DYNATRON

RADIO SERVICE MANUAL

'ATLANTIS' TP34 · TP35 · TRV15

October 1966

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The 'Atlantis' model TP34 (Model TP35 in Teak or Rosewood Cabinet) is a 10 transistor battery-operated portable radio receiver covering VHF, Short, Medium and Long wavebands. Sockets are provided for the connection of a car aerial, earphone, tape recorder/replay and gramophone.

The model TRV15 is a mains operated table receiver in Teak or Rosewood Cabinet.

Technical Data:

Batteries (TP34, TP35)
2 × 9V Type PP9, VT9, etc.

Mains Supply (TRV15 only).
200–240V 50 cycles.

Output
TP34, TP35 2 watts.
TRV15 2·5 watts.

Loudspeakers
2 × 6 in. × 4 in. high flux units.

Wavebands

V.H.F.	87–108 Mc/s.
Short	18·4–54·5 metres.
Medium	185–570 metres.
Long	1,200–2,000 metres.

Transistors and Diodes

VT1	AF178	R.F. Amplifier (F.M.).
VT2	AF115	Mixer (F.M.).
VT3	AF115	I.F. Amplifier (F.M.) Frequency Changer (A.M.).
VT4	AF116	I.F. Amplifier (A.M.–F.M.).
VT5	AF116	I.F. Amplifier (A.M.–F.M.).
VT6	AF116	AFC.
TR1	NKT275	AF Amplifier.
TR2	NKT213B	AF Amplifier.
TR3, TR4	AC128	Push-Pull Output stage.
D1	BA102	AFC Diode.
D2	SFD 107	A.M. Detector.
D3, D4	IN 542	F.M. Detector.
D5, D6	NKT 279A	Balancing Diodes.

TRV15 only.

The power supply for this model is the PU2 mains unit for 200–250V A.C. 50 cycle operation. A bridge-connected rectifier type LT120 has its output regulated by a transistor TR1, type AC128 whose base voltage is derived from a separate winding on the mains transformer and a half-wave rectifier. A 250 mA fuse is fitted in the collector circuit of TR1.

Alignment.

I.F.–A.M.
(*a*) Switch to M.W. Inject a 470 Kc/s, 30% modulated signal into base winding of M.W. aerial coil, set tuned to 550 Kc/s.
(*b*) Adjust in order for maximum output T2, T4 and T6.

R.F.–A.M.
Inject signal via dummy aerial to telescopic aerial.

M.W.
(*a*) Set band limits to 525 Kc/s and 1620 Kc/s adjusting L8 and C23.
(*b*) Tune to 650 Kc/s and set M.W. aerial coil to give maximum output.
(*c*) Tune to 1500 Kc/s and set C24 to give maximum output.

L.W.
Set pointer at 1400 metres and inject 214 Kc/s signal.
Set C21 and L.W. aerial coil to give maximum output.

S.W.
(*a*) Set band limits to 5·5 Mc/s and 16·25 Mc/s adjusting L10 and C21.
(*b*) Tune set to 14·5 Mc/s and adjust C26 for maximum output.
(*c*) Repeat (*a*) and (*b*) until no further improvement can be made.

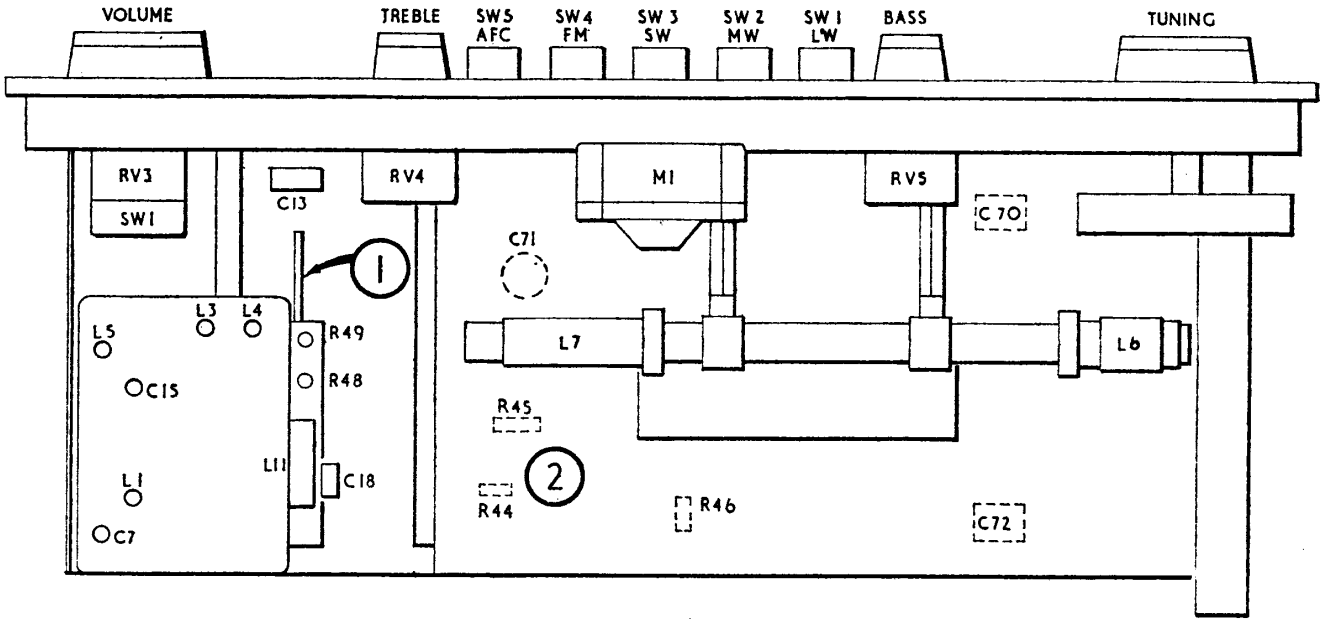
I.F.–V.H.F.
Tune receiver to approximately 92 Mc/s, clear of interfering carriers, and inject a wobbulated signal at 10·7 Mc/s to Pin B on Tuner unit.
(*a*) With C66 and C69 disconnected, connect display input to free end of C66. Adjust secondary of T7 for maximum, then T5, T3, L101, L3 and L4 to produce a symmetrical response centred on 10·7 Mc/s.
(*b*) Re-connect C66 and C69 and connect display input to Pin 5 on circuit board. Adjust secondary of T7 for symmetrical "S" curve.

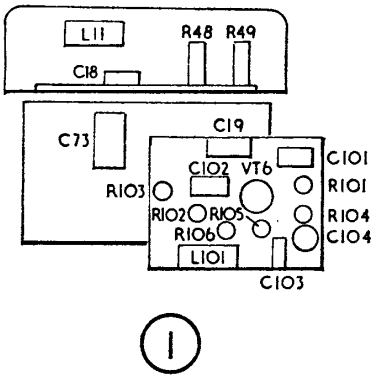
R.F.–V.H.F.
(*a*) Inject a 92 Mc/s signal and set pointer to 92 Mc/s. Tune to obtain signal, and adjust L1 for maximum output.
(*b*) Inject 102 Mc/s signal and set pointer to 102 Mc/s. Tune C15 to obtain signal, and adjust C7 for maximum output.
(*c*) Repeat (*a*) and (*b*) until no further improvement can be made.
(*d*) Inject a signal at 92 Mc/s, 30% modulated to Pin B on Tuner unit, and set RV, to give minimum output.
(*e*) Inject a signal at 10·7 Mc/s, un-modulated to Pin B and set T7 secondary to give a zero reading, measured on a 2·5V meter, between R24 and chassis.
(*f*) Repeat (*d*) and (*e*) until no further improvement can be made.
(*g*) Inject a signal at 10·7 Mc/s with 22·5 Kc/s deviation. to pin C and adjust L11 to give minimum output.

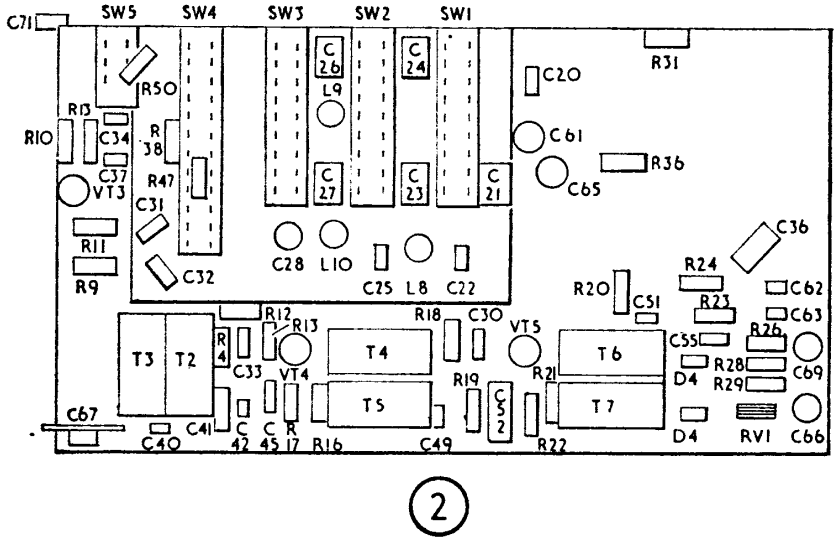
To Check AFC Action.

(*a*) With A.F.C. button "out" tune to 92 Mc/s. With an R.F. input of 30 microvolts, detune until output falls 10 dB. Press A.F.C. button and output should increase to within 1 dB of original level.
(*b*) Repeat (*a*) detuning in the opposite direction.

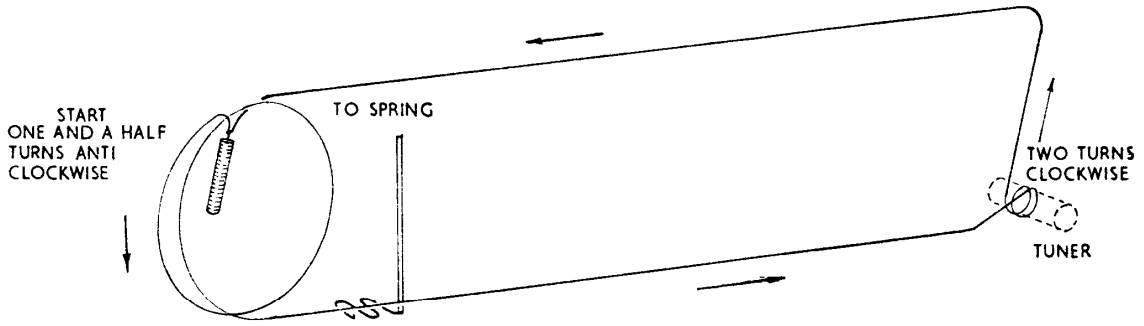
TP34, TP35, TRV15 TUNER





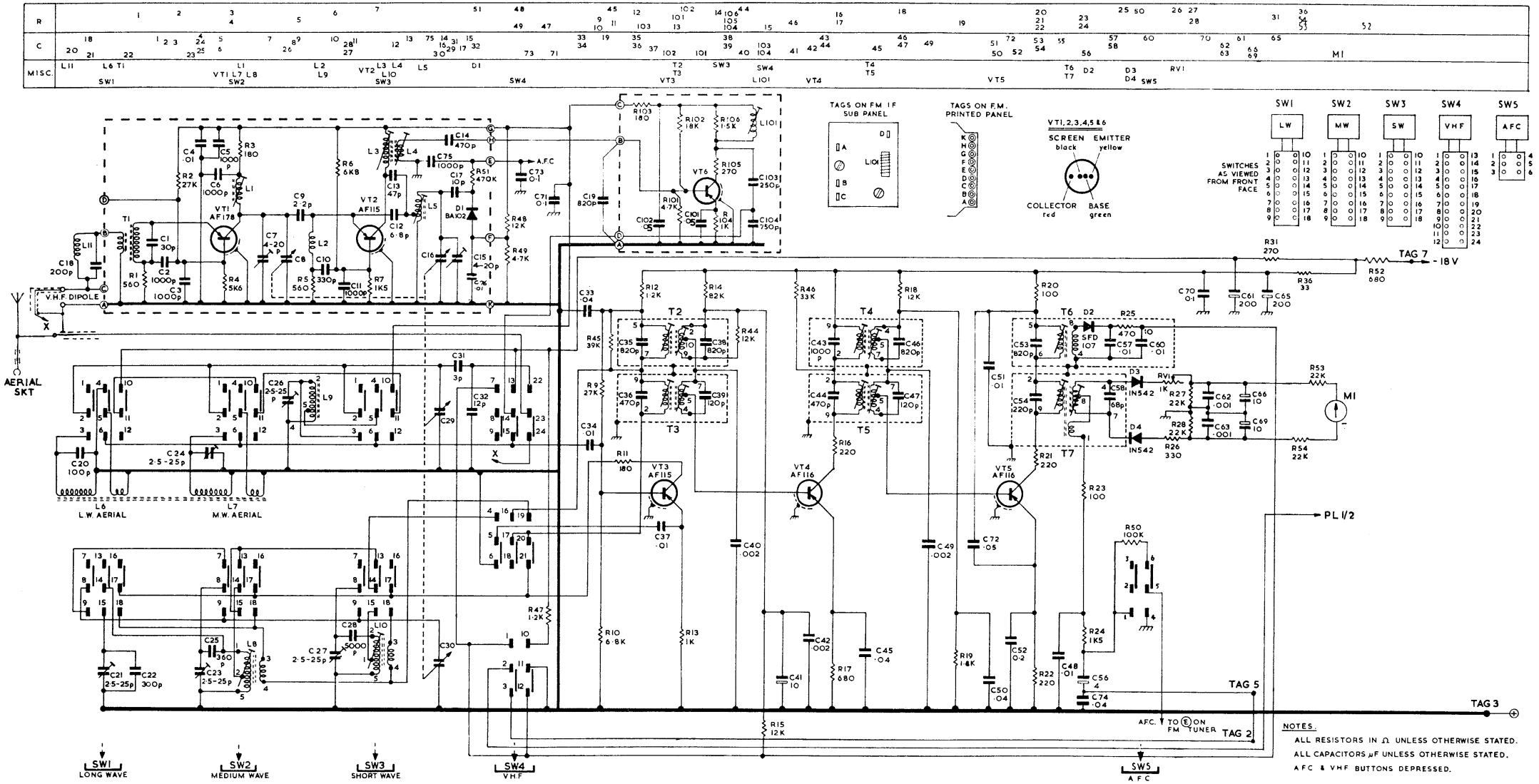


DRIVE CORD

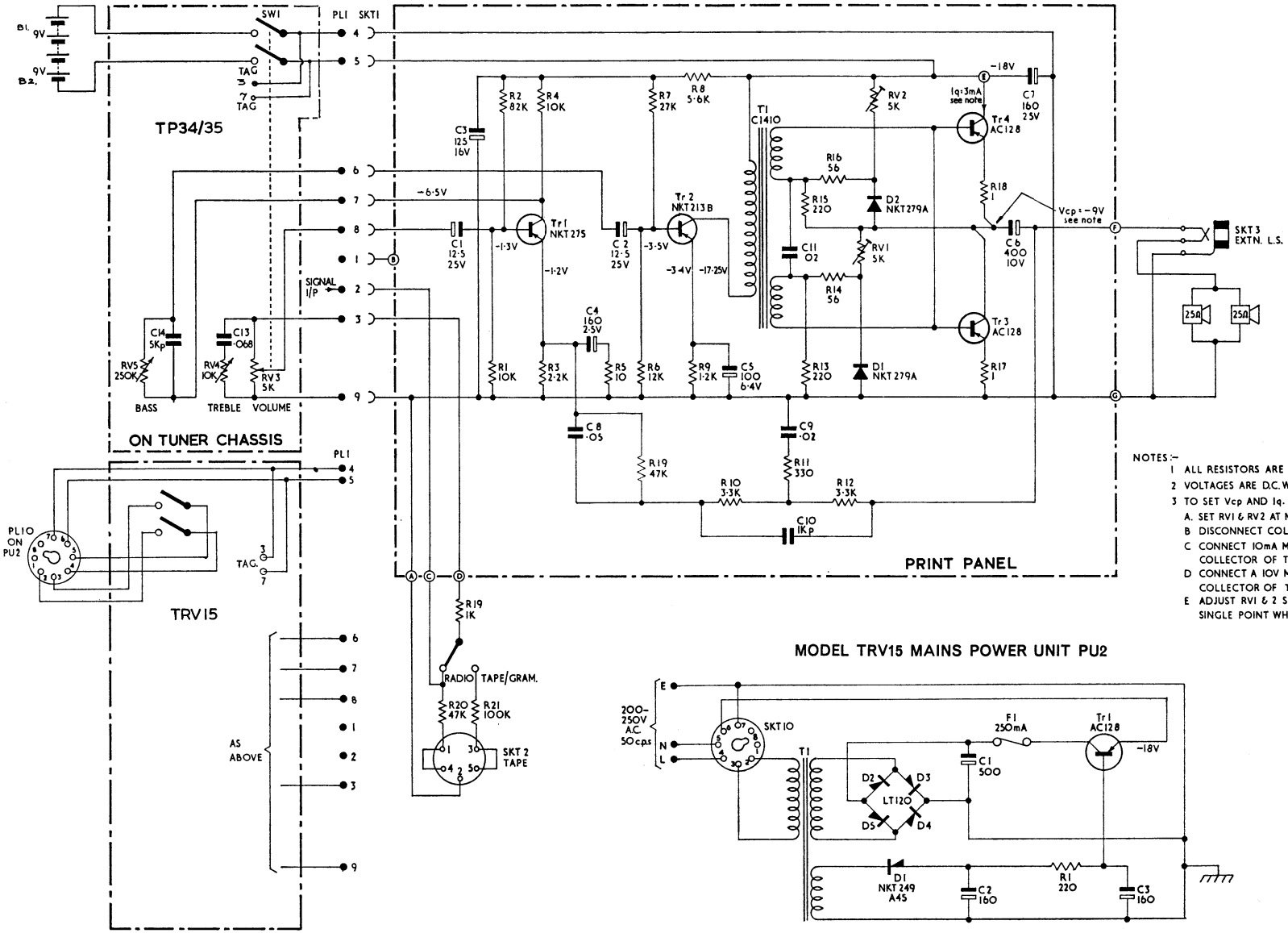


WINDING DETAILS SHOWN FROM FRONT

TUNER CIRCUIT



AMPLIFIER CIRCUIT



NOTES:–

1. ALL RESISTORS ARE ¼W. ±10% VALUE TOL.
2. VOLTAGES ARE D.C. WITH RESPECT TO CHASSIS.
3. TO SET Vcp AND Iq.
   - A. SET RV1 & RV2 AT MAX. RESISTANCE.
   - B DISCONNECT COLLECTOR OF Tr 4 AT (E)
   - C CONNECT 10mA METER BETWEEN (E) AND COLLECTOR OF Tr 4.
   - D CONNECT A 10V METER BETWEEN (C) AND COLLECTOR OF Tr 3.
   - E ADJUST RV1 & 2 SIMULTANEOUSLY TO THE SINGLE POINT WHERE Iq=3mA & Vcp=-9V.

MODEL TRV15 MAINS POWER UNIT PU2

AMPLIFIER