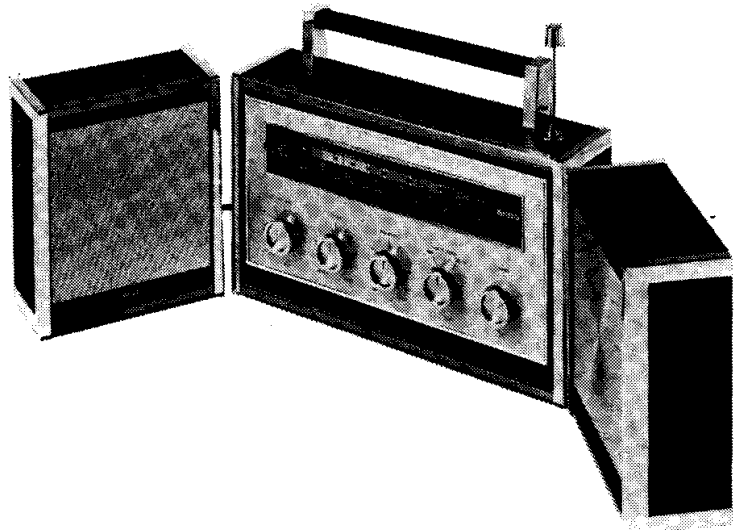


SERVICE SHEET FOR

725 17028



model 325



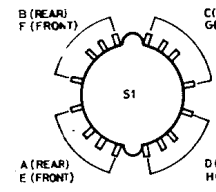
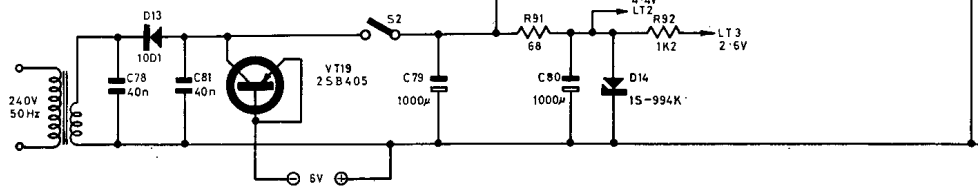
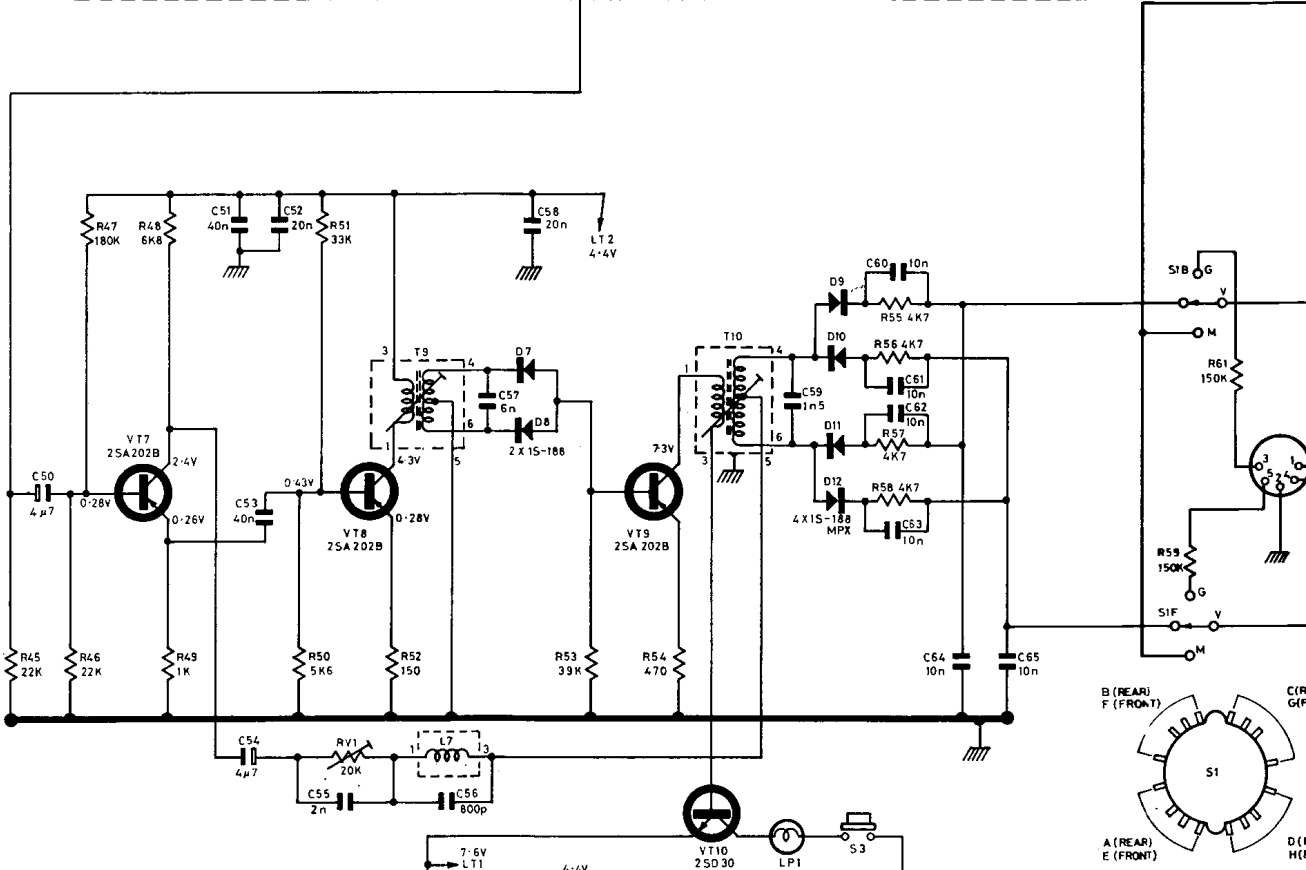
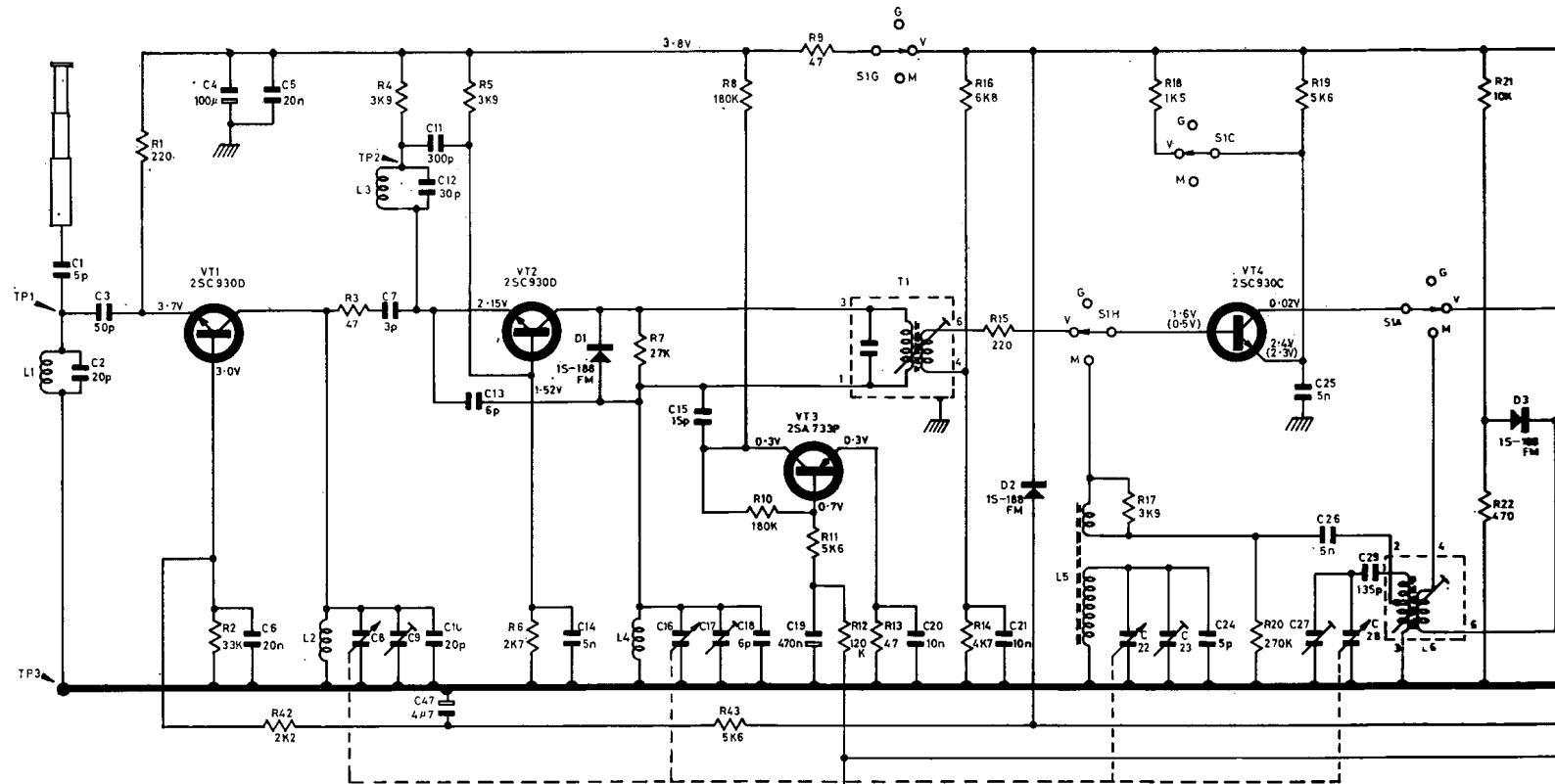
PORTABLE STEREO RADIO

ALIGNMENT PROCEDURE (M.W.)

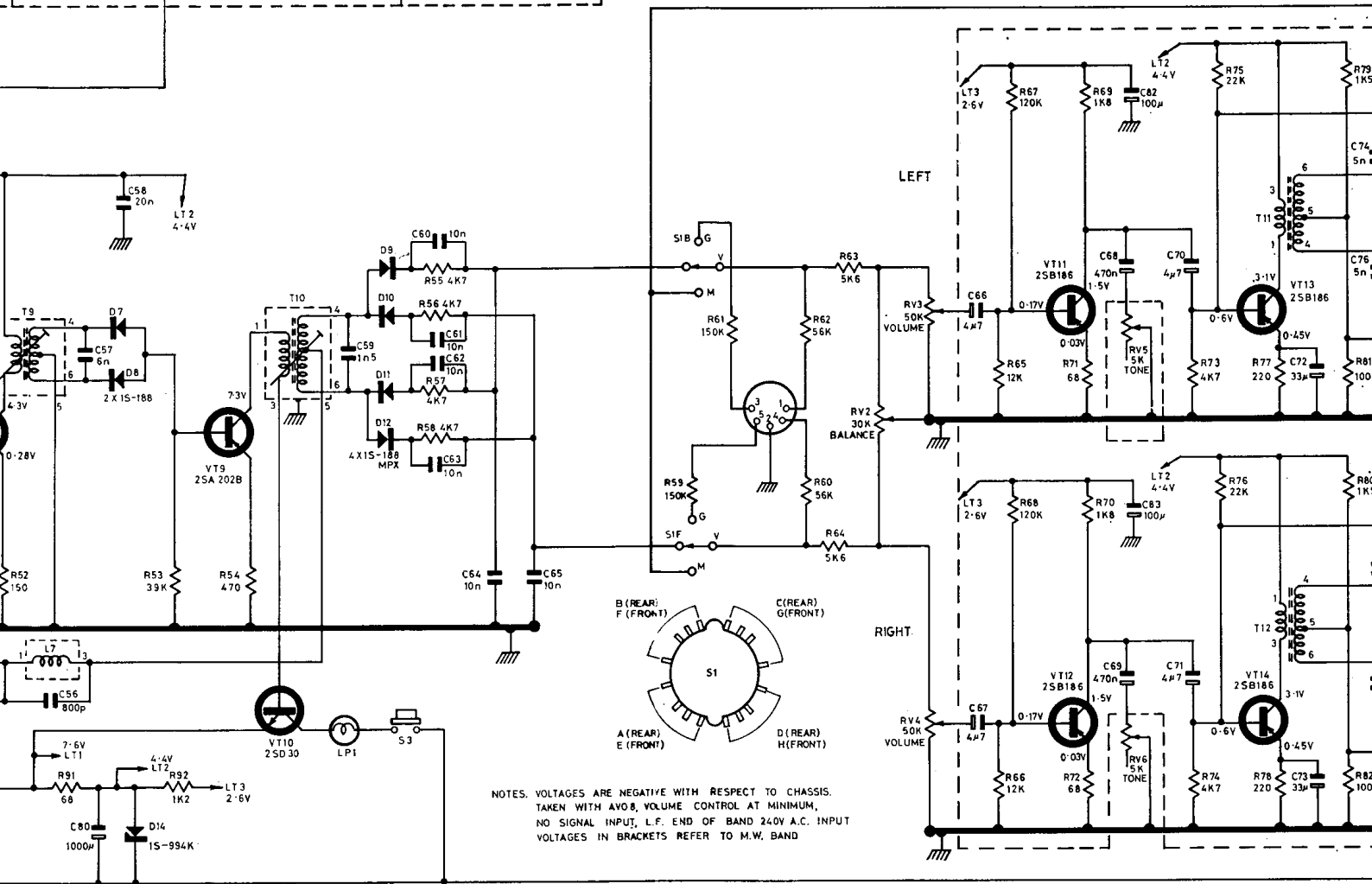
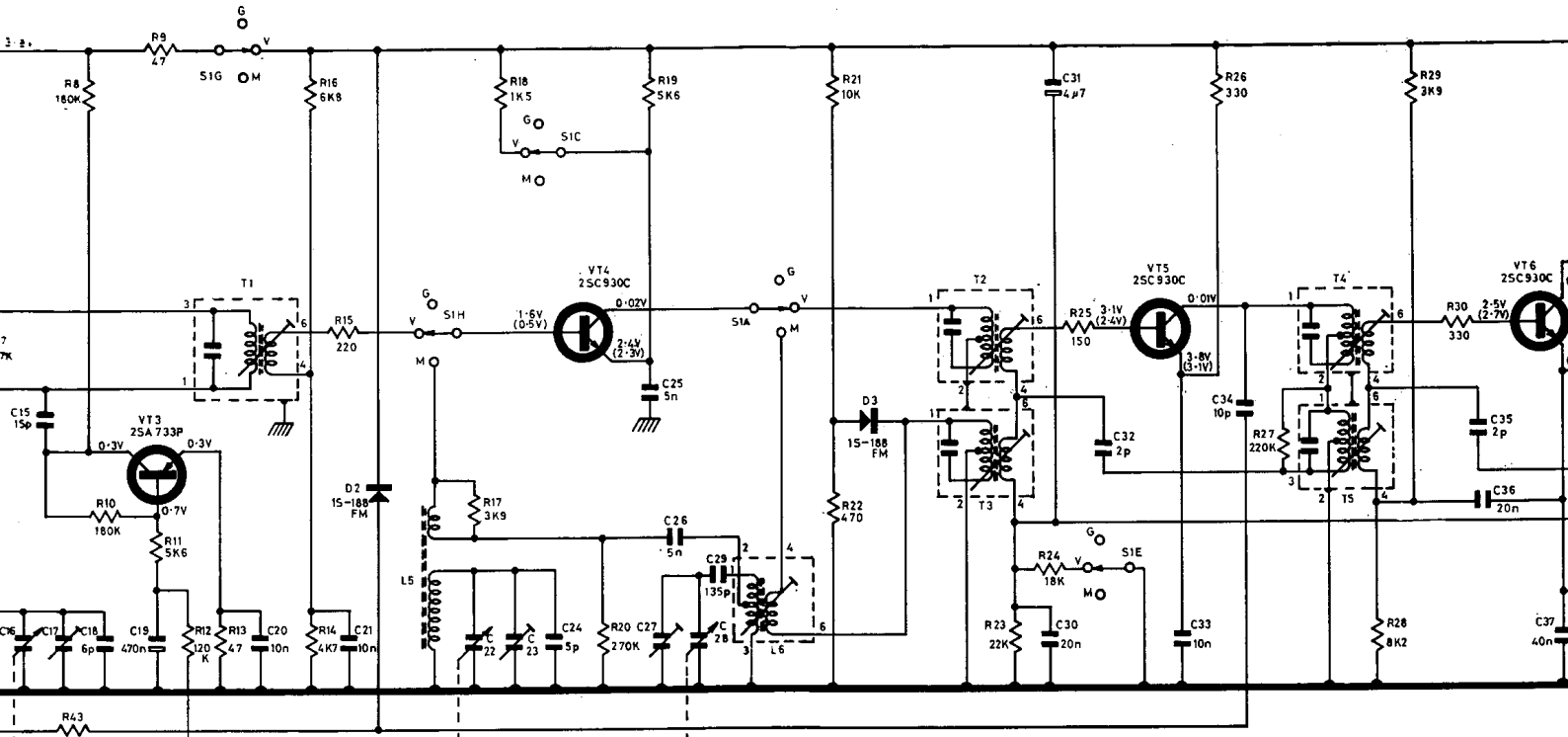
Apply a 30% modulated signal as below :	Set receiver controls to :	Adjust in order for maximum output :
1. 470 kHz to VT4 base via 100 nF capacitor	Volume control at maximum High frequency end of band (check pointer travel)	Cores of T7, T5 and T3
2. 1600 kHz to rod aerial via standard loop	High frequency end	Trimmer C27
3. As (2), but 530 kHz	Low frequency end	Core of L6
4. Repeat (2) and (3), until no further improvement can be obtained		
5. As (2), but 1400 kHz	Tune to signal	Trimmer C23
6. As (2), but 600 kHz	500 metres	Position of L5 on ferrite rod
7. Repeat (5) and (6), until no further improvement can be obtained. Seal L5 in position		

ALIGNMENT PROCEDURE (VHF)

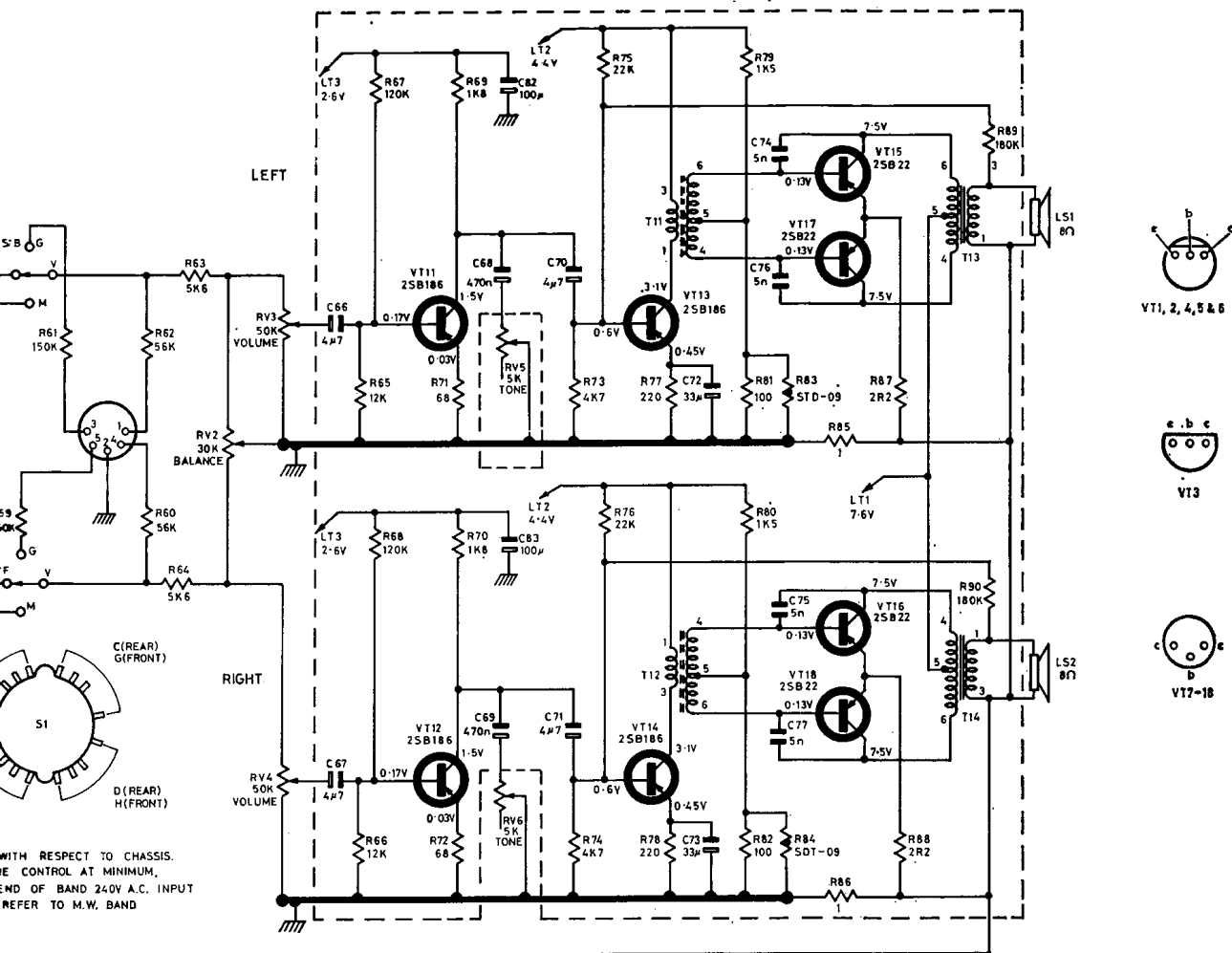
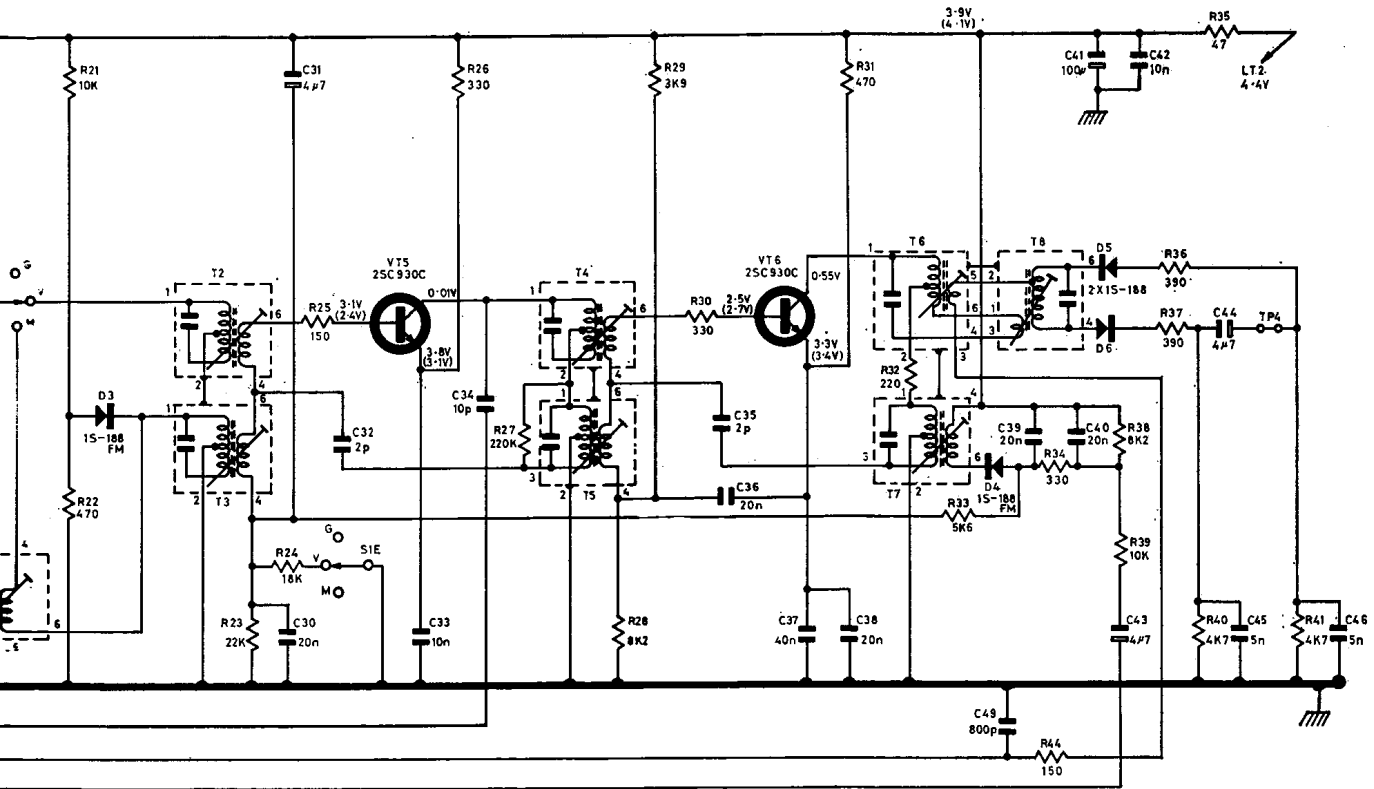
Apply signal as below :	Set receiver controls to :	Adjust in order for maximum output :
1. 10.7 MHz \pm 22.5 kHz deviation to junction L3/R4, via 10 nF capacitor	Volume control at maximum Tune to point of no interference	T6, T4, T2 and T1
2. As (1), but 30% A.M.	As (1)	T8 for minimum output between two maxima
3. Repeat (1) and (2), until no further improvement can be obtained		
4. 108 MHz \pm 22.5 kHz deviation to junction L1/C1	108 MHz	C17
5. As (4), but 88 MHz	88 MHz	Spacing of L4
6. Repeat (4) and (5), until no further improvement can be obtained		
7. As (4), but 106 MHz	Tune to signal	C9
8. As (4), but 92 MHz	Tune to signal	Spacing of L2
9. Repeat (7) and (8), until no further improvement can be obtained		



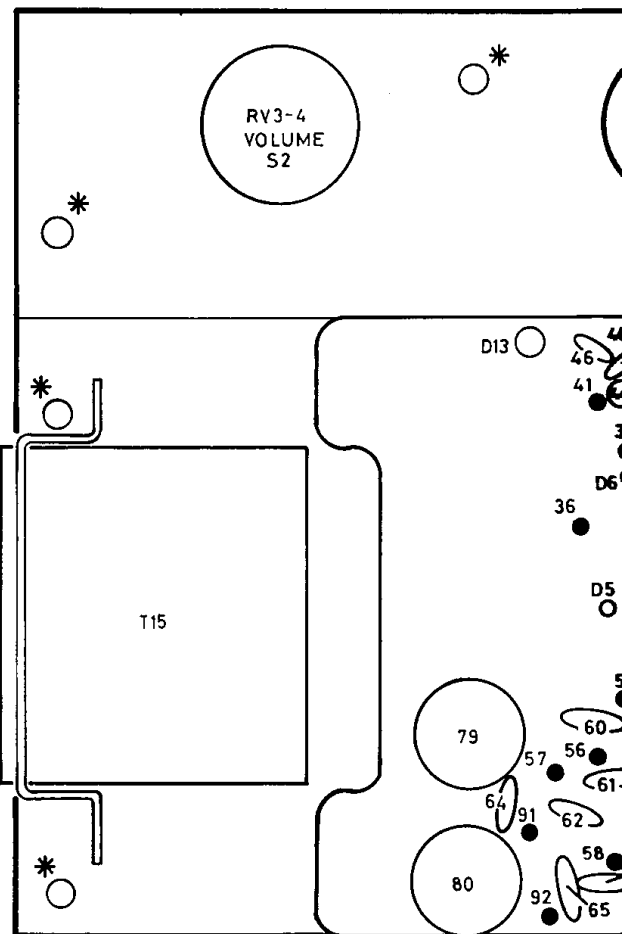
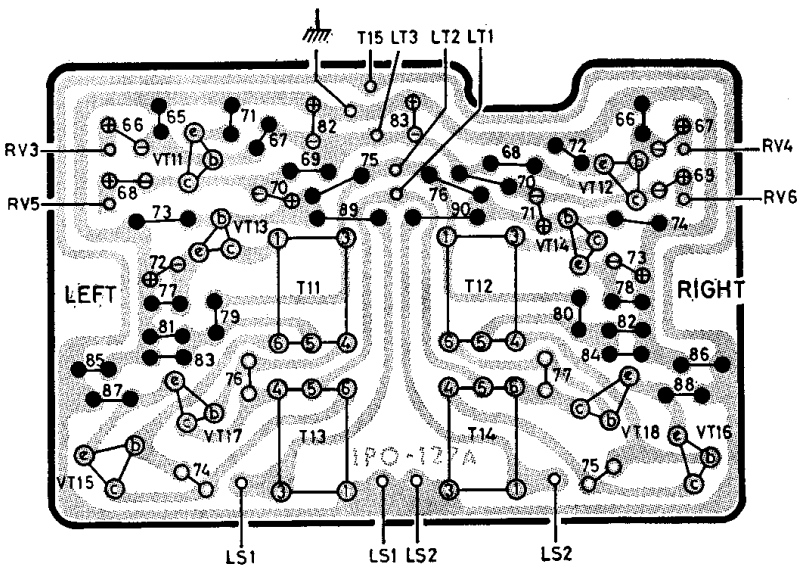
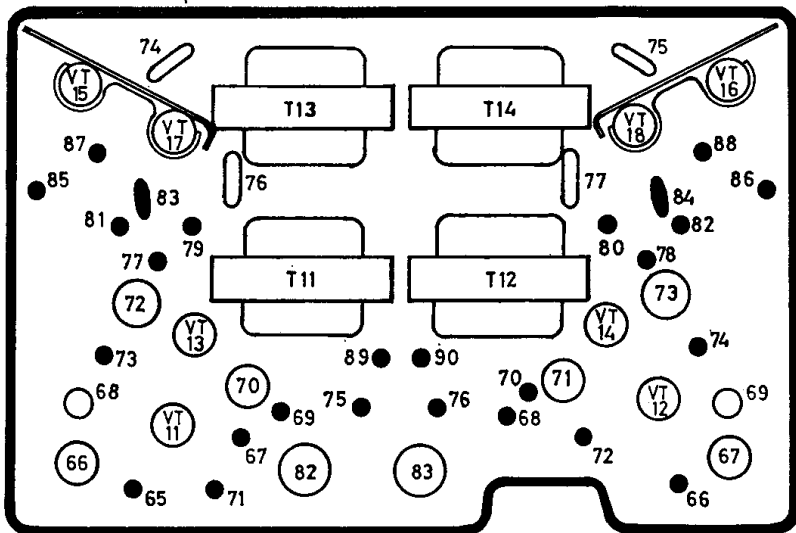
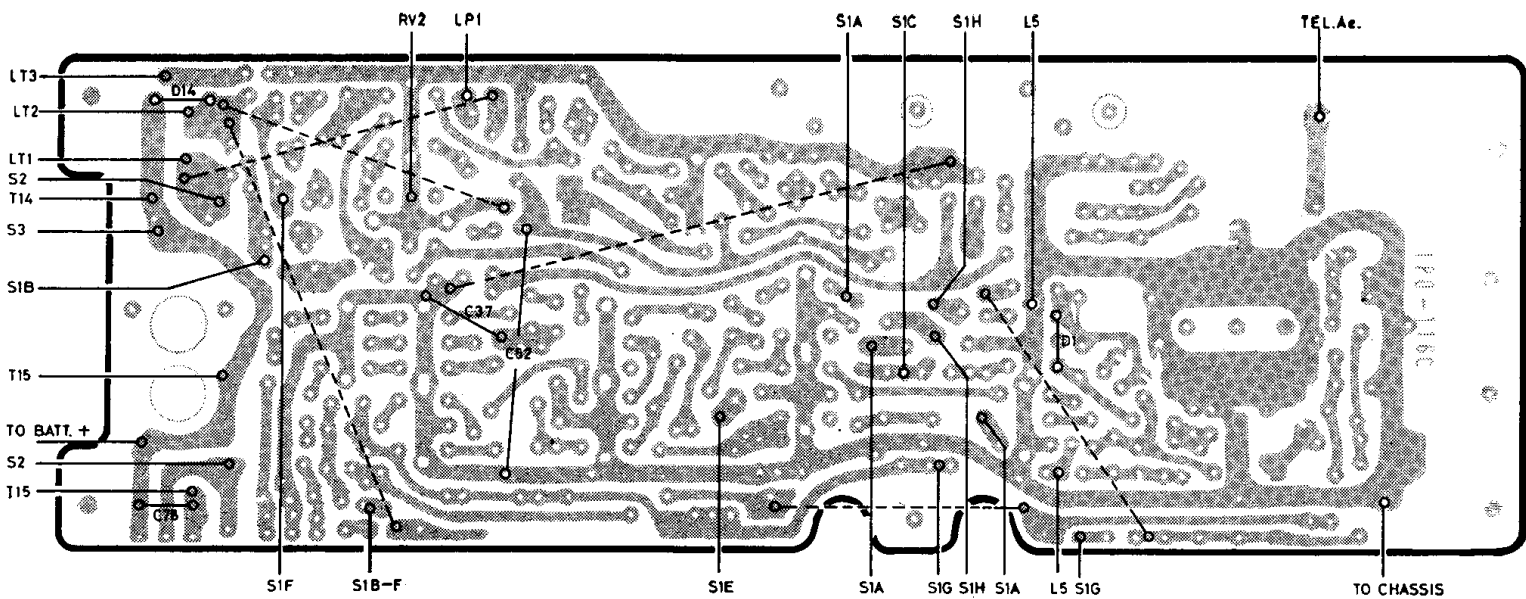
NOTES. VOLTAGES ARE NEGATIVE WITH RESPECT TO C. TAKEN WITH AVO8, VOLUME CONTROL AT MIN. NO SIGNAL INPUT, L.F. END OF BAND 240V A. VOLTAGES IN BRACKETS REFER TO M.W. BAND.

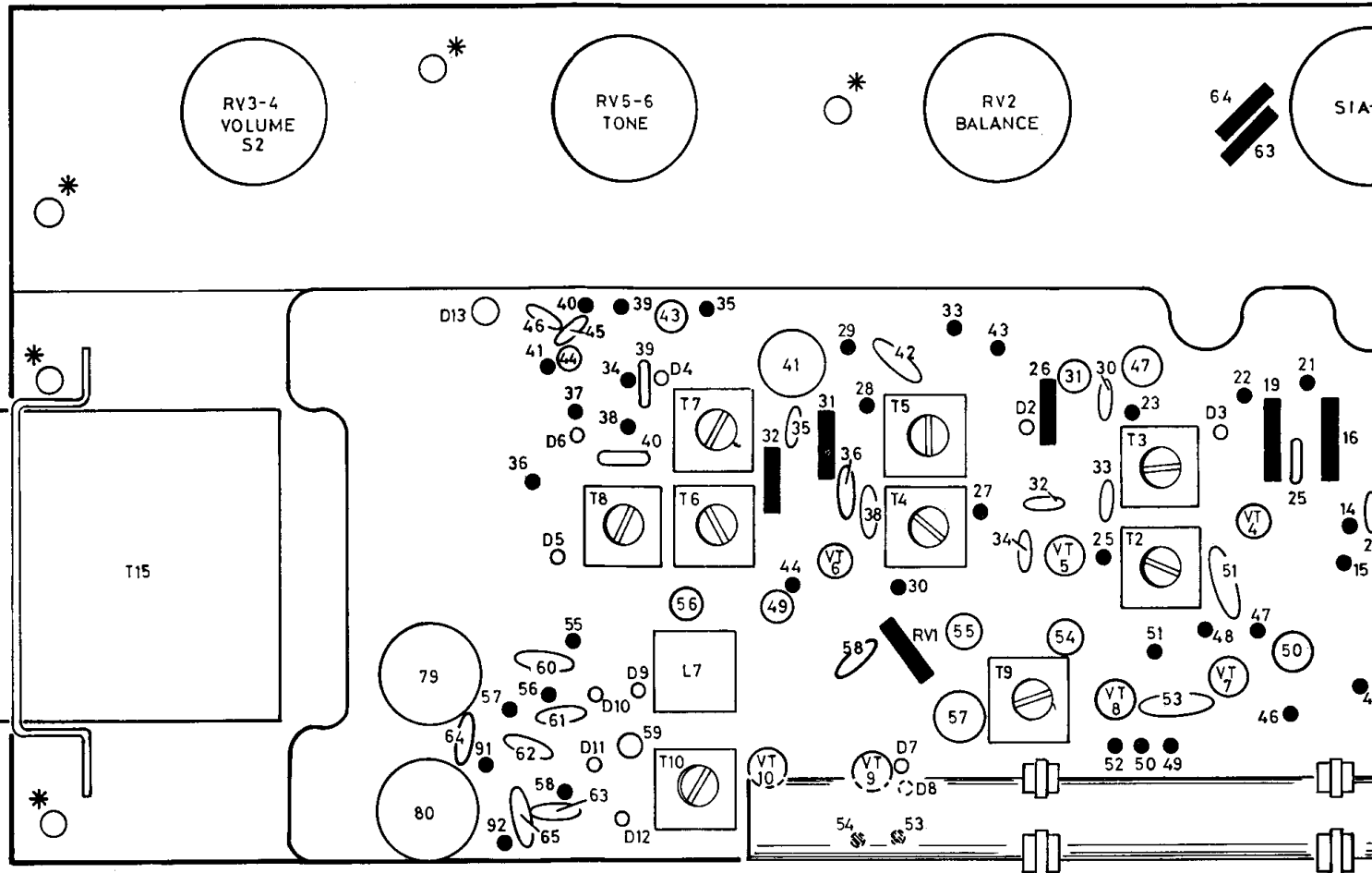
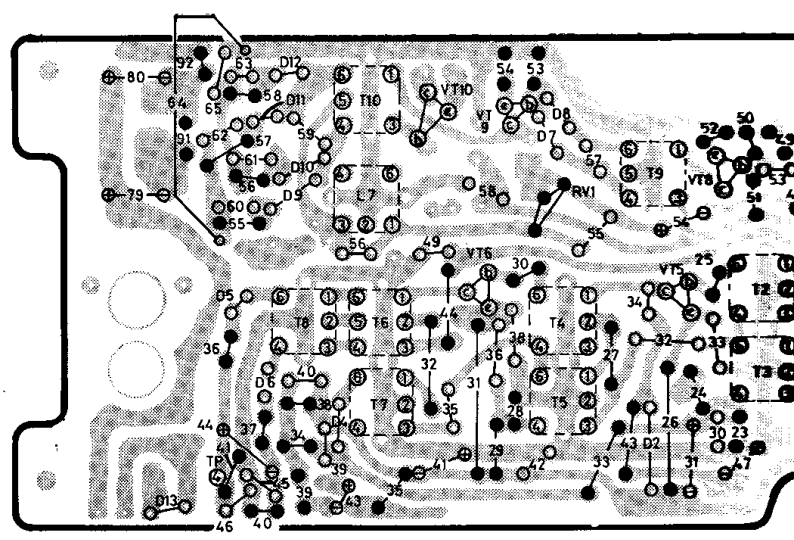
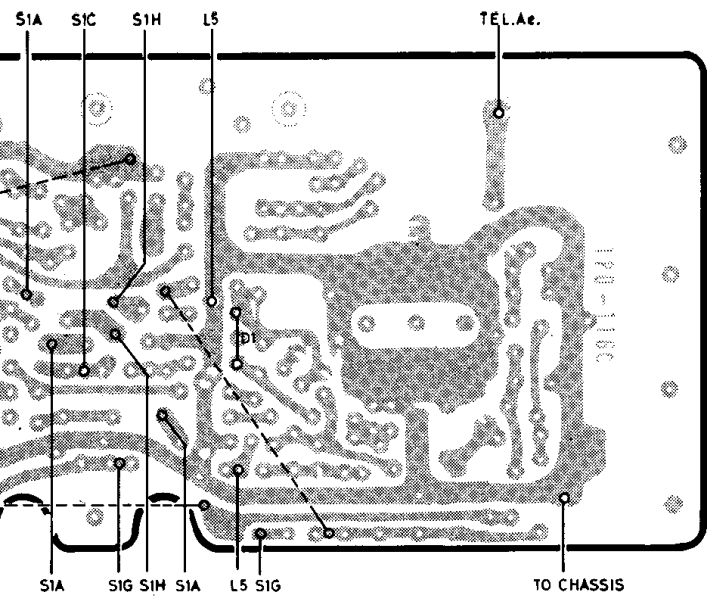


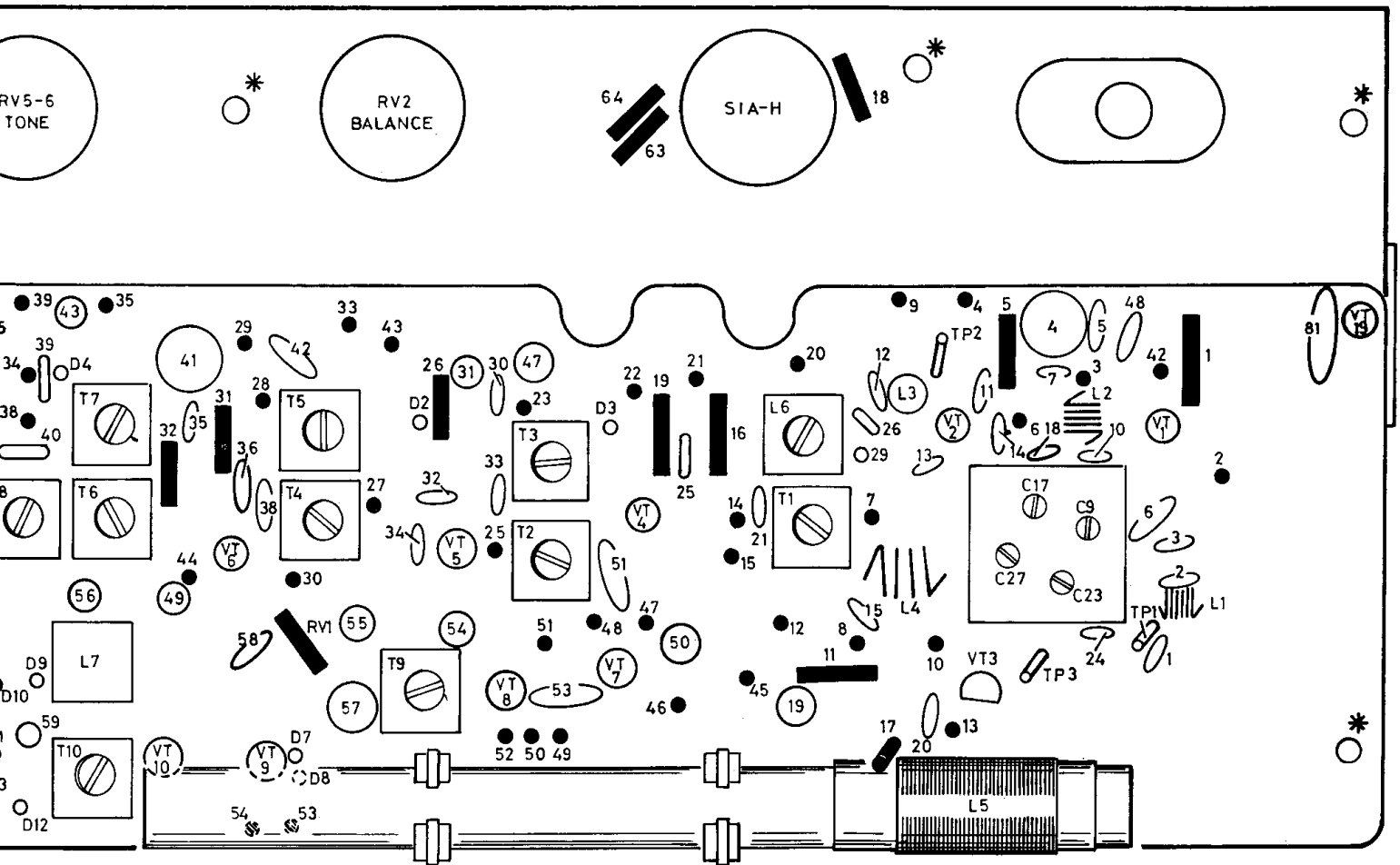
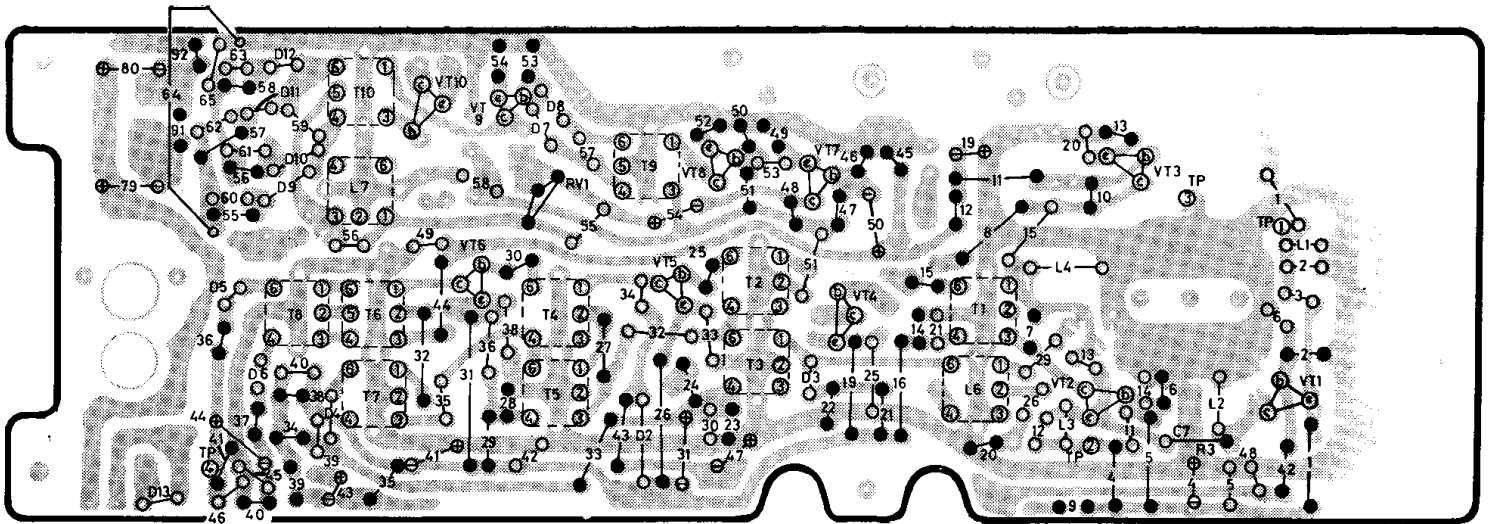
NOTES. VOLTAGES ARE NEGATIVE WITH RESPECT TO CHASSIS.
 TAKEN WITH AV08, VOLUME CONTROL AT MINIMUM,
 NO SIGNAL INPUT, L.F. END OF BAND 240V A.C. INPUT
 VOLTAGES IN BRACKETS REFER TO M.W. BAND



WITH RESPECT TO CHASSIS.
 IE CONTROL AT MINIMUM.
 END OF BAND 240V A.C. INPUT
 REFER TO M.W. BAND







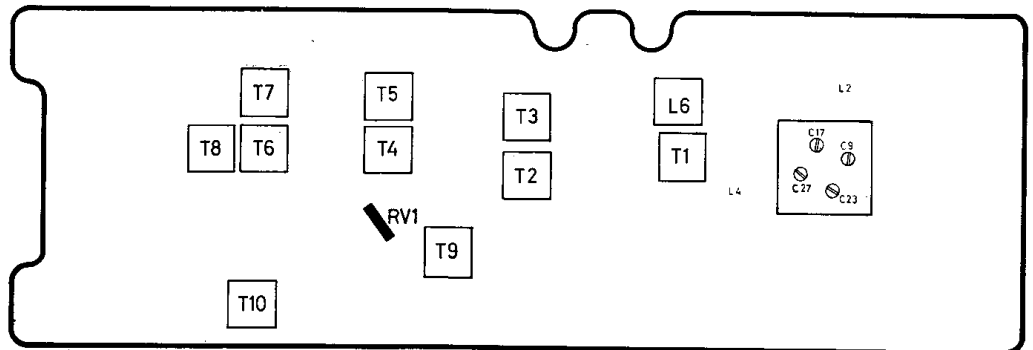
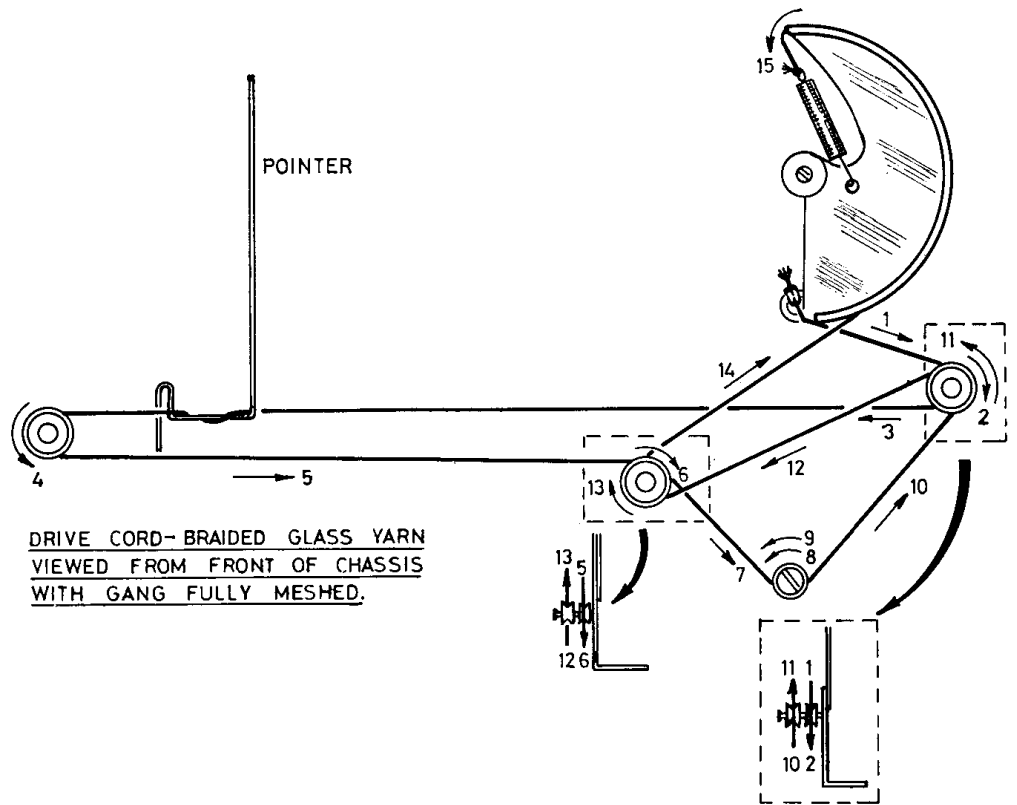
All orders by telephone or post should be directed to:

**COMBINED
ELECTRONIC
SERVICES LIMITED**

604 PURLEY WAY,
WADDON,
CROYDON CR9 4DR

TELEPHONE: 01-686 0505

TELEX: 262308



NOTES

Waveband Coverage: MW 187-555 (1605-530 kHz)
VHF 88-108 MHz

Supply: 6 volt D.C. (4 x SP2 or equivalent)
240 volt A.C. 50 Hz

Power Output: 600 mW total

Output Impedance: 8Ω

Consumption: AM 32 mA (quiescent)
FM 33 mA (quiescent)

- To Remove Chassis:
1. Detach speaker boxes and pull off front control knobs.
 2. Remove backcover (5 screws) and take out battery container tube.
 3. Disconnect leads to telescopic rod stereo lamp switch and battery terminals.
 4. Remove 8 chassis fixing screws (asterisked on component layout diagram).
 5. By withdrawing the telescopic rod from its sheath, the chassis can now be eased out of the cabinet.
 6. If required, take off perspex cover and detach audio panel from backcover (2 screws).

RESISTORS

All resistors are $\frac{1}{2}$ watt.

Code No.	Value	Part No.
R1	220	110 51089
R2	33K	110 51145
R3	47	110 51072
R4	3K9	110 51123
R5	3K9	110 51123
R6	2K7	110 51118
R7	27K	110 51145
R8	180K	110 51167
R9	47	110 51072
R10	180K	110 51167
R11	5K6	110 51127
R12	120K	110 51163
R13	47	110 51072
R14	4K7	110 51125
R15	220	110 51089
R16	6K8	110 51129
R17	3K9	110 51123
R18	1K5	110 51112
R19	5K6	110 51127
R20	270K	110 51172
R21	10K	110 51134
R22	470	110 53098
R23	22K	110 51143
R24	18K	110 53141
R25	150	110 51085
R26	330	110 51094
R27	220K	110 51169
R28	8K2	110 51132
R29	3K9	110 51123
R30	330	110 51094
R31	470	110 53098
R32	220	110 51089
R33	5K6	110 51127
R34	330	110 51094
R35	47	110 51072
R36	390	110 51096
R37	390	110 51096
R38	8K2	110 51132
R39	10K	110 51134
R40	4K7	110 51125
R41	4K7	110 51125
R42	2K2	110 51116
R43	5K6	110 51127
R44	150	110 51085
R45	22K	110 51143
R46	22K	110 51143
R47	180K	110 51167
R48	6K8	110 51129
R49	1K	110 53107
R50	5K6	110 51127
R51	33K	110 51147
R52	150	110 51085
R53	39K	110 51149
R54	470	110 53098
R55	4K7	110 51125
R56	4K7	110 51125
R57	4K7	110 51125
R58	4K7	110 51125
R59	150K	110 51165
R60	56K	110 51154
R61	150K	110 51165
R62	56K	110 51154
R63	5K6	110 51127
R64	5K6	110 51127
R65	12K	110 51136
R66	12K	110 51136
R67	120K	110 51163
R68	120K	110 51163
R69	1K8	110 51114
R70	1K8	110 51114
R71	68	110 51076
R72	68	110 51076
R73	4K7	110 51125
R74	4K7	110 51125
R75	22K	110 51143
R76	22K	110 51143
R77	220	110 51089
R78	220	110 51089
R79	1K5	110 51112
R80	1K5	110 51112
R81	100	110 53081
R82	100	110 53081
R83	Thermistor; type STD - 09	116 37039
R84	Thermistor; type STD - 09	116 37039
R85	1	110 53027
R86	1	110 53027

RESISTORS—continued

Code No.	Value	Part No.
R87	2R2	110 53036
R88	2R2	110 53036
R89	180K	110 51167
R90	180K	110 51167
R91	68	110 51076
R92	1K2	110 51109

CAPACITORS

Code No.	Value	Type	Volts	Part No.
C1	5p	A		122 47002
C2	20p	A		122 47034
C3	50p	A		122 47075
C4	100 μ	B	6.3	124 47017
C5	20n	A		122 47045
C6	20n	A		122 47045
C7	3p	B		122 47032
C10	20p	A		122 47034
C11	300p	A		122 47051
C12	30p	B		122 47043
C13	6p	A		122 30004
C14	5n	A		122 47052
C15	15p	A		122 47061
C18	6p	A		122 30004
C19	470n	B	50	124 20585
C20	10n	A		122 47055
C21	10n	A		122 47055
C24	5p	A		122 47002
C25	5n	C		121 47001
C26	5n	C		121 47001
C29	135p	D		121 50388
C30	20n	A		122 47045
C31	4 μ 7	B	16	124 47015
C32	2p	A		122 47058
C33	10n	A		122 47055
C34	10p	A		122 47003
C35	2p	A		122 47058
C36	20n	A		122 47045
C37	40n	A		122 47059
C38	20n	A		124 47045
C39	20n	C		121 47029
C40	20n	C		121 47029
C41	100 μ	B	6.3	124 47017
C42	10n	A		122 47055
C43	4 μ 7	B	16	124 47015
C44	4 μ 7	B	16	124 47015
C45	5n	A		122 47052
C46	5n	A		122 47052
C47	4 μ 7	B	16	124 47015
C49	800p	D		121 57084
C50	4 μ 7	B	16	124 47015
C51	40n	A		122 47059
C52	20n	A		122 47045
C53	40n	A		122 47059
C54	4 μ 7	B	16	124 20466
C55	2n	D		121 57064
C56	800p	D		121 57084
C57	6n	D		121 50211
C58	20n	A		122 47045
C59	1n5	D		121 50462
C60	10n	A		122 47055
C61	10n	A		122 47055
C62	10n	A		122 47055
C63	10n	A		122 47055
C64	10n	A		122 47055
C65	10n	A		122 47055
C66	4 μ 7	B	16	124 47015
C67	4 μ 7	B	16	124 47015
C68	470n	B	50	124 20585
C69	470n	B	50	124 20585
C70	4 μ 7	B	16	124 47015
C71	4 μ 7	B	16	124 47015
C72	33 μ	B	6.3	124 20452
C73	33 μ	B	6.3	124 20452
C74	5n	C		121 47001
C75	5n	C		121 47001
C76	5n	C		121 47001
C77	5n	C		121 47001
C78	40n	A		122 47005
C79	1000 μ	B	10	124 27144
C80	1000 μ	B	10	124 27144
C81	40n	A		122 47005
C82	100 μ	B	10	124 47017
C83	100 μ	B	10	124 47017

Ceramic = A.

Electrolytic = B.

Mylar = C.

Styroflex = D.

INDUCTORS & TRANSFORMERS

Code No.	Description	Part No.
L1	FM Aerial	157 47043
L2	FM RF	157 47099
L3	FM IF Trap	157 47101
L4	FM Oscillator	157 47098
L5	AM Aerial	157 47096
L6	AM Oscillator	157 47097
L7	MPX	157 17001
T1	FM IF	153 57017
T2	FM IF	156 37108
T3	AM IF	156 37113
T4	FM IF	156 37108
T5	AM IF	156 37111
T6	FM IF	156 37109
T7	AM IF	156 37112
T8	FM IF	153 57021
T9	MPX	156 37114
T10	MPX	156 37115
T11	Driver	142 47009
T12	Driver	142 47009
T13	Output	140 67021
T14	Output	140 67021
T15	Mains	145 27009

TRANSISTORS

Code No.	Type	Part No.
VT1	2SC930D	130 47141
VT2	2SC930D	130 47141
VT3	2SA733P	130 47447
VT4	2SC930C	130 47264
VT5	2SC930C	130 47264
VT6	2SC930C	130 47264
VT7	2SA202B	FV 09147
VT8	2SA202B	FV 09147
VT9	2SA202B	FV 09147
VT10	2SD30	130 47413
VT11	2SB186	FV 09153
VT12	2SB186	FV 09153
VT13	2SB186	FV 09153
VT14	2SB186	FV 09153
VT15	2SB22	130 47412
VT16	2SB22	130 47412
VT17	2SB22	130 47412
VT18	2SB22	130 47412
VT19	2SB405	130 47433

DIODES

Code No.	Type	Part No.
D1	1S188FM	130 37055
D2	1S188FM	130 37055
D3	1S188FM	130 37055
D4	1S188FM	130 37055
D5	1S188	FV 08732
D6	1S188	FV 08732
D7	1S188	FV 08732
D8	1S188	FV 08732
D9	1S188MPX	130 37277
D10	1S188MPX	130 37277
D11	1S188MPX	130 37277
D12	1S188MPX	130 37277
D13	SIB01	130 57073
D14	1S-994K	130 37278

MISCELLANEOUS & CASING

Description	Part No.
Cabinet (Radio)	420 67002
Ornamental Strip—top and bottom	460 17114
Control Escutcheon	454 17309
Leatherette Sides (Radio/Speaker Box) (6)	423 27009
Ornamental Frame (Radio) (2)	460 17111
Backcover (Radio)	422 37026
Battery Cover	423 47081
Battery Case	256 67032
Battery Spring	492 57062
Handle Grip	498 17059
Screws for Handle Grip (2)	502 37125
Handle Bracket; Left-hand	460 17112
Handle Bracket; Right-hand	460 17113
Screws for Handle Bracket (4)	503 97054
Knob Insert; Plain	413 77052
Knob Insert; Red Line (4)	413 77053
Station Scale	333 47015
Pointer	450 87059
Stereo Button	410 27112
Stereo Indicator Lens	381 17062
Telescopic Aerial	303 37024
Terminal for above	290 37036
Heat Sink	255 47067
Tuning Shaft	535 77051
Drive Drum	528 47033
Spring for Drive Cord	492 37054
Pulley (5)	528 87013
Cabinet (Loudspeaker) (2)	445 17029
Ornamental Strip—Top and Bottom (4)	460 17115
Backcover; Right-Hand	445 47001
Backcover; Left-hand	445 47002
Speaker Grille (2)	458 37035
Ornamental Foam (Speaker/Box) (4)	460 17109
Nameplate (EKCO) (2)	459 17206
Hinge; Right-hand (Speaker/Box) (2)	417 17055
Hinge; Left-hand (Speaker/Box) (2)	417 17056
Spacers; Large (Backcover Mounting) (2)	535 87074
Spacers; Small (2)	535 87075
Bracket (Speaker Mounting) (6)	404 17021
Screws for above (6)	502 37095
Screws (Chassis Mounting) (8)	502 37095
Screws (Backcover) (Radio/Speaker Box) (13)	503 97056
Screws (Socket) (2)	503 97032
Switch (Stereo Lamp)	278 97049
Holder for Telescopic Aerial	256 97013
3-Way Terminal Strip	290 67034
Socket; 5-Pin	267 40039
Plug for above	264 40023
Wavechange Switch	273 57007
Lamp; 6V 30 mA	134 47148
Loudspeaker; 3½" 8Ω (2)	FS 11048
Speaker Lead (2)	323 37001
Ferrite Rod Aerial Assembly	158 67029