MURPHY SERVICE INSTRUCTIONS

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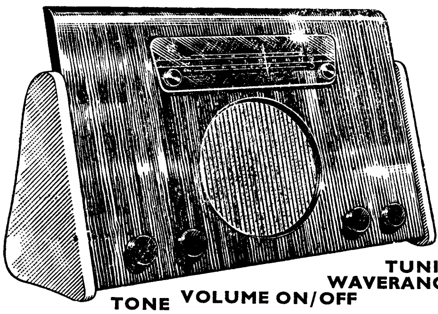


MAINS SUPPLIES :	A124 : 200–250 Volts, a.c. 50–100 c/s. U124 : 200–250 Volts, d.c., or a.c. 50–100 c/s.
WAVE RANGES :	SHORT WAVES : 17–51 metres. MEDIUM WAVES : 190–555 metres. LONG WAVES : 1900–2050 metres.
INTERMEDIATE FREQUENCY :	465 Kc/s.
VALVES :	A124 : Mazda : 10C1, 10F9, Pen45DD, U404. U124 : Mazda : 10C1, 10F9, 10LD11, 10P14, U404.
SCALE LAMPS :	A124 only : Osram or Philips, 6·2 V., 0·3 A. (m.e.s.).
SPEECH COIL IMPEDANCE :	2·5 Ohms.
EXTENSION LOUDSPEAKER :	3 to 7 Ohms.
CABINET DIMENSIONS :	20″ wide, $12\frac{3}{4}$″ high, 9″ deep.
TOTAL WEIGHT :	$17\frac{1}{4}$ lbs.
CONSUMPTION :	A124 : 36 Watts. U124 : 40 Watts.
RELEASED :	A124 : July, 1948. U124 : August, 1948.
PRICE :	A124 : £16 10s. 0d. plus P.T. U124 : £16 17s. 6d. plus P.T.

11481

MECHANICAL NOTES

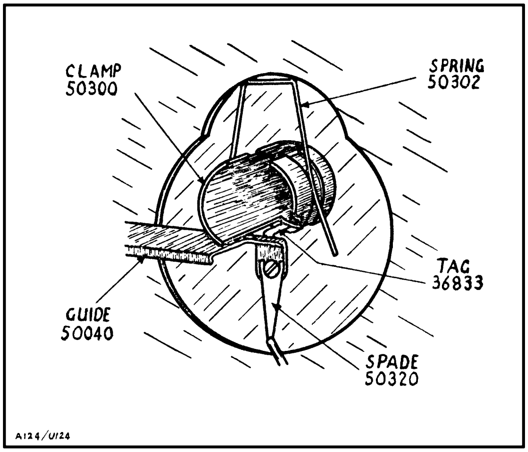
Accessibility. When the back is removed from the cabinet, it will be seen that most of the components on both sides of the chassis are freely accessible. When working on the underside of the chassis, the cabinet may be laid on the bench, front downwards, or stood on end, and the latter position was adopted when preparing the chassis diagrams. When making repairs or adjustments, it is most important that a clean soft pad be used to avoid any damage to the cabinet.

Removing the cabinet. To take the chassis from the cabinet, first remove the back and control knobs. Remove the guide for carrier earthing lead by loosening the wood screw that holds the spade tag, and take out the scale lamps ; disengage the cord from the carrier. These details are shown in the Scale Clamp and the Cord Drive diagrams. The chassis bolts pass through rubber grommets on the chassis, and, after the nuts have been removed, the bolts must be pushed out of the holes before the chassis can be drawn clear of the cabinet. When replacing the chassis in the cabinet, make sure that the spade tag on the earthing lead is securely held by the wood screw. See also the section, " The A124 Lamps."

The scale mounting. The Perspex **scale** (50204) is secured to the front of the cabinet by two assemblies, each consisting of a **clamp** (50300), a **spacer** (50301) and a **spring** (50302). These assemblies also serve to house the **lamps** (16880) in the A124. To remove the scale, take off the springs from the rear of the clamps, and the whole assembly can then be withdrawn.

When refitting the scale, the large openings in the clamps should be towards the centre of the scale, and the " cut-away " section of the spacers should face in the same direction, to allow the maximum amount of light to be directed on to the scale.

It will be found helpful to lay the cabinet face downwards, so that the scale and clamps are held in position when fitting the springs. The legs of the springs should point towards the chassis, and they should be pressed over the clamps so that they engage in the slots around the sides, as shown in the diagram. It should be noted that each clamp is " earthed " by means of a tag, which is held between the pointer guide and the cabinet, and it is essential that this makes good contact with the outer wall of the clamp (*i.e.*, between the clamp and the wood).



SCALE CLAMP

The pointer. The transparent **pointer** (50046) fits into a **holder** (50045) which is mounted on a **carrier** (50041). The carrier is attached to the pointer drive cord, and slides on the **guide for carrier** (50040). If necessary, the pointer and holder may be detached from the carrier after the scale has been removed. The carrier should then be held firmly on the guide and the holder withdrawn. When replacing the pointer and holder, it should be pushed on to the carrier as far as it will go. (See Cord Drive Diagram on page 4.)

The carrier and the guide for carrier. The guide is attached to the cabinet by two ½" No. 6 wood screws, under one of which is clamped a **spade tag** (50320) connected to the earth socket of the receiver. The wood screws also pass through the **tags** (36833) that earth the scale clamps, the tags being gripped between the guide and the cabinet. (See diagram above.)

The carrier cannot be removed from or fitted to the guide whilst the latter is screwed to the cabinet. A thin film of grease should be applied to the surface of the guide, so that the carrier will move easily. See that the spade tag is gripped securely between the screw and the guide, otherwise the scale clamps may become " live," and dangerous to the user of the receiver.

The A124 lamps. To ensure the maximum scale illumination, it is important that the lamp filaments should be in line with the slots in the scale clamps. For this reason, Osram or Philips **lamps** (16880) (6·2 Volt, 0·3 Amp.) are specified, as they are made to close mechanical tolerances and assume the correct position when pushed fully into the clamps ; care should be taken when inserting the lamps as the glass may be broken if too much pressure is used. When the lamps are in position, a slight turn will secure them. It is most important that the **rubber sleeve** (49583) is not pierced or damaged in any way, otherwise the fuse may " blow " or the user of the receiver may be subjected to an electric shock.

The valves. Some of the valves used in these receivers are the new miniature type which have the B8A valve base and holder. The new technique, whereby the valve pins are sealed into the glass envelope, is used, resulting in a small rigid assembly ; care must be taken that the pins are not bent, as this may damage the glass seal.

Normally, no difficulty should be experienced when removing these miniature valves, but if they are tight in their holders, even after the spring clip has been moved, it will generally be possible to push the spigot of the valve from beneath the chassis with the end of a pencil, or similar tool.

If poor contact is being made between the valve pins and the valve holder, it may be worthwhile to clean them with a fine abrasive paper, especially if there are any burrs, or rough edges on the ends of the pins.

The i.f. transformers of both receivers are tuned by adjustable iron dust cores. These cores are moulded with a thread on the outside and with a slot for trimming at each end. The threads engage with U-shaped pieces of bakelite which are fitted at each end of the i.f. coil formers. It is possible for the cores to be screwed in too far, and they may then drop into the centre of the coil. If this does occur, the opposite core should be removed, and then the loose core can be re-started in its thread.

As these cores are rather fragile, care must be taken when adjusting them, and it is recommended that a non-metallic screwdriver be used for this purpose.

The coil cans may be taken off for inspection, if the securing tabs are bent back, and the self-tapping screws are removed. The tabs are accessible through holes in the chassis below the assemblies. When replacing the cans, first see that the piece of insulating material is wrapped round the assembly to prevent any possibility of a short circuit.

The tuning coils. One former only is used for the aerial coils, and no provision is made for adjusting the inductance of these windings. The oscillator coils are wound on two formers, a separate former being used for the short wave range, and provision is made for adjustment of the l.w. oscillator coil by a brass OBA screw. Although it is possible to adjust the s.w. coils by moving the spiral turns (at the l.f. end of the band), we do not recommend this procedure as a general rule with these receivers, and where the alignment is incorrect, a replacement coil should be fitted.

The aerial coil is secured by a single plate clamp which is screwed directly to the chassis. The l.w. and m.w. oscillator coil former is held in place by two small brass clamps which are twisted after they have been passed through holes in the chassis. The s.w. oscillator coil is soldered to the earth tag as shown in the underneath views.

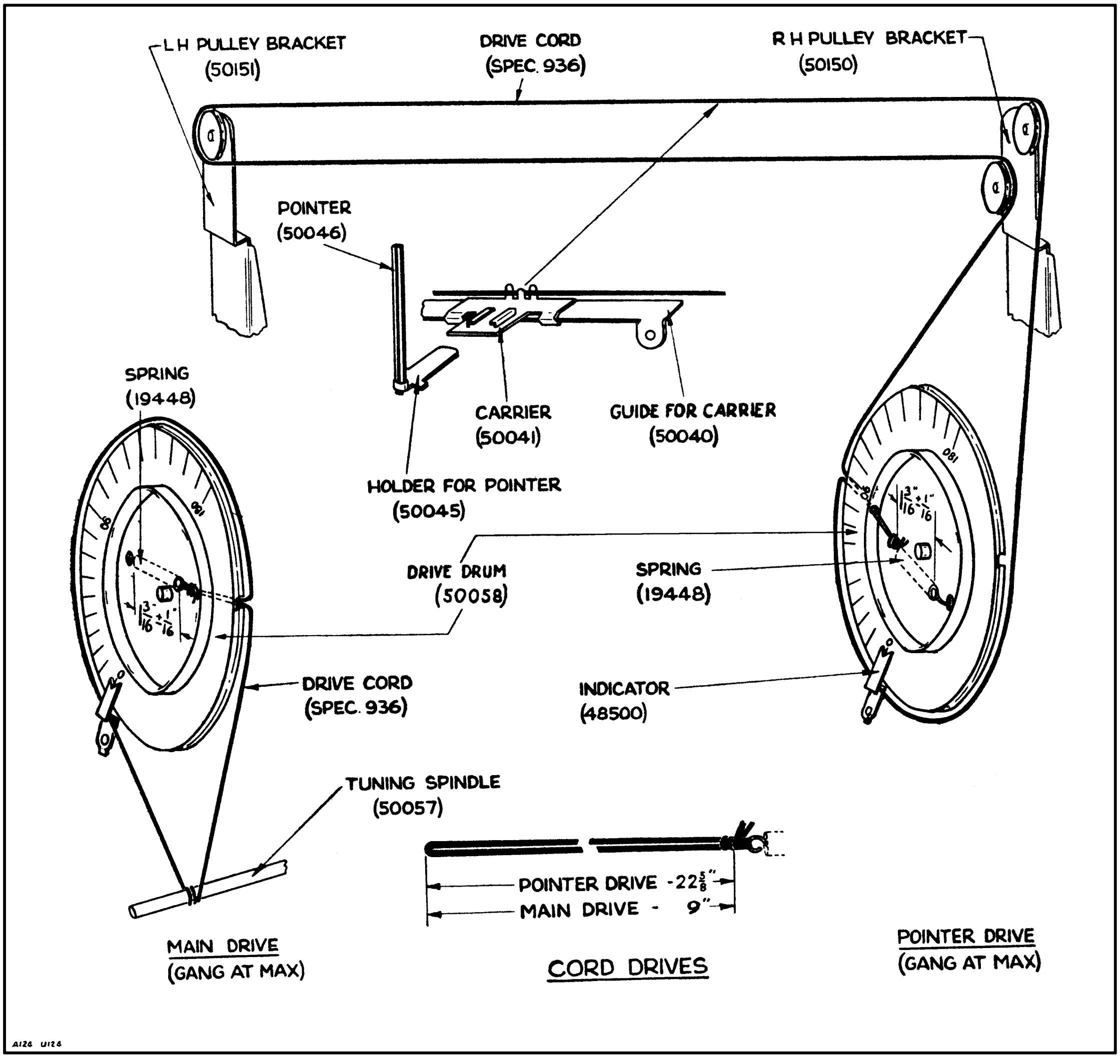
The aerial circuits. In some of the earlier receivers a 0·01 μF. condenser was incorporated at the " earthy " end of the aerial coupling coils. This was a temporary measure only, and the coils are now connected directly to the earth socket (test point 5). This arrangement was necessary as the wave-range switch on the earlier models had a long contact for test point 4, which thus connected it to chassis through S1b. Later switches and all replacements are modified so that they conform to the circuit and layout diagrams.

The mains supply and the A124 auto-transformer. An auto-transformer of small overall dimensions is used in the A124 receiver. It has four taps, two of which are for mains voltage adjustments, and the other two supply 4 volts and 81 volts for the different heater supplies. Half-wave rectification is used for the h.t. supply, and because of this, the circuit is in some respects similar to the conventional ac/dc receiver.

Note that both the A124 and U124 receiver chassis are connected directly to the mains supply —and therefore, earthed equipment such as signal generators, etc., should not be used without adequate precautions being taken. An efficient earth is necessary for satisfactory operation of the mains filter, and as a safety precaution against electric shock, if the scale clamps are touched by the hands.

The drive drum. This is printed with 180 degree divisions, to enable calibration and circuit alignment to be effected when the chassis is out of its cabinet. A list of degree readings corresponding to the alignment frequencies is given on page 6, and it is important for accurate calibration that when the gang condenser vanes are fully in mesh the " V " on the indicator should correspond with " O " degrees on the drive drum. For accurate calibration it is also essential that the correct grade of drive cord is used for the pointer drive (Murphy Radio Spec. 936).

THE CORD DRIVES



The diagram shows the general arrangement of the cord drives, and also gives the dimension of the looped cord when tied to the spring. In order that subsequent expansion of the cord does not alter the tension, it is advisable to stretch it for a while beforehand, using a weight or something similar. The pointer drive should be fitted before the main drive in the following way.

Pointer drive. Pull the 22⅝-in. loop through the holes in the drive drum until the spring is against the inside edge, separate the loop, and pass one end around the lower right hand pulley, then round the left hand pulley, and back to the upper right hand pulley. Both ends should then be laid in the outside groove on the drive drum as shown in the diagram, but the spring should not be fixed in position until the main drive has been fitted, as the cord obstructs the securing hole for the main drive spring.

Main drive. Unclip the spring which holds the tuning control spindle in position, and remove the control spindle.

Pass the 9-in. loop through the slot in the drive drum, and separate the loop. Wind one end round a finger 2½ times, and then pass the tuning control spindle through the loops so formed so that it is right home. Pull both ends so that the turns lie evenly on the spindle, and then place the cord in the groove on the drive drum beside the pointer drive.

Clip the main drive spring and the pointer drive spring into place as shown, and turn the control to see that the operation of the drive is satisfactory, and that both drives lie separately in the groove.

Finally, invert the chassis, and fit the tuning control spring so that the hook is in the hole in the front of the chassis, and the other end is resting on the spacer between the trimmer panel and the chassis.

AERIAL FILTERS

In areas close to powerful Medium Wave transmitters, an aerial filter may be required to prevent overloading the frequency changer, causing whistles on other stations. To reduce this form of interference, suitable filters can be supplied by Murphy Radio Ltd., in the form of single or double units, according to the station, or stations, causing trouble.

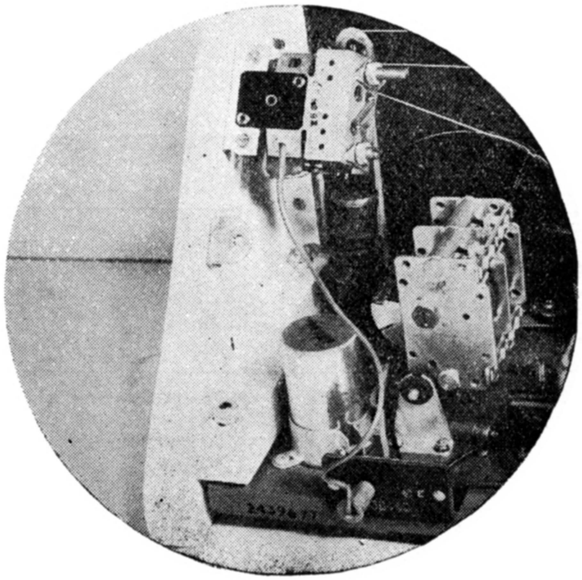
There are three standard filters covering wavelenths as follows :—

A : 200-300 metres (1500-1000 Kc/s)
B : 300-428 metres (1000-700 Kc/s)
C : 428-600 metres (700-500 Kc/s)

The double units can be supplied in any of the following combinations, AA, BB, CC, AB, AC, BC. When ordering please state the receiver type and quote the letter or letters required, as well as the bracket, No. 50081.

Fitting Instructions. The position of the filter is shown in the photograph, and two small holes are already drilled, to start the wood screws. Screw the bracket in position, and then fit the filter to the bracket. The lead from the filter is plugged into the receiver aerial socket and the aerial is plugged into the filter ; a hole is provided in the receiver back to allow for this.

Adjusting the Filter. Connect a voltmeter between the cathode and chassis of V2, and switch it to the 5 or 10V. d.c. range. Tune the receiver to the interfering (local) station and adjust the filter core for maximum meter reading.



CIRCUIT ALIGNMENT

It is possible for these receivers to be completely re-aligned without removing the chassis, providing that a small tool is made up for adjusting the aerial trimmers. This tool may consist of a length of steel or tufnal rod, in the end of which a 6 BA clearance hole is drilled. The aerial trimmers can then be adjusted if the tool is placed over the protruding ends of the screws. The tool should be turned while a sideways pressure is exerted, thus gripping and rotating the end of the screw. This method is suitable for final adjustments, but may prove tedious for preliminary setting up, in which case the chassis should be removed.

Before commencing any trimming adjustments, see that the pointer coincides with the 52-metre division on the scale, or, that the drive drum reading is 0 degrees if the chassis has been removed, when the gang condenser is at maximum capacity.

All adjustments are made for maximum reading on an output meter connected across the L.S. sockets. The input from the service signal generator should be kept as low as possible, and in any case, the output should not exceed 500 milliwatts for the A124 (1 Volt a.c.) or 180 milliwatts for the U124 (0·6 Volts a.c.). The volume control and the tone control switch should be turned fully clockwise.

A non-metallic screwdriver should be used for adjusting the iron dust cores in the i.f. transformers, and as these cores are rather fragile, care must be taken to avoid damaging them. It is advisable to unscrew the cores fully, and then to screw in for the peak reading on the meter.

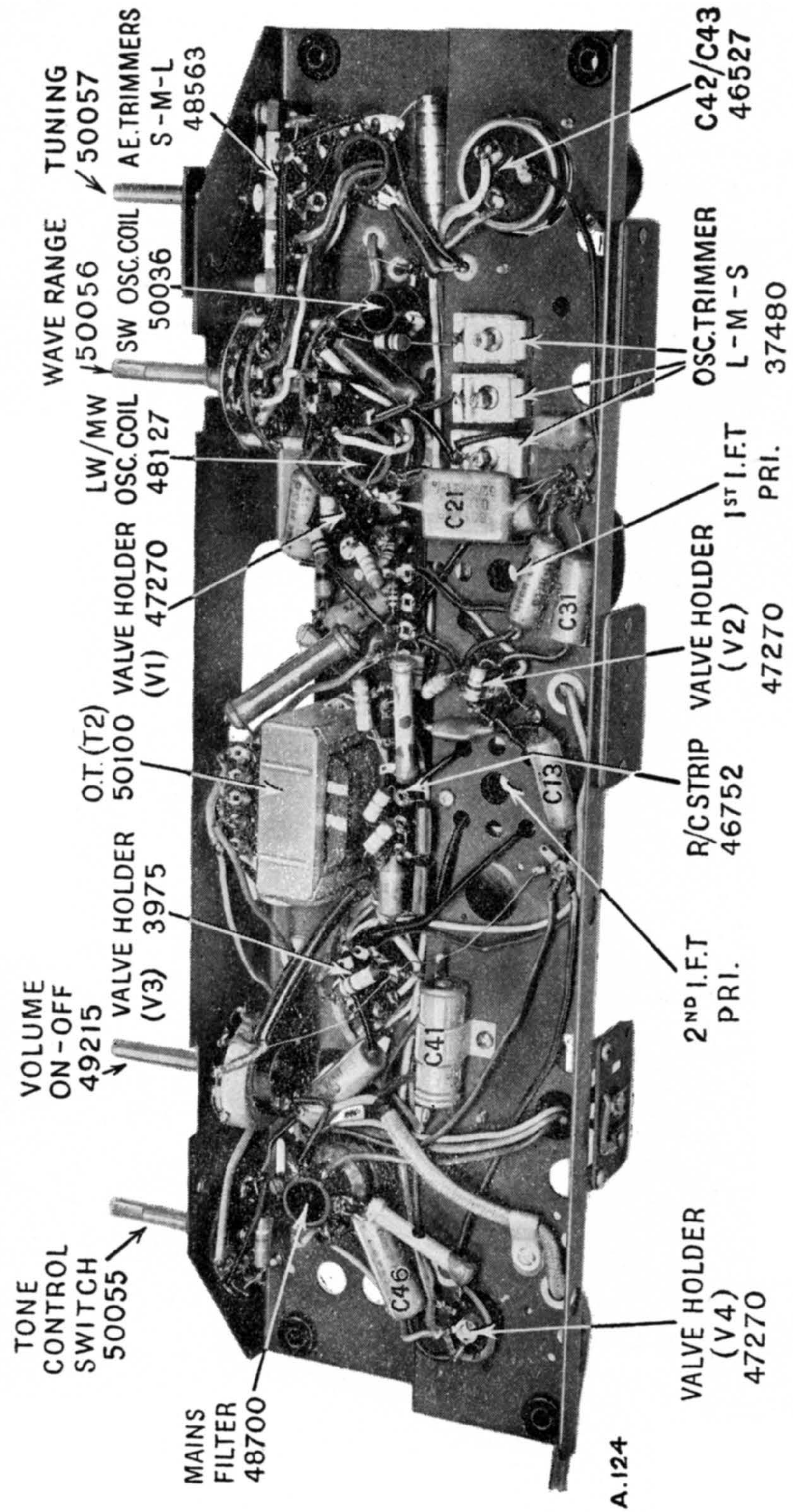
To overcome the effect of " oscillator pulling " on the short waves, the tuning control should be used to hold the signal while adjusting the aerial circuits. The Alignment Table is on page 6.

CIRCUIT ALIGNMENT TABLE

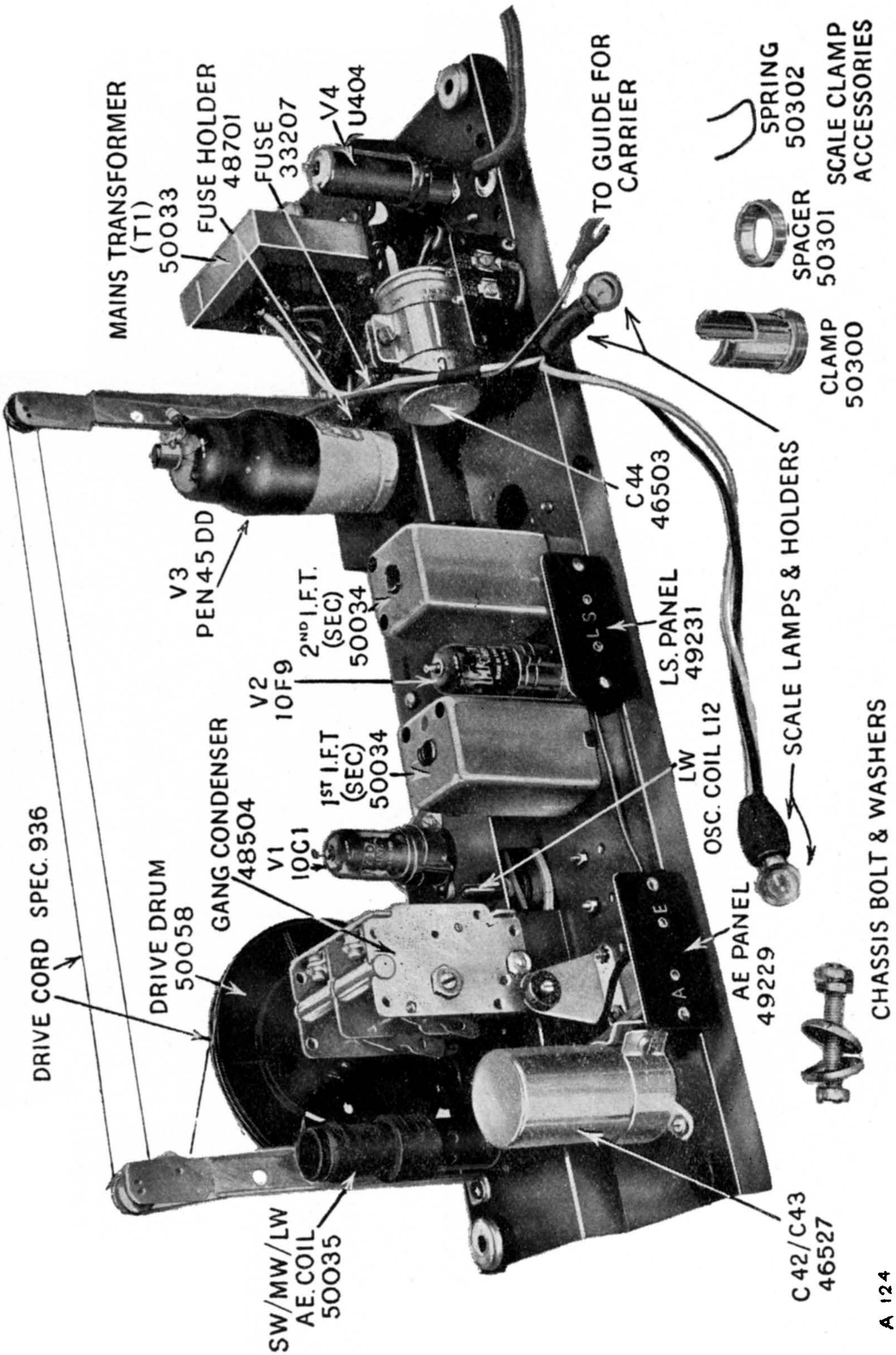
The following table quotes the drive drum degree reading at each calibration point, so that adjustments may be made when the chassis has been removed from its cabinet. The oscillator circuit is tuned to a higher frequency than the signal circuit on all bands.

For further information, see page 5.

CIRCUIT	NOTES	SIG. GEN. FREQ.	SIG. GEN. TERMINATION	CONNECT SIG. GEN. TO	RECEIVER SCALE SETTING	DRIVE DRUM SETTING	RECEIVER RANGE	ADJUSTMENTS
2nd i.f.t.	Unscrew Pri. and Sec. cores to fullest extent	465 Kc/s	Via 0·1 μF. condenser	V2 Control grid (test pt. 36)	52 metres	0°	M.	2nd i.f.t. Sec. (L15 top of can) 2nd i.f.t. Pri. (L14, under chassis). DO NOT READJUST
1st i.f.t.	Unscrew Pri. and Sec. cores to fullest extent	465 Kc/s	Via 0·1 μF. condenser	M.W. Ae. Trimmer (test pt. 8)	52 metres	0°	M.	1st i.f.t. Sec. (L8 top of can). 1st i.f.t. Pri. (L7 under chassis). DO NOT READJUST
L.W.	Unscrew trimmers before adjusting. Repeat these adjustments until there is no further improvement.	1000 m. (300 Kc/s)	Dummy Aerial	Aerial Socket	1000 metres	168·5°	L.	l.w. Osc. trimmer (C26) l.w. Ae. trimmer (C6)
		1900 m. (158 Kc/s)			1900 metres	34°	L.	l.w. Osc. Coil slug (L13–A124) (L12–U124)
M.W.	Unscrew trimmers before adjusting. No coil adjustment provided.	220 m. (1363 Kc/s)	Dummy Aerial	Aerial Socket	220 metres	158°	M.	m.w. Osc. trimmer (C24–A124) (C21–U124) m.w. Ae. trimmer (C7).
	Check calibration at 300 m., and 500 m.	300 m. (1000 Kc/s)			300 metres	117·5°–119·5°	M.	—
		500 m. (600 Kc/s)			500 metres	29·5°	M.	—
S.W.	Unscrew trimmers before adjusting. Lowest capacity setting correct for Osc. trimmer. Do not adjust position of s.w. coil turns unless alignment is very poor. Check calibration at 31·25 m. and 41·4 m.	20 m. (15 Mc/s)	Dummy Aerial	Aerial Socket	20 metres	156·5°	S.	s.w. Osc. trimmer (C23–A124) (C24–U124) s.w. Ae. trimmer (C8).
		31·25 m. (9·60 Mc/s)			31·25 metres	94·5°–97·5°	S.	—
		41·4 m. (7·25 Mc/s)			41·4 metres	50°	S.	s.w. Osc. coil turns. s.w. Ae. coil turns.

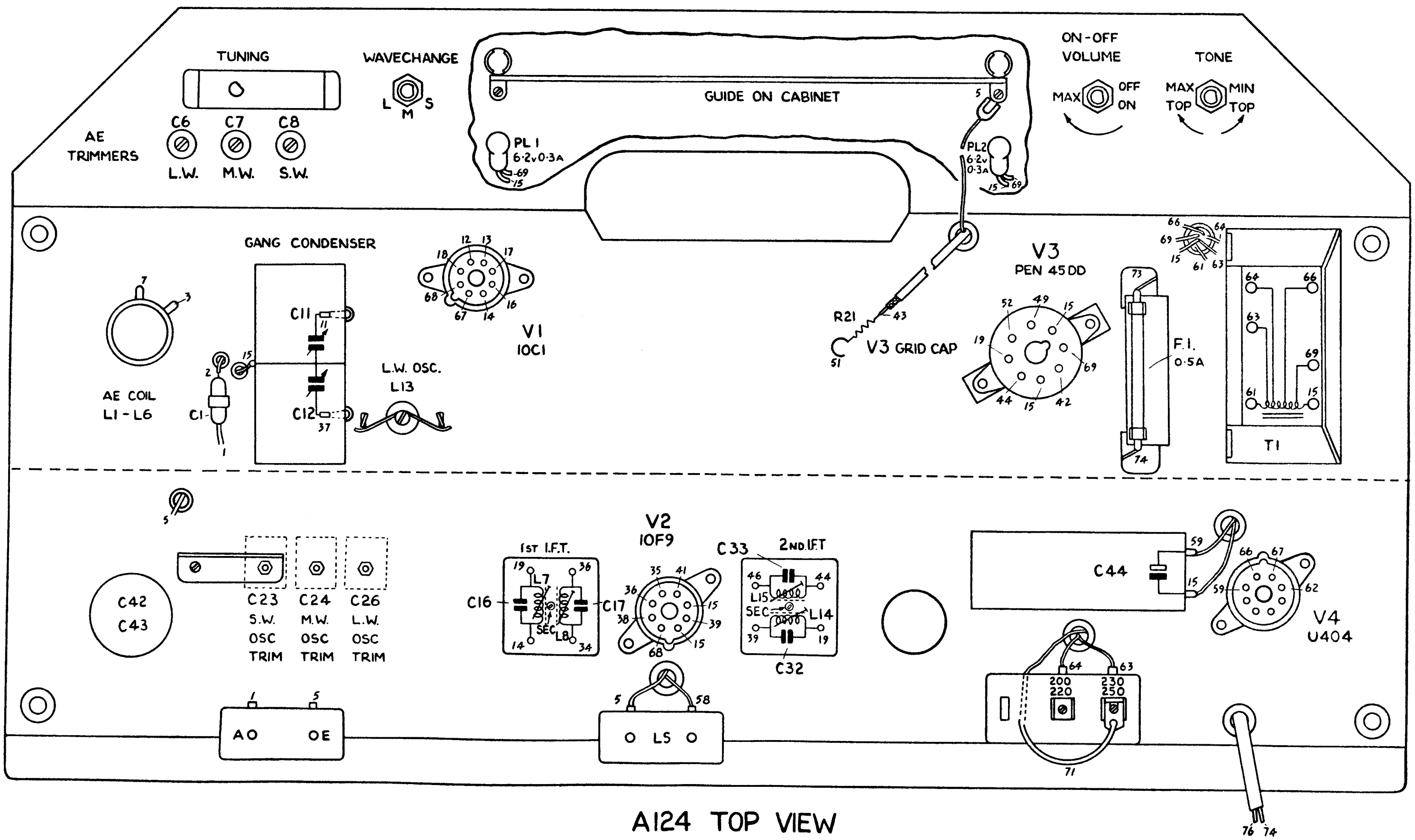


A124 CHASSIS—UNDERNEATH VIEW (diagram on page 11)

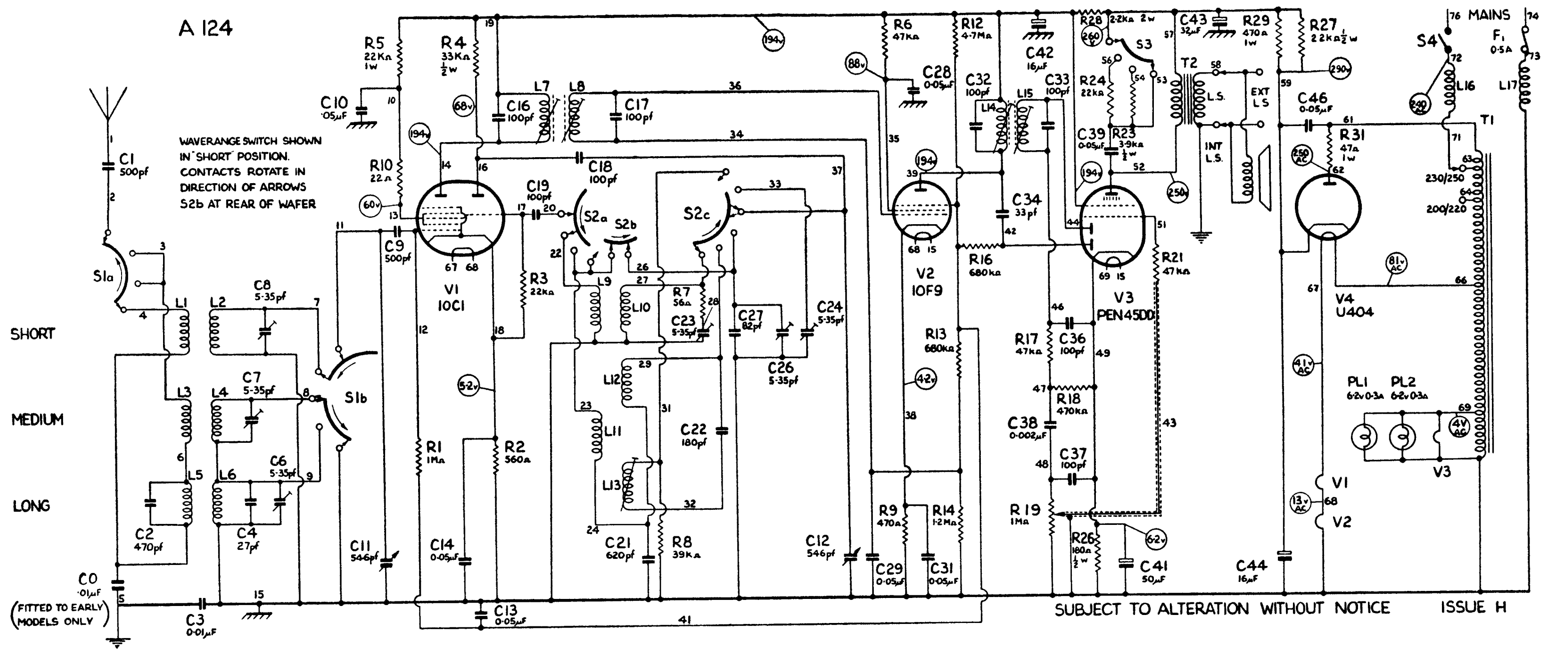


A124 CHASSIS—TOP VIEW (diagram opposite)

C		42 43	6 7 1	8 23	11 12 24 26				16	17			33 32							44				C
L	1-6					13			7	8		5	15 14											L
R														21										R
MISC								V1				V2						V3		F1			T1	MISC



A124 TOP VIEW



A 1 2 4

The wave-range switch in the above diagram is shown in the Short Wave position. Note that the moving contacts rotate through 30° in the direction of the arrows for the Medium Wave band, and 60° for the Long Wave band. The arrangement of the contacts on the wafers is shown on the layout diagram of the underside of the chassis (opposite).

The voltages quoted are average figures, and variations may occur without affecting the performance of the receiver. They were measured with a 500 Ohms per Volt meter, with the receiver connected to 240 Volt mains, switched to the Medium Wave band and operating under no signal conditions.

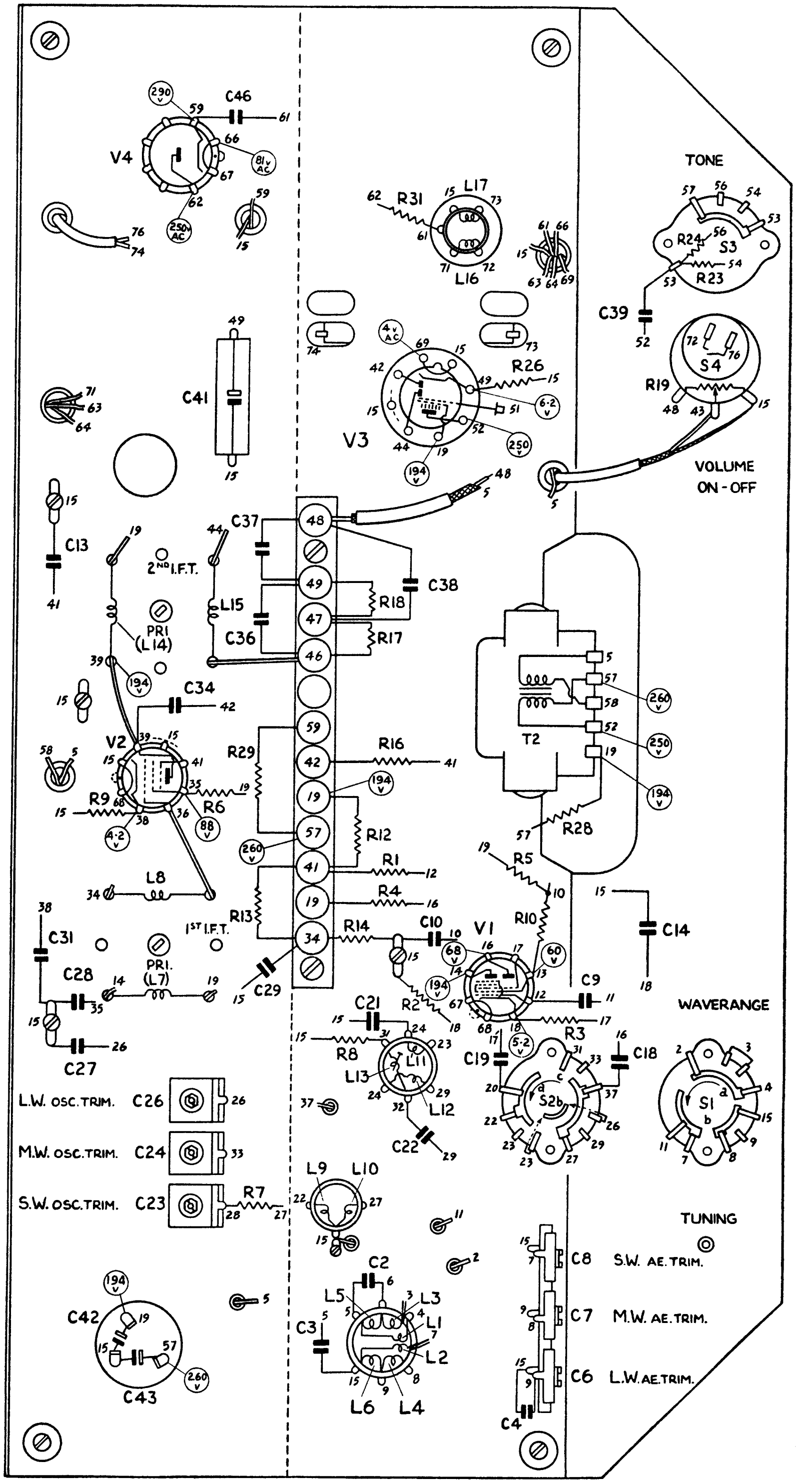
A condenser Co (·01 μF.) was fitted to the earthy connection of the aerial coils in some of the early receivers.

COIL RESISTANCES

These are average figures. The resistance of the coils not shown is less than 1 Ohm.

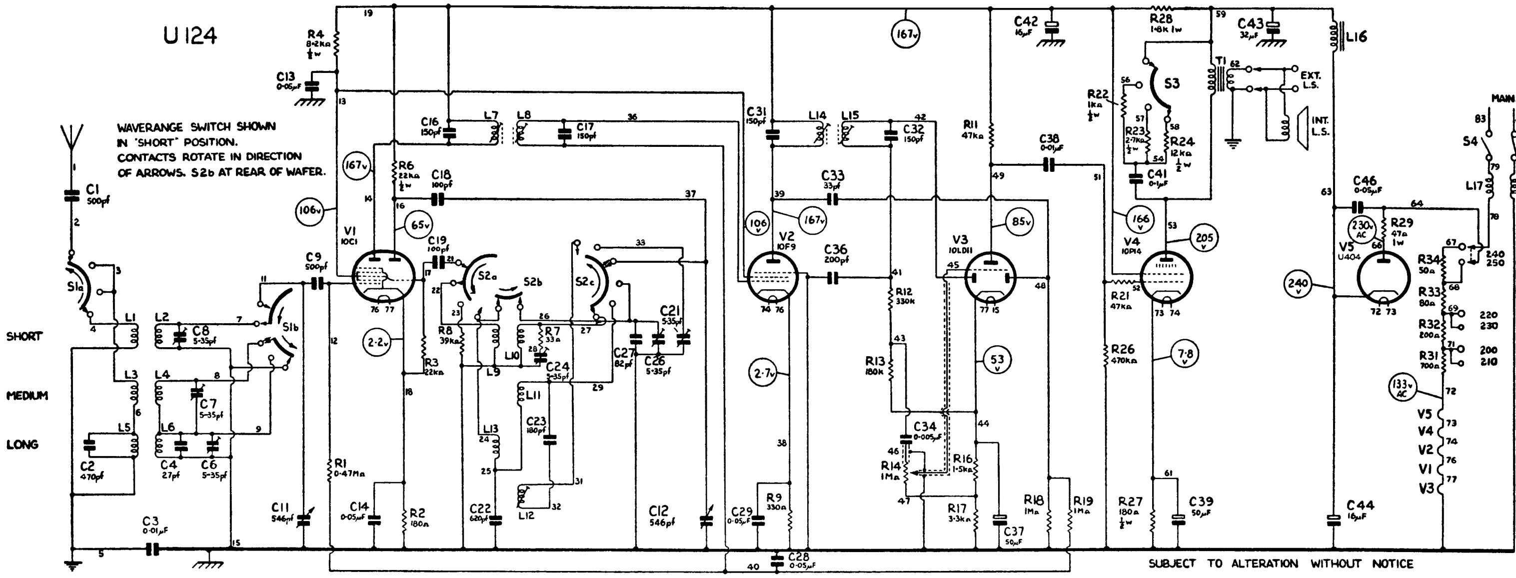
Coil... ...	L3	L4	L5	L6	L7	L8	L12	L13	L14	L15	L16	L17	T1 Pri.	T2 Pri.
Ohms ...	1	3·5	21	21	7	7	1·8	5·2	7	7	7·5	7·5	200	330

C	L	R	MISC.
46			
	17		V4
		31 24	S3
	16	23	
39			S4
41		26 19	V3
37			
13 38			
36	15 14	18 17	
34			T2
		29 16	V2
		9 6 28	
	8	12 1 5	
10 14 31		4 13 14 10	V1
28 9 29	7	2	
21 27 19 18		3 8	
26	11 13 12		S2b S1
24 22			
23	9 10	7	
8 2			
42 3 7 43 6	5 3 1 6 4 2		
4			
C	L	R	MISC.



A124 UNDERNEATH VIEW

Voltage measurement conditions as on page 10.



U 1 2 4

The wave-range switch in the above diagram is shown in the Short Wave position. Note that the moving contacts rotate through 30° in the direction of the arrows for the Medium Wave band, and 60° for the Long Wave band. The arrangement of the contacts on the wafers is shown on the layout diagram of the underside of the chassis (opposite).

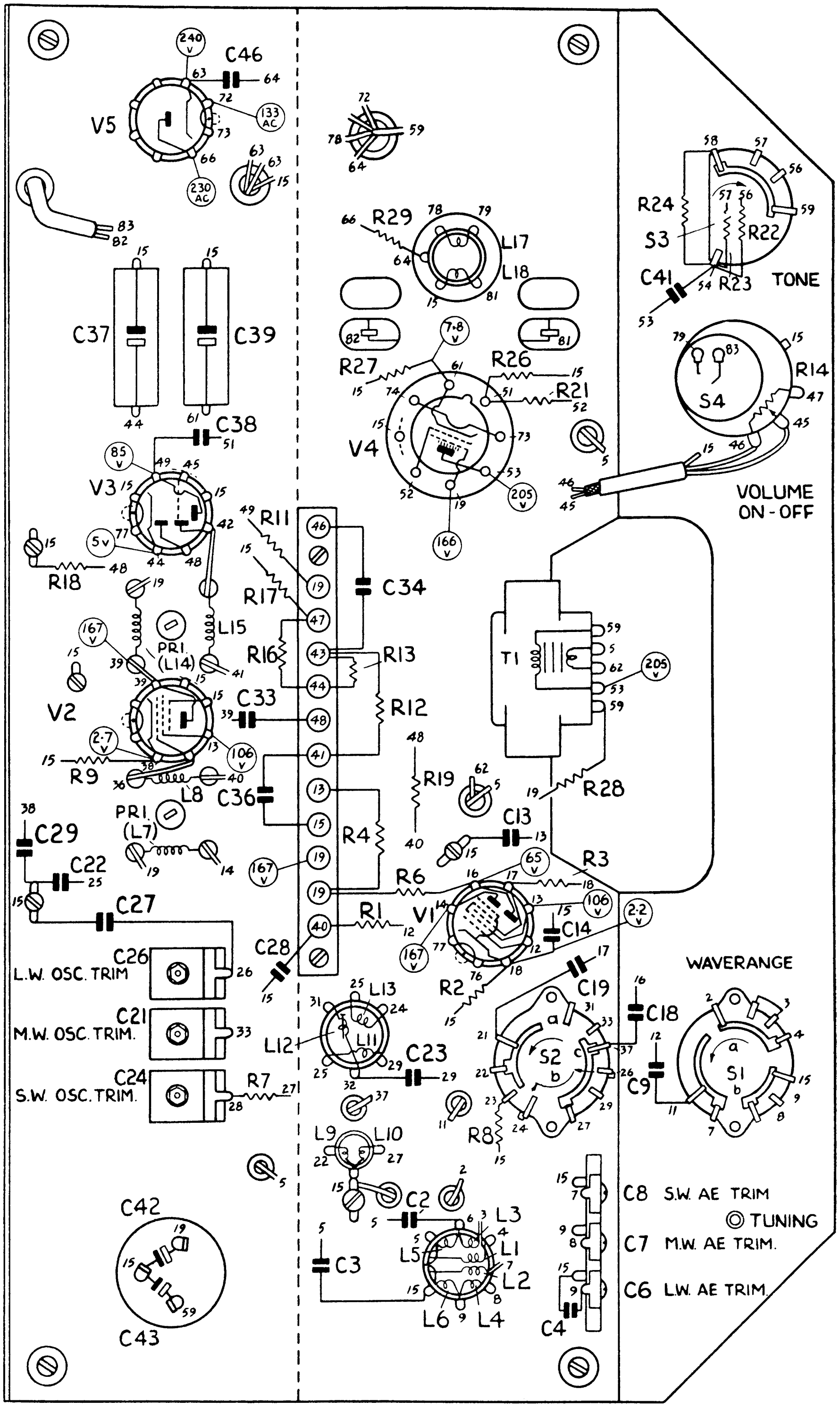
The voltages quoted are average figures, and variations may occur without affecting the performance of the receiver. They were taken with a 500 Ohms per Volt meter, with the receiver connected to 240 Volt mains, switched to the Medium Wave band and operating under no signal conditions.

COIL RESISTANCES

These are average figures. The resistance of the coils not shown is less than 1 Ohm.

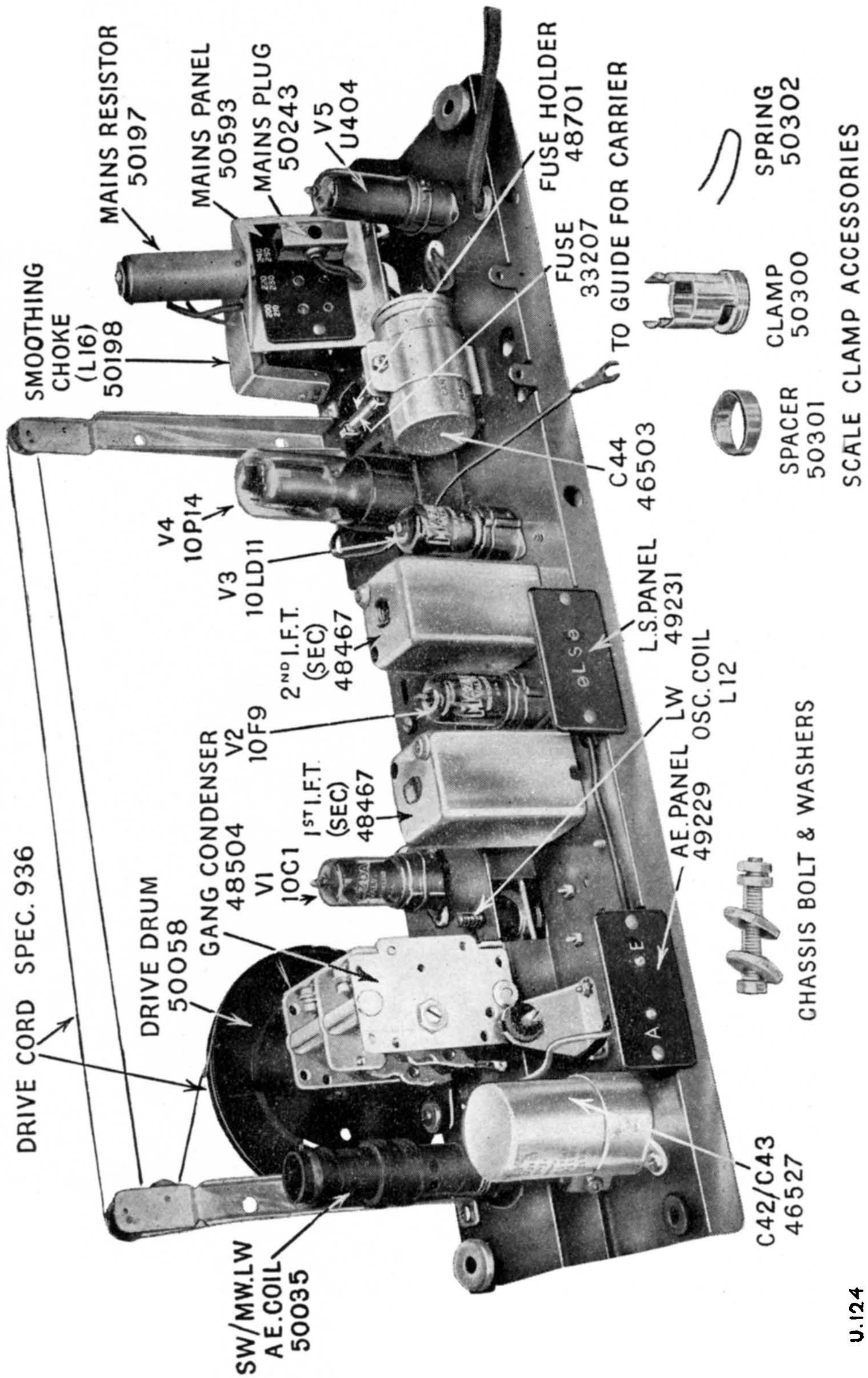
COIL... ...	L3	L4	L5	L6	L7	L8	L11	L12	L14	L15	L16	L17	L18	T1 Pri.
OHMS ...	1	3·5	21	21	6	6	1·8	5·2	6	6	280	7·5	7·5	350

C	L	R
46		
		24
41	17 18	29 22 23
37 39		
38		27 26 14 21
		11
34		18
	15	17
33	14	16 13 12
		9
36 29 13	8	19 28 4
22 27	7	6 3 1
14 26 28 19	13	2
21 18 23	12	
9 24		7
8	9 10	8
42 7 2		
3 43 6 4	1 2 6 4	
C	L	R

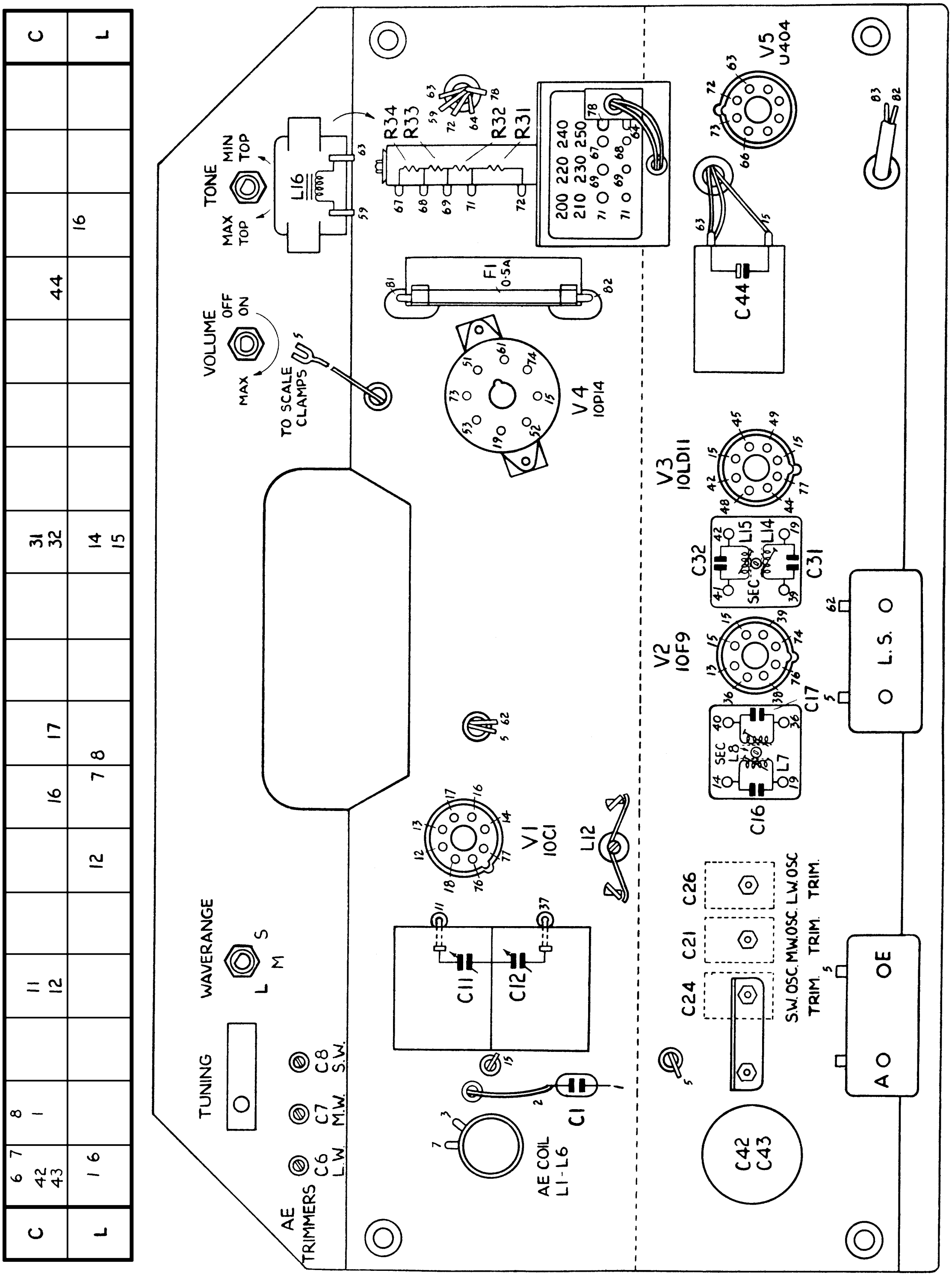


U124 UNDERNEATH VIEW

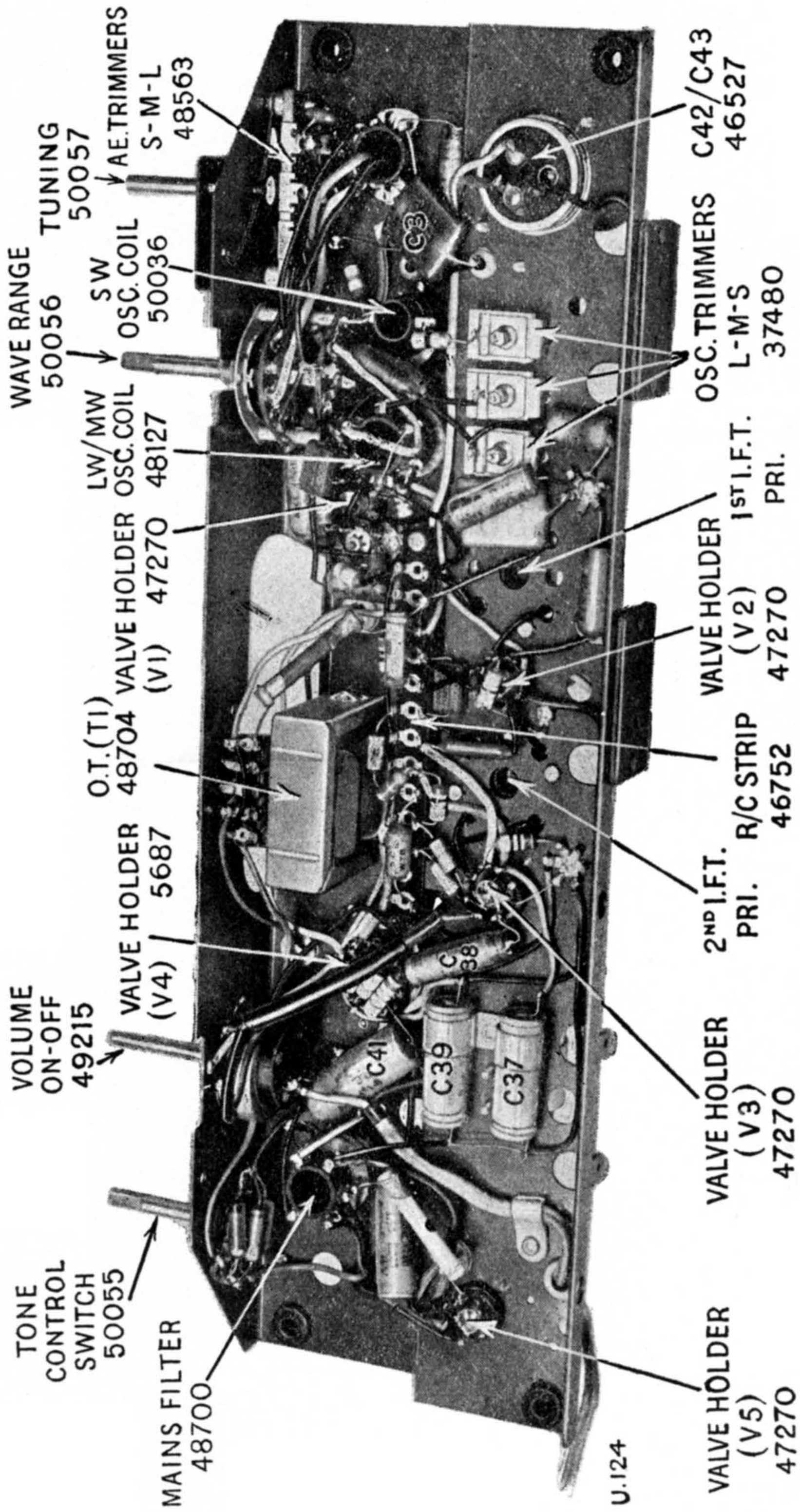
Voltage measurement conditions as on page 12.



U124 CHASSIS—TOP VIEW (diagram opposite)



U124 TOP VIEW



U124 CHASSIS—UNDERNEATH VIEW (diagram on page 13)

THE A124P RECEIVER

This is an export version of the A124 and is the same in all respects excepting that the mains transformer is tapped for a.c. mains voltages of 110-125 V., 140-160 V. and 210-240 V., 50 c/s. The mains tapping panel is altered accordingly, and the mains filter is wound with heavier gauge wire. The fuse rating has been increased to 2 Amps.

The following details relate to the above components, and should be used instead of those given in the parts lists and elsewhere.

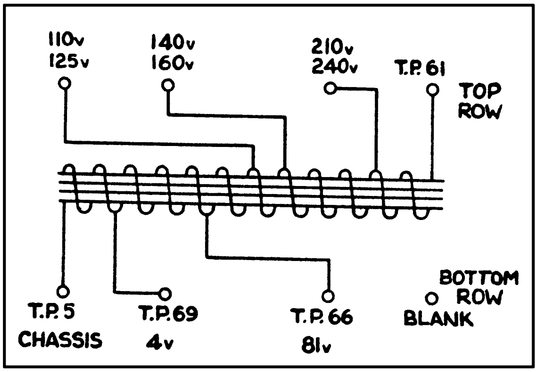
Part numbers :

Fuse	33205
Label for back	51652
Mains filter	49857
Mains tapping panel,	49903
Mains transformer,	51637

Winding resistances :

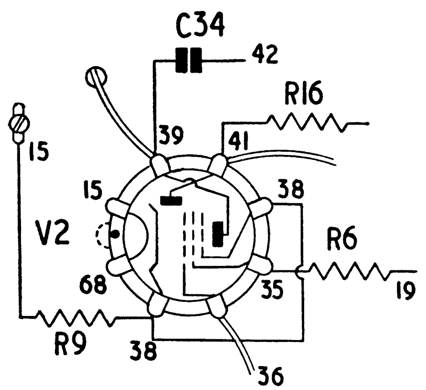
Mains filter,	2.2Ω	each section.
Mains transformer,	52Ω	total (approx.).

A124P MAINS TRANSFORMER CONNECTIONS



The part numbers and values of all the other components should be taken from the A124 parts lists on pages 18 and 20.

MODIFICATIONS



V2 VALVEHOLDER CONNECTIONS FOR MULLARD UAF42

A124 and U124. Some receivers will be fitted with a (16+8) μF. electrolytic condenser in the chassis location of C44 (16 μF.). Where this is done the 8 μF. section is connected in parallel with C42 (16 μF.).

A124 only. R10 (22 or 27Ω) is not fitted in early receivers. R8 (39KΩ) has been removed from the circuit.

A Mullard UAF42 valve may be fitted in the V2 stage, instead of the Mazda 10F9.

The diagram shows the modified valveholder wiring and the electrode connections.

R5 has been changed from 22KΩ to 15KΩ. This will increase the screen voltage to the region of 100 volts.

PARTS LIST (ELECTRICAL)

This list is in two parts due to the different component numbers used for the A124 and U124 receivers. In both lists the following abbreviations are used: m.m. for Moulded Mica; p.s.m. for Protected Silvered Mica; Tub. for Tubular Paper; El. for Electrolytic Type Condenser; w. for Wattage Ratings of resistors, etc.

The d.c. resistances quoted for coils and transformers are average figures, and should be taken as a general guide only. Where no figure is given the resistance is less than 1 ohm. One part number only is given for each component in the tables although an alternative may be available in some cases.

A 124

PART NO.	CIRCUIT NO.	VALUE	TOLERANCE AND REMARKS
28015	C1	500 pf.	20% m.m.
28243	C2	470 pf.	2% p.s.m.
41419	C3	0·01 µ.f.	25% Tub. 1000v.
23673	C4	27 pf.	10% p.s.m.
48563	C6	5–35 pf.	Triple Trimmer Unit
	C7	5–35 p.f	
	C8	5–35 pf.	
23966	C9	500 pf.	20% m.m.
41403	C10	0.05 µf.	20% Tub.
48504	C11	546 pf.	Gang Condenser
	C12	546 pf.	
41403	C13	0·05 µf.	20% Tub. 350v.
41403	C14	0·05 µf.	20% Tub. 350v.
28156	C16	100 pf.	5% p.s.m.
28156	C17	100 pf.	5% p.s.m.
23867	C18	100 pf.	20% m.m.
23867	C19	100 pf.	20% m.m.
28241	C21	620 pf.	1% p.s.m.
28242	C22	180 pf.	1% p.s.m.
37480	C23	5–35 pf.	Trimmer
37480	C24	5–35 pf.	Trimmer
37480	C26	5–35 pf.	Trimmer
28179	C27	82 pf.	5% p.s.m.
41403	C28	0·05 µf.	20% Tub. 350v.
41403	C29	0·05 µf.	20% Tub. 350v.
41403	C31	0·05 µf.	20% Tub. 350v.
28156	C32	100 pf.	5% p.s.m.
28156	C33	100 pf.	5% p.s.m.
23618	C34	33 pf.	10% p.s.m.
23867	C36	100 pf.	20% m.m.
23867	C37	100 pf.	20% m.m.
41408	C38	0·002 µf.	25% Tub. 500v.
41421	C39	0·05 µf.	20% Tub. 1000v.
31315	C41	50 µf.	+50% —20% El. 12v.
46527	C42	16 µf.	+50% —20% El. 350v.
	C43	32 µf.	
46503	C44	16 µf.	+50% —20% El. 450v.
41421	C46	0·05 µf.	20% Tub. 1000v.
28543	R1	1MΩ	25% ¼w.
24837	R2	560Ω	10% ¼w.
27141	R3	22KΩ	20% ¼w.
25517	R4	33KΩ	10% ½w.
25468	R5	22KΩ	10% 1w.
25573	R6	47KΩ	10% ¼w.
24453	R7	56Ω	10% ¼w.
—	R8	39 KΩ	Not now fitted
24805	R9	470Ω	10% ¼w.
26565	R10	22Ω	20% ¼w.
26341	R12	4·7 MΩ	10% ¼w.
26021	R13	680 KΩ	10% ¼w.
26117	R14	1·2 MΩ	10% ¼w.
26021	R16	680 KΩ	10% ¼w.
28544	R17	47 KΩ	25% ¼w.
27397	R18	470 KΩ	20% ¼w.
49215	R19	1·0 MΩ	Volume Control/ Switch
28544	R21	47 KΩ	25% ¼w.
25165	R23	3.9 KΩ	10% ½w.
27141	R24	22 KΩ	20% ¼w.
24653	R26	180Ω	10% ⅓w.
25069	R27	2·2 KΩ	10% ⅓w.
29504	R28	2·2 KΩ	20% 2w.
24828	R29	470Ω	10% 1w.
26652	R31	47Ω	20% 1w.

PART NO.	CIRCUIT NO.	D.C. RESISTANCE	REMARKS
50035	L1	—	s.w. Ae. Coupling Coil
	L2	—	s.w. Ae. Coil
	L3	1Ω	m.w. Ae. Coupling Coil
	L4	3.5Ω	m.w. Ae. Coil
	L5	21Ω	l.w. Ae. Coupling Coil
	L6	21Ω	l.w. Ae. Coil
50034	L7	7Ω	1st i.f.t. Pri.
	L8	7Ω	1st i.f.t. Sec.
50036	L9	—	s.w. Osc. Grid Coil
	L10	—	s.w. Osc. Anode Coil
48127	L11	—	m.w. Osc. Grid Coil
	L12	1.8Ω	m.w.Osc.AnodeCoil
	L13	5.2Ω	l.w. Osc. Anode Coil
50034	L14	7Ω	2nd i.f.t. Pri.
	L15	7Ω	2nd i.f.t. Sec.
48700	L16	7·5Ω	Mains Filter
	L17	7·5Ω	
50033	T1 (total)	200Ω	Mains Transformer
50100	T2 (pri.)	330Ω	Output Transformer

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PART NO.	CIRCUIT NO.	VALUE	TOLERANCE AND REMARKS
28015	C1	500 pf.	20% m.m.
28243	C2	470 pf.	2% p.s.m.
41419	C3	0·01 µf.	25% Tub. 1000v.
23673	C4	27 pf.	10% p.s.m.
	C6	5–35 pf.	
48563	C7	5–35 pf.	Triple Trimmer Unit
	C8	5–35 pf.	
23966	C9	500 pf.	20% m.m.
48504	C11	546 pf.	Gang Condenser
	C12	546 pf.	
41403	C13	0·05 µf.	20% Tub. 350v.
41403	C14	0·05 µf.	20% Tub. 350v.
28169	C16	150 pf.	5% p.s.m.
28169	C17	150 pf.	5% p.s.m.
23867	C18	100 pf.	20% m.m.
23867	C19	100 pf.	20% m.m.
37480	C21	5–35 pf.	Trimmer
28241	C22	620 pf.	1% p.s.m.
28242	C23	180 pf.	1% p.s.m.
37480	C24	5–35 pf.	Trimmer
37480	C26	5–35 pf.	Trimmer
28179	C27	82 pf.	5% p.s.m.
41403	C28	0·05 µf.	20% Tub. 350v.
41403	C29	0·05 µf.	20% Tub. 350v.
28169	C31	150 pf.	5% p.s.m.
28169	C32	150 pf.	5% p.s.m.
23618	C33	33 pf.	10% p.s.m.
41409	C34	0·005 µf.	25% Tub. 500v.
23900	C36	200 pf.	20% m.m.
31315	C37	50 µf.	+50% —20% El. 12v.
48282	C38	0·01 µf.	25% Tub. 500v.
31315	C39	50 µf.	+50% —20% El. 12v.
41422	C41	0·1µf.	20% Tub. 1000v.
46527	C42	16 µf.	+50% —20% El. 350v.
	C43	32 µf.	
46503	C44	16 µf.	+50% —20% El. 450v.
41421	C46	0·05 µf.	20% Tub. 1000v.
27397	R1	470 KΩ	20% ¼w.
24645	R2	180Ω	10% ¼w.
27141	R3	22 KΩ	20% ¼w.
25293	R4	8·2 KΩ	10% ½w.
25453	R6	22 KΩ	10% ½w.
24357	R7	33Ω	10% ¼w.
27013	R8	4.7 KΩ	20% ¼w.
24741	R9	330Ω	10% ¼w.

PART NO.	CIRCUIT NO.	VALUE	TOLERANCE AND REMARKS
27205	R11	47 KΩ	20% ¼w.
25893	R12	330 KΩ	10% ¼w.
25797	R13	180 KΩ	10% ¼w.
49215	R14	1.0 MΩ	Volume Control /Switch
24997	R16	1·5 KΩ	10% ¼w.
25125	R17	3·3 KΩ	10% ¼w.
27461	R18	1.0 MΩ	20% ¼w.
27461	R19	1.0 MΩ	20% ¼w.
28544	R21	47 KΩ	25% ¼w.
24941	R22	1 KΩ	10% ½w.
25101	R23	2·7 KΩ	10% ½w.
25357	R24	12 KΩ	10% ½w.
27397	R26	470 KΩ	20% ¼w.
24653	R27	180Ω	10% ½w.
25052	R28	1·8 KΩ	20% 1w.
26652	R29	47Ω	20% 1w.
	R31	700Ω	
50197	R32	200Ω	5% Mains Resistor
	R33	80Ω	
	R34	50Ω	

PART NO.	CIRCUIT NO.	D.C. RESISTANCE	REMARKS
	L1	—	s.w. Ae. Coupling Coil
	L2	—	s.w. Ae. Coil
50035	L3	1Ω	m.w. Ae. Coupling Coil
	L4	3.5Ω	m.w. Ae. Coil
	L5	21Ω	l.w. Ae. Coulping Coil
	L6	21Ω	l.w. Ae. Coil
48467	L7	6Ω	1st i.f.t. Pri.
	L8	6Ω	1st i.f.t. Sec.
50036	L9	—	s.w. Osc. Grid Coil
	L10	—	s.w. Osc. Anode Coil
	L11	1·8Ω	m.w.Osc.AnodeCoil
48127	L12	5·2Ω	l.w. Osc. Anode Coil
	L13	—	m.w./l.w. Osc. Grid Coil
48467	L14	6Ω	2nd i.f.t. Pri.
	L15	6Ω	2nd i.f.t. Sec.
50189	L16	280Ω	Smoothing Choke
48700	L17	7·5Ω	Mains Filter
	L18	7·5Ω	
48704	T1 (pri.)	350Ω	Output Transformer

ALPHABETICAL PARTS LIST (MECHANICAL)

This list does not include the components in the Electrical Parts List, and those items that are unlikely to be required under normal circumstances. Nuts and bolts, self-tapping screws, and similar accessories can also be supplied as required.

PART NO.	DESCRIPTION	REMARKS	CIRCUIT NO.
50051	Back for Cabinet	A124	
50201	Back for Cabinet	U124	
50150	Bracket	With pulleys l.h.	
50151	Bracket	With pulleys r.h.	
50081	Bracket	For aerial filter	
50037	Cabinet		
50041	Carrier	For pointer and holder	
50062	Clamp	For securing aerial coil	
50300	Clamp	For supporting scale	
46911	Cores	Iron dust for i.f.t.'s	
Spec. 936	Cord (type 3)	Pointer drive 47″	
Spec. 936	Cord (type 3)	Main tuning drive 20″	
50058	Drive Drum	For cord drive	
33207	Fuse	0·5 Amp cartridge	F1
48701	Fuseholder		
8608	Grommet, chassis fixing		
50040	Guide for carrier		
50045	Holder for pointer		
50335	Holder, lamp with leads		
48500	Indicator	For drive drum	
50043	Knobs	Plain	
50044	Knob	Marked for wave-range control	
16880	Lamp	For scale, 6·2 Volt, 0·3 Amp.	PL1 & PL2
45388	Loudspeaker		
49229	Panel a and e	With sockets	
49231	Panel l.s.	With sockets	
50136	Panel mains tapping	A124	
50593	Panel mains tapping	U124	
37974	Plug, aerial		
37975	Plug, earth		
50096	Plug, L.S.		
50243	Plug, mains tapping	For U124	
50046	Pointer	Tuning	
49583	Rubber sleeve	For scale lamp	
46752	r/c tag strip	12 way, less components	
50204	Scale		
50301	Spacer	For scale clamp	
50320	Spade tag	Earthing, guide for carrier	
19448	Spring	For cord drives	
48228	Spring	For l.w. oscillator coil slug	
51171	Spring	For tuning spindle	
50302	Spring	For securing scale clamp	
48222	Stud 0BA	For adjusting l.w. oscillator coil	
22521	Stud 4BA	For mains resistor (U124)	
36833	Tag 2BA	For earthing scale clamp	
50055	Tone control switch		S3
50057	Tuning control spindle		
47270	Valveholder	B8A	
3975	Valveholder	British octal	
5687	Valveholder	International octal	
6678	Valve top cap clip	A124	
49215	Volume control	With switch	R14 or R19
50056	Wave-range switch		S1, S2