

ADDENDUM B71/B74

The following modifications were incorporated in chassis produced after March, 1970.

Purpose: To suppress audible clicks caused by electrical appliances.

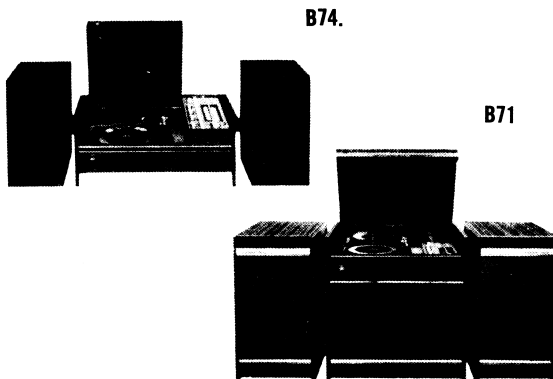
Modifications to the existing circuit shown in this manual are:

Added between base and emitter of VT103 and VT104 0.0047 μ F \pm 10% 100V polyester capacitors C110 and C115 respectively.

Present C142 and C144, 0.001 μ F capacitors, deleted. Substituted in their place, between base and collector of VT107 and VT108, were two 100pF \pm 5% disc capacitors.

Added between base and emitter of VT105 and VT106 220pF \pm 10% K3000 disc capacitors C135 and C140 respectively.

Added between bases of VT105 and VT106, and coupling capacitors C138 and C136 are 4.7K ohms \pm 5%, $\frac{1}{2}$ watt resistors, R140 and R145 respectively.



GENERAL DESCRIPTION

MODEL B71: This is a 3-piece stereo radiogram comprising a console cabinet, fitted with BSR type MA70 record changer, and two large matching speaker units.

MODEL B71Z: Similar to above but containing a Garrard type SL55 record changer.

MODEL B74: A 3-piece stereo radiogram featuring a shelf cabinet and two compact speaker units. An occasional table is available as an optional sales accessory for this model.

Models B71, B71Z and B74 are 15 transistor, 3-piece AC operated stereophonic radiograms designed for the reception of the Medium Wave Broadcasting Band and for the reproduction of both monophonic and stereophonic recordings. The chassis consists of 3 transistor printed board tuner and a 12 transistor hand wired stereo amplifier. Provision has been made for attaching a microphone, or tape recorder.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

DIMENSIONS	B71, B71Z		B74	
	CONSOLE	SPEAKER UNITS	CONSOLE	SPEAKER UNITS
Height	25" (63.5 cms.)	22 $\frac{1}{2}$ " (57.1 cms.)	8-9/16" (21.7 cms.)	8-9/16" (21.7 cms.)
Depth	16 $\frac{3}{4}$ " (42.5 cms.)	16 $\frac{3}{4}$ " (42.5 cms.)	15-7/8" (40.3 cms.)	10" (25.4 cms.)
Width	25 $\frac{1}{4}$ " (64 cms.)	12-5/16" (31.3 cms.)	25-15/16" (65.8 cms.)	16 $\frac{1}{4}$ " (41.3 cms.)
Weight (Packed)	153 lbs. (69.3 kgms.)		73 lbs. (33 kgms.)	

Frequency Range 520-1650 kHz

Intermediate Frequency 455 kHz

Power Supply Rating 220-260V A.C. 50 Hz

Power Consumption:

Receiver 20 watts

Record Changer 20 watts

Undistorted Power Output 6 watts per channel

Load Impedance 8 ohms at 400 Hz

Transistor and Diode Complement:

AS300	Converter	} per channel
AS300	1st I.F. Amplifier	
AS302	2nd I.F. Amplifier	
AS149	1st Audio Amplifier	
AS149	2nd Audio Amplifier	
BC179	3rd Audio Amplifier	
AS208	Driver	
AD162	Complementary	
AD161	Symmetry Output	
OA91	Signal Clamp Diode	
OA91	Overload Diode	}
IN87A/OA90	Detector	
IN3193	Rectifiers	}
IN3193		

CHASSIS REMOVAL—MODEL B71 and B71Z.

Remove the cabinet back.
Remove the two screws clamping the chassis end plates to the shelf. Unplug the speaker, pick-up and phono-motor power cables from the chassis. Remove the bezel lamp holder from its bracket and disconnect the plug-in leads to the lamp holder in the record changer compartment. Free all these leads for easy removal.
Lift the chassis out through the top of the cabinet taking care not to scratch the cabinet.

CHASSIS REMOVAL—MODEL B74.

Remove the two holding screws on the bottom of the cabinet. Cover the right hand edge and the front of the cabinet with pieces of cardboard or other suitable material to prevent scratching.
Lift the chassis up and rest it on the cardboard. Unplug the speaker, pick-up and phono-motor power leads and lift the chassis clear.

CHASSIS REPLACEMENT.

This is the reverse of the procedures above.
Note: The pick-up and mains leads should be separated as much as possible to avoid inter-circuit reaction.

DIAL SCALE REPLACEMENT.

Remove the chassis.
Remove the five control knobs.
Remove the three screws along each side that secure the escutcheon to the chassis.
Ease the escutcheon and dial scale assembly clear of the control spindles and push buttons. Slide the escutcheon sideways about 3/4" to free the lower edge, then lift clear.
To replace a scale:
—Remove the old scale and all adhesive tapes.
—Replace all tapes using 1/2" wide double sided pressure sensitive tape.
—Align the scale centrally in the openings and press firmly into place on the tapes.
—Ensure that the estafoam strip is in place across the end of the scale (end opposite to the tuning spindle).
—Replace the escutcheon, knobs etc.

Note: in some models a bifurcated rivet is used to secure the scale at each end in addition to the tapes.

DIAL LAMP REPLACEMENT.

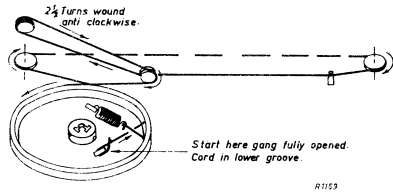
To replace a dial lamp, remove the escutcheon and dial backing plate.
Replace the lamp and **make sure that the leads are taped back to avoid tangling during pointer travel.**
Re-assemble dial parts in reverse order.

RECORD CHANGER REMOVAL.

Remove the cabinet back or base (B74) and disconnect the appropriate phono-motor and pick-up input plugs.
Situating underneath the motor board are two screws fitted with spring clips. Swing the clips over until they are parallel with the length of the screw.
Lift the record changer from the cabinet.

DRIVE CORD REPLACEMENT.

Remove the chassis from the receiver. Remove the escutcheon.
The accompanying diagram shows the route of the cord and the method of attachment. Minimum length of cord required is 52 inches.

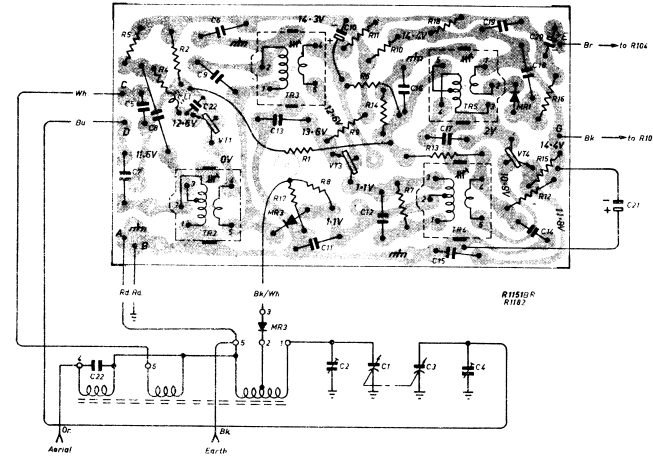


ADJUSTMENT OF OUTPUT IDLING CURRENT.

This adjustment is made during manufacture and need only be checked if any of the following conditions arise:
1. Any transistor or resistor is replaced in the audio amplifier stages.
2. Cross-over distortion is present.
The adjustment is as follows:
With the amplifiers correctly loaded (8 ohms per channel) disconnect the collector leads to VT109 and VT111 and insert an ammeter between each lead and its corresponding collector. With the volume control set in its minimum (anti-clockwise) position, adjust RV105 and RV106 to give a reading of 12-15 mA on the meter for each channel.
N.B. The total overall idling current for the radiogram is 95 mA.

SPECIAL NOTE:

VT107 and VT108 driver stages use AS208 transistors. The AS208 is an n-p-n silicon planar epitaxial transistor in which the collector is connected to the shell for heat dissipation. In its mode of operation in this circuit the shell temperature may rise 90°C. above ambient which is well within its rating. This temperature rise can obviously cause burns to the skin and due caution should be exercised during servicing.



ALIGNMENT PROCEDURE

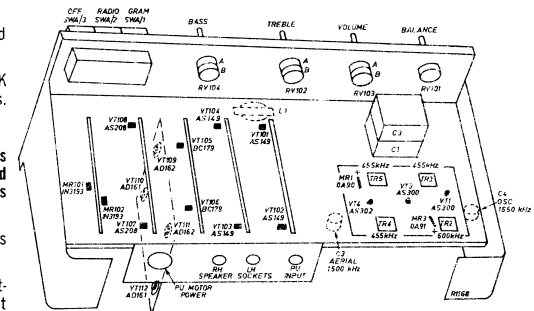
Testing Instruments:

I.F. Alignment Tool No. 39463.
Signal Generator—Modulated 400 Hz or Modulated Oscillator.
If the modulated oscillator is used, connect a 220K ohms non-inductive resistor across the output terminals.
Output Meter—8 ohms impedance.
N.B. In order to avoid damage to output transistors and associated circuitry, make sure that the total load impedance connected to either channel is never less than 8 ohms.

Set the balance control to that position which gives maximum audio output on the output meter.

For all alignment operations keep the generator output as low as possible to avoid a.g.c. action and set the volume control in the maximum clockwise position.

Chassis Layout:



ALIGNMENT TABLE

ORDER	CONNECT GENERATOR TO:	TUNE GENERATOR TO:	TUNE RECEIVER TO:	ADJUST FOR MAX. PEAK OUTPUT
1	Aerial Section of Gang	455 kHz	Gang fully closed	Cores in TR5, TR4 and TR3
Repeat adjustments until maximum output is obtained.				
2	Inductively coupled to Rod Aerial*	600 kHz	600 kHz	L.F. Osc. Core Adj. (TR2)†
3	Inductively coupled to Rod Aerial*	1,650 kHz	Gang fully opened	Osc. Trimmer (C4)
4	Inductively coupled to Rod Aerial*	1,500 kHz	1,500 kHz	Aer. Trimmer (C2)

Repeat if necessary until maximum output is obtained.

† Rock the tuning control back and forth through the signal.

* A coil comprising 3 turns of 16 gauge D.C.C. wire about 12 inches in diameter should be connected between the output terminals of the test instrument, placed concentric with the rod aerial and distant not less than 1 foot from it.

Notes: The diagram represents the view from the wiring side of the printed board. Stipple area indicates printed wiring.

All voltages shown are negative with respect to the chassis earth and measured with no signal input using a 20,000 ohm/volt meter.