

AMBASSADOR RADIO WORKS

HUTCHINSON LANE,
BRIGHOUSE
YORKS., ENGLAND.

SERVICE NOTES - CIRCUIT AND LAYOUT DIAGRAMS

of the

AMBASSADOR

TYPE: PB2. CHASSIS.

All receivers are despatched from the Factory with serial number plates affixed. The lowest serial number applicable to the PB2 Series is 84000.

IMPORTANT

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F. H. Beaumont,
(Chief Engineer).

INTRODUCTORY

TO THE AMBASSADOR TYPE PB2.

The PB2. receiver is an entirely new circuit design to the AMBASSADOR range and is not intended to supersede any previous type issued. The service notes herewith, therefore, are not applicable to any previous issue.

The circuit principally is a five valve super-heterodyne type covering three wave-bands, and operated from A.C. mains supply. All models have provision for attachment of a low resistance pattern external speaker (P.M. type without transformer). It should be noted that each model is fitted with a speaker selector switch at the rear of the chassis making it possible to use either the External or the Internal speaker at will, or alternatively the two together. The Table and console models have provision for Gramophone pick-up attachment. (All models have Gramophone pick-up push button switch fitted).

Wave change is by Push button switches (see diagram herein).

The circuit consists of a Triode Hexoode Frequency Changer valve (MAZDA AC/TH1) coupled by means of a permeability tuned I.F. transformer to the Pentode I.F. valve (MAZDA AC/VP2) This is coupled via a second permeability tuned transformer to a double diode triode (MAZDA AC/HLDD) providing diode detection and diode A.V.C.

The triode section is fed via the volume control from the signal diode load, and feeds the output valve (MAZDA AC/2Pen). This is through a 50,000 ohm load and a .1 coupling condenser. The tone control acts as the AC/2Pen grid load, the slider tapping a .01 condenser along the control to vary the treble response of the AC/2Pen. The output transformer is included beneath the chassis and feeds the speaker via the Extension speaker switch, plug and socket referred to above. Wave band coverage is as follows, SW. 16.5. - 50 metres.
MW. 200 - 550 metres. L.W. 900 - 2,100 metres.

The mains transformer primary is tapped for A.C. line voltages of 110. 200 and 230 volts 50/100 cycles.

REFER TO DIAGRAM FOR VALVE POSITIONS, etc.

SERVICE NOTES.

VALVES USED:-

MAZDA	AC/TH1.	(Frequency changer)
MAZDA	AC/VP2.	(Pentode. I.F.)
MAZDA	AC/HLDD.	(Detection, AVC. and L.F).
MAZDA	AC/2PEN.	(High slope pentode).
MAZDA	UU4.	(Full valve rectifier).

INTERMEDIATE FREQUENCY:- 450 K/cs.

Note: It should not be found necessary to re-adjust the setting of the I.F. transformers owing to the use of driftless Permeability tuned types.

ALIGNMENTS:-

S.W. Band. 16.5 - 50 metres.

Inject 18.1 MCS (16.5M) into aerial socket adjust S.W. oscillator trimmer until this is tuned with the Main tuning condenser at ZERO. Note two positions will be found at which the trimmer can be set to receive the signal. The correct position is with the trimmer further unscrewed. Turn the Main tuning condenser to the 20 metre position. Adjust the S.W. - HF trimmer for maximum noise. In this case the correct position is with the trimmer screwed furthest in. Re-check these operations to complete the alignment.

M.W. Band. 200 - 550 metres.

Inject 1,250 KCS signal (240 MM). Turn Tuning Condenser to this reading on dial. Adjust MW oscillator trimmer for maximum signal. Now turn Tuning condenser to ATHLONE position (565.KCS) Inject 565.KCS signal adjust MW oscillator padder for maximum output. Repeat the 1,250 KCS check. Adjust MW. H.F. trimmer at 1,250 KCS and MW coil IRON CORE at 565 KCS. (Being Iron cored type this is not usually necessary. This completes M.W. alignment.

L.W. Band. 900 - 2,100 metres.

Proceed as in the case of M.W. Band substituting 231. KCS (Luxemburg) and 150. KCS (2,000 M) for check points.

SERVICE NOTES (Continuation).

GENERAL. Any Alignments to the I.F. transformers should be carried out with a screwdriver with preferably an ebonite shaft. It should on no account contain metal. No sealing of the Core adjustment is necessary.

The Pointer should always be set at 180° exactly, with the tuning condenser vanes fully closed.

The adjusting screws of the LW and MW pad condensers are 'hot' and should be adjusted with a screwdriver with ebonite shaft as in the case of the I.F. transformers mentioned above. If this is not available, use a driver with as short a metal shaft as possible.

In case of a replacement 20,000 ohm resistor being necessary for the TH1 and VP2 screen feed, no lower value than 2 watts should be used. No lower value than 1 watt moulded resistor should be employed to replace the 40,000 ohm oscillator anode feed resistor.

The dial pilot lamps fitted are M.E.S. 6.3 volt, .2 amp.

The chassis is easily removed from the cabinet by removing firstly the control knobs, and the clip on push button knobs, and then releasing the four holding screws beneath the cabinet, or shelf (according to the respective model).

TABLE OF VOLTAGES. Power loading, approximately 60 watts.

TH1.Screen.) Set on Medium wave band No signal. 120v.
VP2.Screen.) " " " " " Local. 160-200v.
(checks A.V.C.)
TH1. Osc. anode. (Set on M.W.) 80v. approx.
Chassis to smoothed H.T. + 270v.
50 ohm - common bias to chassis 3.75 v.
Output valve anode. approx. 260v. (checks primary
of o/p transformer)
Output valve cathode to chassis. 5 v. (approx)
Cell voltage. 1.5v.
AC/HLDD anode voltage. 80-100v.

