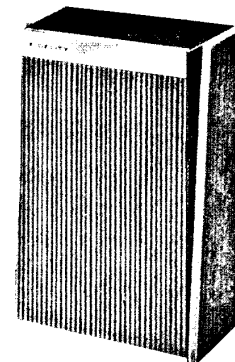
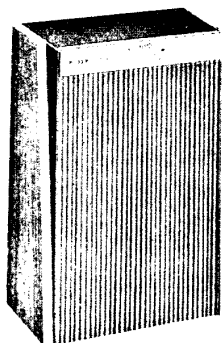


# FIDELITY RADIO

## UA3



This is a stereo system incorporating a 4 watts per channel amplifier, an AM/FM, radio tuner, stereo decoder, record playing deck and two loudspeakers.

The F.M. tuner consists of an R.F. amplifier (TR1) followed by a self oscillating mixer transistor (TR2).

Transistor (TR3) operates as an I.F. amplifier on F.M. and as a self oscillating mixer on A.M. Further I.F. amplification is provided by transistors (TR4 & TR5).

Diodes D4 & D5 provide F.M. demodulation and diode D3 provides A.M. demodulation.

The stereo decoder using an integrated circuit works on a time division multiplex system. An indicator lamp is switched on by an incoming 19KHz pilot tone.

The two identical audio amplifier channels incorporate emitter followers (TR6 & TR8) and negative feedback tone control stages (TR7 & TR9). The power amplifiers in each channel are integrated circuits.

A regulated supply (TR10 & D6) provides a stable supply voltage for the tuner and early audio stages.

### A. M. ALIGNMENT

#### I.F.

With volume control at maximum and the oscillator rendered inoperative by short circuiting the tuned winding of the oscillator coil, inject a modulated signal of 470 KHz into the base of TR3 via a -1 uF capacitor.

Tune the cores of T6, T7, T10 and T13 for maximum output while reducing input level to maintain 50 mW output.

Repeat for optimum results.

#### R.F.

For R.F. alignment it is recommended to couple the signal generator loosely to the aerial coils by means of a transmitting loop placed co-axial with the ferrite rod.

Check that the scale pointer is correctly positioned. With receiver switched to M.W. close gang fully (maximum capacitance) and radiate a signal of 525 KHz. Adjust L8 for maximum output. Open gang fully (minimum capacitance) and radiate a signal of 1620 KHz and adjust C29 for maximum output. Repeat for optimum results.

Tune receiver to 500 m, radiate a signal of 600 KHz and adjust L4/L6 for maximum output.

Tune receiver to 208 m, radiate a signal of 1440 KHz and adjust C21 for maximum output.

Repeat adjustments of L4/L6 and C21 for optimum results.

Switch to L.W. and tune receiver to 1500 m (RADIO 2), adjust

TC32 for maximum output.

Tune to Allouis and adjust L5/L7 for maximum output of Allouis signal.

### F.M. ALIGNMENT

Due to the tighter requirements of alignment for stereo reception, a wobulator and oscilloscope are essential for accurate alignment.

#### I.F.

Connect a wobulator across the F.M. oscillator coil L3. Connect oscilloscope between the junction of R28 and R29 and earth. Inject 10.7 MHz and adjust cores of T2, T3, T4, T5, T8, T9, T11 and T12 for maximum amplitude and straightest centre portion of S curve with 10.7 MHz marker cutting the zero line.

Repeat for optimum results.

#### R.F.

1. Connect F.M. signal generator to F.M. aerial socket. Tune receiver to maximum gang capacitor and inject a signal of 87.5 MHz, adjust L2 & L3 for maximum output.

2. Tune receiver to minimum gang capacity and inject a signal of 108 MHz, adjust TC7 and TC14 for maximum output.

Repeat 1 and 2 for optimum results.

### DECODER ALIGNMENT

#### Decoder Alignment

It is preferable that for accuracy the alignment procedure is carried out with a modulated F.M. signal at the aerial input, rather than injecting a signal straight into the decoder.

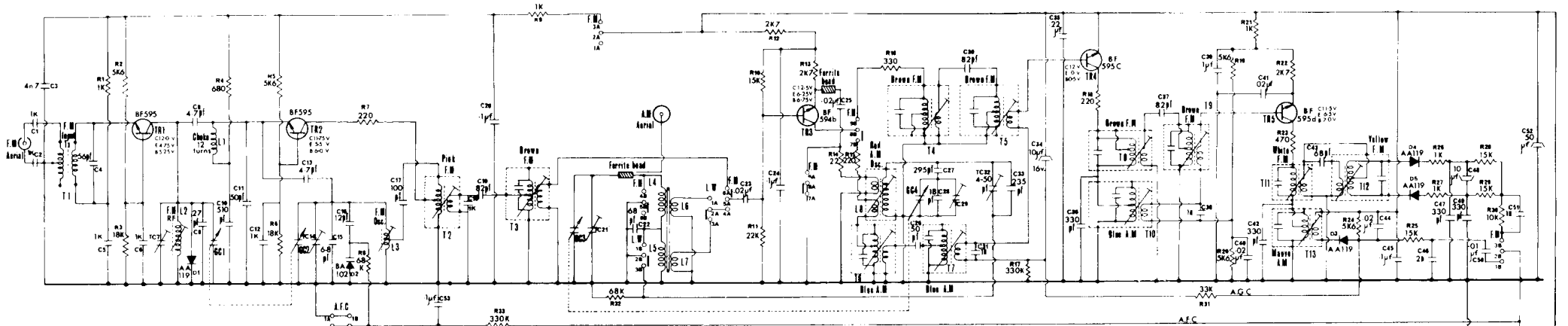
Connect an oscilloscope via a 100 K $\Omega$  resistor to the junction of C56 and VR35. Inject a stereo signal at a sufficiently low level for the stereo indicator to stay off. Adjust L9 & L10 for maximum pilot tone, keeping input signal below level at which the stereo indicator will light.

### DISMANTLING PROCEDURE:-

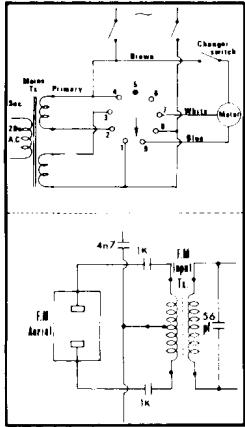
REMOVE THE 5 PHILLIPS SCREWS SECURING THE BASE AND REMOVE BASE. This will give access to the component side of the board and all coil adjustments.

To completely remove chassis slacken four screws at the top of the front moulding in changer wall (removal of record changer will give easier access to these screws). Remove two screws holding chassis bracket to main body and two screws at bottom of front moulding. Remove six screws in socket panel at rear of unit and release mains lead clamp. The chassis can then be withdrawn with the front moulding.

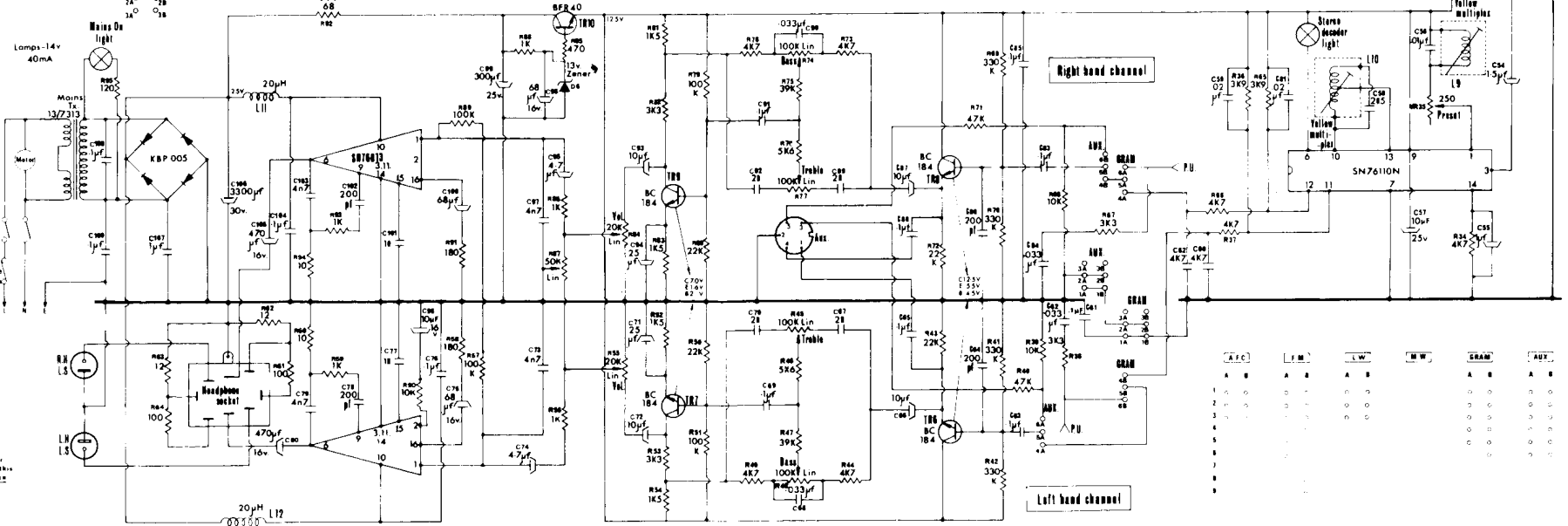
# U.A.3



Dual voltage and F.M. aerial connections for export models only

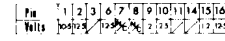


Pin connections of 12V 1A diodes: solder on reverse side of board



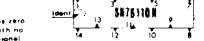
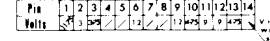
Pin connections of 12V 1A diodes: solder on reverse side of board

Pin connections of A.M. diodes: solder on reverse side of board



Pin 1-10 connections of SN76110N

All voltages measured with 20k ohm/voltsmeter with respect to chassis except where stated otherwise.



Pin 1-14 connections of SN76110N

	AFC	LM	LW	NW	GRAM	AUX.
1	o	o	o	o	o	o
2	o	o	o	o	o	o
3	o	o	o	o	o	o
4	o	o	o	o	o	o
5	o	o	o	o	o	o
6	o	o	o	o	o	o
7	o	o	o	o	o	o
8	o	o	o	o	o	o
9	o	o	o	o	o	o
10	o	o	o	o	o	o
11	o	o	o	o	o	o
12	o	o	o	o	o	o
13	o	o	o	o	o	o
14	o	o	o	o	o	o

