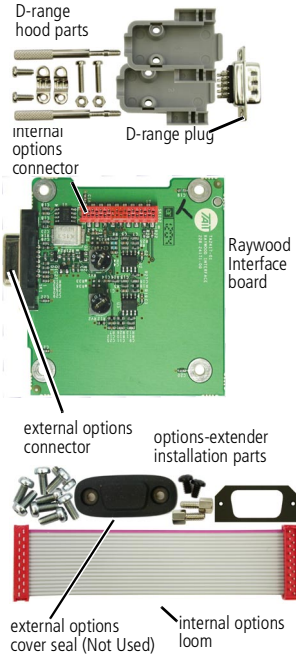


Introduction

The XA2417-01-PBA Raywood Interface for TM8000 provides external access to most of the required signals provided by the radio's internal options connector.

The Raywood Interface board fits inside the radio in the options cavity and is connected to the main PCB by the internal options connector and loom.

The internal options connector signals are then made available on the high-density 15-way D-range connector mounted on the Raywood Interface board. This connector fits through the external options connector hole provided in the radio chassis.



Important: The radio does not meet the IP54 protection standard once an options-extender board has been installed unless the external options cover seal is installed.



Important: To comply with EN 301 489-5, all cables connected to the external options connector must be less than three metres (10 feet) in length.

Installation Warning



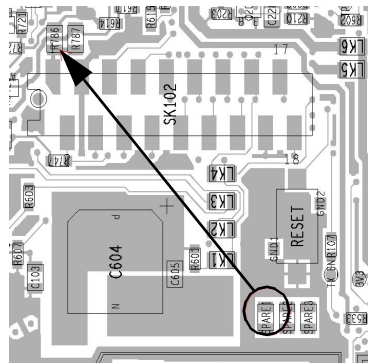
Important: This equipment contains devices that are susceptible to static charges. The procedures outlined in this installation guide should therefore be carried out in a static-safe environment. You can obtain information on antistatic precautions and the dangers of electrostatic discharge (ESD) from standards such as ESD S4.1-1997 (revised) or BS EN 100015-4 1994. The Electrostatic Discharge Association website is <http://www.esda.org/>.

Changing the Raywood Interface Link

The Raywood Interface board configuration must be completed before the board is installed in the radio, as the top side of the Raywood Interface board is not accessible once the board is screwed to the radio lid.

The TM8000 provides an option of linking the radio power supply connection to pin 1 of the Internal Options Connector, which will supply a constant 13.8V to the Raywood Datahead.

This link is a zero ohm resistor. Spare zero ohm resistors are placed during manufacture of each



radio. Take one of these (located to the lower left of the Internal Options Connector), and place on location R786.

Configuration Procedure

To configure the board, carry out the following steps.

1. Program the radio in which the Raywood Interface board is being installed with default settings. The default test settings are explained in the following tables.

Pin	Direction	Label	Action	Active	Debounce	Signal State	Mirrored
AUX_GPI2	input	2BSETUP	Enter Emergency Mode	low	100	None	None
AUX_GPI3	input	PWRSENSE	Power Sense (ignition)	high	10	None	None
IOP_GPIO1	input	None	Toggle Stand-by Mode	low	0	None	None
IOP_GPIO2	input	None	External PTT1	low	0	None	None

Rx/PTT Type	Tap Out	Tap Out Type	Tap Out Unmute	Tap In	Tap In Type	Tap In Unmute
Rx	R2	D-Split	Busy Detect	None	A-Bypass In	On PTT
Mic PTT	None	C-Bypass Out	On PTT	None	A-Bypass In	On PTT
EPTT1	None	C-Bypass Out	On PTT	T 8	A-Bypass In	On PTT
EPTT2	None	C-Bypass Out	On PTT	None	A-Bypass In	On PTT

Field	Setting
PTT Priority	Highest
Audio Source	Audio Tap In

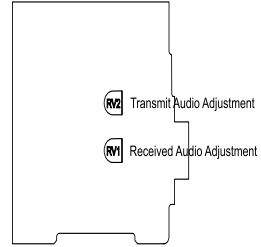
Field	Setting
Minimum Volume Level	255

Field	Setting
Command Mode Baud Rate	4800
Command Mode Flow Control	None
Data Port	Internal Options

2. Disassemble the radio in order to gain access to the options cavity. For detailed disassembly instructions, refer to the disassembly procedure in the TM8100 Service Manual.
3. Connect the internal options loom between SK102 on the Raywood Interface board and SK102 on the radio's main PCB.
4. Set up the test equipment shown in, and follow the adjustment procedure for RV1 and RV2 described in the following section.

Adjustment Points on the Raywood Interface Board

The following table describes the Raywood Interface adjustment points. Adjustments are made by two variable resistors RV1 and RV2.



Adjusting RV1, RV2

RV1

This adjusts the audio level from the radio to the Raywood datahead. To adjust correctly apply an on channel RF carrier, modulated at 60% of full system deviation, using a 1kHz tone. Use an audio meter on pins SK1.5 and SK1.14(GND) and adjust until the level of -7.3dBm is set

RV2

This adjusts the transmit deviation. Connect a 1kHz tone with a level of -11dBm to pins SK1.12 and SK1.14 (GND). Connect SK1.8 to ground this will cause the radio to transmit. Use a Radio Communications test set to measure deviation, adjust RV2 for 60% of full system deviation.

Installing the Raywood Interface Board

The following table describes the parts required to install an Raywood Interface board in a radio.

Quantity	Internal Part Number	Description	Reference
1	362-01111-00	foam seal	③
2	354-01043-00	screw-lock fasteners	⑦
4	349-02062-00	M3x8 screws	⑨

Installation Procedure

1. Disassemble the radio in order to gain access to the options cavity.

For detailed disassembly instructions, refer to the disassembly procedure in the TM8100 Service Manual.

2. Remove the top cover and lid ① from the radio to access the options cavity.
3. Remove the external options connector bung ②, if it is fitted.
4. On the inside of the radio lid place the foam seal ③ over the external options connector cavity ④.
5. With the top side of the Raywood Interface board ⑤ facing the radio lid, guide the external options connector ⑥ (the D-range connector on the Raywood Interface board) into the external options connector cavity.
6. Screw the external options connector to the radio lid using the two screw-lock fasteners ⑦.

Tighten the fasteners to a torque of 0.9N·m (8lbf·in).



Important: The external options connector screw-lock fasteners must be tightened correctly before screwing the Raywood Interface board onto the mounting posts (8).

7. Screw the Raywood Interface board to the mounting posts on the radio lid using four M3x8 self-tapping screws (9).

Tighten the M3x8 screws to a torque of 1.9N·m (17lbf·in)

8. Plug the unattached end of internal options connector loom (10) into the internal options connector on the radio main PCB.

