

SERVICE DATA FOR

THE BLACK BOX

www.radio-workshop.co.uk



FOUR-SPEED HIGH FIDELITY RECORD REPRODUCER



MODELS BB/A & BBT/A

FOR OPERATION
OFF 100-110 VOLTS
OR 200-250 VOLTS
50 CYCLES A.C.
MAINS

PART No. 708809

CIRCUIT ANALYSIS

Mains Consumption 40 watts.

A.F. Output 5 watts.

	Valve	Mullard	Ea	Ia	Es	Is	Ek	Ik
V1A	Pre-Amplifier	½ ECC82	55	1.0			2.3	0.71
V1B	Amplifier	½ ECC82	135	0.68			38.0	0.68
V2A	Phase Inverter	½ PCL83	38	0.67			1.8	0.67
V2B	Output	½ PCL83	217	25.2	220	4.8	13.5	30.0
V3A	Phase Inverter	PCL83	38	0.67			1.8	0.67
V3B	Output	½ PCL83	217	25.2	220	4.8	13.5	30.0
MRI	Rectifier							

HT = 220 volts I = 63 mA.

Note.—Mains input 235 volts into 225-250 volt tap. Measurements taken with an Avometer Model 8 instrument which has a resistance of 20,000 ohms per volt.

1 GRAM. MOTOR MAINS SUPPLY FREQUENCY

If the nominal frequency on either of the voltage ranges is other than 50 cycles, a suitable four-speed pulley must be fitted for that purpose. For Black Boxes sold outside the United Kingdom an extra pulley for 60 cycles is included with this equipment.

2 TO CHANGE FOUR-SPEED PULLEY

- (1) Remove circlip at base of centre spindle.
- (2) Lift off turntable by inserting levers diametrically opposite at the edge of the turntable.
- (3) Set speed knob to the 16 r.p.m. position.
- (4) Loosen the two grub screws at the base of the four-speed pulley and lift off.
- (5) Fit new pulley ensuring that it is pushed down fully on to its spindle.
- (6) Ensure that the rubber driving wheel engages centrally on the top section of the four-speed pulley.
- (7) Tighten up grub screws.
- (8) Push "Auto" knob to the "ON" position.
- (9) Push rubber driving wheel inwards and replace turntable and circlip.

3 MAINS SUPPLY

Make sure that the Amplifier Mains Voltage Adjuster is in the correct position for the mains supply on which it is to be used.

4 TO REMOVE CHASSIS

- (1) Remove the Record Changer, pull out all plugs from Amplifier Chassis and unclip warning lamp.
- (2) Loosen grub screws and pull off knobs.
- (3) Tilt cabinet on one side.
- (4) Unscrew the three screws from the bottom of cabinet.
- (5) Lift out chassis.

5 REPLACEMENT OF STYLI

Crystal Pick-up Cartridge, Garrard GC8

Replacement sapphire styli for use with this instrument can be obtained from your Pye Distributor or Depot. Standard and Long Playing styli are marked green and red respectively. The procedure for changing styli is given below. Lift the pick-up arm vertically from its rest to the fullest extent, taking care not to strain the arm in any way, and having first made sure that the stylus to be renewed has been correctly selected.

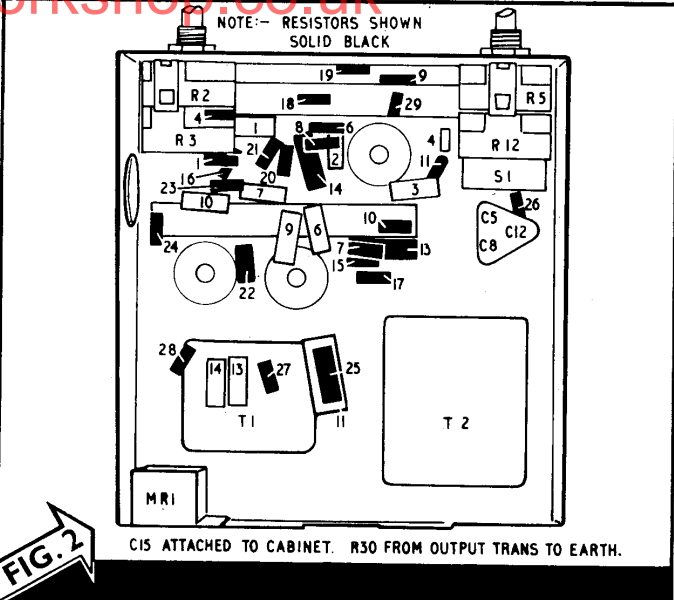
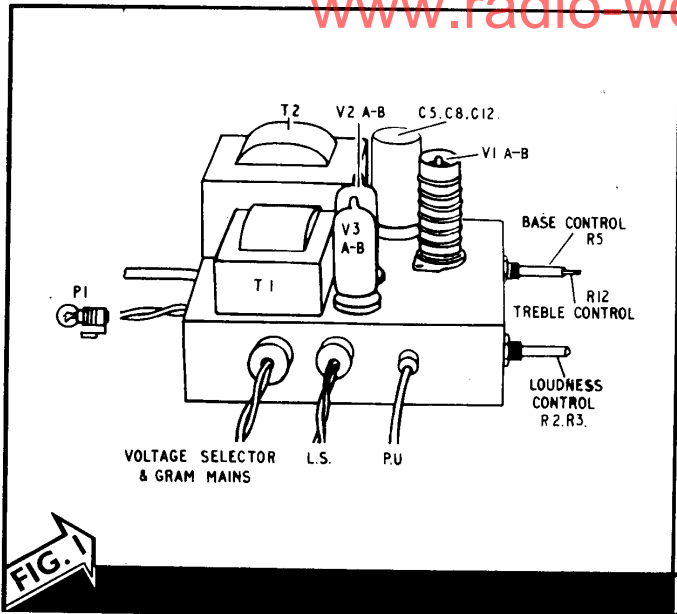
Insert finger nail beneath the rear end of the stylus arm and ease the securing pin out of the moulded cartridge. The stylus and its arm can now be removed. To fit new stylus, push securing pin firmly into the hole in the moulded cartridge ensuring that the ears on the stylus arm locate on the cartridge plastic pillar.

Ceramic Pick-up Cartridge, E.V. Power Point (for tropical use only)

Replacement Pick-up Cartridge can be obtained from your Pye Distributor or Depot.

To remove pick-up Cartridge:—Lift pick-up arm, grip the blue moulded pick-up cartridge and pull out.

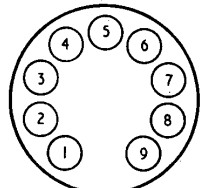
To insert new Pick-up Cartridge:—Lift pick-up arm, hold cartridge at the stylus end and key the opposite end into the cartridge holder socket pushing firmly inwards.



C15 ATTACHED TO CABINET. R30 FROM OUTPUT TRANS TO EARTH.

VALVE BASE CONNECTIONS

	1	2	3	4	5	6	7	8	9
V1 A-B ECC B2	A ^h	G ^h	K ^h	H	H	A ⁱ	G ⁱ	K ⁱ	HCT
V2 A-B PCL B3	AT	GT	KT	H	H	AP	KP, G3	G2	G1
V3 A-B PCL B3	AT	GT	KT	H	H	AP	KP, G3	G2	G1



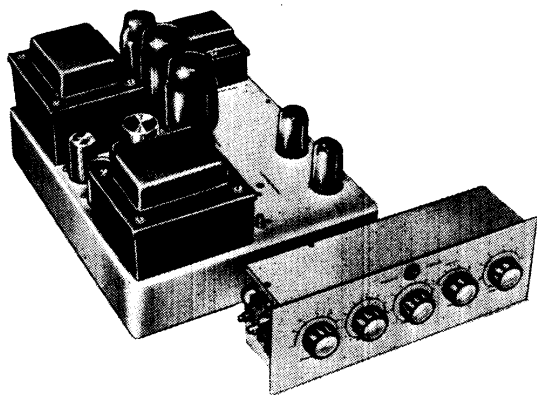
VIEW LOOKING AT PINS

FIG. 3



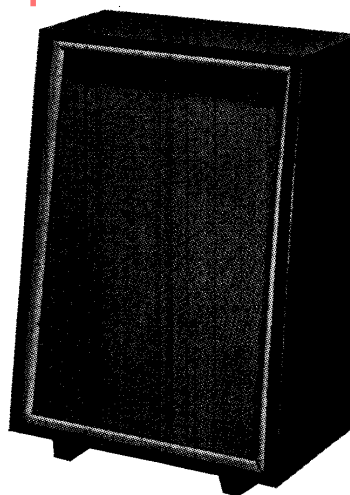
Hi-Fi EQUIPMENT

Selected units from the Pye range
www.radio-workshop.co.uk



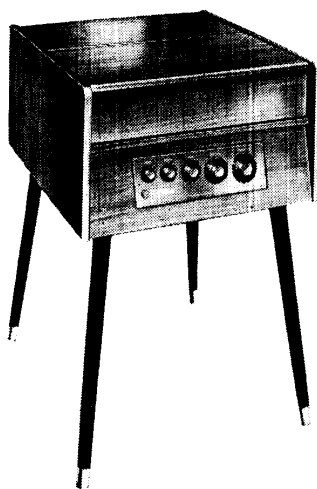
HF25 & HF25A

25 watt Hi Fi amplifier and remote control —a versatile practical combination for those who demand realism in sound reproduction.



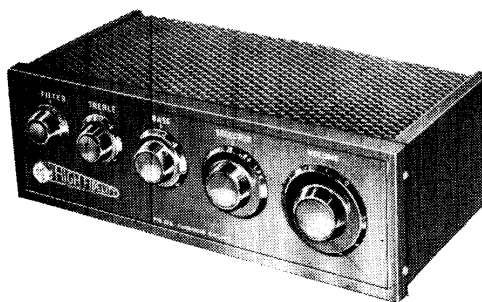
HF12SMT

12 watt Hi Fi loudspeaker system with 12" high flux type speaker unit and 4" tweeter. Impedance 15 ohms; frequency range 30—13,000 c.p.s.



HFPI Mozart Lowboy

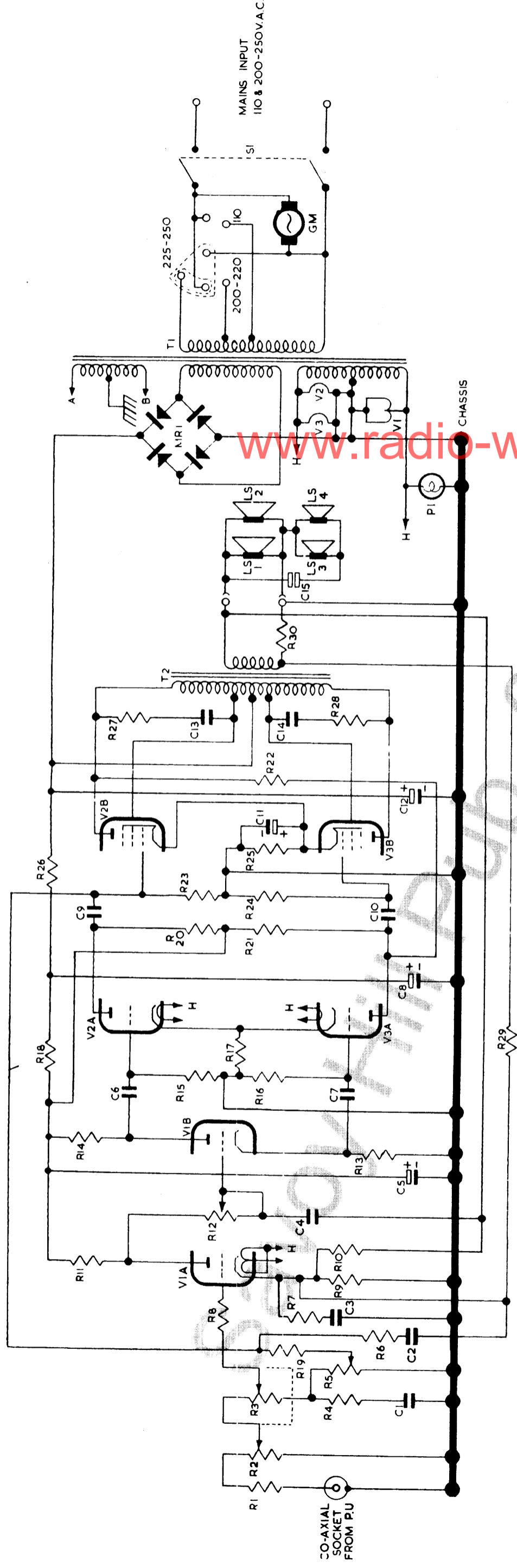
A compact, easy to operate amplifier in a handsome walnut veneer cabinet. Space is provided for any type of transcription turntable.



HF10M

Mozart 10 watt Amplifier housed in light-weight metal case. Revolutionary design, printed circuit chassis, facilities for all types of Hi Fi reproduction.

P Y E L I M I T E D · C A M B R I D G E · E N G L A N D



CIRCUIT DIAGRAM

of the
PYE

'BLACK BOX'

CONDENSERS

Specification	Volts	±	Fig.	No.
C1	300 A.C.		2	669383
C2	0.04 μF Tubular		2	669082
C3	0.01 μF Tubular		2	669105
C4	0.02 μF Tubular		2	653124
C5*	45 μF Tubular	2%	1 & 2	667864
C6	8 μF Electrolytic		2	669106
C7	0.04 μF Tubular		2	667864
C8*	0.04 μF Tubular		2	669106
C9	16 μF Electrolytic		2	669106
C10	0.04 μF Tubular		2	669106
C11	25 μF Electrolytic		2	667864
C12*	32 μF Electrolytic		1 & 2	667864
C13	0.004 μF Tubular		2	669383
C14	0.004 μF Tubular		2	669383
C15	24 μF Electrolytic		2	667903

Note.—* In same can.

TRANSFORMERS

Specification	Fig.	No.
T1	1 & 2	771558
T2	1 & 2	771559

RESISTORS

Ohms	Watts	±	Fig.	No.
R1	1.8 meg.	20%	2	672950
R2	2 meg. Linear Loudness Control	20%	1 & 2	810942
R3	500,000 Linear Loudness Control	20%	1 & 2	810942
R4	22,000 Linear Bass Control	20%	2	670632
R5	2 meg. Linear Bass Control	20%	1 & 2	810943
R6	680,000	20%	2	671807
R7	1,000	20%	2	670662
R8	100,000	20%	2	670633
R9	2,700	10%	2	671820
R10	33,000	20%	2	671806
R11	100,000	20%	2	670633
R12	2 meg. Linear Treble Control	20%	1 & 2	810943
R13	47,000-68,000 Matched Pair		2	672950
R14	47,000-68,000 Matched Pair		2	672950
R15	1 meg.	20%	2	670618
R16	1 meg.	20%	2	670618
R17	1.500	10%	2	671804
R18	10,000	20%	2	670645
R19	3.3 meg.	20%	2	670646
R20	220,000	10%	2	670669
R21	220,000	10%	2	670669
R22	10 meg.	20%	2	670650
R23	470,000	20%	2	670638
R24	470,000	20%	2	670638
R25	220	20%	2	670350
R26	12,000	10%	2	670677
R27	3,900	10%	2	671809
R28	3,900	10%	2	671809
R29	15,000	10%	2	670630
R30	Eureka Resistance Wire, 4 3/4" 22 S.W.G.	20%	2	670630

SWITCHES, ETC.

Specification	Fig.	No.
SI	2	810943
PI	1	700494/A
LS1	..	850214
LS2	..	850214
LS3	..	850206
LS4	..	850206
G.M.	..	708721
MRI	2	709050

MISCELLANEOUS

Item	Part No.
Cabinet	630815
Knob; Inner	550480
Knob; Outer	550481
Knob; Combined	550483
Insert; Warning Light	714407
Can; Valve Screening	706322
Plug; Gram Mains and Voltage Tapping	714401
Plug; Loudspeaker	701930
Plug; Pick-up	714404
Cover; Plug: For gram mains and voltage tapping plug	714402
Cover; Plug: For loudspeaker plug	714406
Bracket; Lamp	040173
Gram Unit; RC120 Mk 2	708721