

4.4 ANTENNA REQUIREMENTS

The antenna connections on the Blade are provided with 50Ω female N-type sockets. These should be tested, by use of a suitable test set, e.g. Anritsu/Wiltron S331A, for good VSWR (1.5:1 or better) at the Tx and Rx frequencies prior to use.

Mating connectors should be galvanically compatible with nickel outer and gold centre pin to minimise passive intermodulation.

A minimum of 85dB transmit-receive isolation should be provided by the antenna system and associated filters.

4.5 POWER SUPPLIES

For type approval reasons, this product should not be operated with un-approved supplies.

The switch mode supplies used in the wall mount and rack mount ancillaries are able to accept main AC in the range of 100 to 240 V, 50 or 60Hz. The output from the switched mode power supply to the Blade is +13.6VDC.

Pin 3 on the D-type Power Connector provides protective earthing on the equipment. This should be connected using heavy duty Green/Yellow earthing wire, capacity greater than mains feed to equipment, as few bends as possible and an appropriate eyelet tag.

Mains protective Earth should be checked for low impedance ($<0.3\Omega$).

The equipment must be installed so that the IEC connector for the Wall or Rack Mount can be easily removed and/or the power socket should be readily accessible.

All mains wiring must comply with local wiring regulations.

4.6 CONFIGURATION

Configuration is provided via file download. This is performed via the XBMT Programmer using a PC connected to the Xfin Control card via its Ethernet port. Files are then stored in the product in non-volatile memory.

Editing of parameters on a live base station is also possible with a connected PC.

4.7 ADJUSTMENT AND ALIGNMENT

The two RF modules within this product are based upon the RF card of an SRM9000 mobile. The set up and alignment procedures for SRM9000 should be followed. In the event of a level-3 repair being required, refer to the SRM9000 Service Manual (TSD-SRM9000-SM) [1].

There are no user adjustments to be made in normal use.

5 MAINTENANCE

Although no Routine Maintenance is required on the Blade, it is generally good practice to clean the inside of the equipment on each occasion that it is necessary to open it.

Dust and or light debris may accumulate in the following areas:

- Fans
- Heatsinks
- Vents

Use a fine bristle brush to remove all dust/debris from these areas, taking care not to damage the equipment.

5.1 TORQUE SETTINGS

The torque range to be used on tightening Torx screws and self-tapping screws on the Blade and SRM sub-assemblies is 8-10Lb/in (0.90-1.13 Nm).

For all other small screws (Phillips/pozi head) use a maximum of 8 Lb/in (0.90Nm).

5.2 DISASSEMBLY

When disassembling any part of the Blade take care to note where parts belong.

5.2.1 To Remove the Blade from a Rack

When also fitted with associated PSUTRAY and shelf supports:

1. Switch off at mains.
2. Undo the screws holding the front panel of the PSUTRAY.
3. Disconnect and remove the PSUTRAY.
4. Undo the four screws securing the Blade Ears to the rack.
5. If the Blade is to be removed entirely, then disconnect all cables from the rear of the equipment.
6. The Blade can now be lifted away from the shelf supports.

5.2.2 To Open the Blade

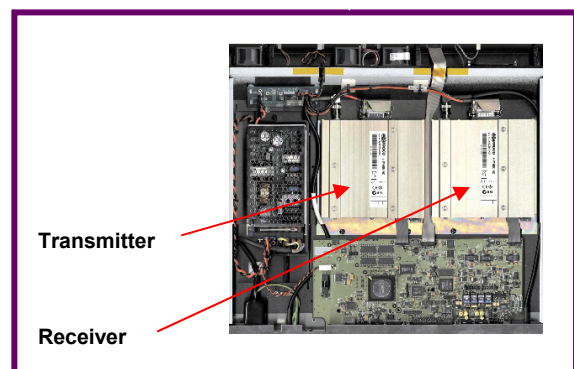


Qty 2 Fixing Screws M3

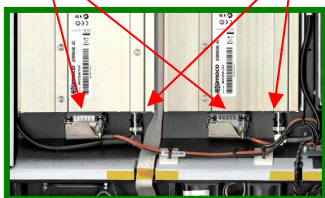
1. Remove the 2 x M3 Pan Head screws one each side of the lid.
2. Lift and pull the front edge of the lid to remove the lid.

5.2.3 To Remove a Tx or Rx Assembly

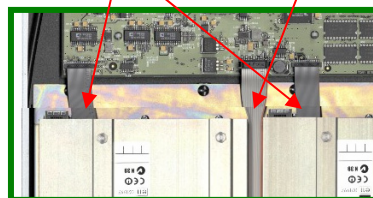
1. Disconnect the BNC connector.
2. Disconnect the DB15 power connector.
3. Disconnect the appropriate miniature 26-way and the long ribbon cables (**when refitting, take care to align centrally**).
4. Undo the two quarter-turn Dzus fasteners.
5. Lift the rear of the sub-assembly then slide backwards until the Heatsink clears the front lip of the recess (take care not to damage any of the components on the control board).



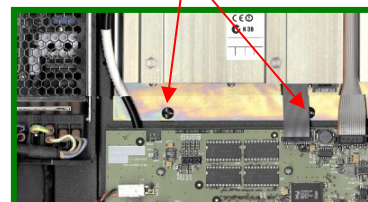
DB15 Connectors BNC Connectors



Miniature Ribbon Cables Long Ribbon Cable

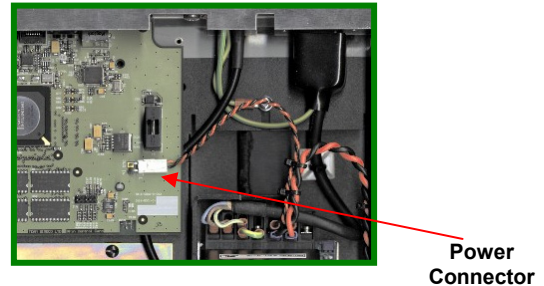
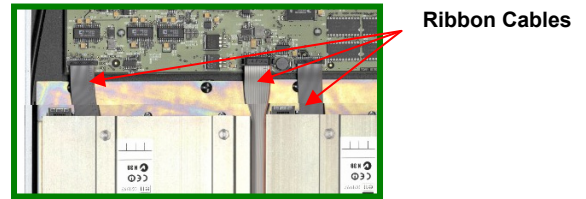


Dzus Fasteners

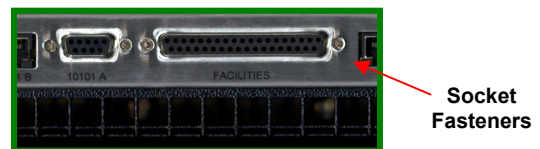


5.2.4 To Remove the Control Board

1. Remove the top cover as detailed in Section 4.2.3.
2. Disconnect the three ribbon cables from the board.
3. Disconnect the Power Connector.

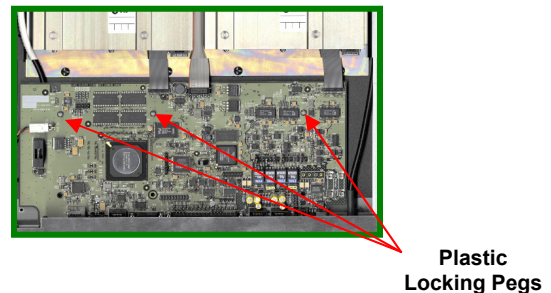
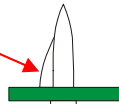


4. Remove the four socket fasteners from the 9-way and 37-way connectors on the rear panel.

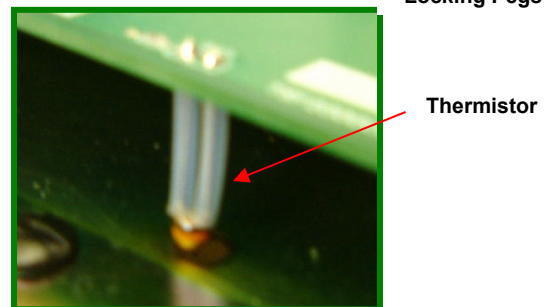


5. Release the three plastic locking pegs.

Press in to release



6. Carefully lift out the board taking care not to damage the Thermistor assembly underneath the board. Ensure that the Thermistor assembly is protected from damage when the Control Board is out of the Base Station chassis.



5.2.5 To Remove the Front Assembly

1. Remove the four, Front Panel securing screws – two per each side of the Front Panel
2. Carefully ease the front panel assembly away from the MMI assembly. Taking care to prevent damage to the control knob.
3. Carefully separate the cables (power, fans, loudspeaker, control card) taking care not to damage or unduly tension them.

5.2.6 To Remove the MMI Board

1. Remove the front assembly as described in Section 5.2.5.
2. Remove the six securing screws from the chassis brackets.
3. Detach all of the cables (power, fans, loudspeaker, control card).
4. The MMI Board may now be removed.
5. To Remove the Loudspeaker, remove the front assembly and MMI board as described above. Remove the four M3 nuts securing the Loudspeaker to the fan bulkhead.

5.2.7 To Remove a Fan

1. Remove the Front assembly as described in Section 5.2.5 and the MMI board as described in Section 5.2.6.
2. Remove the two fixing screws securing the appropriate Fan to the fan bulkhead.
3. Remove the Fan from the fan bulkhead.

5.3 RE-ASSEMBLY

In general, the re-assembly procedure is the reverse of disassembly procedure. If there are any differences or there are any special areas of concern, they are described in this section.

5.3.1 To Fit an MMI Board

1. Fit the new MMI Board to the three support brackets using six M3 mm Pan-Head Screws.
2. Offer the front panel into position ensuring the top edge of the front panel clears the control knob. Ensure that the LCD Display and the control knob are correctly centred.
3. Reverse the procedure described in Section 5.2.6.

5.3.2 To Fit the Front Assembly

1. Reverse the procedure described in Section 5.2.6 taking note of the following:

Notes: 1. Care must be taken to prevent damage to the cables and connectors when re-locating them through the access slot in the fan bulkhead and reconnecting them to the MMI board.

2. Care must be taken to prevent trapping the cables when fitting the front cover back together with the fan bulkhead.

5.3.3 To Fit the Control Board

1. Reverse the procedure described in Section 4.2.5.

Note: When positioning the Control Board, care must be taken to ensure that the Thermistor is located correctly in the hole in the base plate.

6 PRODUCT VARIANTS AND ACCESSORIES

6.1 VARIANTS

Blade - Full-Duplex Intelligent Base Station				25W Ext. PSU	25W Int. PSU	100W Version
66 - 88	MHz	E0 Band		XFINBLADE-E0	XFINBLADEI-E0	XFINPWRBLADE-E0
136 - 174	MHz	AC Band		XFINBLADE-AC	XFINBLADEI-AC	XFINPWRBLADE-AC
174 - 208	MHz	K1 Band		XFINBLADE-K1	XFINBLADEI-K1	XFINPWRBLADE-K1
208 - 245	MHz	KM Band		XFINBLADE-KM	XFINBLADEI-KM	XFINPWRBLADE-KM
310 - 350	MHz	R0 Band		XFINBLADE-R0	XFINBLADEI-R0	XFINPWRBLADE-R0
335 - 375	MHz	R1 Band		XFINBLADE-R1	XFINBLADEI-R1	XFINPWRBLADE-R1
400 - 450	MHz	TK Band		XFINBLADE-TK	XFINBLADEI-TK	XFINPWRBLADE-TK
400 - 480	MHz	TU Band		XFINBLADE-TU	XFINBLADEI-TU	XFINPWRBLADE-TU
440 - 500	MHz	UW Band		XFINBLADE-UW	XFINBLADEI-UW	XFINPWRBLADE-UW
470 - 530	MHz	WR Band		XFINBLADE-WR	XFINBLADEI-WR	XFINPWRBLADE-WR

6.2 ACCESSORIES

The full range of accessories for the Blade is shown on the two Blade Accessories Posters.

Accessories for MIC Connector	
TSF Serial Programming Lead with adaptor (DB-9)	TSF-PROGLEAD

Wall Mount Installation Items	
Wall Mount Unit with universal PSU (for single BS)	TSF-WMPS
Mains Cord for Wall Mount unit (EU/UK/US - select country)	TSF-ACCORD-EU TSF-ACCORD-UK TSF-ACCORD-US
Duplexer option for wall-mount use	TSF-DUPxx (where xx = freq band)

Rack Mount Installation Items	
Rack Mount Ears (1U)	TSF-EARS
Rack mount PSU tray (1 base station, 2U) 25 WATT	TSF-PSUTRAY
Rack mount PSU tray (1 base station, 2U) 100 WATT	TSF-2100PSUTRAY
Duplexer for PSUTRAY (specify frequencies – TSF only)	TSF-DUPxx (where xx = freq band)
Mains Cord for PSUTRAY (EU/UK/US - select country)	TSF-ACCORD-EU TSF-ACCORD-UK TSF-ACCORD-US

6.2.1 TSF-ACCORD

A 2m long cable used to connect the AC Mains Supply to the Blade, using the Wallmount, or a PSUtray in the Rackmount. Request the version relevant to the area of use:

- TSF-ACCORD-UK United Kingdom
- TSF-ACCORD-EU Rest of Europe
- TSF-ACCORD-US United States

6.2.2 Duplexers, Combiners, Cavities, RSA Units

Where a duplexer, combiner, cavity or Rx Antenna Amplifier must be re-ordered, an enquiry should be made to a qualified Project Engineer, who can advise on specific components.

6.2.3 TSF-EARS

A pair of 1U Rack Mounting Ears with screws for the Blade Base Station.

These must be used in conjunction with a rack-support

6.2.4 TSF-PROG

The **TSF** Serial Programming Lead contains an RS232 level converter. Together with the adaptor (DB-9) **it can be used to connect the Blade**, via the front panel RJ45 connector, to a PC.

6.2.5 Blade Shelves

Where a re-ordering enquiry is made with regard to Blade shelving, a qualified Project Engineer should be consulted to give advice.

Order code for a PSU tray for Blade systems involving 1-3 basestations:

PSU Trays for Blade Systems with 1-3 Basestations	
Rack mount PSU tray (19" 1U for 1x 25W Blade)	TSF-1PSU1U
Rack mount PSU tray (19" 1U for 2x 25W Blade)	TSF-2PSU1U
Rack mount PSU tray (19" 1U for 3x 25W Blade)	TSF-3PSU1U

6.2.6 TSF-1BS PSUTRAY

A 2U-rack tray with front panel is designed for use with a Blade in an enclosed 19" rack where duplexers must be shelved alongside power supplies. The Blade plus the TSF-PSUTRAY occupies a total of 3U of rack space.

The tray is supplied complete with a universal power supply (100-240VAC, 50/60Hz, IEC input) suitable for a single Blade.

TSF-DUPLEXER may be fitted as an option.

An optional PSU may be used with the Power Blade configuration.

6.2.6.1 TSF-1BS PSUTRAY Specifications

- **Dimensions:** 480mm(W) x 400mm(D) x 90mm(H).
- **Weight:** 3.95kg.
- **Mains Connector:** IEC
- **Power requirement:** 150W
- **Fuse Rating:** 110V: T250V 4A HB
250V: T250V 2A HB.
- **Blade Cable:** Approx. 300mm

