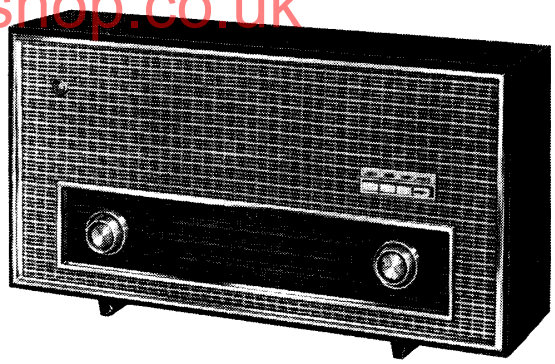
SERVICE SHEET FOR



F.M.–A.M. Table Receiver

Model 1107

F.M. I.F. ALIGNMENT (Visual Indication)

Apply signal from sweep generator as below:—	Set receiver controls as below:—	Adjust as below:—
1. 10.7 Mc/s. to V3 control grid with oscilloscope across R20 and C60 open-circuited by breaking link between pins 17 and 18 (see printed panel diagram).	Volume control at minimum. F.M. mid-band. Check that pointer is aligned with L.F. ends of tracks on tuning scale with gang fully meshed.	Core of L15 (primary) for peak response.
2. As 1, but with oscilloscope across F.M. audio feed and C60 re-connected.	As 1.	Core of L16 (secondary) for symmetrical 'S' curve.
3. As 2.	As 1.	Re-adjust L15 for best 'S' curve.
4. As 1, but to V2 control grid.	As 1.	Cores of L11 and L10 for maximum output, ensuring that symmetrical curve is maintained.
5. As 4, but to C6 (gang) via 0.01μF capacitor.	As 1.	Cores of L5 and L4 for best response shape, and maximum output.

Note:—Re-connect C60 on completion of I.F. alignment.

F.M. I.F. ALIGNMENT (Meter Indication)

Apply signal as below:—	Set receiver controls as below:—	Adjust as follows:—
1. 10.7 Mc/s. ±75 kc/s. to V3 control grid, with output meter connected to L.S. sockets.	Volume and Tone controls at maximum. F.M. midband.	Cores of L16 and L15 for peak reading.
2. As 1.	As 1.	Check quality of output, and if necessary re-adjust L16 for minimum distortion.
3. As 1, but to V2 control grid.	As 1.	Cores of L11 and L10 for peak reading consistent with absence of distortion.
4. As 1, but to C6 (gang) via 0.01μF capacitor.	As 1.	Cores of L5 and L4 for peak reading consistent with absence of distortion.

F.M. R.F. ALIGNMENT

Apply signal as below:—(output limited to give about 500mW output at loudspeaker):—	Set receiver controls as below:—	Adjust in order for maximum output:—
1. 91.3 Mc/s. deviation ±25 kc/s. via F.M. aerial sockets.	Volume and Tone controls at maximum. F.M. 91.3 Mc/s.	Cores of L3, L2 and L1.

TRIMMING PROCEDURE (MW and LW Bands)

Apply a 30% modulated signal as below:—	Set receiver controls as below:—	Adjust in order for maximum output:—
1. 470 kc/s. via 0.01μF capacitor to V2 control grid. Meter connected as for F.M. I.F. alignment.	Volume and Tone controls at maximum. M.W. low-frequency end of band.	Cores of L14, L13, L9 and L8.
2. 600 kc/s. to junction L6/L7, via 1000pF capacitor.	M.W. 500 metres.	Core of L12 and position of L6 on ferrite rod.
3. As 2, but 1400 kc/s.	M.W. 214 metres.	Trimmers C48 and C38.
4. Repeat 2 and 3 until calibration and tracking is correct. Seal position of L6.		
5. 214.3 kc/s. to V2 control grid.	L.W. 1400 metres	Trimmer C44.
6. 214.3 kc/s. to junction R9/C34 (pin 6), via 1000pF capacitor.	L.W. 1400 metres.	Position of L7 on ferrite rod, and seal.

Note:—Receivers are provided with calibration markings for 91.3 Mc/s., 1400 kc/s., 600 kc/s. and 214.3 kc/s. on the horizontal front bracket beneath the diffuser assembly.

SPARE PARTS LIST

CAPACITORS

Ref. No.	Value	Tol. %	Type	Fig.	Part No.
C1	2–40 pF	2½	Base Trimmer ...	2	B108731/1
C2	Not used				
C3	1000 pF	20	K170051AD	2	PN26013
C4	Not used				
C5	.01μF	+80 —20	K750012BD	2	PN50012
C6	15 pF		Gang	1	PV00002
C7	.01 μF	+80 —20	K750012BD	1	PN50012
C8	4.7 pF	20	P100AD	2	PN03078
C9	1–8 pF		Trimmer CT305 ...	2	PV05042
C10	1–8 pF		Trimmer CT305 ...	2	PV05042
C11	.5–5 pF		Trimmer CT305 ...	2	PV05043
C12	8.2 pF	5	P100AD	2	PN07021
C13	8.2 pF	5	P100AD	2	PN07021
C14	15 pF	2½	NPO.AD	2	PN12031
C15	68 pF	1	1106SW	2	PP07655
C16	10 pF	5	P100AD	2	PN09040
C17	36 pF	2½	N150BD	2	PN12127
C18	68 pF	5	N470BD	2	PN15110
C19	15 pF		Gang	1	PV00002
C20	3.3 pF	5	P100AD	2	PN08056
C21	.01 μF	+80 —20	K750012BD	2	PN50012
C22	100 pF	5	1106	2	C105711/92A
C23	3–30 pF		Phillips Trimmer ...	2	PV05044
C24	3–30 pF		Phillips Trimmer ...	2	PV05044
C25	25 pF	5	1106 SW	2	PP05171
C26	3–30 pF		Phillips Trimmer ...	2	PV05044
C27	33 pF	5	1106SW	2	PP06172
C28	3300 pF	20	K2600BP	1	PN38001
C29	.01 μF	+80 —20	K750012BP	1	PN50005
*C30	100 pF	2	1106SW	1	105711/92A
*C31	8.2 pF	½p	1106SW	1	105711/91A
C32	100 pF	2	1106SW	1	105711/38A
C33	.01 μF	+80 —20	K750012BD	1	PN50012
C34	.01 μF	+80 —20	K750012BP	1	PN50005
*C35	100 pF	2	1106SW	1	105711/92A
*C36	12 pF	½p	1106SW	1	105711/93A
C37	.01 μF	+80 —20	K750012BP	1	PN50005
C38			Trimmer (Part of Gang)	1	PV00002
C39	392 pF		Gang	1	PV00002
C40	100 pF	20	N3300AP	1	PN17010
C41	100 pF	20	N3300AP	1	PN17010
C42	.1 μF	+50 —25	3v. Transcap	1	660476
C43	.01 μF	+80 —20	K750012BP		PN50005
C44	4–40 pF		W & R Trimmer ...	1	108731/1
C45	375 pF	2	2515PSM	1	105711/123
C46	445 pF	1	2515PSM	1	105711/124
C47	392 pF		Gang	1	PV00002
C48			Trimmer (Part of Gang)	1	PV00002
C49	.03 μF		CP3PLK7004 ...	1	PN56300
C50	3300 pF	20	K2600BP	1	PN38001
C51	.01 μF	+80 —20	K750012BD	1	PN50012
*C52	100 pF	±2	1106		C105711/92A
C53	.01 μF	+80 —20	K750012BP	1	PN50005
*C54	250 pF	2½p	125v. Polystyrene ...	1	C121373/14
*C55	56 pF	2	1106SW	1	105711/125A
C56	220 pF	20	N4200AP	1	PN20031
C57	.03 μF		CP3PLK7004 ...	1	PN56300
C58	220 pF	20	N4200AP	1	PN20031
C59	.03 μF		CP3PLK7004 ...	1	PN56300
C60	2 μF		50v. Electrolytic ...	1	PS15056
C61	.03 μF		CP3PLK7004 ...	1	PN56300
C62	100 pF	20	N3300AP	1	PN17010
C63	100 pF	20	N3300AP	1	PN17010
C64	1000 pF	20	K170051AP	1	PN26008
C65	.01 μF		Metalmite	1	52658
C66	.01 μF	+80 —20	K750012BP	1	PN50005
C67	.01 μF		W99	1	41904/3 or 42053/7
C68	32 μF				
C69	40 μF		300v. Electrolytic ...	1	PS82631
C70	40 μF				
C71	.1 μF		125v. Polyester ...	1	C133156/4
C72	470 pF	20	BPI	1	PN22103
C73	.01 μF	+80 —20	K750012BD	1	PN50012
C74	470 pF	±20	T1	2	C120701/1
C75	8.2 pF	5	P100AD	2	PN07021
C76	.01 μF	+80 —20	K7500/2BD	2	PN50012

* Integral part of coil or transformer.

RESISTORS

Ref. No.	Value	Tol. %	Type	Fig.	Part No.
R1	Not used				
R2	Not used				
R3	10K	10	8	2	NG10300
R4	1M	20	7AD	2	NH10506

RESISTORS (continued)

Ref. No.	Value	Tol. %	Type	Fig.	Part No.
R5	4K7	20	7AD	2	NH47206
R6	1M5	20	8	1	NH15500
R7	12K	10	8AP	1	NG12310
R8	2K2	20	9AP2	1	NH22213
R9	100K	20	9AP2	1	NH10413
R10	47K	20	9AP2	1	NH47313
R11	47K	20	9AP2	1	NH47313
R12	220K	10	9AP2	1	NG22413
R13	100	10	9AP2	1	NG10113
R14	47K	20	9AP2	1	NH47313
R15	12K	10	8AP	1	NG12310
R16	2K2	20	8AP2	1	NH22211
R17	82	10	9AP2	1	NG82013
*R18	100	10	7AD	1	NG10106
R19	10K	20	8AP2	1	NH10311
R20	47K	10	9AP2	1	NG47313
R21	47K	20	9AP2	1	NH47313
R22	330K	10	9AP2	1	NG33413
R23	2M2	20	9AP2	1	NH22513
R24	220K	20	9AP2	1	NH22413
R25	100K	20	8AP2	1	NH10411
R26	10M	20	9AP2	1	NH10613
R27	220	10	9AP2	1	NG22113
R28	220K	10	9AP2	1	NG22413
R29	47K	20	9AP2	1	NH47313
R30	150	10	10AP	1	NG15114
R31	1K	10	8AD	1	NG10207
R32	5K6	10	8AP	1	NG56210
R33	820	10	10AD	1	NG82108
R34	100K	20	4AP2	1	NH10418
R35	39	20	10AD	1	NH39008
R36			VA1010 Thermistor ...	1	PL23009
R37			VA1005 Thermistor ...	1	PL23010
R38	300	10	Erie Y2W/W ...	1	PG30030

VARIABLE RESISTORS

Ref. No.	Value	Description	Fig.	Part No.
RV1	5K	A.M. Rejector	1	C109334/7
RV2	1M	Volume } Dual	1	PL00072
RV3	500K	Tone }		

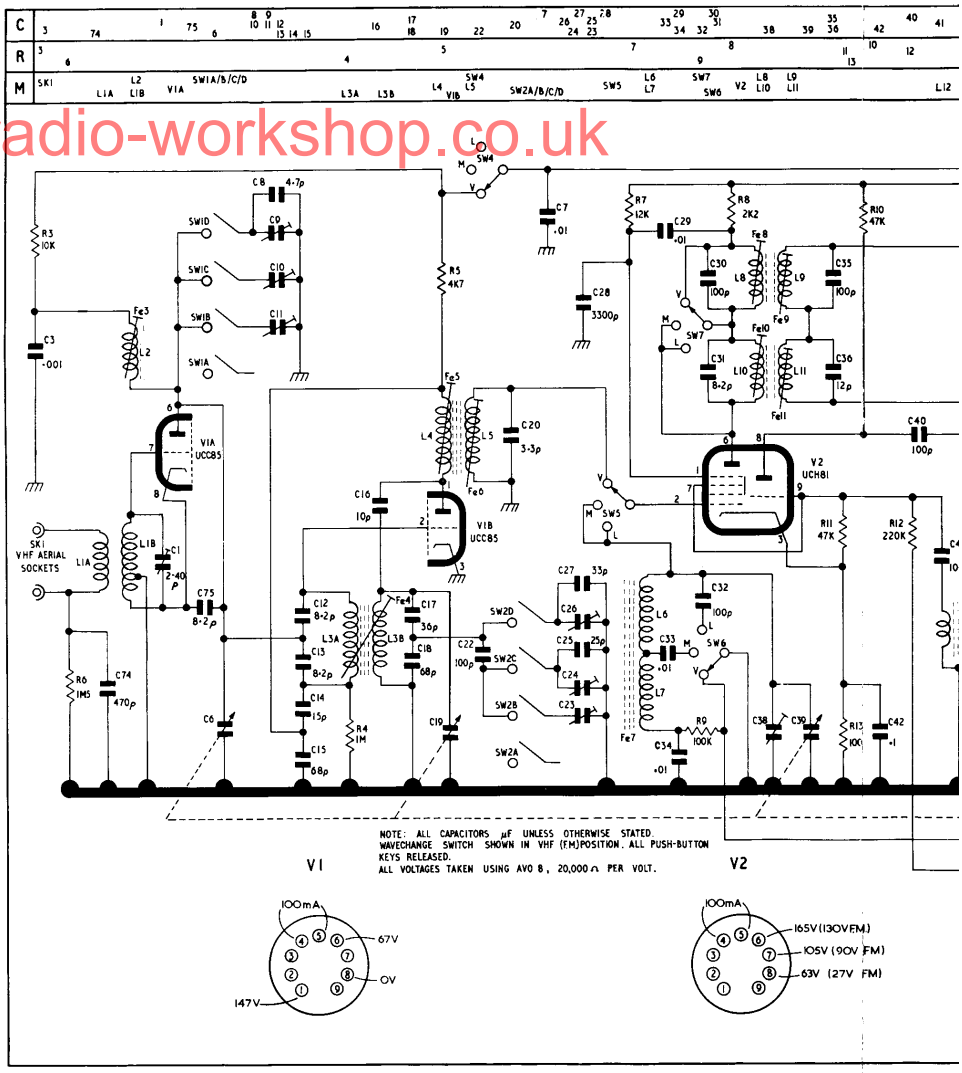
COILS AND TRANSFORMERS

Ref. No.	Description	Fig.	Part No.	Assembly No.
L1	F.M. Aerial	2	AN01609	
L2	F.M. Anode	2	AN01610	
L3	F.M. Oscillator	2	AN01611	
L4	1st F.M. I.F. (Pri.)	2	AN01602	
L5	1st F.M. I.F. (Sec.)	2	AN01603	
L6	M.W. Aerial...	1	AN01514	
L7	L.W. Aerial	1	AN01515	
L8	1st A.M. I.F. (Pri.) } ...	1	AN01513	AN00701
L9	1st A.M. I.F. (Sec.) }			
L10	2nd F.M. I.F. (Pri.) } ...	1	AN01512	AN00701
L11	2nd F.M. I.F. (Sec.) }			
L12	A.M. Oscillator	1	AN01601	AJ00386
L13	2nd A.M. I.F. (Pri.) } ...	1	AN01510	AN00702
L14	2nd A.M. I.F. (Sec.) }			
L15	Discriminator (Pri.) }			
L16	Discriminator (Sec.) } ...	1	AN01511	AN00702
L17	Discriminator (Tert.) }			
T1	Output		AN00202	

MISCELLANEOUS

Ref. No.	Description	Fig.	Part No.
Fe7	Ferrite Rod	1	108833
LS1	Loudspeaker; 8" x 5" 3ohm		FS10015
LP1 } LP2 }	Pilot Lamp; 12v. 0.3 amp.	1	113811/2
SW1A–D } SW2A–D }	D.P. Push-Buttons	1	FS00047
SW4–9	Wavechange	1	FS00004
SW10A–B	D.P. On/Off (on Volume/Tone)	1	PL00072
	Tuner Unit Assembly		AF00004
	Diffuser Assembly		AJ00061
	Pointer Assembly		AJ00062
	Reflector		BD00128
	Lampholder		122416
	Drive Drum		FD00002
	Tuning Sleeve		BB00011

Circuit Diagram
PYE Model 1107



NOTES

POWER SUPPLY:
200/250 volts A.C. or D.C.

CONSUMPTION:
Approx. 50 watts.

WAVEBAND COVERAGE:

L.W.	1200 — 2000	metres	(250 — 150	kc/s.)
M.W.	182 — 545	,,	(1650 — 550	kc/s.)
V.H.F.	86 — 100	Mc/s.		

INTERMEDIATE FREQUENCIES:
A.M. — 470 kc/s. F.M. — 10.7 Mc/s.

CHASSIS REMOVAL:
1. Remove plugs from rear of chassis and take off back cover.
2. Loosen inner knob grub screws and pull off all four knobs.
3. Remove the four chassis fixing screws and washers on the underside of the cabinet, when the chassis may be withdrawn to the extent of the loudspeaker leads.

SETTING-UP PROCEDURE (V.H.F. PUSH-BUTTONS)

The majority of V.H.F. transmitters in Band 2 have a standard spacing of 2.2 Mc/s. between programmes and model 1107 has been designed so that the four push-buttons can be pre-tuned at intervals of 2.2 Mc/s. Once set up, each of the programmes available may be selected simply by turning the Tuning control knob until the station pointer coincides with the red indicator below the tuning scale, switching to ' V.H.F.' and depressing the appropriate button. All receivers leave the factory with the first three buttons only pre-tuned to Wrotham frequencies, as follows: LIGHT —89.1 Mc/s. THIRD—91.3 Mc/s. HOME 1—93.5 Mc/s. Thus, no adjustment is needed in areas served by transmitters using these frequencies.

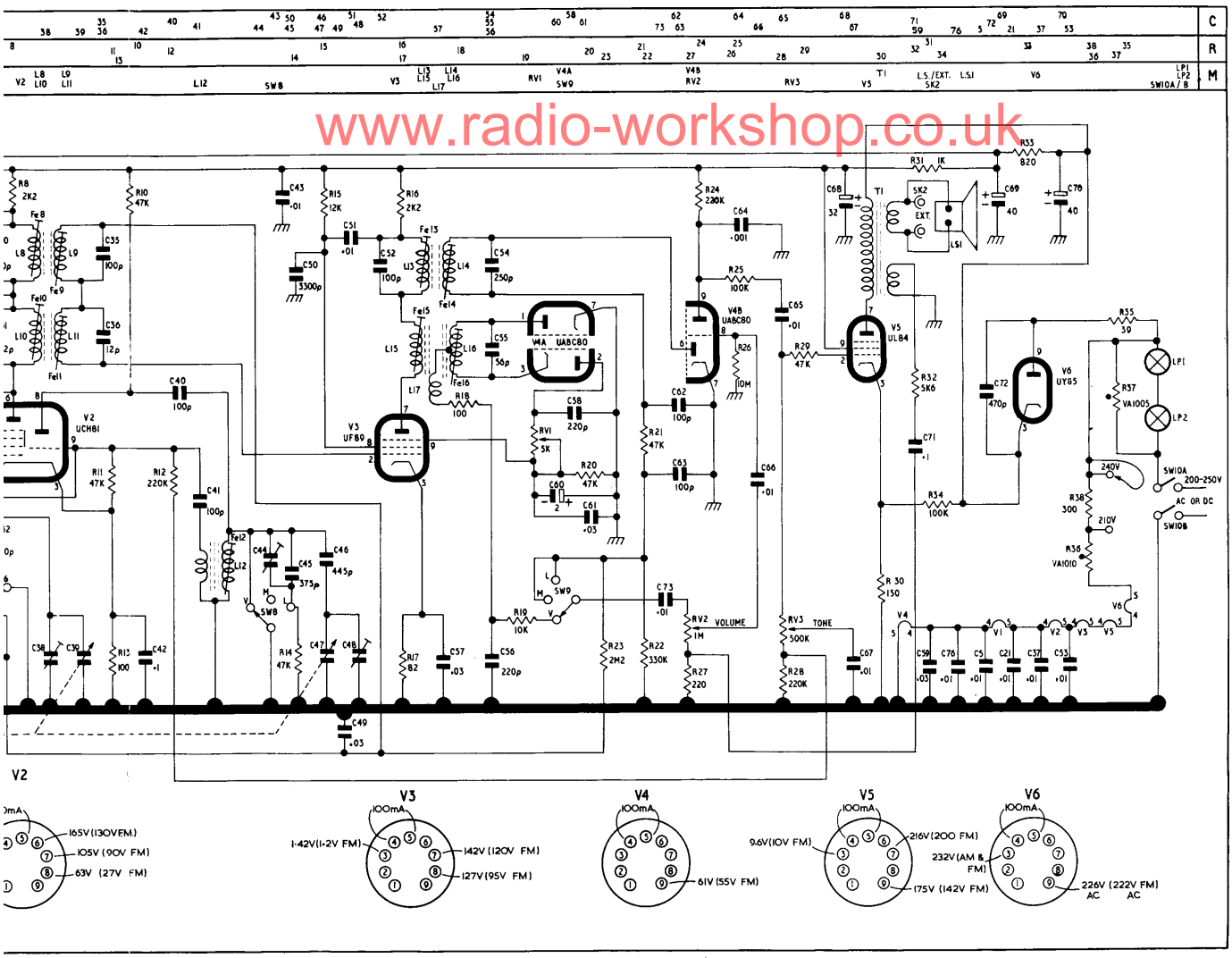
For all other transmitters *except Swingate, Sandale, Beckley, Wenvoe and Les Platons*, switch on, remove back cover and check that chassis is not ' live '. Then switch to ' VHF ' and, after allowing a few minutes for the receiver to warm up, proceed as follows:—

1. Bring pointer into line with indicator and press ' LIGHT ' button.
2. Tune to local Light Programme by moving pointer to the *left* if frequency of this station is *higher* than 89.1 Mc/s., or to the *right* if *lower* than 89.1 Mc/s. Carefully adjust tuning for optimum result, taking care that set is tuned to the ' wanted ' station and not to an inferior transmission.
3. With the aid of a screwdriver, slide indicator along scale until its position coincides with that of pointer.
4. Press ' THIRD ' button and carefully trim C24.
5. Press ' HOME 1 ' button and likewise adjust C23.

The five exceptions mentioned above do not conform to the normal pattern and the procedures given below should be carried out:—

Swingate (Dover). Spacing not standard for Third Programme.

1. Carry out steps 1—3 above.
2. Press ' THIRD ' button and appreciably unscrew C24 to bring in programme.
3. Follow on with step 5 above.



Sandale (Carlisle) Standard spacing, but two Home Programmes available.

1. Press ' HOME 2 ' button and tune well to the right of indicator for North of England Home Service.
2. Carefully adjust tuning for best performance and bring indicator into line with pointer.
3. Press in turn the ' HOME 1 ', ' THIRD ' and ' LIGHT ' buttons, setting-up the corresponding trimmer in sequence, i.e. C23, C24 and C26.

Beckley (Oxon.) Non-standard spacing between the two available Home Programmes.

1. Press ' HOME 2 ' button and tune slightly to the left of indicator for West Home Service.
2. Bring indicator into line with pointer.
3. Re-tune the other three buttons as for Sandale transmitter, noting that the oscillator trimmers C23, C24 and C26 must be *unscrewed*. If screwed in, Wrotham transmissions may be received.

Wenvoe (Glam.) Non-standard spacing and two Home Programmes available.

Due to abnormal frequency allocation, it is unavoidable that West Home Service will be received on the ' THIRD ' button and the Third Programme will appear on ' HOME 2' button.

1. Press ' HOME 2 ' button and tune in *Third* Programme by moving pointer to left of indicator.
2. Bring indicator into line with pointer.
3. Re-tune the other three buttons as for Sandale transmitter, noting that the oscillator trimmers must be *screwed in*; furthermore, the *West of England* Home Service will appear on the ' THIRD ' button.

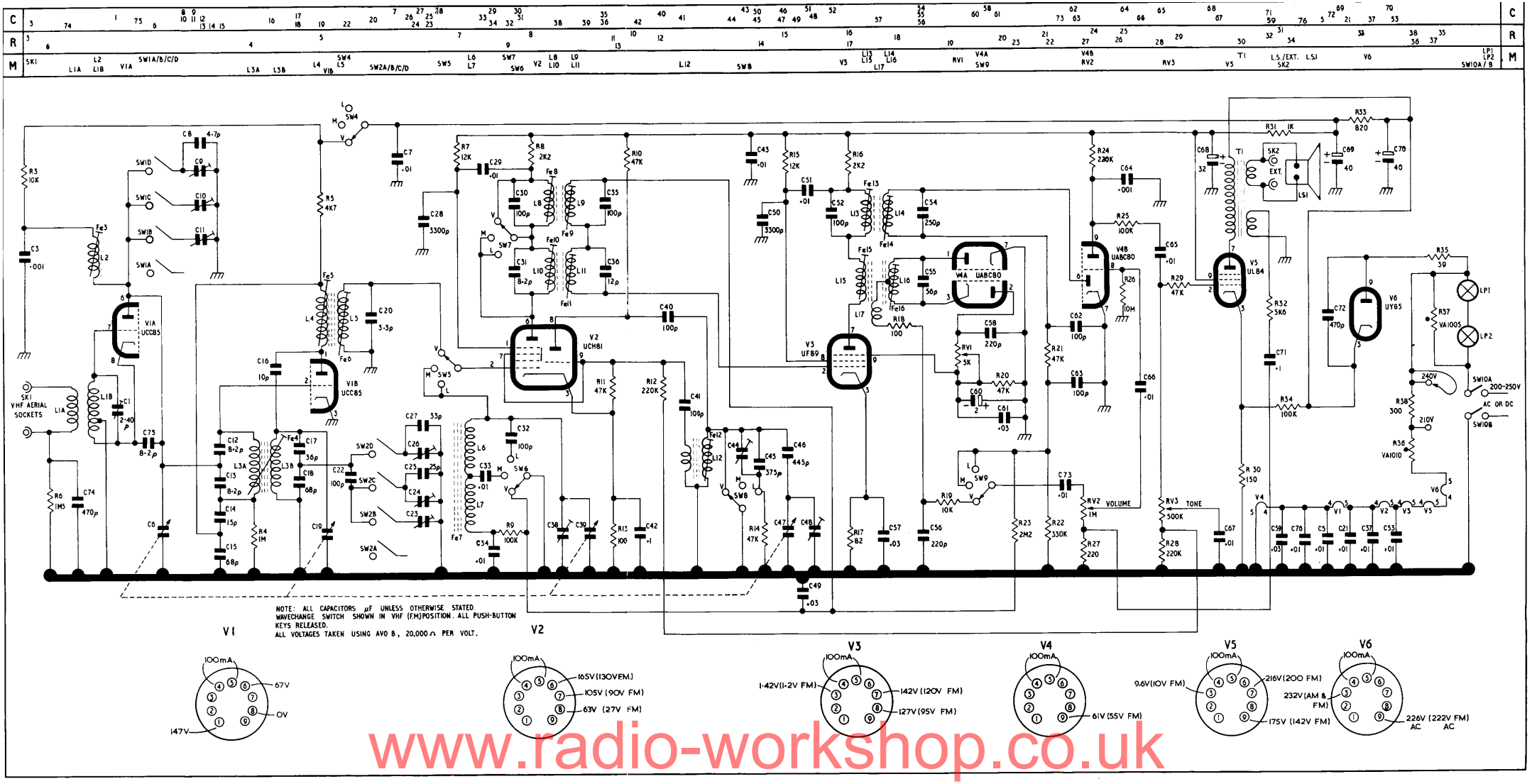
Les Platons (Channel Is.) Completely non-standard spacing and ' HOME 1 ' button vacant.

1. Remove chassis from cabinet and take off tuner unit top cover.
2. Disconnect C25 (25pF), press ' HOME 2 ' button and tune in Home Service (97.1 Mc/s.).
3. Bring indicator into line with pointer.
4. Press ' THIRD ' button and adjust C24 to bring in Third Programme.
5. Retrim C10 for maximum output, with voltmeter across C60 and minimum picked-up signal applied (achieved, if necessary, with short piece of wire connected to one aerial socket in lieu of internal aerial).
6. Press ' LIGHT ' button and retrim C9 for maximum output, as above.
7. Reassemble receiver.

Notes: (*a*) In certain areas where more than one transmitter is received, care must be taken to select the one known to give best reception.

(*b*) Refer to Fig. 2 for trimmer locations.

(*c*) The above instructions are based on the assumption that the receiver is tuned to Wrotham frequencies. They can be applied in other instances, however, once the Light Programme has been located by manual tuning and the indicator brought into line with the pointer.



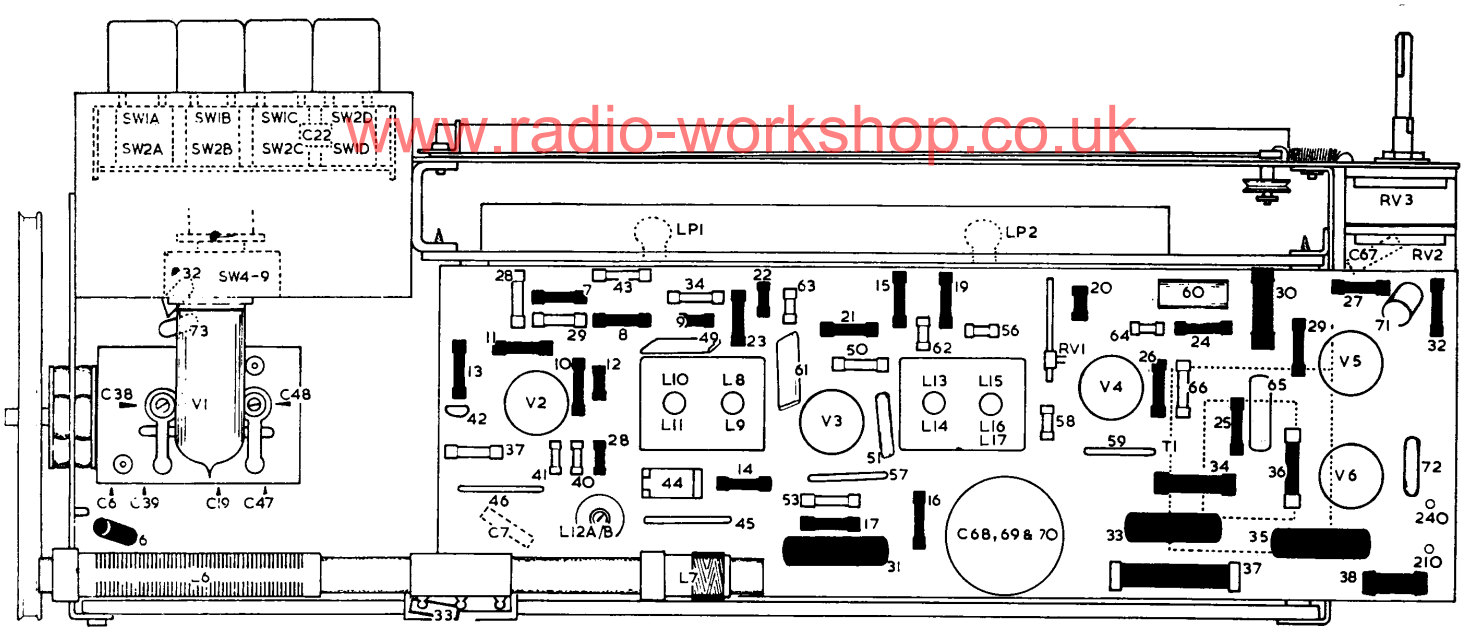
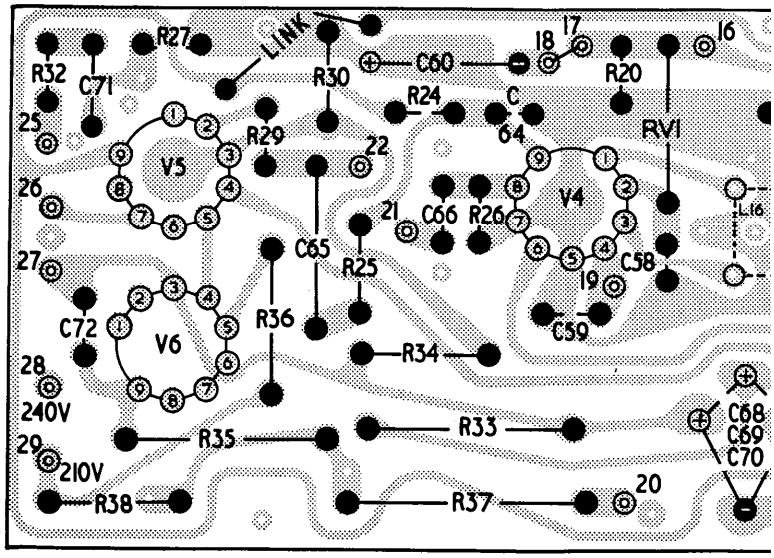


Fig. 1



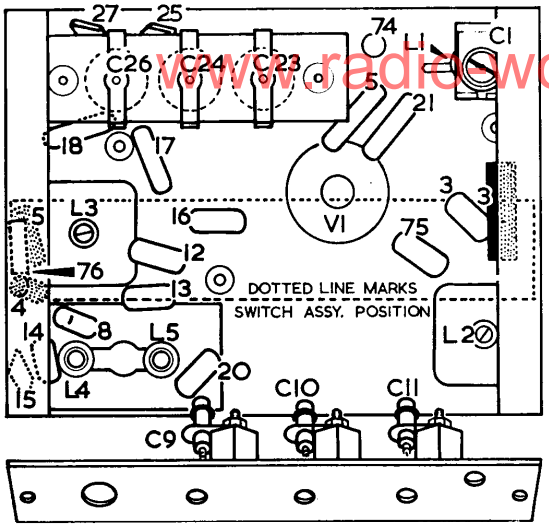


Fig. 2

Please order spar

Radio and Televisio
PO Box 11, Cambri
'Phone: Cambridge

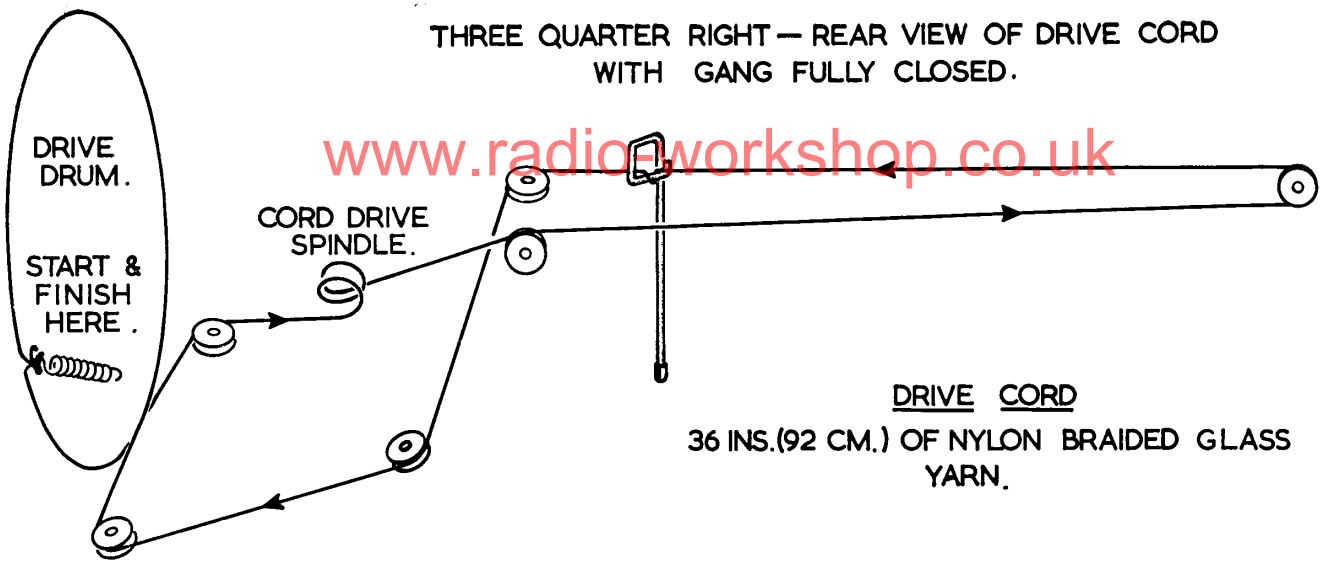
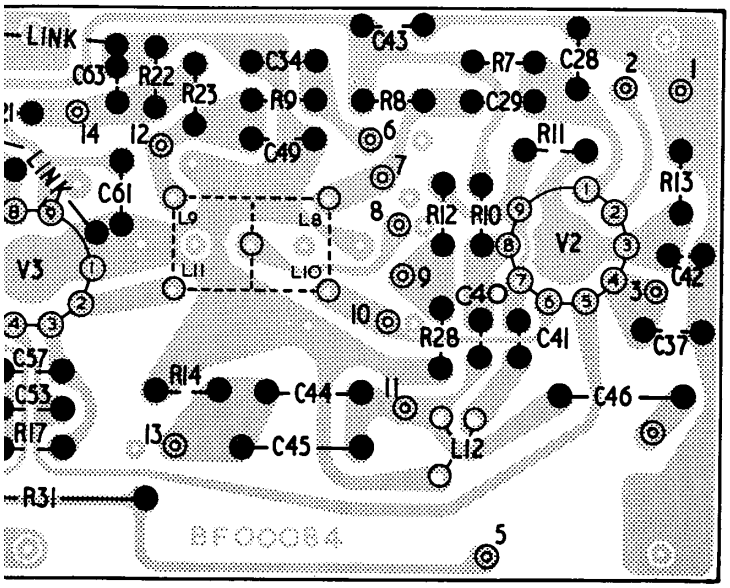


Fig. 3



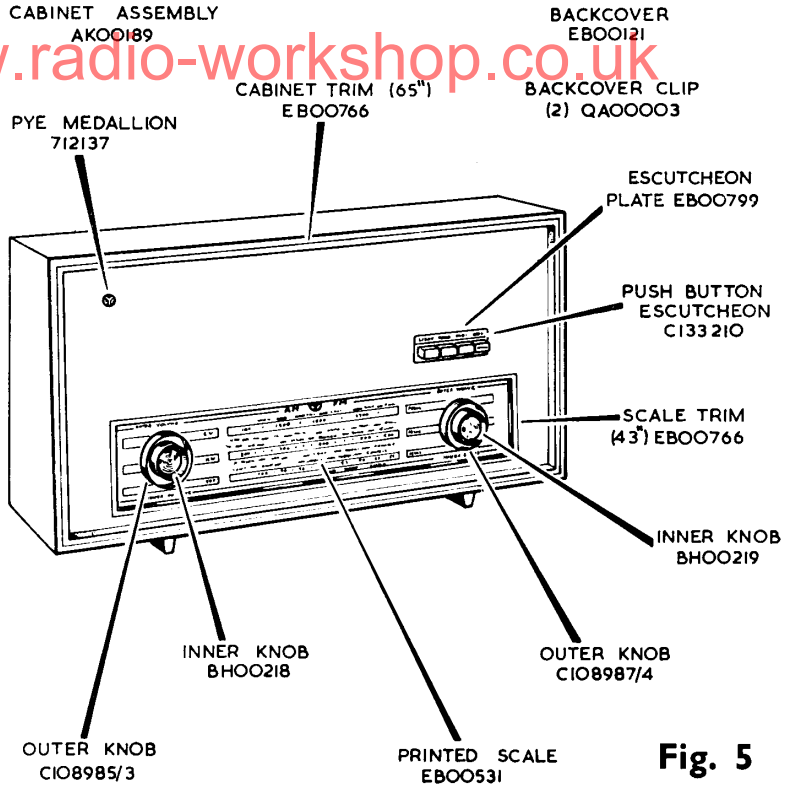


Fig. 5

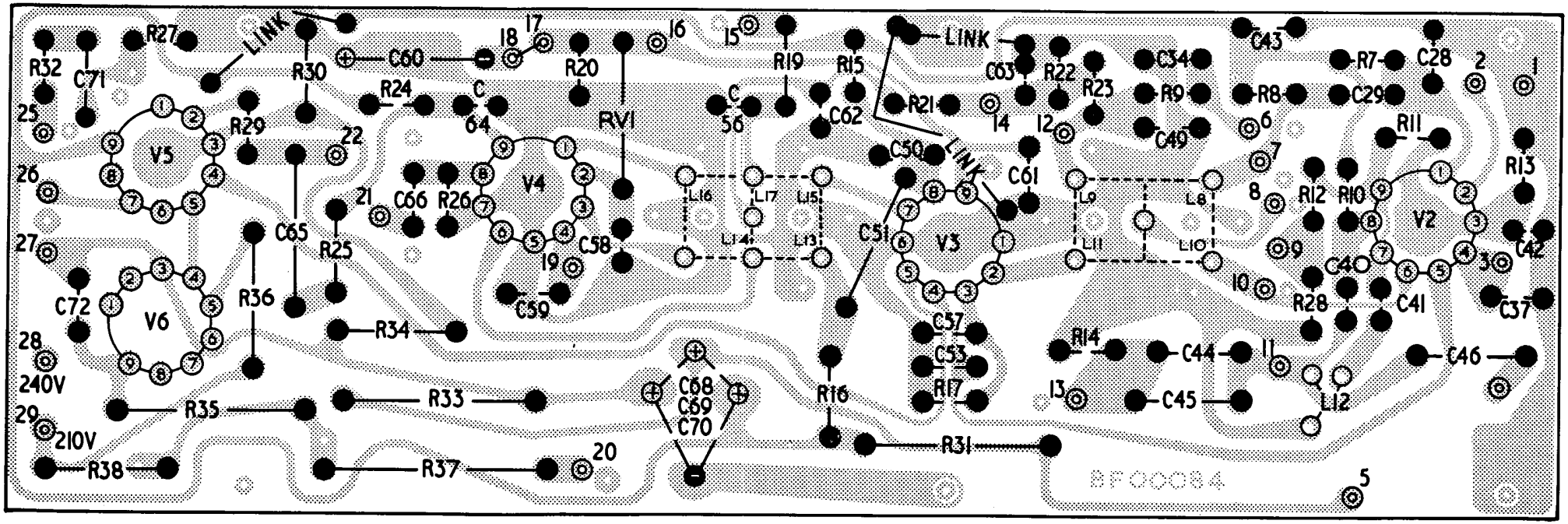


Fig. 4

Please order spare parts direct from:—

Radio and Television Services Ltd.,
PO Box 11, Cambridge
'Phone: Cambridge 59101

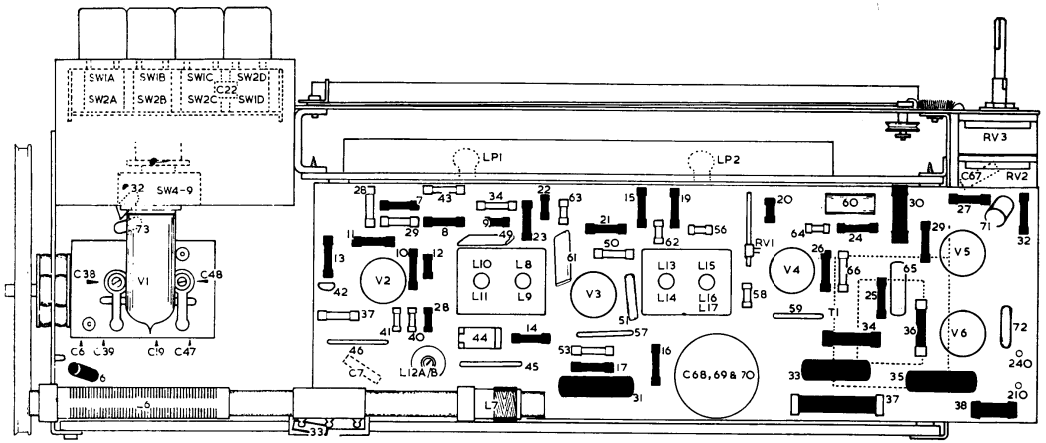


Fig. 1

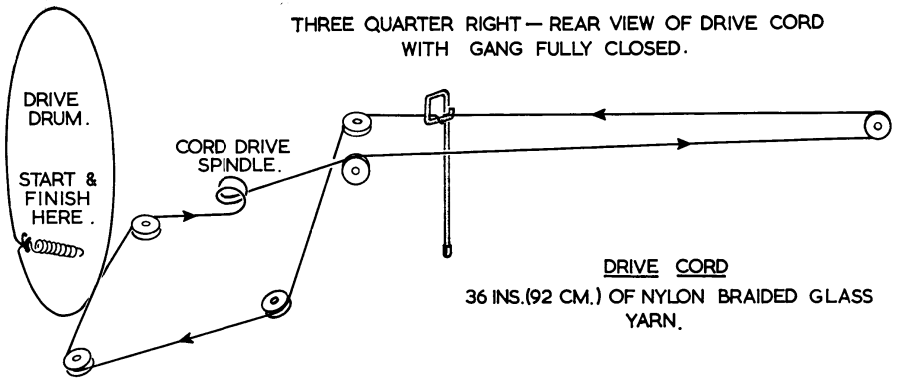


Fig. 3

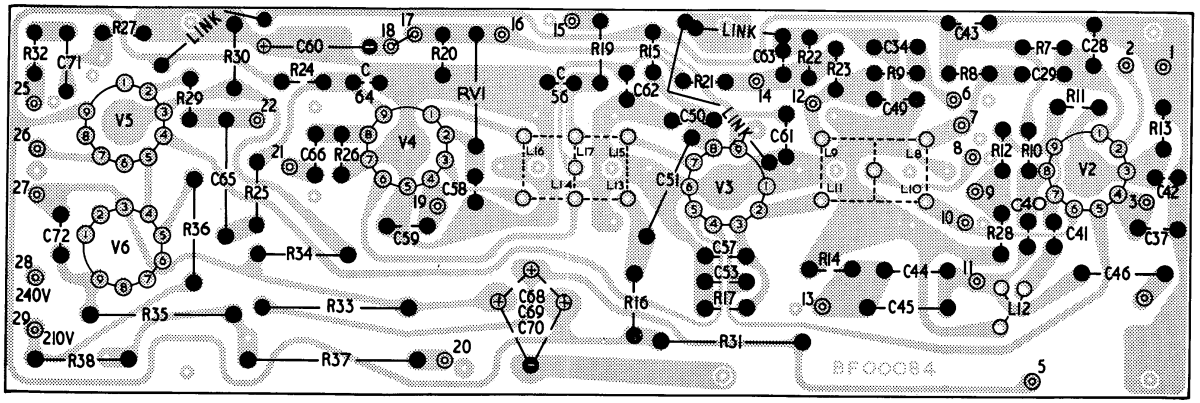


Fig. 4

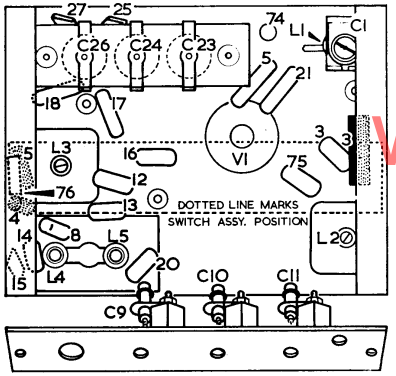


Fig. 2

Please order spare parts direct from:—

Radio and Television Services Ltd.,
PO Box 11, Cambridge
'Phone: Cambridge 59101

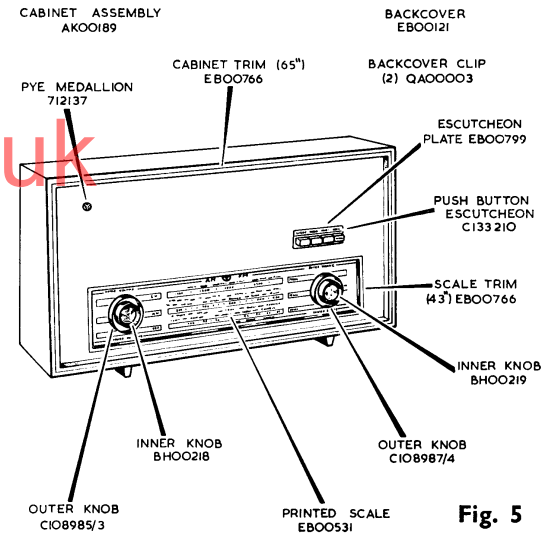


Fig. 5