

WARNING

A type 6AE8 converter valve cannot be used as a direct replacement for a type 6AN7 valve due to the socket connections being different. The 6AE8 valve will burn out if it is plugged into a socket wired for a type 6AN7 valve.

MODEL ANK

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33½ r.p.m.) and a 5 Valve Superheterodyne Four Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre and 31 Metre Shortwave Bands.

FOR OPERATION FROM:—

200-250 Volts 50 Cycle AC. Supply Mains.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:—

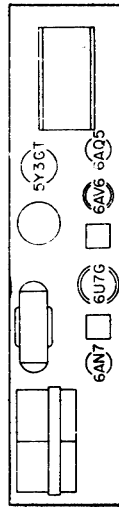
Radio Operation:— 55 Watts.—approx.
Gramo Operation:— 75 Watts.—approx.

TUNING RANGES:—

Broadcast Band, 535-1610 Kc/s.	RECEIVER COVERAGE:—
19 Metre Band, 14.9-15.5 Mc/s. (Bandspread)	560.7-186.3 Metres.
25 Metre Band, 11.6-12.1 Mc/s. (Bandspread)	20.13-19.29 Metres (approx.)
31 Metre Band, 9.4-9.8 Mc/s. (Bandspread)	25.86-24.79 Metres (approx.)
	31.91-30.61 Metres (approx.)

THIS BULLETIN CONTAINS:—

- Alignment Instructions.
- Circuit Diagram.
- Connections for IF. and RF. Transformers.
- Dial Drive Cording Diagram.
- Valve Placement Diagram.



VALVE PLACEMENT DIAGRAM 992/279

SOCKET CONNECTIONS

6AN7 Valve

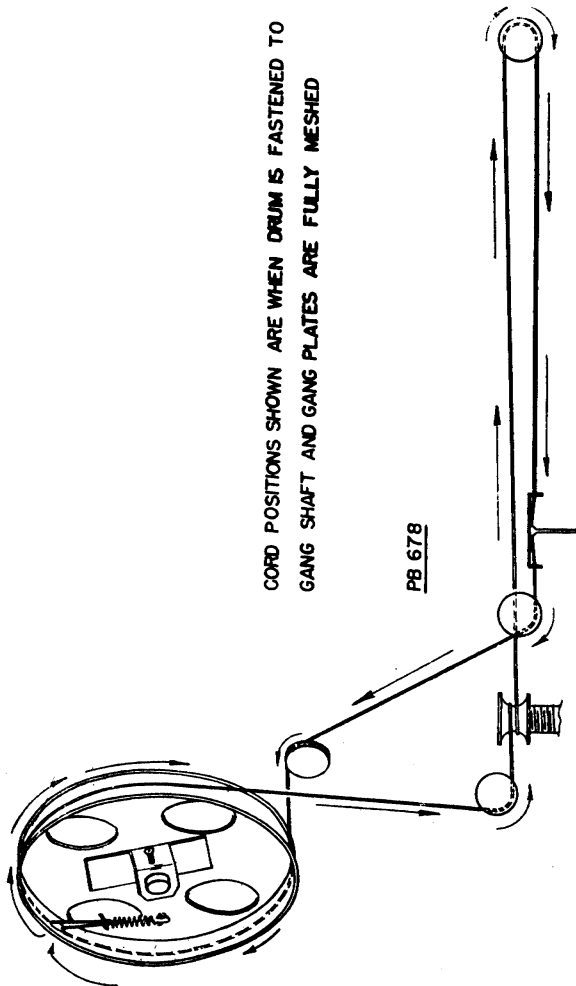
- Pin No. 1. Hexode Screen
- Pin No. 2. Hexode Control Grid
- Pin No. 3. Cathode
- Pin No. 4. Heater
- Pin No. 5. Heater
- Pin No. 6. No Connection
- Pin No. 7. Hexode Plate
- Pin No. 8. Triode (oscl.) Plate
- Pin No. 9. Triode (oscl.) Grid

6AE8 Valve

- Hexode Screen
- Hexode Control Grid
- Cathode
- Heater
- Heater
- Hexode Plate
- Triode (oscl.) Grid
- Triode (oscl.) Plate
- No Connection

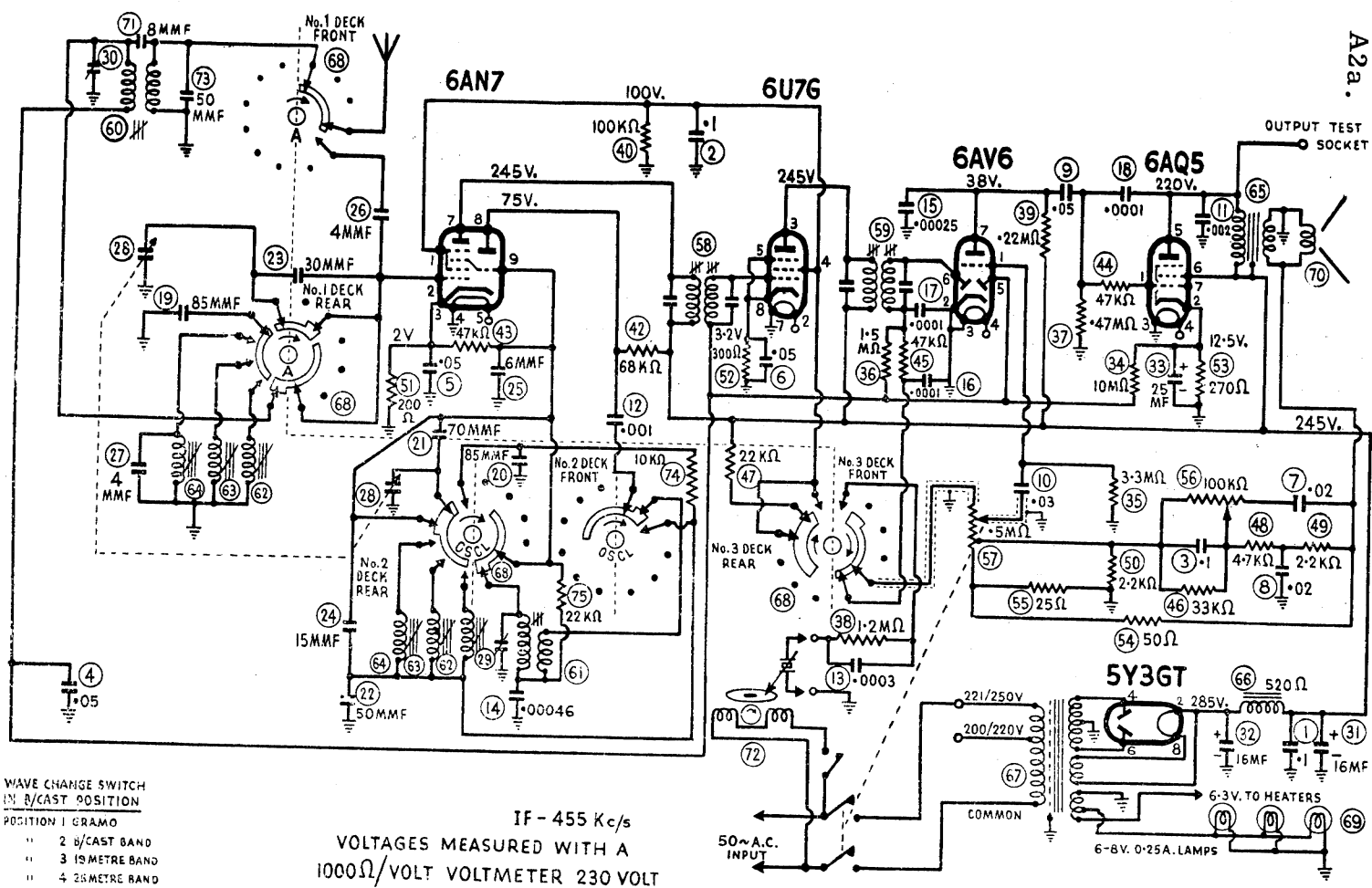
CORDING OF DIAL DRIVE

Length of cord required is 5 ft. 6 ins., which includes about 8 ins. to spare for tying to tension spring.
Cord Part No. 34/754.
Tension Spring Part No. 21/698



CORD POSITIONS SHOWN ARE WHEN DRUM IS FASTENED TO GANG SHAFT AND GANG PLATES ARE FULLY MESSED

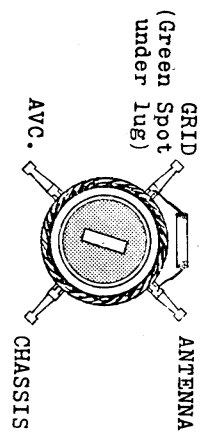
PB 678



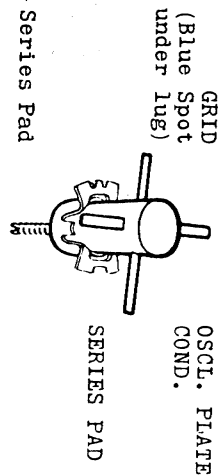
WAVE CHANGE SWITCH IN B/CAST POSITION
 POSITION 1 GRAMO
 1 2 8/CAST BAND
 2 3 19 METRE BAND
 3 4 25 METRE BAND
 4 5 31 METRE BAND

IF - 455 Kc/s
 VOLTAGES MEASURED WITH A 1000Ω/VOLT METER 230 VOLT INPUT TO 221-250 VOLT PRI. TAP.

ANTENNA TRANS.



OSCL. COIL



19, 25 AND 31 METRE ANTI. TRANS.

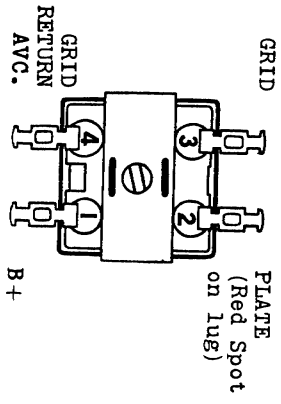
Lead from top lug (iron core end) :- GRID.
 Lead from bottom lug (mounting end) :- CHASSIS - EARTH.

19, 25 AND 31 METRE OSCL. COIL

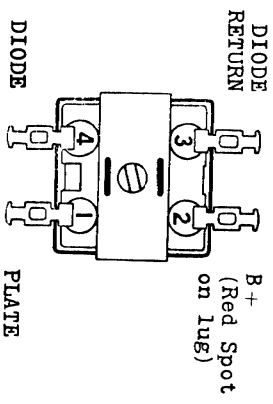
Lead from top lug (iron core end) :- GRID.
 Lead from bottom lug (mounting end) :- OSCL. PLATE COND.

31 Metre spreadband coil, RED spot on iron core end of former.
 25 Metre spreadband coil, WHITE spot on iron core end of former.
 19 Metre spreadband coil, BLUE spot on iron core end of former.

1st IF. TRANS.



2nd IF. TRANS.



DIODE

PLATE

ALIGNMENT PROCEDURE

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator: Load Impedance: 5,000 ohms.
 Output Meter: 50 Milliwatts.
 Mica Capacitor: 0.01MF. (for IF. trans. alignment)
 Dummy Antenna: 200MMF. Mica Capacitor.
 Dummy Antenna: 400 Ohm non-inductive resistor.

Alignment Tools: Type M195 and PM581.
 To Remove Chassis from Cabinet— mains lead plug from power point socket. Switch receiver off and disconnect receiver then the four control knobs from their spindles. From rear of cabinet withdraw speaker plug from righthand end of chassis, indicator lamp lead plug from connecting socket and pick-up lead plugs from sockets on chassis. Loosen off screws in AC. mains lead junction block and withdraw receiver AC. mains lead. From beneath receiver mount board remove a nut from each of the four mount screws then withdraw the two rear mount screws. The two front screws are captive and must not be removed from the chassis. Lift receiver chassis upward and to the left out of the cabinet. Refit chassis in exact reverse procedure to removing it.

8. To antenna lead from receiver. 1400 Kc/s. 200MMF. Mica capacitor in series with generator.

9. Turn wave change switch to 31 metre band (this band must be aligned before the 25 and 19 metre bands). 400 ohm non-inductive resistor.

10. To antenna lead from receiver. 9.6 Mc/s. 400 ohm non-inductive resistor.

11. To antenna lead from receiver. 11.8 Mc/s. 400 ohm non-inductive resistor.

Operation No. Generator Frequency Connection

Dummy Antenna Instructions

1. To control grid of 6U7G I.F. valve 455 Kc/s. 0.01MF. Mica capacitor in series with generator. Turn wave change switch to B/cast band. Leave grid cap on valve. Peak 2nd I.F. trans. pri. and sec. for max. output.
2. To control grid of 6AN7 valve (pin No. 2) 455 Kc/s. 0.01MF. Mica capacitor in series with generator. Turn cond. gang plates fully out of mesh. Leave grid wire attached to valve socket. Peak 1st I.F. trans. pri. and sec. for max. output.
3. Repeat operations No. 1 and 2.
4. Fully mesh the cond. gang plates. Set with the centre of the dial pointer to align the centre of travel mark on the dial reading near 540 Kc/s.
5. To antenna lead from receiver 600 Kc/s. 200MMF. Mica capacitor in series with generator. Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 600 Kc/s. spot on dial reading. Leave the gang and pointer set in this position and peak the oscil. coil inductance trim (iron core) for max. output.
6. To antenna lead from receiver 1400 Kc/s. 200MMF. Mica capacitor in series with generator. Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of dial pointer until centre of 1400 Kc/s. spot on dial reading. Adjust oscil. coil trim condenser for logging and peak antenna trans. trim, condenser for max. output.
7. To antenna lead from receiver 600 Kc/s. 200MMF. Mica capacitor in series with generator. Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 600 Kc/s. spot on dial reading. Leave the gang and pointer set in this position. Re-peak oscil. coil ind. trim. (iron core) and then peak the antenna trans. ind. trim. (iron core) for max. output. Do not rock the gang or dial

pointer to and fro through the signal while adjusting or move them until after the inductance trimmer (iron core) of both of these transformers has been peaked for max. output.

Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 1400 Kc/s. spot on dial reading. Adjust oscil. coil trim condenser for logging and repeak antenna trans. trim, condenser for max. output.

(this band must be aligned before the

Turn dial pointer and gang to 9.6 Mc/s. Adjust 31 metre band oscil. coil, ind. trim. (iron core) for logging and peak 31 metre ant. trans. trim. (iron core) for max. output. Rock cond. gang to and fro through the signal while adjusting.

Turn wave change switch to 25 metre band. Turn dial pointer and gang to 11.8 Mc/s. Adjust 25 metre band oscil. coil ind. trim. (iron core) for logging and peak 25 metre ant. trans. trim. (iron core) for max. output. Rock cond. gang to and fro through the signal while adjusting.

12. To antenna lead from receiver. 15.2 Mc/s. 400 ohm non-inductive resistor. Turn wave change switch to 19 metre band. Turn dial pointer and gang to 15.2 Mc/s. Adjust 19 metre band oscil. coil, ind. trim. (iron core) for logging and peak 19 metre ant. trans. trim. (iron core) for max. output. Rock cond. gang to and fro through the signal while adjusting.

13. Check the logging of the shortwave bands on some well-known shortwave stations. If a crystal calibrator is available, check the logging at each 100 Kc/s. mark on the dial.

31 Metre spreadband coil, RED spot on iron core end of former.

25 Metre spreadband coil, WHITE spot on iron core end of former.

19 Metre spreadband coil, BLUE spot on iron core end of former.

INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INPUT TAPS

MAINS VOLTAGE.—The mains adjustment tap should be adjusted as follows: For any AC. voltage between 200 V. and 220 V., on the 200-220 V. tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V. tap.

MAINS VOLTAGE ADJUSTMENT.—For 200-220 Volt Operation: The receiver chassis has to be removed from the cabinet for this adjustment. SWITCH THE RECEIVER OFF AND DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Remove chassis from cabinet as detailed on page 2. The AC. junction strip is located at the righthand end of the chassis. Unsolder the mains lead wire from the switch on the volume control which is attached to the 221-250 volt tap and re-solder it to the 200-220 volt tap.