

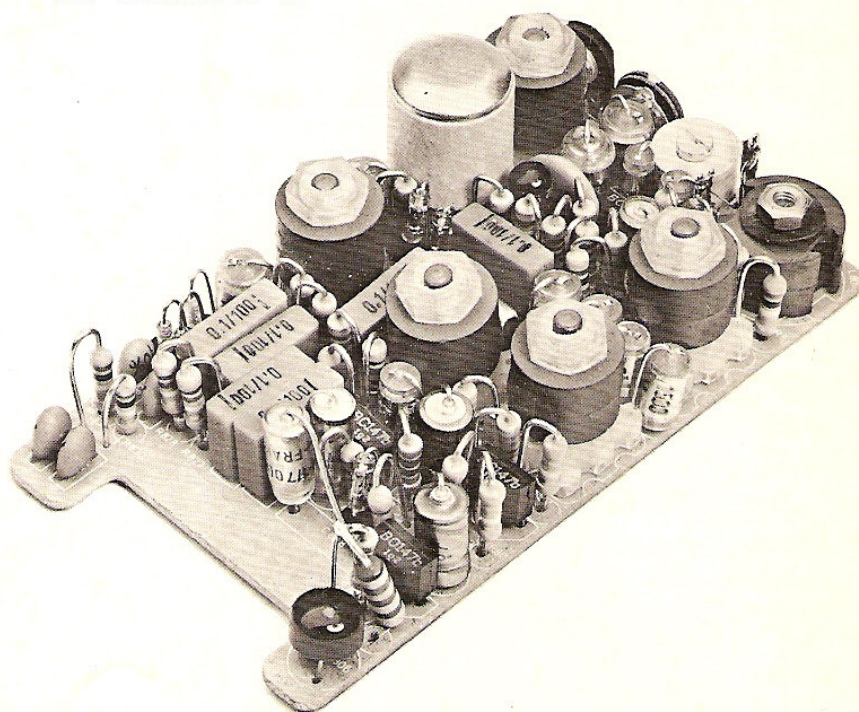
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Tandberg
RADIO

Installation instructions for

TANDBERG

**Stereo-multiplex decoder - model 3
in Huldra 8**



TANDBERGS RADIOFABRIKK A/S

Instructions for installing Decoder 3 in Huldra 8

The figures below show the IF board in Huldra 8 with serial no. lower than 427200. In receivers having higher serial number, capacitors C238 and C242 are located on the component side of the board. Furthermore, blue and black wires to the switch section are connected.

Steps 6 and 7 in the installation procedure below can be omitted for higher serial numbers.

1. Connect a 51k/1W resistor in parallel with R232 on the print side of the IF board.
2. Remove C231 (0,1 μ F) from the component side and solder it to the same terminals on the print side.
3. Remove R230 and R231.
4. Drill the holes intended for decoder by means of a 1,5 mm drill (1/16") and install an edge connector (Carr Fastener). Observe that the connector must
5. be oriented so as to give the greatest distance between the decoder board and FM detector shielding can.
6. Cut excessive wire ends on the print side in order to avoid short-circuiting to the can.
7. The two wires (black and blue) should be twisted and soldered to the switch section and the IF board as shown in fig. 2.
8. Connect C238 and C242 (16 μ F, 25 V) to the IF board, and C12 (1 μ F, 40 V) to the switch section as shown in fig. 2.
9. Plug the decoder into the connector on the IF board. The print side should face the FM detector can.
10. Check that the IF circuits are optimally aligned.
11. Check the decoder operation as outlined on top of page 4 or perform the complete alignment described in the table, page 4.

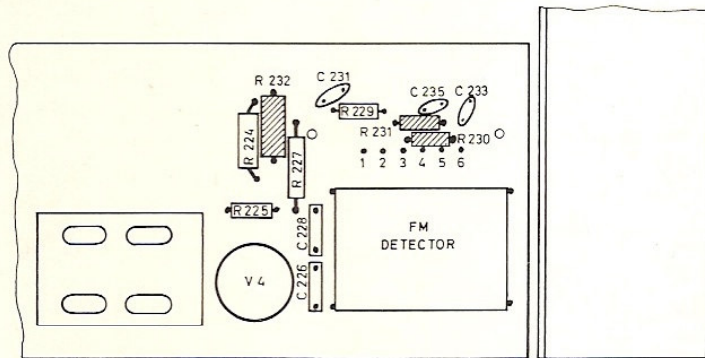


Fig. 1. The IF board seen from the component side.

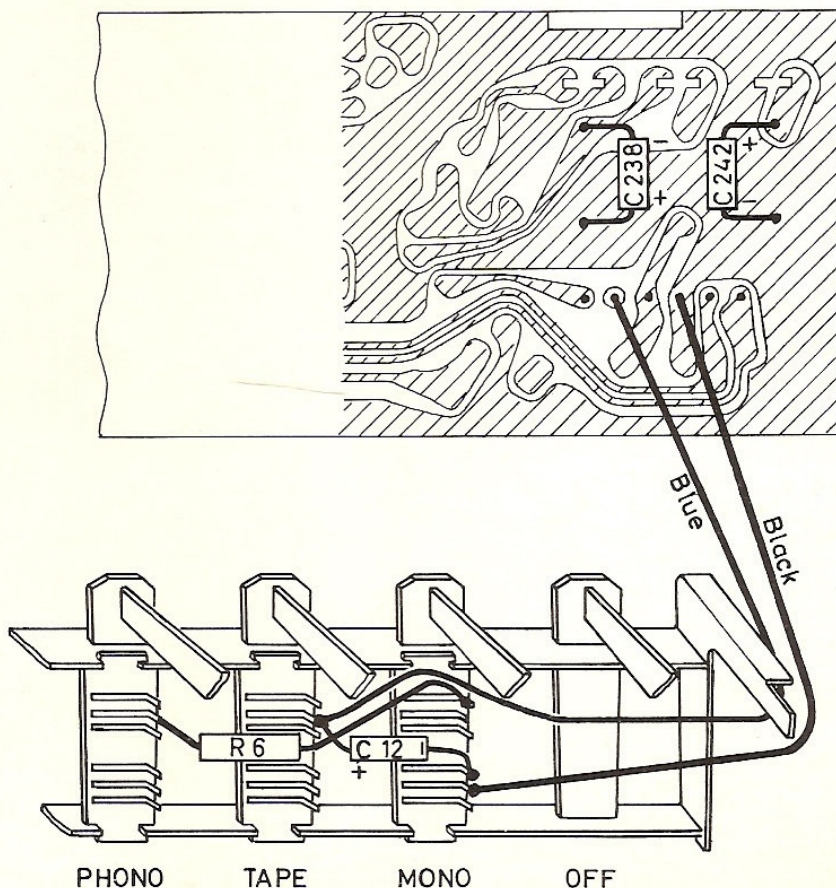
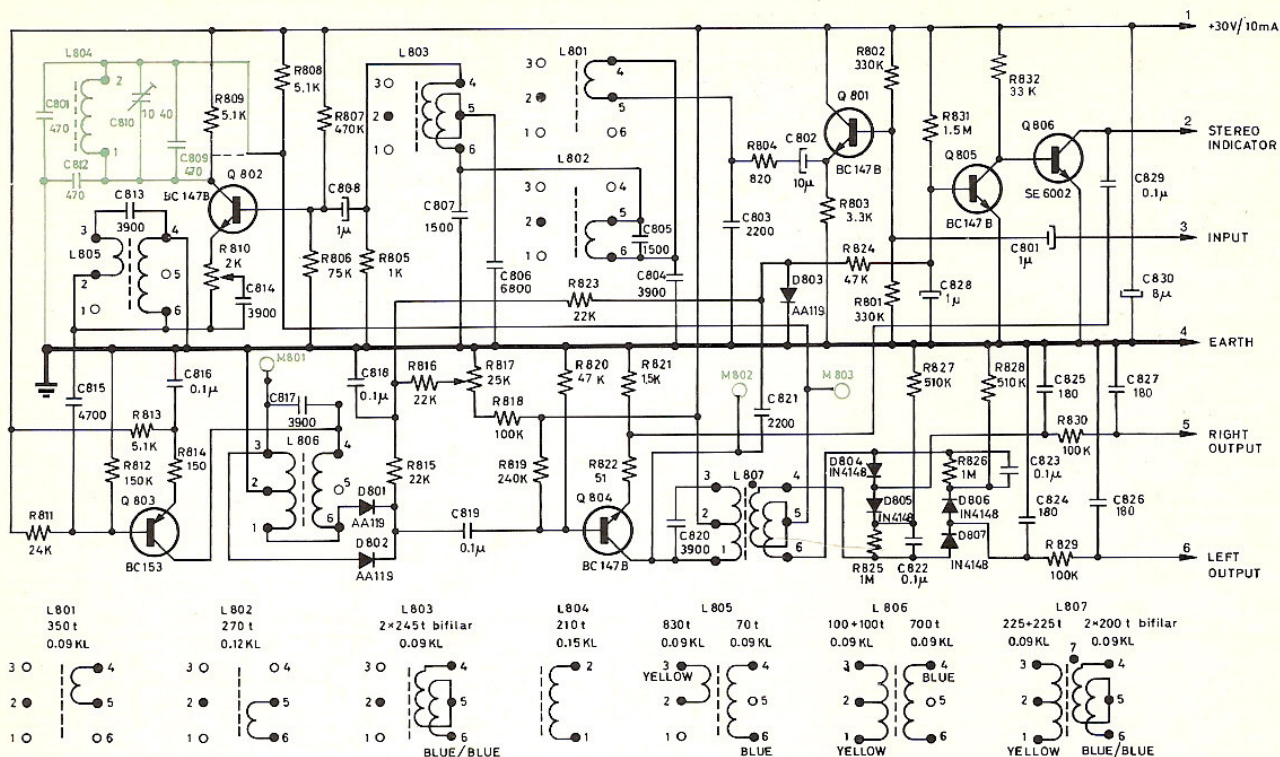
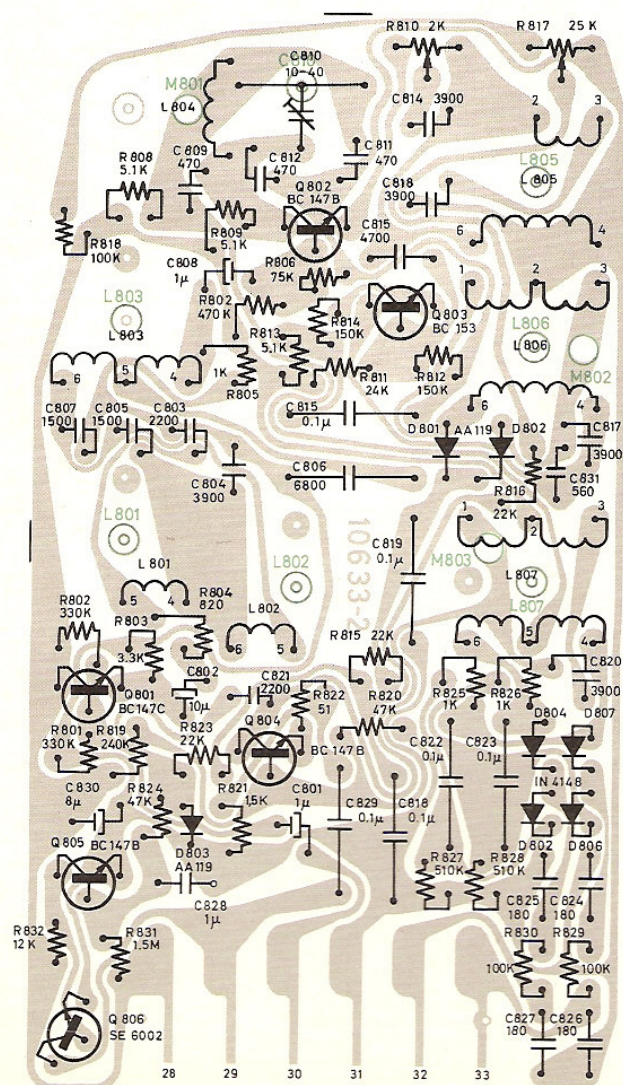


Fig. 2. The IF board seen from the printed side.



Wiring diagram.
Stereo Decoder mod. 3 EU/US.



Decoder circuit board
as seen from print side

Checking Decoder Operation after Installation

The decoder has been carefully adjusted at the factory and only slight adjustment of crosstalk and switching threshold should be required.

Required test equipment:

FM stereo generator
Oscilloscope (50 mV/cm)

Crosstalk

Set the stereo generator for 30 kHz deviation at 1 kHz on left channel and 7,5 kHz deviation at 19 kHz. Set output level of the generator to 1 mV and connect to antenna input.

Connect the oscilloscope to RIGHT OUTPUT (pin 5) and adjust R810 for minimum indication.

Set generator for 30 kHz deviation at 1 kHz.

Connect the oscilloscope to LEFT OUTPUT (pin 6) and adjust L806 for minimum indication.
If necessary readjust R810 as specified above.

Switching Threshold

Switch off the 19 kHz pilot tone and reduce the input level to 1 μ V or less. Then switch on the pilot and increase the level gradually until the stereo indicator lights up. If this does not occur at an input level of 10–12 μ V across 300 ohms (5–6 μ V/75 ohm), proceed as follows:

Set the generator for 10 % modulation at 19 kHz and adjust the signal to 10 μ V. Turn R817 fully counter-clockwise. In order to turn the indicator light off, it may be necessary to switch the pilot tone off momentarily. Then turn R817 slowly clockwise until the stereo indicator lights up.

Complete Alignment Procedure

Test equipment required:

FM-Stereo Generator
AF Generator capable of 1 V at 67 kHz and 114 kHz
Oscilloscope (sensitivity 50 mV/cm)

The antenna input voltage should be 1 mV, unless otherwise specified.

Initially set cores of L801 and L803 to flush with coil former end.

Alignment	Modulation of stereo generator	Test point for conn. of oscilloscope	Adjust	Correct Adjustm.	Remarks
SCA-filter	67 kHz, dev. approx. 60 kHz ¹	M803	C810	Minimum	For US model only
114 kHz filter	114 kHz, dev. approx. 60 kHz ¹	M803	L802	Minimum	
Phase correction	Left 1 kHz, dev. 30–40 kHz	M803	R810	Flat Zeroline	
19 kHz circuits	19 kHz, dev. 7,5 kHz	M801	L805 L806	Maximum	
38 kHz circuits	19 kHz, dev. 7,5 kHz	M802	L807	Maximum	Turn R817 fully clockwise before performing this adjustment
Crosstalk right to left channel	Right 1 kHz, dev. 30–40 kHz, and 19 kHz, dev. 7.5 kHz	Diode output, left	L806	Minimum	
Crosstalk left to right channel	Left 1 kHz, dev. 30–40 kHz and 19 kHz dev. 7.5 kHz	Diode output right	R810	Minimum	When completed repeat previous step
Mono/stereo switching threshold	19 kHz, dev. 7.5 kHz. Antenna input voltage set to 10–12 μ V		R817	Turn slowly clockwise until stereo indicator lights	Turn R817 fully CCW before starting this step

¹ This is overmodulation of the stereo generator. The problem can be avoided by applying 67/114 kHz directly to pin 3 of the decoder.