

**MODEL U332** is a four valve (including rectifier) superheterodyne A.M. receiver for the Long and Medium Wavebands.

A directional ' Ferrite ' rod aerial is employed for both wavebands and provision is included for connecting an external aerial and earth.

Sockets are provided for connecting to an extension loud-speaker of the low impedance type.

Operation is from an A.C. or D.C. mains supply.

**IMPORTANT NOTES :** (1) The chassis connects to one side of the mains and, with A.C. operation, care should be taken to ensure that the chassis connects to the neutral side of the supply. With D.C. supplies the mains plug must be inserted in the correct polarity, otherwise the receiver will not operate.

In the case of earthed positive D.C. supplies the chassis will be live.

(2) The rear cover should NEVER be released whilst the receiver is connected to the mains, as the cowl over the mains resistor may become live.

(3) An earth wire, if used, should only be connected to the socket provided and NEVER direct to the chassis or the aerial socket.

(4) The voltage taps on the mains resistor should be adjusted prior to installation, as follows :-

Supplies 200-220V use the 210V tap (lower).

" 230-250V use the 240V tap (upper).

**MAINS SUPPLY :** 200-250V A.C. 40-100 c/s. or D.C.

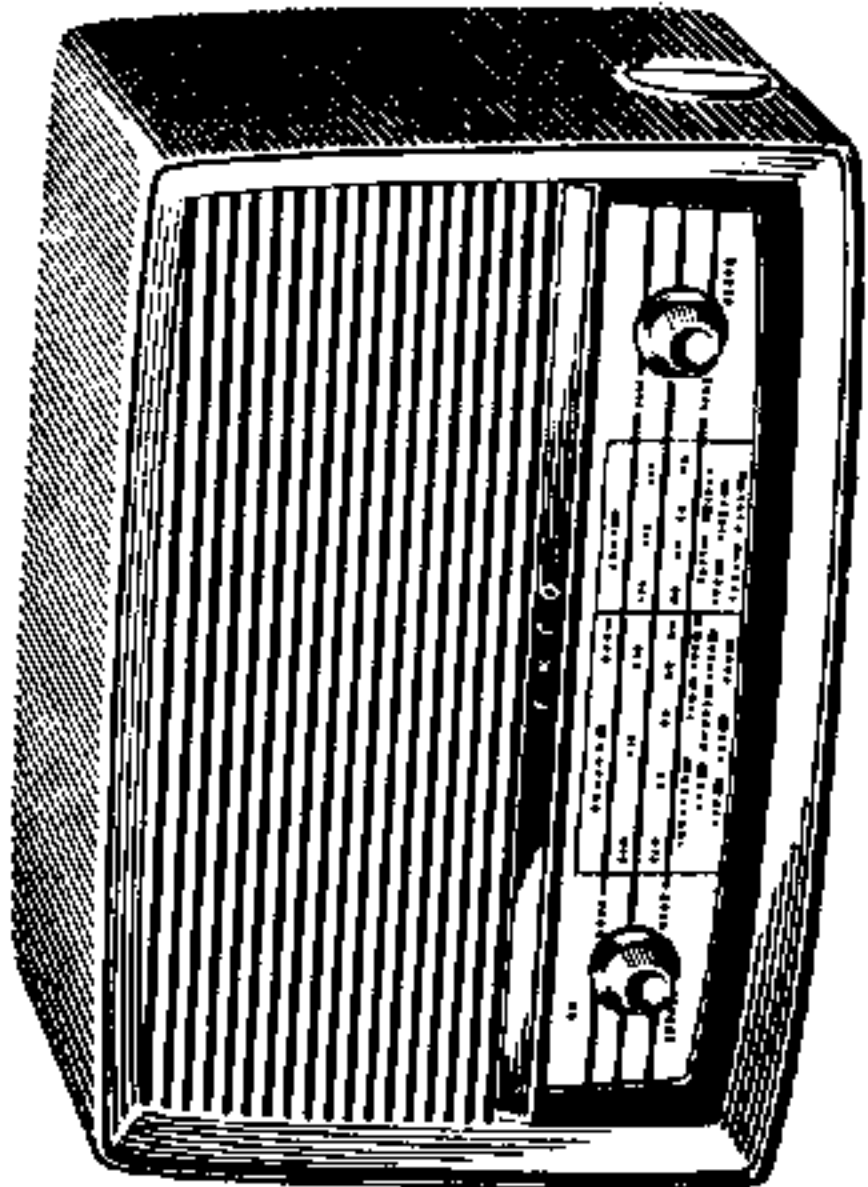
**MAINS CONSUMPTION :** 40 Watts approximately.

**WAVEBAND COVERAGE :**

M.W. 535-1650 Kc/s. 560- 182 Metres.

L.W. 150- 275 Kc/s. 2000-1100 Metres.

**CONTROLS :** Front (right) TUNING, (left) VOLUME ON-OFF, Side WAVECHANGE.



**VALVES :**

V1	Frequency Changer	UCH81	B9A base
V2	I.F. Amplifier, Demod. and A.G.C.	UBF89	B9A "
V3	A.F. Amplifier and Audio Output	UCL82	B9A "
V4	H.T. Rectifier	UY85	B9A "

**INTERMEDIATE FREQUENCY :** 470 Kc/s.

**CHASSIS REMOVAL :** Disconnect from the mains supply and remove the rear cover. Remove the three control knobs, held by grub screws, then remove two screws securing the rear flange of the chassis to the cabinet. The chassis may now be withdrawn to the extent of the loud-speaker leads. When re-assembling ensure that the flange on the front of the chassis is correctly located in the appropriate channel of the cabinet.

After tightening the grub screws on the control knobs a small quantity of wax should be pressed into the hole in the side of the knob to insulate the head of the grub screw and so avoid any possibility of shock to the user should the chassis be live.

**DRIVE CORD REPLACEMENT :** A length of approximately 36 inches of nylon drive cord is required. Tie a small loop in one

end of the cord and attach this to the free end of the spring. Hook the spring on to the drive wheel, then pass the end of the cord clockwise round the drive drum, over the left hand pulley, under the right hand pulley, two turns clockwise round the control spindle, then round the drive drum back to the spring. The pointer is attached to the cord so as to be coincident with the datum mark at the right hand end of the scale, when the gang is fully meshed.

**CIRCUIT ALIGNMENT :** A standard signal generator, covering 200-1550 Kc/s., modulated 30 per cent., and an A.F. output meter will be required.

Connect the A.F. output meter across the loud-speaker tags.

**I.F. ALIGNMENT :** Switch the receiver to M.W. and adjust the Volume control for maximum output. Input to V1 pin 2, at 470 Kc/s. modulated. Adjust L8 (upper core), L7, L4 (upper core) and L3 in that order for maximum symmetrical output.

**R.F. ALIGNMENT :** Connect the signal generator, via a dummy aerial, to the A and E sockets of the receiver. Check that the pointer is coincident with the datum mark, at the right hand end of the scale, when the gang is fully meshed. Adjust if necessary by sliding the pointer along the cord.

**M.W.** Tune to 500 Metres, inject a signal of 600 Kc/s., then adjust L5 for calibration, and L2 for maximum output.

Tune to 3rd Programme calibration mark, inject a signal of 1546 Kc/s., then tune C9 for calibration and C6 for maximum output.

**L.W.** Tune to 1400 Metres, inject a signal of 214.29 Kc/s., then adjust L1 for maximum output.

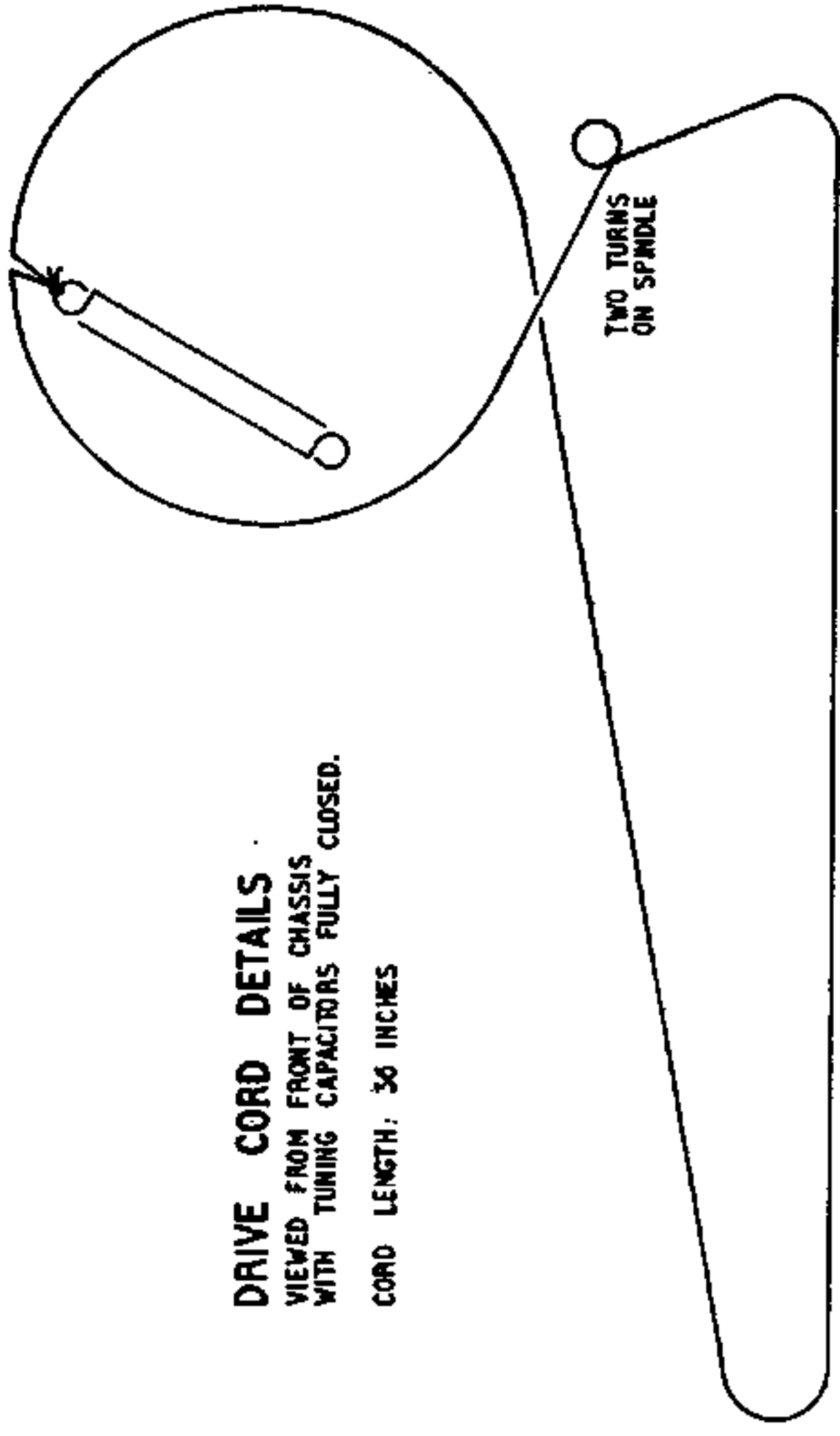
**CIRCUIT DETAILS :** Conventional superheterodyne circuitry is employed in which a triode heptode valve operates as local oscillator and mixer. The second valve combines the function of I.F. amplifier with those of demodulator and A.G.C. rectifier. V3 is another double valve and operates as A.F. amplifier and audio output.

Negative feedback is provided by a tertiary winding on the output transformer.

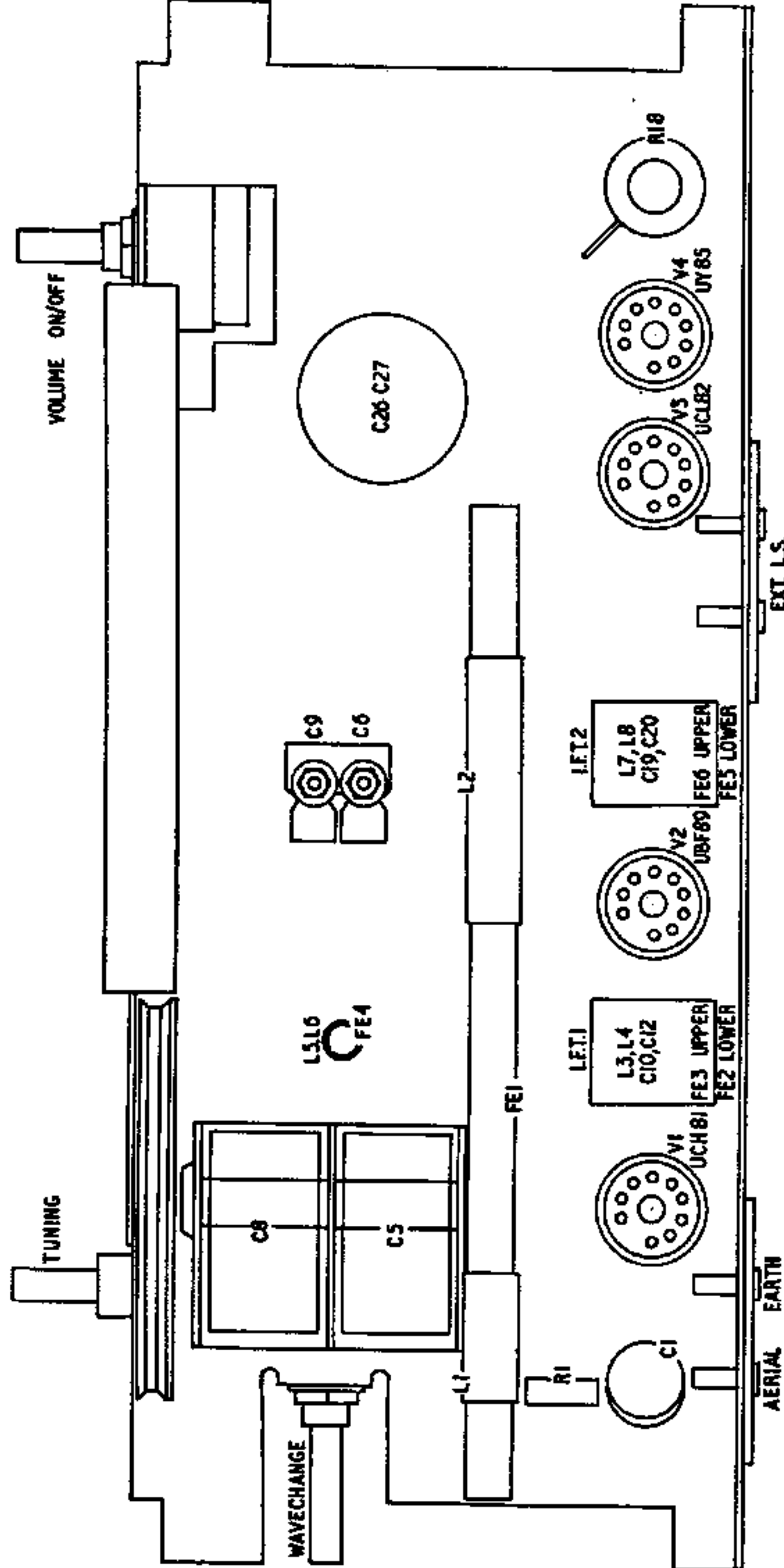
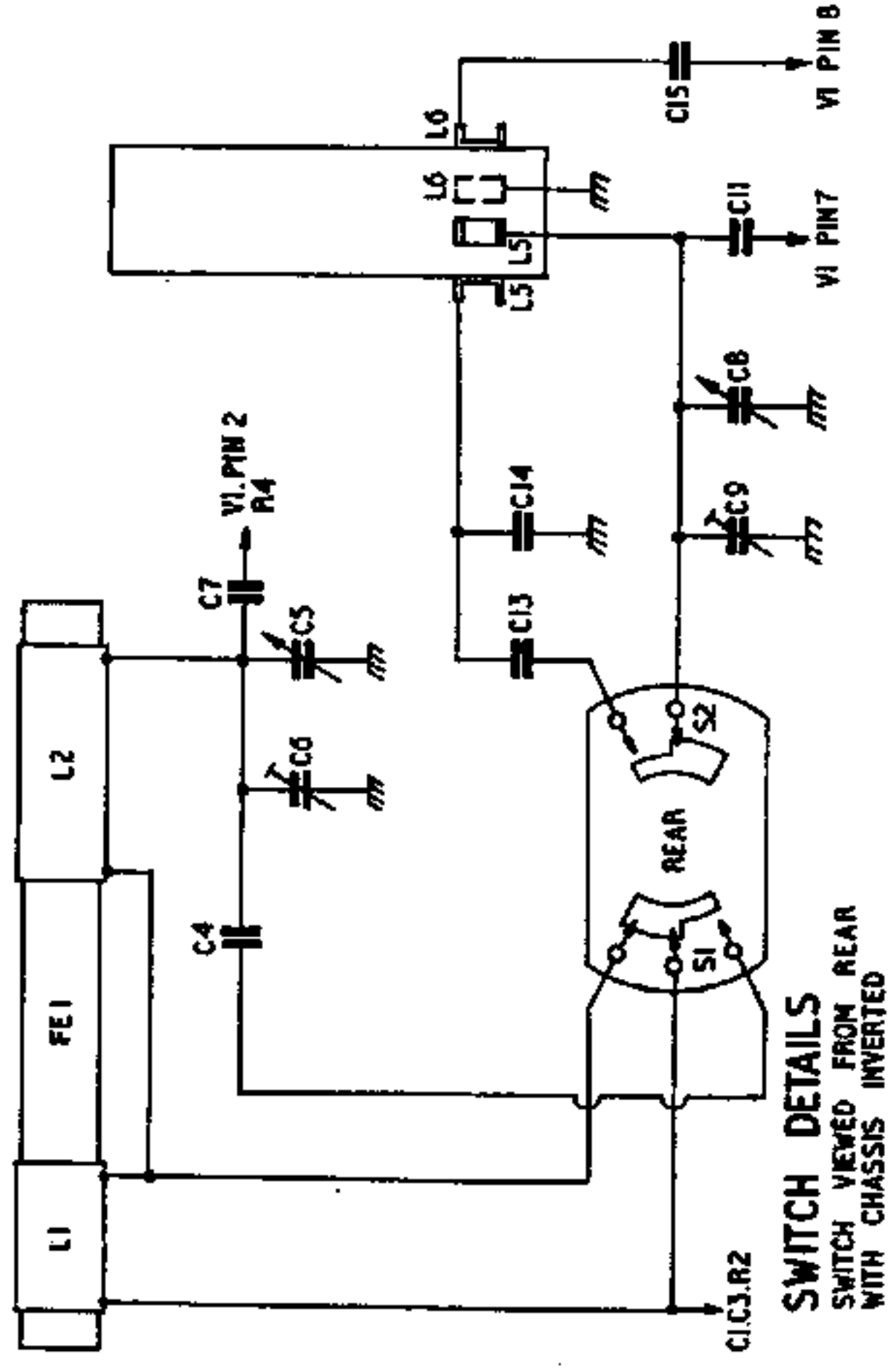
H.T. is supplied from the half-wave rectifier V4 and smoothed by C27, R16 and C26.



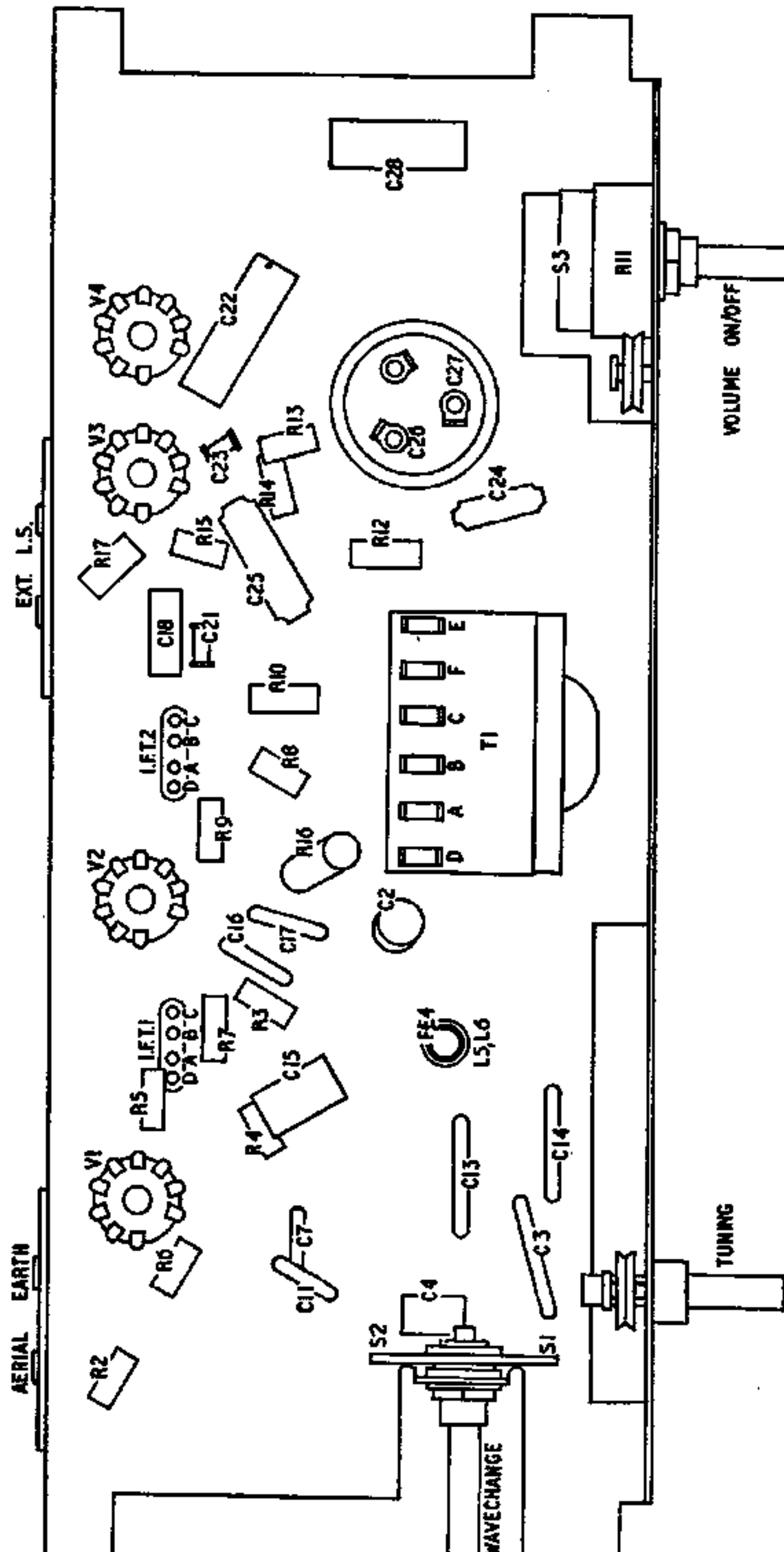
**DRIVE CORD DETAILS**  
 VIEWED FROM FRONT OF CHASSIS  
 WITH TUNING CAPACITORS FULLY CLOSED.  
 CORD LENGTH: 36 INCHES



**SWITCH DETAILS**  
 SWITCH VIEWED FROM REAR  
 WITH CHASSIS INVERTED



**CHASSIS DETAILS**



**VOLTAGE AND CURRENT DATA :** Receiver operating from 240V A.C. 50 c/s. supply into the 230-250V tap. Voltages taken on a meter of 20,000 ohms per volt and are positive with respect to chassis, unless otherwise stated.

Valve	Anode			Screen			Cathode		
	Pin	V	mA	Pin	V	mA	Pin	V	mA
V1H	6	94	1.8	1	60	4.2	3	0	—
V1T	8	48	2.2	—	—	—	3	0	—
V2	6	91	6.3	1	60	3.6	3	0	—
V3A	9	43	0.2	—	—	—	8	0	—
V3B	6	150	30	7	94	5	2	5.5	35
V4	9	170A.C.	—	—	—	—	3	160	—

Current through valve heaters, 100mA.

V4 pin 5 to chassis, 126V A.C.

**D.C. RESISTANT OF WINDINGS :**

Winding	Ohms	Winding	Ohms
L1	8	L7	10
L2	0.5	L8	10
L3	10	T1 Pri.	335
L4	10	Sec.	*
L5	3	Tertiary	*
L6	0.75	L.S.	2.6

\* Less than 0.5 ohms.

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