Form 5H

TECHNICAL DATA SHEET

Date 30th July, 1965

NO. 73

MODEL JA TRANSISTOR PORTABLE RADIO RECEIVER

Some cases of I.F. instability have been reported on the Model JA Transistor Portable Radio Receiver.

Where this is experienced, it may be cured by connecting a 150K 10% ½W resistor (740-0153) across primary pins 3 and 4 of the second I.F. transformer, T4.

"HIS MASTER'S VOICE"

TECHNICAL DATA SHEET

Date 19th August, 1965

NO.74

MODELS JA-1E AND JA-1H

In order to allow satisfactory operation at considerably reduced battery voltage, an 80uF 15VW Electrolytic Capacitor (part No. 269-1031) has been fitted between the 15 volt negative rail and earth.

The change was made at Serial No. approximately 20400. This means that practically all of model JA-1E and a few of model JA-1H do not have this capacitor fitted.

It is recommended that a capacitor be fitted in this position as required.

TECHNICAL DATA SHEET

Date 7th February, 1966

ADDENDUM to No.75

ORIGIN : Radio Engineering

CHASSIS TYPE T1 (Audio Section)

In addition to the changes listed in Technical Data Sheet No.75, another modification was made at the same time, i.e. after Serial No.1900 :

Capacitors C25 and C26 (.01uF + 100% -0% 50V Ceramic) have been changed to .0022uF + 100% -0% Ducon Type AZ (E.M.I. Part No.271-1321).

Please alter the circuit diagram on the reverse of Technical Data Sheet No.75 accordingly.

NO. Radio 79

ORIGIN : Radio Engineering

MODEL JB-1G

In future models, capacitors C16 and C19 (.022uF) will be Ducon 25V Redcap types. At the same time, the copper-etched earth conductor on the printed board has been modified to reduce the number of earth loops.

These modifications attenuate the I.F. harmonic at 910Kc/s.

Form 5H

TECHNICAL DATA SHEET

Date 3rd November, 1965

NO. Radio 76

ORIGIN : Radio Engineering

MODEL J8 - 1B

In order to allow satisfactory adjustment of the pre-set bias potentioneter RV2 (10K ohms) after the change in transistors from OC975 & OC75 to OC44 & AC126, the 6.8K resistor R23 (in series with RV2) has been changed to 8.2K.

The change was made after Serial No. 46524.

Form 5H

TECHNICAL DATA SHEET

Date 10th October, 1966

NO. RADIO 79

ORIGIN : Radio Engineering

MODEL 02-8J

It has been found that with long loudspeaker lead lengths and high Hfe transistor combinations, that some amplifiers may exhibit instability (evident as a growl), when all controls are set to minimum. This has been overcome by adding a series network of 100 ohms and 4,700pF to the printed board, from both collectors of the two AY1108's to supply rail, using the vacant conductors and holes between the output transistors. Also C22 and C31 have been removed from the board and wired across the connected terminals of the volume control. R51 and R52 have been increased to 4.7K.

Change effective: After approximately Serial No. 3,500.

With completed chassis, from approximately Serial No. 1500 to 3,500, series networks of 68 ohms and 22,000pF wired across the outputs at the appropriate tag panel, have been found to be equally effective. This change is also recommended for completed chassis in the field, i.e., chassis prior to Serial No. 1500, should this amplifier instability be evident.

"HIS MASTER'S VOICE"

TECHNICAL DATA SHEET

Date 17th October, 1966

NO. RADIO 80

ORIGIN: Radio Engineering

MODEL T3-45 AND T3-46

Electrical Interference on T3 Audio Amplifiers

Where interference from electrical appliances, particularly at minimum volume, is evident in T3 audio amplifier installations prior to Serial No. 1400, the following modifications are suggested:

(1) Insert series resistors of 4.7K ohms between the volume controls and input coupling condensers of the main audio board, placing the body of each resistor on top of the respective input condenser, using a short pigtail connection to the input tag.

(2) Earth the common (negative) terminal at the P.U. input socket to its metal skirt.

(3) Bypass the common (negative) terminal at the L.S. output socket to its metal skirt via a ceramic condenser of approximately 0.01 mfd. (This maintains "one point" earthing at hum frequency).

CHASSIS TYPES T1 AND T3

Improving Performance of T1 and T3 Tuners on External Aerial

Where locality dictates the use of an external aerial on T1 and T3 tuners, the following changes to the aerial coupling will improve rejection of spurious responses and interference from fluorescent lamps etc.:

Close wind two turns of 7/010 over tuned winding, commencing ¾" from start (earth) of tuned winding, in the same direction as the base winding. Connect start to common earth tag, finish to that side of the aerial loading coil which was previously connected to the base winding.

In extreme cases a condenser of 200pF (or larger) from aerial terminal to earth, will assist in rejection of unwanted signals.

Change effective: After Serial No. 1400

No.: Radio 83
Origin: Radio Engineering

TECHNICAL DATA SHEET

Date: 1st September, 1967.

CHASSIS TYPES T2, O3 AND U2.

PRODUCTION CHANGE — CHASSIS TYPES T2, O3 AND U2

A change has been made in production receivers of the complementary symmetry output transistor pair Types AX1103, AX1104 and associated biasing network (270 ohms. resistor and two AB1102 diodes). The transistors are being replaced by a pair of germanium transistors complete with cooling fins, Type OC987 and OC988 (E.M.I. Part Number for this pair is 932-2991), replace AX1103 and AX1104, respectively. A 47 ohms. thermistor (E.M.I. Part Number 752-0111) shunted by a 51 ohms. resistor (E.M.I. Part Number 740-1841) is used to replace the previous bias network.

A Circuit Diagram for the revised circuit section is shown on this Data Sheet.

Should failure of the Output Transistor pair AX1103 and AX1104 occur in the field, a Kit incorporating a pair of germanium transistors and the bias network components will be available from E.M.I. Service Divisions.

Instructions for fitting this "Modification Kit for Output Transistors Chassis Types T2, O3 or U2" are as follows:

Mounting—

By using the **uncut** pigtails of the OC987 and OC988, appropriately sleeved and soldered to the printed circuit board to permit maximum pigtail length, it is possible to mount the cooling fins supplied with these transistors on the same mounting centres as the original cooling fins.

In the case of the U2 chassis, the output transistors are mounted in a similar manner to the existing JC and JF chassis. For T2 and O3 chassis, the following mounting method is recommended.

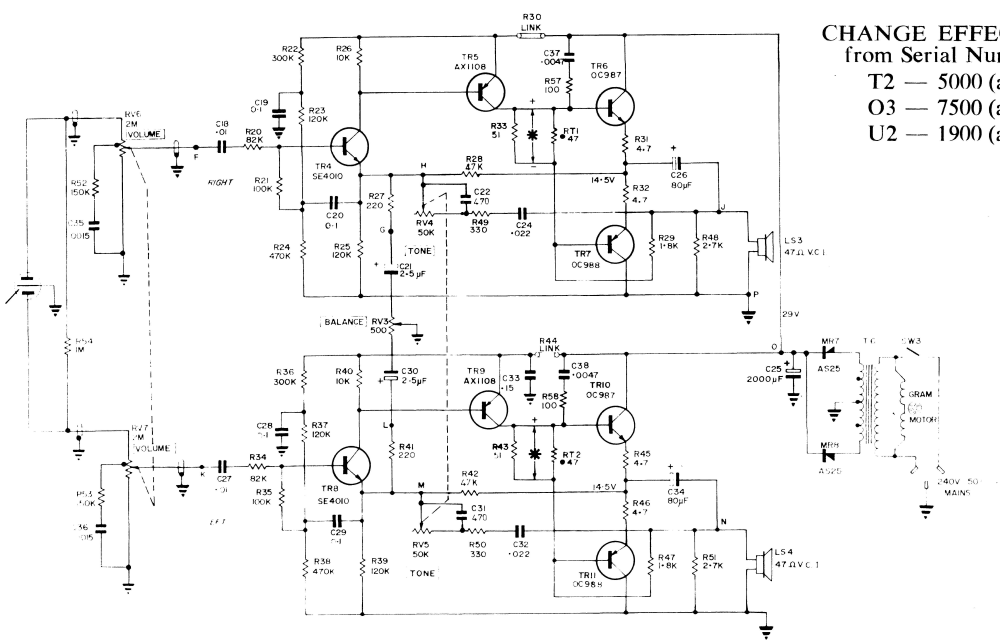
Loosen the upper board retaining bushes by rotating them. The cooling fins may now be wedged between the bushes and the chassis front plate. By tilting the cooling fins in such a manner that all four pins form a "W"—with the bottom of the fin touching the bushes, the output transistors may be mounted on top of each fin.

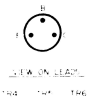
NOTE:

Modification in the field is not necessary except in receivers where the output pair AX1103, AX1104 have failed.

Where failure has occurred, replacement with the abovementioned germanium output pair and associated biasing network is recommended.

CHANGE EFFECTIVE:
from Serial Numbers—
T2 — 5000 (approx.)
O3 — 7500 (approx.)
U2 — 1900 (approx.)





UNLESS OTHERWISE NOTED:—
CAPACITORS MORE THAN 1·0pF
CAPACITORS LESS THAN 1·0μF
RESISTORS · Ω, K·1,000, M·1,000,000

NOTES:—
1. VOLTAGE READINGS TAKEN WITH 20,000Ω / VOLT METER — NO SIGNAL
2. CURRENT — NO SIGNAL AMPLIFIERS 17mA TOTAL

O3 CIRCUIT DIAGRAM (T2 and U2 Output Pair Circuits are similar).