

# PILOT MAJOR MAESTRO

Models T16 and T17

Three-waveband five-valve superhet, covering 13-15, 200-550, and 1,000-2,000 metres, and for operation from AC mains of 100-150 or 200-250 volts 40-100 cycles. Self-contained unwindable aerial. Plastic cabinet with handle. Made by Pilot Radio, Ltd., 31-7, Park Royal Road, London, NW10

**MAIN circuit** consists of a triode-hexode mixer and oscillator V1, which feeds an IF amplifier V2, followed by a double diode-triode second detector and LF amplifier V3. Output stage consists of a beam tetrode V4 which drives a 6 1/2 in. PM speaker.

**Aerial circuit** utilises a separate coil assembly for SW consisting of L1 and L2.

The MW and LW aerial coil unit consists of L4, the common aerial coupling coil, and L3 (MW) and L5 (LW) grid coils. AVC is not fed to grid of V1 on SW, L2 being connected down to chassis.

The oscillator consists of a parallel fed tuned grid circuit. On SW and LW anode feedback voltages are developed across the inductively coupled coils L7 (SW) and L10 (LW).

On MW, however, the anode feedback voltage is developed across the padding capacitor T7. The unused aerial and oscillator grid coils are shorted out by a following shorting blade on S2 and S3.

The **IF amplifier** is quite straightforward except that no standing bias is developed in its cathode circuit. AVC is applied to its grid however via R6, C9. Second detector V3 has its diodes strapped together and used as rectifier and AVC, R7, the vol. control, being the diode load. The cathode of V3 is connected to chassis and leak-condenser bias for the triode grid is derived from R9, C12. V3 is RC coupled to V4 by R8, C14 and R10. C13 is anode HF-bypass capacitor. **Output stage**: V4 is supplied with cathode bias from R11, C17. C15 across the primary of O.P.1, the output transformer provides tone connection at the higher frequencies. **Power supply**: HT voltage is obtained from V5 which is an indirectly heated rectifier with a separate cathode. The heater voltage is obtained from the same LT secondary as that of the other valves. Smoothing is resistance capacity; R13, R12, C18, C20, C21 are components. C16 is a HT bypass capacitor across the smoothed

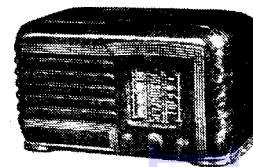
HT supply. C19 is a mains filter. The anode voltage for V5 is obtained from the mains input. **General**: It will be appreciated that although the set is designed for use on AC only, the chassis can be live, as in an AC/DC receiver, and should not be connected direct to an earth. Filament voltage for V1-V5 and D1 and D2 is supplied from L18 the secondary of MT1 the filament transformer.

In **Model T16** the primary of MT1 is for operation on mains supply of 200-250 V, AC. In **Model T17**, however, a tapped primary is fitted enabling mains supply of 100-250 V, AC to be used. S5 which is ganged to the vol. control is the on/off switch.

**Removal of the chassis** from the cabinet is simple. Remove the slide-on type knobs on the three front controls. Remove back of cabinet. Unfasten the three bolts on the bottom of the cabinet—these hold the chassis in place—and slide chassis out of cabinet.

## INDUCTORS

L	Ohms
1	0.2
2	very low
3	3
4	2.75
5	13.2
6	very low
7	0.2
8	3.75
9	7
10	100
11	10
12	10
13	8.5
14	8.5
15	450
16	very low
17	very low
18	very low
19	140



Pilot Major Maestro models T16 and T17.

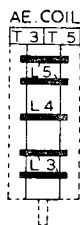
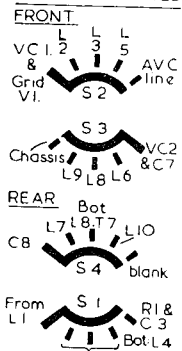
## CAPACITORS

C	Mjds
1	.001 tubular 450v
2	.02 tubular 750v
3	.002 tubular 500v
4	.1 tubular 350v
5	.05 tubular 500v
6	.006 silver mica
7	60pf mica
8	100pf mica
9	.1 tubular 350v
10	100pf mica
11	.02 tubular 750v
12	.002 tubular 500v
13	.0003 mica
14	.01 tubular 1000v
15	.01 tubular 1000v
16	.1 tubular 350v
17	.25 electrolytic 25v
18	.8 electrolytic 200v
19	.05 tubular 500v
20	16 } electrolytic 350v
21	16 }

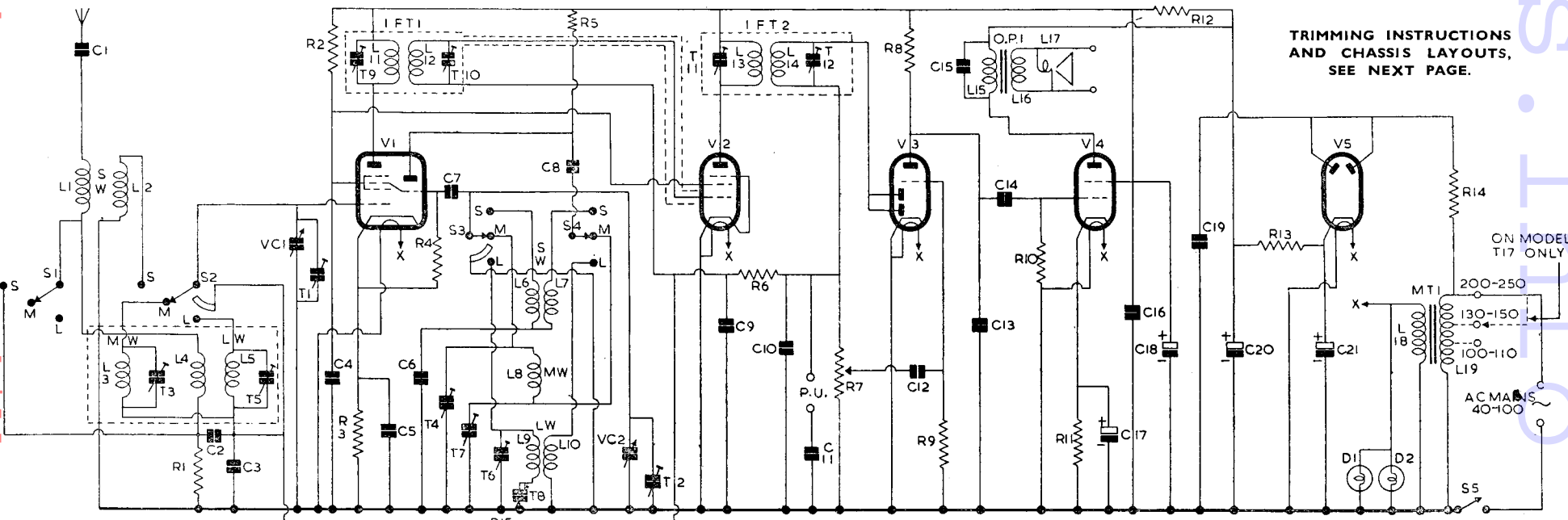
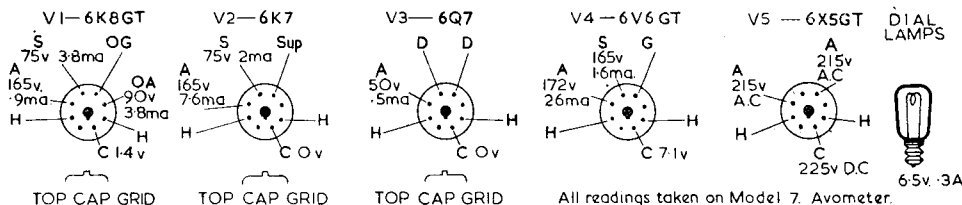
## RESISTORS

R	Ohms
1	1k 1/2W
2	22k 1/2W
3	220 1/2W
4	47k 1/2W
5	22k 1/2W
6	1 meg 1/2W
7	.5 meg pot. with SW
8	270k 1/2W
9	10 meg 1/2W
10	1 meg 1/2W
11	270 1/2W
12	1k 1W
13	1k 2W
14	100 1/2W
15	100k 1/2W

### SWITCH LAYOUT CHASSIS INVERTED



Left: Valve base connections and readings. Above: Aerial coil details. Right: Switch layout.



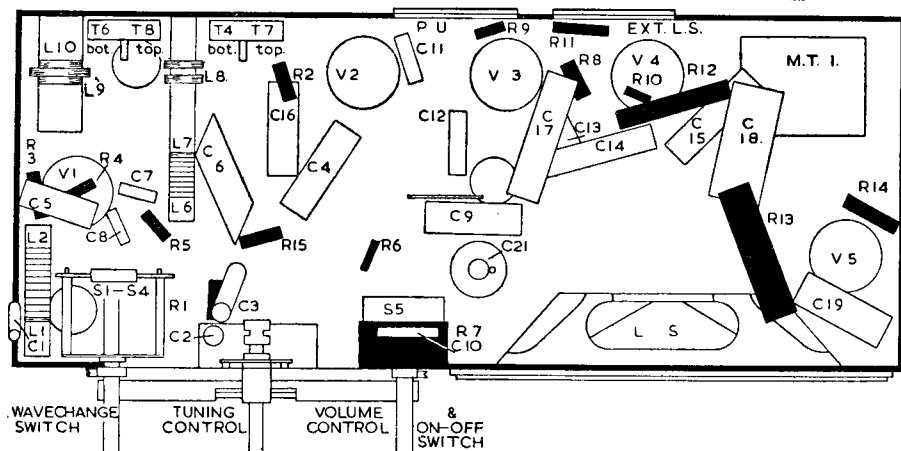
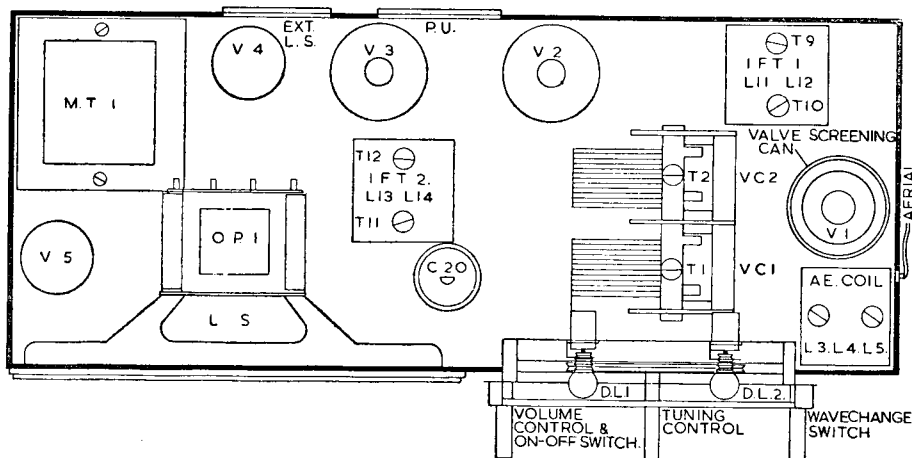
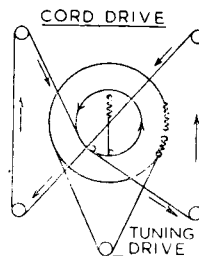
TRIMMING INSTRUCTIONS AND CHASSIS LAYOUTS, SEE NEXT PAGE.

### Major Maestro—Continued

#### TRIMMING INSTRUCTIONS

Apply Signal as stated below	Tune Receiver to	Trim in Order stated for Max. Output
(1) 451 Kc to grid at VI via .1 capacitor	550 metres	T12, T11, T10, T9
(2) 20 Mc to aerial via a few turns of wire wrapped around aerial lead	15 metres	T2, T1
(3) 1,400 Kc as above	215 metres (approx.)	T4, T3
(4) 600 Kc as above...	500 metres	T7, repeat (3) and (4) until max. output is obtained at both points

Apply Signal as stated below	Tune Receiver to	Trim in Order stated for Max. Output
(5) 300 Kc as above...	1,000 metres	T6, T5
(6) 150 Kc as above...	2,000 Metres	T8, repeat (5) and (6) until max. output is obtained at both points



The **PIFCO**  
ALL-IN-ONE  
**RADIOMETER**

tests everything electrical  
RADIO, HOUSEHOLD APPLIANCES  
& MOTOR CAR LIGHTING ETC!

Ask your local Factor to show you one of these remarkable instruments and to put your name down on his waiting list.

**25/-**

## "STURDY" TRANSFORMERS

FOR POWER AND LIGHTING DISTRIBUTION  
20va to 20kva

Single phase—Three phase—Scott connected  
—Three-to-one phase—Double or auto-wound.

HIGH REACTANCE TYPE FOR DISCHARGE TUBE—NEON LIGHTING—SUN-RAY LAMPS

WELDING TRANSFORMERS

RADIO MAINS TRANSFORMERS—Chokes to specific requirements.

CHOKES FOR M.V. DISCHARGE LAMPS—FLUORESCENT TUBES, ETC.

COIL WINDING TO SPECIFICATION—Enquiries to No. 2 Factory. Quotations by return.

REWINDS—All makes radio transformers, etc. Enquiries to No. 1 Factory.

**STURDY ELECTRIC CO. LTD.**  
DIPTON (Tel.: Dipton 221) NEWCASTLE-ON-TYNE  
Sole manufacturers of "TRANSTAR" Fluorescent Lighting Control Gear

## 2 ANNOUNCEMENTS by **NORMAN ROSE**

1. Just released, a completely re-designed Kit of Radio Trimming Tools. The Norman MASTER Kit comprises box spanners 2BA, 4BA, 5BA, 6BA special Hexagon tool for trimming I.C. Coils. Three screwdrivers and extension handle. Ten tools in strong rexine case 30/-.
2. Fully illustrated price list now available of RADIO SERVICE MATERIAL TEST GEAR, COMPONENTS FOR THE AMATEUR, DOMESTIC APPLIANCES, ELECTRICAL ACCESSORIES, etc. Be sure and send for this list 2jd. post paid.

## **NORMAN ROSE**

(ELECTRICAL) LTD.

NORMAN HOUSE, 53, Hampstead Rd.,  
LONDON, N.W.1. Phone: EUSTON 6886/7  
(Trade Counter open 9 a.m.-5.30 p.m.)

MARCH, 1947