1A; -5V at 4A. BMM 4U unsupported card. Parent equipment CD2M/525, CD3M/541. DD 1982.

UN260567 UN26/567 Triple Co-efficient Unit. Used in the predictor chain of the DPCM coder and decoder, CD2M/525 and CD3M/541, to generate three prediction terms and sum these with the sum of previous terms. Power requirements +5V at 2.6A, -5V at 50mA. BMM 4U unsupported cards. Parent equipment CD2M/525, CD3M/541. DD 1982.

UN260568 UN26/568 Coder Input Unit. Used at the input of CD2M/525. Accepts 10-bit comb filtered data, together with 4 Fsc and 2 Fsc clocks, at ECL levels. Translates to TTL, and routes signals to coder and FIS cards. Contains programmable bit sequence generator and clock oscillator for self-test of the complete coder by use of a logic analyser, or signature analyser. Includes data sampling facilities and address decoder. Power requirements +5 V, -5 V. BMM 4U unsupported solder-wrap card. Parent equipment CD2M/525. DD 1982.

UN260569 UN26/569 Coder Output Unit. Used at the output of CD2M/525. Provides 6-bit DPCM balanced ECL output, and also a 10-bit locally decoded balanced ECL output. Provides selection between FIS and DPCM inputs, and provides a preset delay of up to 1.8 line periods for FIS data. Includes preset timing adjustment of the outgoing 4Fsc clock. Additionally, accepts 10-bit locally decoded parallel data inputs. Includes local data monitoring facilities (selectable via an address decoder) and signature analysis test points. +5V at 1.4 amps, -5V at 1.6 amps. BMM 4U unsupported solder-wrap card. Parent equipment CD2M/525. DD 1982.

UN260570 UN26/570 Decoder Input Card. Used at the input to DPCM decoder CD3M/541. Accepts 6-bit balanced ECL DPCM inputs, 4Fsc clock inputs. Routes data to FIS and decoder cards. Includes line and field rate (programmable) bit sequence

generator and local clock oscillator of self-test of the complete decoder. Includes local data monitoring (selectable via the address decoder) and signature analysis test points. Power requirements +5V -5V. BMM 4U unsupported solder wrap card. Parent equipment CD3M/541. DD 1982.

- UN260571 UN26/571 Decoder Output Unit. Used at the output of DPCM decoder CD3M/541. Provides 10-bit balanced ECL output, and 2Fsc clock synchronous with the data. 4Fsc clock output has adjustable timing. Includes local data monitoring (selectable via the address decoder) and signature analysis test points. Power requirements +5V -5V. BMM 4U Unsupported solder-wrap card. Parent equipment CD3M/541. DD 1982.
- UN260572 UN26/572 Video Processing Unit. This unit accepts video in and outputs encoded and RGB video with teletext inserted. It accepts teletext and After Hours Syncs from the Data Store and Character Generator Unit UN27/507. A mixed syncs output is also provided. Power requirements +5V at 120mA, +12V at 200mA. Parent equipment CD3L/543. DD 1982.
- UN260573 UN26/573 Serialiser Unit. The unit serialises a 6-bit input signal. The input is accepted at 11.456 Mword/s, together with a 11.456MHz clock from which a 68.736MHz clock is generated. Inputs are at TTL levels. Two outputs of the 68 Mbit/s serialised signal are provided, each having 75 ohm drive capability and being of standard level in the CMI interface code format. The unit forms part of 68 Mbit/s multiplexing equipment CD4M/504. Power requirements +12V, +5V, -5V, -12V at currents to be advised. PN1/29J. Parent equipment CD4M/504. RD 1982.
- UN260574 UN26/574 Video Tributary Unit. Unit asynchronously multiplexes a digital video signal with other digital signal. The video signals is accepted in 6-bit parallel form with 4fsc clock and 2fsc enable, all at balanced ECL levels. It is inserted into another 6-bit signal, of nominal work rate 11.456 Mword/s, which is accepted and output at TTL levels. A small capacity of signalling is provided. The unit forms part of equipment CD4M/504 which multiplexes together digital video and other signals to produce an output signal at 68 Mbit/s. Power requirements +5 V, -5 V at current to be advised. 4U solderwrap card with J width front panel. Parent equipment CD4M/504. RD 1982.
- UN260575 UN26/575 Sound Tributary Unit. Unit asynchronously multiplexes a 676 kbit/s 2-channel digital audio signal with other digital signals. The audio signal is accepted in partially-decoded form from associated unit UN26/585 as 2 data lines with a 676kHz clock, all at TTL levels. It is inserted into a 6-bit signal, of nominal word rate 11.456 Mword/s, which is accepted and output at TTL levels. A small capacity for signalling is provided. Power requirements +5V at current to be advised. 4U Solderwrap Card with J width front panel. Parent equipment CD4M/504. RD 1982.
- UN260576 UN26/576 Auxiliary Tributary Unit. Unit asynchronously multiplexes a 2048 kbit/s 1st-order multiplex signal with other digital

signals. This input signal is accepted in partially-decoded form from associated unit UN26/585 as 2 data lines with a 2048kHz clock, all at TTL levels. It is inserted into a 6-bit signal, of nominal word rate 11.456 Mword/s, which is accepted and output at TTL levels. A small capacity for signalling is provided. The unit forms part of equipment CD4M/504 which multiplexes together digital video and other signals to produce an output signal at 68 Mbit/s. Power requirements +5V at current to be advised. 4U Solderwrap card with J width front panel. Parent equipment CD4M/504. RD 1982.

UN260577 UN26/577

Radio Tributary Unit. Unit asynchronously multiplexes a 8448 kbit/s 2nd-order multiplex signal with other digital signals. This input signal is accepted in partially-decoded form from associated unit UN26/585 as 2 data lines with a 8448kHz clock, all at TTL levels. It is inserted into a 6-bit signal, of nominal work rate 11.456 Mword/s, which is accepted and output at TTL levels. A small capacity for signalling is provided. The unit forms part of equipment CD4M/504 which multiplexes together digital video and other signals to produce an output signal at 68 Mbit/s. Power requirements +5V at current to be advised. 4U Solderwrap card with J width front panel. Parent equipment CD4M/504. RD 1982.

UN260578 UN26/578

De-Serialiser Unit. The unit de-serialises a 68 Mbit/s input signal. The input is accepted in the CMI interface code format, at standard level into 75 ohm. This decoded, and from it is generated a 6-bit parallel signal at 11.456 Mword/s, together with a 11.456MHz clock and frame-marker pulse. Outputs are at TTL levels. The unit forms part of 68 Mbit/s demultiplexing equipment CD4M/505. Power requirements +5V, -5V, at current to be advised. PN1/29J. Parent equipment CD4M/505. RD 1982.

UN260579 UN26/579

Video De-tributary Unit. The unit demultiplexes a digital video signal from a 68 Mbit/s signal. The latter is accepted in 6-bit parallel form (at 11.456 Mword/s) together with frame-marker pulse nad a 11.456 MHz clock. The appropriate words are written into a buffer store and output at a steady rate, still in 6-bit form together with a 4fsc clock and 2fsc enable signal, all at balanced ECL levels. Other inputs and outputs have TTL levels. Unit receives 4fsc clock from a phased-locked loop in unit GE2/643A, for which control signals are provided. The unit is complementary to unit UN26/574, and forms part of 68 Mbit/s demultiplexing equipment, CD4M/505. Power requirements +5 V, -5 V at currents to be advised. 4U solderwrap card with 'J' width front panel. Parent equipment CD4M/505. RD 1982.

UN260580 UN26/580

Sound De-tributary Unit. The unit demultiplexes a 676 kbit/s signal (normally containing 2 digital sound signals for television) from a 68 Mbit/s signal. The latter is accepted in 6-bit parallel form (at 11.456 Mword/s) together with frame-marker pulse and a 11.456MHz clock. The appropriate words are written into a buffer store and the data are output at a steady rate in suitable format for

the HDB3 output stage contained in associated unit GE2/643B which contains a phase-locked loop to derive the 676 kbit/s clock. All inputs and outputs have TTL levels. The unit is complementary to unit UN26/575, and forms part of 68 Mbit/s demultiplexing equipment CD4M/505. Power requirements +5V, at current to be advised. 4U solderwrap card with J width front panel. Parent equipment CD4M/505. RD 1982.

UN260581 UN26/581

Radio De-tributary Unit. The unit demultiplexes a 8448 kbit/s signal (normally containing 2 digital sound signals for television) from a 68 Mbit/s signal. The latter is accepted in 6-bit parallel form (at 11.456 Mword/s) together with frame-marker pulse and a 11.456MHz clock. The appropriate words are written into a buffer store and the data are output at a steady rate in suitable format for the HDB3 output stage contained in associated unit GE2/643C, which also contains a phase-locked loop to derive the 8448 kbit/s clock. All inputs and outputs have TTL levels. The unit is complementary to unit UN26/577, and forms part of 68 Mbit/s demultiplexing CD4M/505. Power requirements +5V, at current to be advised. 4U solderwrap card with J width front panel. Parent equipment CD4M/505. RD 1982.

UN260582 UN26/582

Auxiliary De-tributary Unit. The unit demultiplexes a 2048 kbit/s signal (normally containing 2 digital sound signals for television) from a 68 Mbit/s signal. The latter is accepted in 6-bit parallel form (at 11.456 Mword/s) together with frame-marker pulse and a 11.456MHz clock. The appropriate words are written into a buffer store and the data are output at a steady rate in suitable format for the HDB3 output stage contained in associated unit GE2/643D which also contains a phase-locked loop to derive the 2048 kbit/s clock. All inputs and outputs have TTL levels. The unit is complementary to unit UN26/576, and forms part of 68 Mbit/s demultiplexing equipment CD4M/505. Power requirements +5V, at current to be advised. 4U solderwrap card with J width front panel. Parent equipment CD4M/505. RD 1982.

UN260583 UN26/583

Digital Processor Unit. The unit scrambles or descrambles a 68 Mbit/s multiplexed signal, input and output are in the form of 6-bit words, with 11.456 MHz clock and a frame-marker pulse, all at TTL levels. The unit is an optional part of 68 Mbit/s multiplexing equipment, units CD4M/505 respectively. Power requirements +5 V at current to be advised. 4U solderwrap card with J width front panel. Parent equipment CD4M/504, CD4M/505. RD 1982.

UN260584 UN26/584

FIS Combiner and Data Suppressor. Combines incoming digital video and field interval signals (FIS) to produce a single digital video output. The unit can also provide field blanking by switching to an internally generated blanking level. Control signals from Suppression Control Unit UN23/689 are required to drive this equipment. Power requirements +5V. 4U 'J' width front panel, single PCB. Parent equipment C09M/508. DD 1982.

UN260585 UN26/585	HDB3 Input Processor. The unit receives a standard HDB3 - coded tenary signal from which it generates a clock and two binary data signals. These signals, all at TTL levels, are fed to an associated tributary unit. A pluggable link determines which of the following data rates is used: 676 kbit/s, 2048 kbit/s, 8448 kbit/s. The unit forms part of 68 Mbit/s multiplexing equipment CD4M/504. Power requirements +12V, +5V, -5V at currents to be advised. PN1/29J. Parent equipment CD4M/504. RD 1982.
UN260586 UN26/586A	Key Modifier Unit. Two-channel key modifier for driving the linear video switch SE3/511. Each channel has independent clip and hardness control, and separate mask inputs. The two channels may also be combined in NAMs. This unit is a direct replacement for UN26/586 with improved performance. Power requirements +12 V; +5 V (from SE3/511). CH1/64J. Supersedes UN26/586. Parent equipment MX5M/504, MX5L/505. Chassis extender CH1A/44. DD (8) 1985. DDMI 8.656(85).
UN260587 UN26/587	BAT Display Controller Unit. Provides addressing and control logic and used in GE6M/561 and interfacing with UN26/31, GE6/544, GE6/545 and others in BREAKFAST ANALOGUE TIME (BAT). Power requirements 5.25V at 1.5A. CH1/790 4U wire-wrap. Parent equipment GE6M/561. Sub-units PS4/9A, PS2/187H, UN26/31, 3 x UN27S/1, GE6/544, UN26/587, GE6/545, UN26/60, GE6/556, CD2/513, CD2/514. DD 1982.
UN260588 UN26/588	Processing Unit. Part of Wipe Pattern Generator used in the A-B Roll Mixer. Used in conjunction with GE1/595 Waveform Generator. Processes outputs of GE1/595 to produce up to 16 wipe patterns. Power requirements +12V -5.25V +5V. CH1/64J chassis. DD 1983.
UN260589 UN26/589	Processing Unit. Part of Wipe Pattern Generator used in the A-B Roll Mixer. Used in conjunction with GE1/595 Waveform Generator. Processes GE1/595 outputs to produce moveable box wipe. Power requirements +12V -5.25V +5V. CH1/64J chassis. DD 1983.
UN260590 UN26/590	Comb Filter Processing Unit. This unit separates the chrominance and luminance information from PAL or NTSC signals. It does this by processing delayed and undelayed versions of the composite signals to form a comb filter. This unit is capable of combing across delays of 312 lines for PAL, or 263 and 525 lines for NTSC. Power requirements +5 V and -5 V. 4U unsupported card. Parent equipment CD3M/546. DD 1983.
UN260591 UN26/591	Chroma Digital Blanker Unit. U and V, 12 bit digital video input rounded to 8 bits and MECL converted. U and V, 12 bit input also rounded to 10 bits and routed to next card in TTL. Power requirements +5 V at 1 A, -5 V at 0.5 A. 4U edge connector unsupported P.C.B. Parent equipment CD3M/546. DD 1983.
UN260592 UN26/592	TRS Decoding and Luminance Blanking Unit. Digital video delay for timing. TRS (Timing reference signal) decoding for blanking. Y (Luminance channel) gain change and

blanking. Power requirements +5 V at 1 A, -5 V at 0.5 A. 4U unsupported PCB. Parent equipment CD3M/546. DD 1984.

UN260593 UN26/593 TV Waveform Analyser Interface Unit. This unit is intended to provide an interface between the ME3M/502 TV waveform analyser and a BBC microcomputer. This enables the ME3M/502 to be controlled automatically, and the measurement results displayed or printed via the computer. Power requirements + 5 V dc. 127 mm x 72 mm PCB. DD 1983.

UN260594 UN26/594 RGB - YUV Matrix. This unit is for use in the Programmable Colour Bar Generator GE6/560 which then becomes the 'A' version and provides outputs of YUV instead of RGB. Power requirements +5 V -5 V +12 V. PCB 150 x 146 mm approximately. Parent equipment GE6/560A. DD 1983

UN260595 UN26/595 B.A.T. Video Processing Unit. Provides delay and amplification for video and key signals from B.A.T. Generator to enable correct insertion into transmission video signal. Power requirements +12 V -12 V, +5 V. CH1/64A. Parent equipment MX5M/507. DD 1983.

UN260596 UN26/596 DPCM Predictor Unit. Used in the production version of the '68-PAL' vision coder. Produces the sum of line-delayed and field-delayed terms of the prediction algorithm. Power requirements +5 V, 5A; -5 V, 100 mA. 6U unsupported printed board. DD 1984.

UN260597 UN26/597 Vision Coder Output Unit. Used in the production version of the 68 Mbit/s PAL vision coder. Combines vision data and field interval data and converts them to the interface format. Power requirements +5 V, 4 A; -5 V, 50 mA. 6U unsupported PCB. DD 1985.

UN260599 UN26/599 Overlay Processing Unit. Overlay Processing Unit replaces UN26/523A providing an exclusive key signal output and fringe suppression of overlay foregrounds. Power requirements 240 V ac. CH1/64A (4 U). Supersedes UN26/523 and UN26/523A. Chassis extender CH1A/43. Termination panel PA20/533. DD 1985.

UN260600 UN26/600 EBUS Character Processing Unit. When driven by an EBUS tributary the card will switch between two sources of incoming video and insert characters into the selected source. Power requirements +12 V; +5 V; -12 V. Chassis dimensions 4 U unsupported printed board. Chassis extender CH4/5. DD (7) 1985. DDMI 7.538(86).

UN260601 UN26/601 Auto-Phase Reference Unit. Provides phase and timing reference signals for up to eleven AM1/614s and 2 other UN26/601s. Inputs from MS and CSC or black and burst, or from another UN26/601. Power requirements +18 V, 200 mA; -18 V, 200 mA, both unstabilised. 4 U unsupported pcb. Chassis extender CH1A/44. DD(8) 1985.

UN260602 UN26S/602 8085 Micro-Processor Unit. The board is based on an 8085A microcomputer chip and has edge connections defined by the "Eric" Bus used in electronic graphics and enhanced teletext equipment. It has a total addressable memory

capacity of 64 kbytes which can be accessed in 8 kbyte blocks. A bootstrap ROM arrangement works in conjunction with a dedicated parallel input-output port to support an intelligent Remex floppy disk drive unit for the purpose of downloading a CP/M operating system. In addition there are two serial RS232 ports, a user 8-bit input port and a user 8-bit output port. Power requirements +5 V, 2.5 A. 4 U unsupported board with PN1/29J front panel. Chassis extender CH4/5. RD 1985.

UN260603 UN26S/603

CVI Bus Processor Unit. The board is based on an 8085A microcomputer chip and has edge connections defined by the CVI Bus. It accepts parallel data in, and reformats to TELETEXT DATA prior to insertion on TV lines in the field blanking. Power requirements +5 V, 1 A. 4 U unsupported board with PN1/29J front panel. Chassis extender CH4/5. RD 1985.

UN260604 UN26/604

Burn Processor Unit. This unit is designed to replace a number of printed circuit cards, associated with shading and burn correction, in the Rank Cintel Mk III telecine machines. It provides improved performance and simplifies the alignment procedure. The unit accepts the Burn signal and the three shading correction signals and processes these to produce Red, Green and Blue correction signals. Power requirements: ± 12 V from machine. Chassis: 3 U ISEP Card, 253 mm x 112 mm. Cintel 100658, 100661, 100832. D & ED (C) 1986.

UN260605 UN26/605

VANTAGE Data Inserter Unit. This unit is part of the VANTAGE Edit Control System. It inserts up to two rows of text into the video output of a VTR machine, being driven from a parallel data bus by a UN26S/92 microcomputer card. Power requirements ± 12 V, 100mA; +5V, 350mA. 6U Euro card, 160mm long. D&ED (C) 1987.

UN270001 UN27S/1

Read Only Memory arranged as 8k (option 1) or 16k (option 2) words, 8 bits wide using EPROM devices. 16 bit address decoding is included on card. It is intended to be used with microprocessor systems on a standard backplane. Power requirements: Option 1 +5V 80mA, +12V 250mA, -12V 360mA. Option 2 800mA, 0, 0. CH1/64J. 57-w ay D.S. edge connector. DD 1977. DDHB 2.460(82).

UN270002 UN27/2

Caption Storage Unit holding captions which may be transmitted by the Apology Caption Generator. Power requirements ± 5 V, +12V d.c. CH1/64J. Parent equipment GE8M/1. DD 1978.

UN270003 UN27/3

Cursor Store. Holds current address of upper and lower display cursors for Monitoring and Information Centre VDU's. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/5. DD 1978.

UN270004 UN27/4

Buffer Store. First in first out store for Monitoring and Information Centre VDU. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/5. DD 1978.

UN270005	UN27/5	Cursor Store. Store holding current position of cursor in Monitoring and Information Centre remote VDU. Power requirements 5V d.c. CH1/64J. Parent equipment UN12/6. DD 1978.
UN270006	UN27/6	Buffer Store Unit. First in, first out, store for use in Monitoring and Information Centre remote VDU. Power requirements 5V d.c. CH1/64J. Parent equipment UN12M/6. DD 1978.
UN270007	UN27/7	8k Byte R.A.M. Store. General purpose store for 8k by 8 bit words using static RAM's. 16 bit addressing, address and data lines fully buffered. Power requirements +5V, 1.5A typical. CH1/64J - 57 way edge connector. DD 1978. DDHB 2.459(82).
UN270008	UN27/8	Store Unit. This unit stores 256, 32 bit words and is intended for the storage of timecode times or user bits. It has a built in rechargeable battery on the card to maintain the supply to the store when the equipment in which it is used is switched off. 12V CMOS levels in and out. Power requirements +12V at 10mA d.c. 4U BMM unsupported card. Parent equipment RD4/507. DD 1978. DDMI 7.428(80).
UN270009	UN27/9	16 Page Store Unit. This unit carries eight 2K byte memory IC's and selector IC. It provides 16 pages of pre-programmed teletext display for electronic selection of message referring to the status of the data channels of the 13 channel PCM system. Power requirements +9V at 300mA. CDX 3U 'J' size card (C06). Parent equipment MN8M/1. DD 1978.
UN270010	UN27/10	Store and Sequencer. This unit contains read only memories which control the sequence of operations in NICAM 3 coders and decoders, and random access memories for the storage of data awaiting processing. Power requirements 5V 610mA. CH1/64J, Ferranti 57-way connector. Parent equipment CD2M/17, CD3M/33, CD2M/23. DD 1981. DDHB 6.210(83).
	UN27/10A,B	Store and Sequencer Unit. This unit contains read only memories which control the sequence of operations in NICAM 3 coders and decoders, and random access memories for the storage of data awaiting processing. Power requirements 5V, 610mA. CH1/64J, Ferranti 57-way connector. Parent equipment CD2M/17(UN27/10A) and CD3M/33 (UN27/10B). DD 1980. DDMI 6.366(80).
UN270011	UN27/11	Processor Output Latch Unit. Has 64 latched outputs which are driven by an 8 bit data input and 8 output select lines. Used with a microprocessor card which controls the unit. Power requirements +5V <10mA. 4U unsupported card. Used in EP10M/501 and EP10M/502. DD 1980. DDMI 7.460(81).
UN270012	UN27/12	8K RAM Store. An 8K byte Static Ram Store utilising CMOS storage components to minimise power requirements. Separate data input and data output terminals are provided which are commoned when connected to the standard Designs Department bus. A separate power supply pin is provided for the memory elements and power supply failure monitoring ensures isolation of these if either the control power or

power to a third connection fails. Power requirements 5V 200mA. approximately. CH1/64J. DD 1980.

UN270013 UN27/13

32 kByte RAM Store. This unit provides 32,768 8-bit bytes of static random-access memory on a single card. It is designed to be compatible with the Designs Department 280 bus system (ZEUS) and will replace four UN27/7 8 kbyte Units. The unit is internally organised as 9-bit wide data, and automatic parity generation and checking is carried out; a detected parity error results in a front-panel LED lighting and, optionally, an interrupt to the host processor. Power requirements +5v DC at 3 amps max. (approx). 4U BMM unsupported card with double-sided 57-way edge connector and PN1/29J panel. DD 1981. DDHB 2.468(82).

UN270014 UN27S/14

Read Only Memory. Read Only Memory arranged as 8k (option 1) or 16k (option 2) words, 8 bits wide using Eprom devices. 14-bit address decoding is included on card. It is intended to be used with microprocessor systems on a standard backplane. Power requirements:

	+5v	+12v	-12v
Option 1	80 mA	250mA	360mA
Worse case: Option 2	800mA	0	0

4U BMM unsupported Card. Parent equipment ME3M/502. DD 1981.

UN270015 UN27/15

8K RAM Store. An 8K byte RAM store utilising CMOS storage components to minimise power requirements. Separate data I/P and data O/P terminals are provided which are commoned when connected to the standard DD bus. A separate power supply pin is provided for the memory elements and power supply failure monitoring ensures isolation of these if either the control power to a third connection fails. Power requirements 5v 200mA approx. 4U BMM Unsupported Card. Parent equipment ME3M/502. DD 1981.

UN270017 UN27/17

Scratch Pad RAM Store. This RAM is used to store the display data for each line of the display. It contains 2 RAM areas which are written to alternately, and read by the timing card which counts down the run lengths. The colour data is applied to the Colour Register Store, UN27/18. Power requirements 5 V. Parent equipment EP5M/517. DD 1982.

UN270018 UN27/18

Colour Register Store. Used by EAGLE to store the 32 defined colours for a particular symbol in RGB digital form. These are loaded, and may be updated directly by the CPU. They are selected according to a colour number and passed to the DAC. Power requirements 5V. CH1/79. Parent equipment EP5M/517. DD 1982.

UN270019 UN27/19

Store and DAC Unit. Provides storage and audio output channels, (2) for RD1M/1. Audio B/W 3.25kHz. Message Length 8.2 secs. Power requirements +5V, $\pm 18V$. Parent equipment RD1M/1. DD 1982. DDMI 6.413(83).

UN270020 UN27/20

Store and DAC Unit. Provides storage and audio output channel for RD1M/1. Audio B/W 3.25kHz. Message Length

32.8 secs. Power requirements +5V, ± 18 V. Parent equipment RD1M/1. DD 1982. DDMI 6.411(83).

UN270021 UN27/21 Store and DAC Unit. Provides storage and audio output channel for RD1M/1. Audio B/W 6.5kHz. Message Length 16.4 secs. Power requirements +5V, ± 18 V. Parent equipment RD1M/1. DD 1982. DDMI 6.412(83).

UN270022 UN27S/22 EPROM Store Unit. Storage card for 16 8K x 8 EPROMs running with a 13 $\frac{1}{2}$ MHz data rate. Power requirements ± 5 V. 4U unsupported card. DD 1982. DDHB 8.396(83).

UN270023 UN27/23 Dual Directional Buffer Store. Allows non-bussed systems to pass information in both directions along one 8-bit bus. Power requirements +5V 200mA. 4U BMM unsupported printed board with PN1/29J front panel. Parent equipment EP1M/32. DD 1982.

UN270024 UN27S/24 General Purpose Memory Unit. Card with 16 off 28 pin sockets which will accept any of the JEDEC standard RAM or ROM chips on 28 or 24 pin base to make up a processor memory. Different size chips may be mixed and the card may be part of a paged system. The bus is ZEUS standard. Power requirements 5V DC. CH1/64J. DD 1983. DDHB 2.492(83).

UN270025 UN27/25 BBC Micro ROM Extension Unit. Allows up to 16 paged ROM's to be fitted into the BBC Microcomputer. Single plug-in printed board fitted inside the BBC micro case. Takes power from the BBC micro. Power requirements from BBC Micro. ED 1983.

UN270027 UN27S/27 Store and 32 k EPROM Programmer. This equipment will store 32 kbytes of data and program 32 kbyte 27256 EPROMs under BBC microcomputer control. 5 V at 1 A. 3U BMM unsupported card. Parent equipment RD1SM/2. DD 1985.

UN270028 UN27S/28 Store Unit. Stores three channels of run-length encoded symbols. Has inputs from external switch matrix to select one of up to 16 symbols to be addressed. Power requirements: +5 V, -5 V. 5 U unsupported pcb. Chassis extender: CH4/11. Parent equipment: GE6SM/571. D & ED (V) 1986.

UN270501 UN27/501 Prom Store Board providing 4096 x 2 bit words of read only memory. Address data and control connections to edge connector conform to Research Department Bus wiring arrangement for microprocessor system. Memory arranged as 4 off Ultra violet erasable PROMs type 2708/8708 (each containing 1024 x 8 bit words) plugged into sockets. Power requirements +5V, -5V, +12V. PN1/29J. RD 1978.

UN270502 UN27/502 Ram Store Board providing 4096 x 8 bit words of random access memory. Address data and control connections to edge connector conform to Research Department Bus wiring arrangement for microprocessor systems. Compatible with PROM store board. Power requirements +5V. PN1/29J. RD 1978.

UN270503 UN27/503	Digital Coefficient Store Unit. This unit stores apertures in programmable read only memories for use in the digital field store standards converter, C06/510. The aperture values are read out during output line blanking to 16 digital multipliers in the form of 32 9-bit words. Power requirements +5V, 1A -5V 100mA. CH1/75A. DD 1978.
UN270504 UN27/504	16K RAM Television Frame Store. Single-bit television frame store for digital YUV video components arranged to be input as two data streams which are normally operating at 12MHz. One stream is intended for the 'Y' comp samples at 12MHz and the other for multiplexed 4MHz samples 'U' and 'V' components. Each data stream has a separate output per field making a total of 4 outputs. Coding positions 1, 31 and 35. Power requirements +5 V, 500mA; +12V, 1.0A; -5V, 10mA. 4U BMM unsupported card. RD 1980.
UN270505 UN27/505	Logic Buffer Store. This board accepts a serial data stream, converts this to a 8-bit word in a specified manner and stores these words in a memory. They can be read out sequentially in synchronism to external timing signals, independent of when originally stored in the memory and while other words are being stored. Power requirements 2.2A at 5V. 4U unsupported card BMM. Parent equipment PA1M/580. RD 1981.
UN270506 UN27/506	DOG Memory Expansion Unit. This 4U wire-wrap card expands the graphics memory storage of 'DOG' GE6M/548 by an additional 16K bytes. The card is to be mounted externally to the DOG equipment. Power requirements +5V $\pm$ 0.25V. CH1/79. Parent equipment GE6M/548. DD 1982.
UN270507 UN27/507	Character Generator and Data Store Unit. This unit accepts parallel data and control signals from the Microcomputer Board UN26/46. The data and control codes are then loaded into the buffer memory for transfer into the display memory for the production of teletext from the character generator circuitry for output to the RGB decoder board UN26/572. Power requirements +5V at 300mA, +12V at 100mA. Parent equipment CD3L/543. DD 1982.

