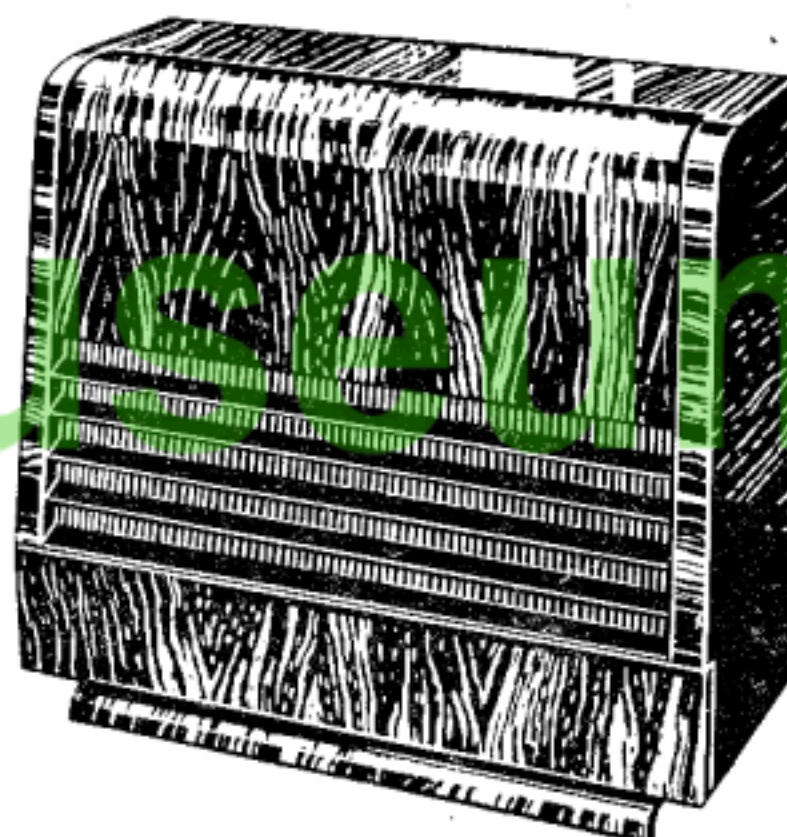




## SERVICE DATA

ISSUED DEC., 1952



### DESCRIPTION

**GENERAL.** The K-B Model HG 35 is a 4-valve plus rectifier, superheterodyne Radiogramophone for operation on AC/DC power supplies of 200-250 volts at 50 cycles AC and is designed for use with record speeds of 78, 45 and 33 $\frac{1}{3}$  rpm.

**PICK-UP.** An Acos pick-up is supplied fitted with a compromise sapphire needle suitable for 78, 45 and 33 $\frac{1}{3}$  rpm. records. The colour code of this pick-up is a white spot of paint on the needle. ANY REFERENCE TO ACOS PICK-UPS SHOULD BE MADE DIRECT WITH THE MANUFACTURERS, MESSRS. COSMOCORD LTD.

**MOTOR UNIT.** This model is fitted with a Garrard unit. As separate service instructions are issued by the manufacturers all service queries should be made to them direct.

#### **WAVE RANGE.**

Long Wave - 142-340 kc/s (2,100-880 metres).

Medium Wave - 525-1,610 kc/s (570-187 metres).

Short Wave - 5.8 - 18.4 mc/s (51 - 16.3 metres).

#### **VALVES.**

V1. Frequency Changer - - - - BRIMAR 12BE6.

V4. Output - - - BRIMAR 50L6GT.

V2. I.F. Amplifier - - - - BRIMAR 12BA6.

V5. Rectifier - - - BRIMAR 35W4.

V3. 2nd Detector, AVC and L.F. Amplifier - BRIMAR 12AT6.

**OUTPUT.** 3.25 watts.**CONSUMPTION.** Radio 60 watts. Gram. 80 watts.**SPEAKER.** 10" High Flux permanent magnet.**CABINET.** Bureau style. Dimensions : Height 32", width 29 $\frac{1}{2}$ ", depth 14 $\frac{1}{2}$ ".

### REMOVAL OF CHASSIS FROM CABINET

Disconnect from mains. Remove knobs. Unscrew aerial/earth/extension speaker panel and disconnect loudspeaker and p/u leads. Disconnect motor mains lead and unclip indicator lamp. The chassis may now be completely removed by unscrewing the three chassis fixing screws.

**WARNING.** Chassis may be live when the receiver is connected to mains supply.



## HG 35 CIRCUIT

KB Museum.org.uk

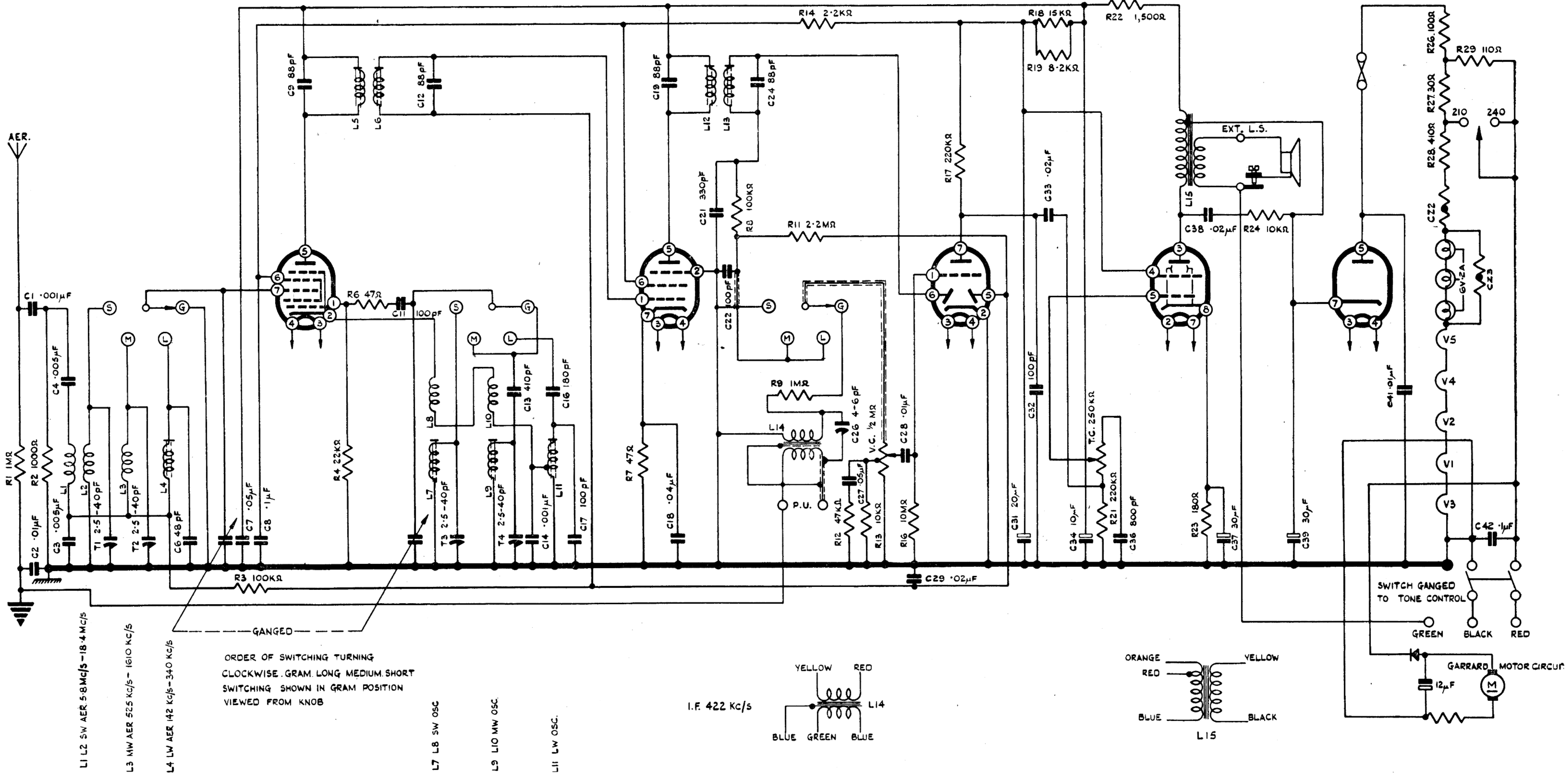
V1  
12BE6

V2  
12BA6

V3  
12AT6

V4  
50L6GT

V5  
35W4



page TWO

L1 L2 SW AER 5.8 Mc/s - 18.4 Mc/s  
 L3 MW AER 525 kc/s - 1610 kc/s  
 L4 LW AER 142 kc/s - 340 kc/s

ORDER OF SWITCHING TURNING  
 CLOCKWISE. GRAM. LONG. MEDIUM. SHORT  
 SWITCHING SHOWN IN GRAM POSITION  
 VIEWED FROM KNOB

L7 L8 SW OSC.  
 L9 L10 MW OSC.  
 L11 LW OSC.

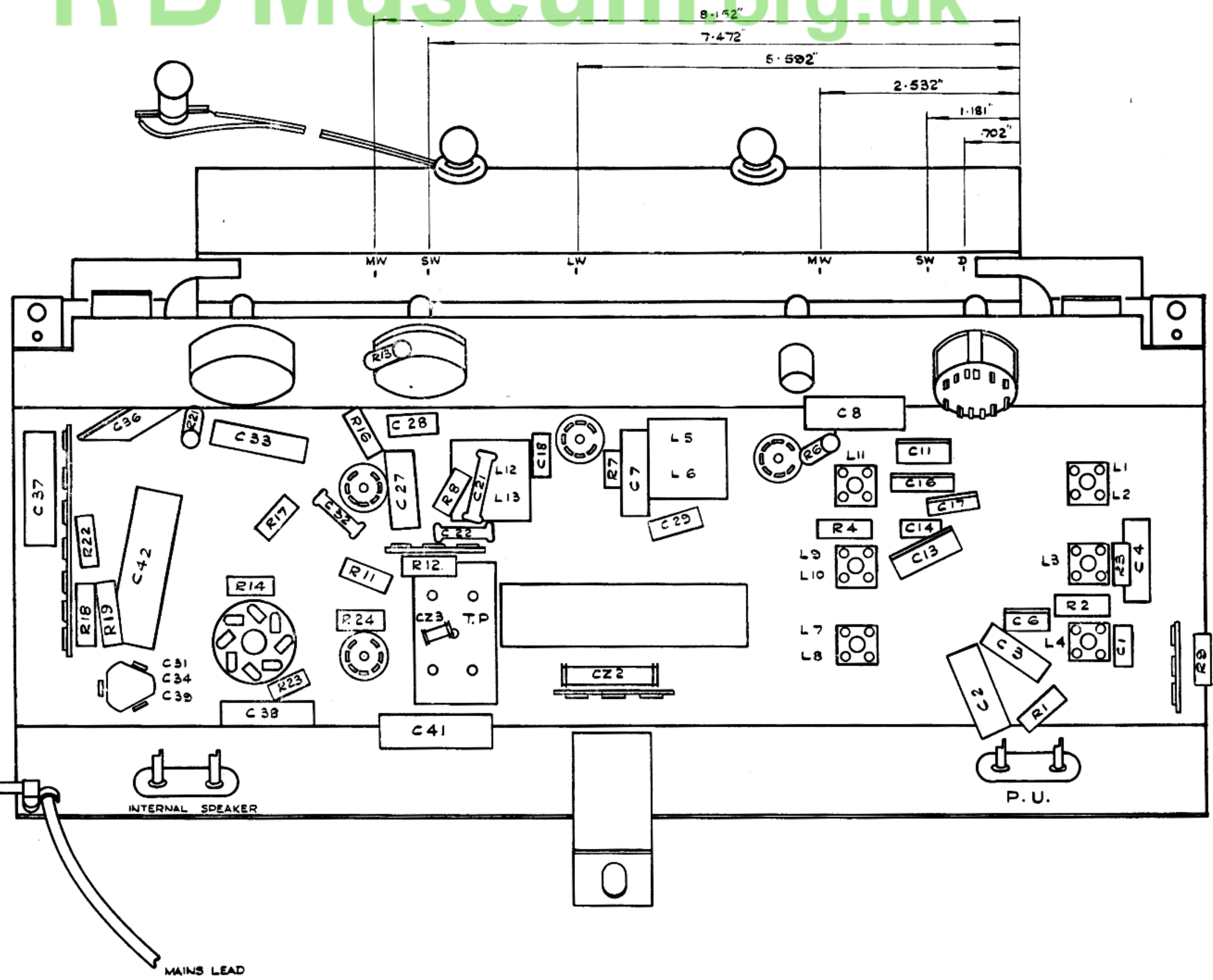
I.F. 422 Kc/s

ORANGE RED YELLOW  
 BLUE BLACK

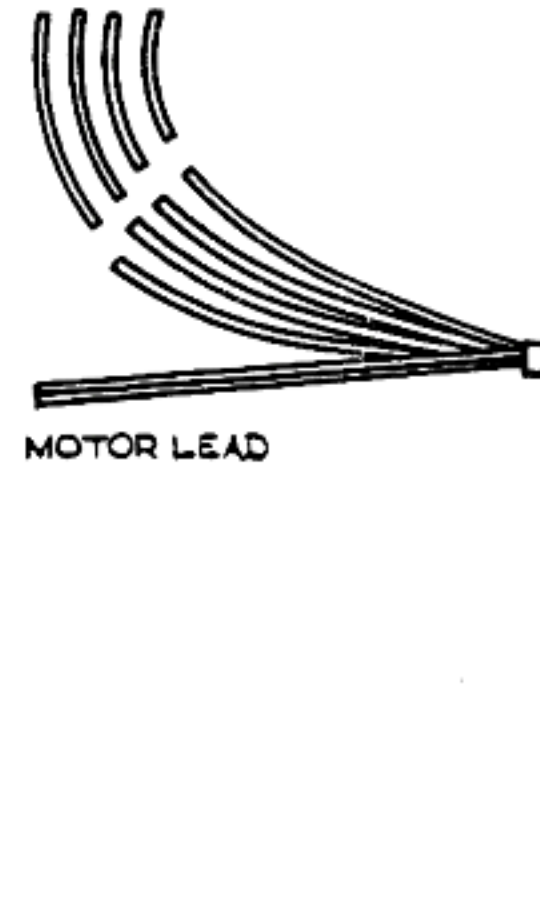
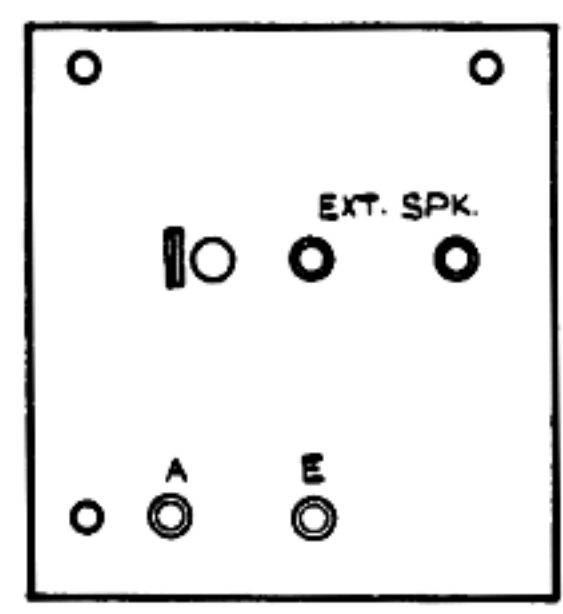
NOTE.—.01 mfd. added between Green lead and chassis.

# VIEW UNDER CHASSIS

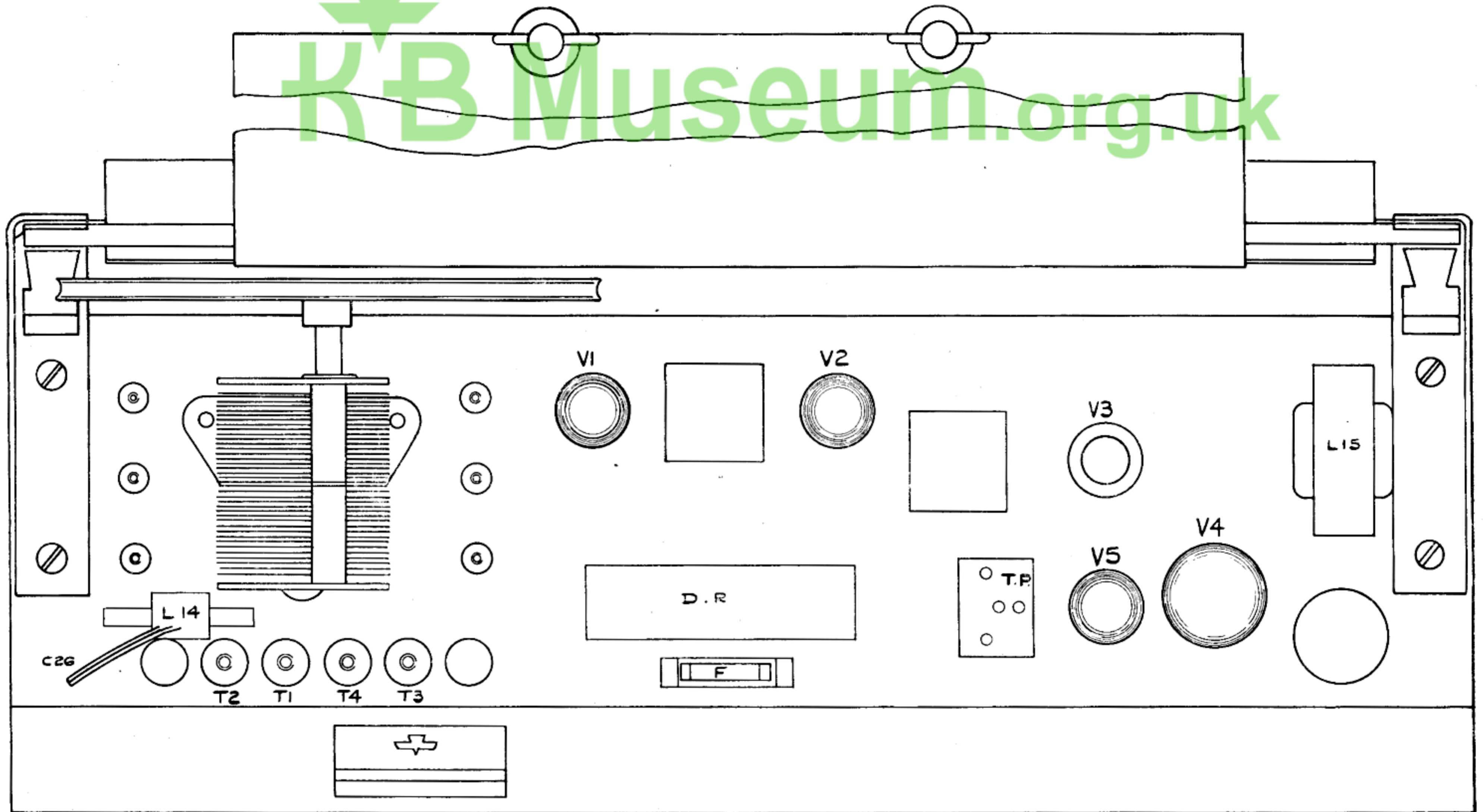
RESISTORS	R18	R21	R23	R11 R13	CZ3 R8	C22			R2	R3	R9
	R22 R19		R14 R17	R24 R16	R12	R7	R6 R4	R1			
CONDENSERS	C37	C36 C42	C33	C32	C27	C22	C18	C7	C8	C11, C16, C2, C3	C4
		C31, C34, C39,	C38		C28 C41	C21		C29		C17, C14, C13,	C1
INDUCTANCE						L12 L13, 2 <sup>ND</sup> I.F.		L5 L6, 1 <sup>ST</sup> I.F.			
MISCELLANEOUS	EXT. SPEAKER PANEL	ON-OFF TONE CONTROL DIAL LAMPS (3) 2 AMPS (3)		VOLUME CONTROL TAPPING PANEL		TUNING CONTROL		WAVE CHANGE SWITCH			



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TOP VIEW OF CHASSIS



page FOUR

INDUCTANCE	L14					L15
VALVES			V1. 12BE6		V2. 12BA6	V3. 12AT6 V5. 35W4 V4. 50L6GT
MISCELLANEOUS	TRIMMERS T2, T1, T4, T3	IDENTITY LABEL		DROPPING RESISTOR. FUSE.		TAPPING PANEL

# ALIGNMENT CHART FOR HG 35

\*Operations **MUST** be carried out in the order indicated.

*Operation	Alignment of	Connect Signal Gen. to	Inject Signal via	Adjust Input Signal to	Set Wave Band Switch to	Set Tuning Pointer to	To be adjusted for maximum output
1	I.F.	Grid of Freq. Changer	•1 mfd.	422 kc/s	M.W.	Datum	L13, 12, 5 & 6 IF Trans. Cores
2	M.W.	Aer. Socket	Standard Dummy Aerial	600 kc/s	"	500 M	L10, L9 Osc. Cores
3	"	"	"	1,400 kc/s	"	214 M	T4, T2 Osc. & Aer. Trimmers
4	L.W.	"	"	225 kc/s	L.W.	1,333 M	L11, L4 Cores
5	S.W.	"	"	6 mc/s	S.W.	50 M	L8, L7 Cores
6	"	"	"	15 mc/s	"	20 M	T3, T1 Osc. & Aer. Trimmers

## NOTES

The oscillator operates at a higher frequency than the input signal on all bands.

The tuning pointer should be set to the datum mark with the gang condenser at maximum capacity.

The input signal should be progressively reduced as the sensitivity increases with alignment and kept as low as is reasonable.

The tuning condenser should be rocked slightly for maximum gain whilst finally adjusting the aerial trimmers.

The operations for each waveband should be successively repeated until scale accuracy and maximum sensitivity have been attained.

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## VOLTAGE CHART HG 35

Mains Input—240v. in 240v. tap Aerial and Earth Disconnected		Band Switch - MW SN - Slightly Negative					Volume Control at Minimum Readings Approximate			
Valve	Function	Volts measured between SOCKET and CHASSIS								
		1	2	3	4	5	6	7	8	TOP CAP
V1 12BE6	Frequency Changer	SN	0	H	H	177	92	SN	—	—
V2 12BA6	I.F. Amplifier	SN	0	H	H	177	92	0.5	—	—
V3 12AT6	Det. AVC & L.F. Amp.	SN	0	H	0	SN	SN	46	—	—
V4 50L6GT	Output	0	H	195	114	0	92	H	8.7	—
V5 35W4	Half Wave Rectifier	200	0	H	H	210AC	H	210	—	—
Volts across 1st Electrolytic ...		...	...	...	...	...	...	...	210	...
" " 2nd " ...		...	...	...	...	...	...	...	177	...
" " 3rd " ...		...	...	...	...	...	...	...	144	...
" " Smoothing Resistors ...		...	...	...	...	...	...	...	33, 63	...
Total Mains Current ...		...	...	...	...	...	...	...	220 ma	...
Total H.T. Current ...		...	...	...	...	...	...	...	69 ma	...
Heater Current ...		...	...	...	...	...	...	...	0.15 A	...

## IMPORTANT

This Receiver uses **BRIMAR** Valves and was specifically designed around them.

Its performance may be impaired unless **BRIMAR** Valves of the correct types are used when replacements are needed.



**HG 35**  
MODEL

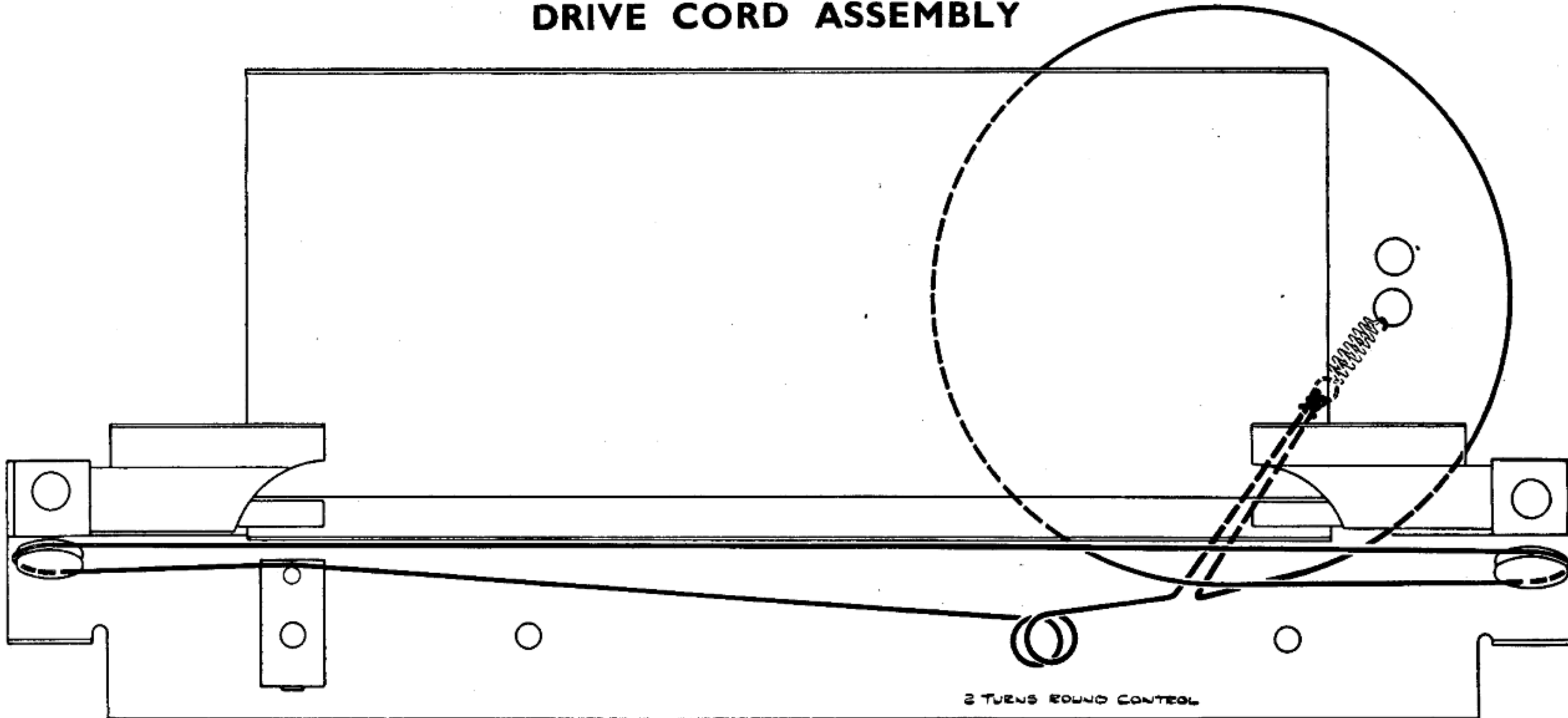
# SPARES LIST HG 35

ALWAYS QUOTE PART No. WHEN ORDERING SPARES

Component	Colour Code	Circuit Ref.	Part No.	List Price	Component	Colour Code	Circuit Ref.	Part No.	List Price
Cabinet ...	...	...	293/220	£36	Gang Condenser ...	...	...	290/210	13/6
Cabinet Back ...	...	...	294/222	7/3	Indicator Lampholder ...	...	...	181/206	1/-
<b>COILS :-</b>					Knobs ...	...	...	290/260/3	9d.
L.W. Aerial ...	Red, Yellow	L4	196/24	3/-	Knob, Wavechange ...	...	...	290/260/2	9d.
M.W. " ...	Red, Orange, Red	L3	291/21	3/-	Loudspeaker ...	...	...	185/250/1	45/-
S.W. " ...	Red, Yellow, Yellow	L1, L2	297/15	3/-	Mains Dropper Resistor ...	...	R26, 27, 28	299/132	6/3
L.W. Oscillator ...	Brown, Red, Blue	L11	176/26	3/-	Pick-up Head GPI9U ...	White spot	...	209/214	30/-
M.W. " ...	Brown, Red, Violet	L9, L10	176/23	3/-	Pointer Assy. ...	...	...	293/123	9d.
S.W. " ...	Violet, White	L7, L8	202/17	3/-	Scale ...	...	...	293/200	4/9
Drive Cord Assy. ...	...	...	290/174 I	1/-	Tone Control ...	...	...	80670/1	9/6
Dial Lamps ...	...	...	201/193	1/3	Trimmer Strip ...	...	...	297/189	3/9
Dial Lampholder ...	...	...	83056	1/3	<b>TRANSFORMERS :-</b>				
Electrolytic Condenser 30+20+10 mfd. ...	...	...	KEM 68	9/-	IF 1st and 2nd ...	Red, Violet	L5, 6, 12 & 13	201/50	10/-
Electrolytic Cond. 30 mfd. ...	...	...	KEM 24	2/3	Pick-up ...	...	L14	209/90	10/-
Fuse ...	...	...	89511/3	1/-	Output ...	Brown, Orange Red,	L15	294/95	10/-
					Volume Control ...	...	...	80674	6/-
					Wave Change Switch ...	...	...	196/203/5	6/-

Prices are subject to alteration without notice.

## DRIVE CORD ASSEMBLY



## COIL & TRANSFORMER DATA

HG.35

CIRCUIT REF. No.	FUNCTION	RESISTANCE OHMS	CIRCUIT REF. No.	FUNCTION	RESISTANCE OHMS
L1	S.W. AERIAL PRIMARY	LESS THAN 1	L10	M.W. OSCILLATOR SECONDARY	4.4
L2	S.W. AERIAL SECONDARY	LESS THAN 1	L11	L.W. OSCILLATOR	8
L3	M.W. AERIAL	3-4	L12	2nd I.F. PRIMARY	20
L4	L.W. AERIAL	18	L13	2nd I.F. SECONDARY	20
L5	1st I.F. PRIMARY	20	L14	P.U. TRANSFORMER PRIMARY	3000
L6	1st I.F. SECONDARY	20	L14	P.U. TRANSFORMER SECONDARY	4000
L7	S.W. OSCILLATOR PRIMARY	LESS THAN 1	L15	OUTPUT TRANS. PRIMARY ST. TO TAP	350
L8	S.W. OSCILLATOR SECONDARY	LESS THAN 1	L15	OUTPUT TRANS. PRIM. TAP TO FINISH	14
L9	M.W. OSCILLATOR PRIMARY	LESS THAN 1	L15	OUTPUT TRANSFORMER SECONDARY	LESS THAN 1