



A2000-RC Desk Top Repeater Case

The A2000 – RC Desk Top Repeater Case provides a neat desk top enclosure for mounting Tait T2000 mobile transceivers for use in low power , low duty cycle repeater applications.

A range of equipment and mounting options allows the configuration to be altered to meet a number of different applications.



Features

- Mounts up to three T2000 transceivers
- Compact size
- Simple interfacing and operation
- Power supply options dependent on current requirements

General Information

Designed for desk top low power, low duty cycle repeater applications the A2000-RC can be used for standard talk-through repeater or cross-band repeater applications.

The equipment also covers link controlled repeater applications by the inclusion of a third T2000. ^{note 1}

Supplied with all nuts, bolts, screws, brackets, front panels, A2000-UIS connecting cable etc to configure your application.

An A2000-RC can contain any or all of the following:

- Up to 3 x T2000 radios

- Power Supply – either a Setec SME240-12-10 or Tait T2008-21 depending on current requirements. ^{note 2}

- Mobile style notch diplexer. ^{note 3}

- Optional fan

Additional Features

Mobile radios can be T2010, T2015 or T2020 to provide 4, 24 or 100 channel operation as required by the particular application.

Supplied with a cable to suit the A2000-UIS interface for each radio - allows simple radio interface and connection.

Heavy duty carry handle.

Battery backup and charging option if using the SME240-12-10 Power Supply.

Note the A2000-RC does not have space to house internal batteries.

Rear Panel has provision for fitting the following for custom applications – 1 x DB9, 1 x DB25, 2 x panel mount N-type connectors, 3 x 6mm rubber grommets.

Provision for two side mount microphone brackets.



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Specifications

Size : 346 x 174 x 305 (H x W x D) mm - Case Excluding Handle

Weight : 11 kg. Approx. including 2 x T2000, Mobile Diplexer, and SME240-12-10 Power Supply

Parts Required for your system:

Qty	Model	Description
1	A2000-RC	Desktop Repeater Case – includes blank panels, screws, mounting brackets etc.
2 or 3	T20x0-xxx	Radios as required by the application
2 or 3	A2000-UIS	T2000 Universal Interface Standard
1*	SME240-12-10 or T2008-21	Power Supply as required
1*	MDxxx	Mobile Diplexer
1*	A2000-FAN-1	Fan kit – standard PC 80mm fan CW DC Cable
1*	A2000-CABLES-1 or A2000-CABLES-2	2 x Coax Cables - Transceiver to Diplexer BNC – BNC 2 x Coax Cables - Transceiver to Diplexer BNC – N type

* - options

- Note 1 –** Due to current limitations of the power supply a link controlled repeater should only be operated with an SME240-12-10 Power Supply and the link should be limited to 1Watt transmit power
- Note 2 –** The SME-240-12-10 provides 10A continuous @ 13.8Vdc. The T2008-21 provides continuous 4.5A @ 13.8Vdc or 6.5A on a 33% duty cycle. For this reason the T2008-21 should be considered only for low power (<5W) repeaters.
- Note 3 -** The A2000-RC will fit Deltec 4 or 6 cavity VHF High Band and UHF Diplexers, or RPL Raedale VHF High Band and UHF Diplexers

Disclaimer:

The information presented in this document was believed to be correct at the time of printing. It is issued for guidance purposes only. For further information please check with your nearest Tait office or authorised office.



**A2000-RC
T2000 Desktop Repeater Case**



General

This fitting instruction details the assembly and configuration of the A2000-RC Desktop Repeater Case.

The parts list at the rear of this documents details what each part is used for. Refer to the list to identify each individual part.

Radios

1. Program and align radios. It is a good idea to program both radios exactly the same. This will allow the radios to be swapped in the event of a failure.
2. Fit A2000-UIS boards (sold separately) to each radio. For most applications, most of the A2000-UIS links can be left at their default settings. The only links that should need changing are detailed in Table 1. For more information on the A2000-UIS links, please refer to the A2000-UIS Service Manual (AM2K-UIS).

Table 1 A2000-UIS Links

Link	Function	Defaults	Setting
LK11	LINE OUT, LINE IN, GATE OUT and PTT IN Control	<u>OUT = NONE</u> 1-2 AUX SW 2-3 CALL SW	Set to <u>OUT = NONE</u> for a Repeater. Set to 1-2 AUX SW for a Crossband Repeater. This allows Aux switch on the radios front panel to control the repeat function off and on.
LK12	RX/TX Disabling	IN = YES <u>OUT = NO</u>	Set to IN = YES for a repeater receiver or transmitter. Set to <u>OUT = NO</u> for any other configuration, ie a Link or Crossband Repeater.
LK13	RX Disable	IN = TX ONLY <u>OUT = NO</u>	Set to <u>OUT = NO</u> . If left out, the TX mode will be set with a link on the TX power lead. If IN this will fix a radio to TX Mode which is normally only used during radio bench testing.
LK20	TX Tail Timer	IN = Yes <u>OUT = NO</u>	Set as required. For a repeater it is normally good to have at least a short TX Tail, e.g. 1 second. The TX Tail duration is set with VR3 on the A2000-UIS board. Note that if the transmitter TOT times out and there is a tail setup on the UIS, the TX won't re-key until the tail has expired.
LK21	External Line Source	1-2 /Emrgncy <u>2-3 RX/TX Disabling</u>	Leave at <u>2-3 RX/TX Disabling</u> . This will allow the TX mode to be set with a link on the TX power lead.

3. Setup the line levels on each A2000-UIS for -10dBm. Refer to the A2000-UIS Service Manual (AM2K-UIS) for more information on setting of line levels.

Box Assembly

1. If required, fit the 120mm handle to the top of the A2000-RC case, using the 2 x M5 screws and 2 x M5 washers provided with the handle. The washers should be fitted inside the case.
2. Fit 4 x Rubber Feet to the bottom of the A2000-RC case using 4 x M3 x 10mm Silver Zinc Pan Pozi Screws and 4 x M3 Flat Washers.
3. On the bottom of the rear lid, slide the three 9.5mm rubber grommets provided into the three slots provided.
4. If required, the T2000 Mic Brackets provided with each radio can be fitted to the sides of the A2000-RC case. There is provision to mount a Mic Bracket to each side of the case. The Mic Brackets can be fitted either straight up and down or on a slight angle to make the microphone tilt towards the front of the case. There are 4 x M4 x 6mm Black Pan Pozi Screws provided for mounting up to two Mic Brackets.
5. Fit the radio cradles provided with each radio to the radio mounting trays. Use 4 x M4 x 6mm Black Pan Pozi Screws provided for each tray.
6. Fit the large two way terminal block to the back of the power supply tray, terminals facing forward and back.
7. Fit the power supply to the power supply mounting cradle. For a Tait T2008 power supply, use the 4 x plastic thread screws supplied with the power supply. For a Setec SM240-12-10 power supply, use 4 x M3 x 6mm Black Pan Pozi Screws and 4 x M3 Spring Washers provided.
8. With each A2000-RC Kit there are 4 x small black blank panel mounting brackets provided. A set of two mounting brackets is required for each small blank panel being fitted. The blank panels are to cover up unused radio mounting positions. The topmost radio position always has a radio fitted to it. Below that there are two more radio mounting positions. Each of these can be blanked off if required. To do this fit a small angle brackets to the inside of each side of the A2000-RC case. Use 2 x M3 x 6mm Black C/S Pozi screws for each set of brackets being fitted. Mount the small blank panels to the mounting brackets using 2 x M3 x 6mm Black Pan Pozi screws.
9. If required, fit a duplexer to the bottom of the A2000-RC case using 4 x M3 x 10mm Silver Zinc Pan Pozi screws. The A2000-RC case supports Deltec and RPL Raedale mobile duplexers. For more information on RPL Raedale mobile duplexers, contact RPL Raedale.
10. Fit the radio & power supply trays to the A2000-RC case. Use 4 x M4 x 6mm Black Pan Pozi screws for each tray. The radio trays start mounting from the top. There are two screws to fit to each side of the tray. The top tray mounts so that the radio will hang down below it. The middle and bottom trays mounts so that the radio will sit atop it. The power supply tray screws in on an angle, below all of the radios. For A2000-RC fitted with less that 3 radios, the empty (unused) radio trays should still be fitted to the case.
11. Fit the Triple Blank panel provided to the bottom front of the A2000-RC case using 4 x M3 x 6mm Black Pan Pozi screws.

12. Get the power cables supplied with each of the T2000 radios. Label the each power cable as either RX, TX, or LINK as appropriate.
13. For a repeater transmitter only, place a black hook-up wire between pins 1 and 5 on the TX power cable, as shown in Figure 1. The connector pin used to make up the loop is supplied in the kit of accessories parts with the radio. T201X radios will already have a wire loop between pin 5 and pin 2 for the internal speaker. The new black wire loop will have to also connected to pin 5 using the same connector pin. This wire forces that radios A2000-UIS board into a “Transmit Only” mode and stops its receive section from operating.

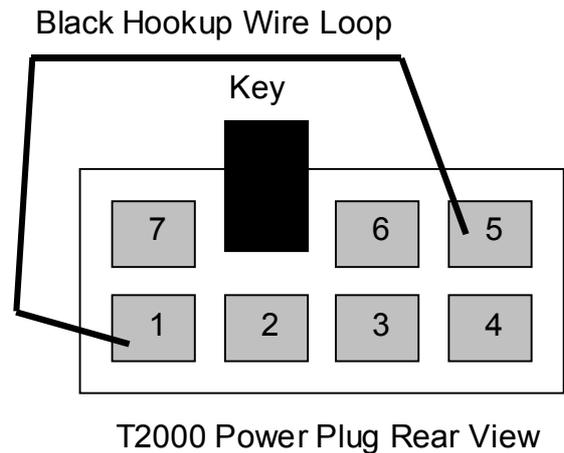


Figure 1.

14. Cut each of the T2000 power cable to 500mm in length. This is so that each radio will be able to be removed from the front of the case, without having to remove the rear lid to unplug the cable. Terminate the T2000 power cables into the large two way terminal block.
15. Terminate the +13.8V power output from the power supply into the large two way terminal block. If using a T2008 power supply, the supplies output lead has its own T2000 plug cut off its cable first. The output wires are then connected to the two way terminal block.
16. Fit the radios to the A2000-RC case through the front.
17. Fit the radio interconnection cable to the radios & screw the D Range shell into the back of the radios. Note that each of the D Range shells is labelled for the transceiver that it is meant to connect to. In the case of a Crossband Repeater, just connect each radio to the Transmitter or the Receiver connectors, but do not place the power plug loop in the Transmitters power cable. Setup like this, each radio will transmit and receive. Table 2 details the internal connection of the radio interconnect cable.

Table 2 – Radio Interconnect Y Cable

TX DB9M	Wire Colour	RX DB9M	Wire Colour	Link DB9M
5	Blue	1		
4	Yellow	2		
3	Braid	3	Braid	3
2	Red	4		
1	Green	5		
6	Black	-Join Thru-	Blue	9
7	White	-Join Thru-	Yellow	8
		8	Red	7
		9	Green	6

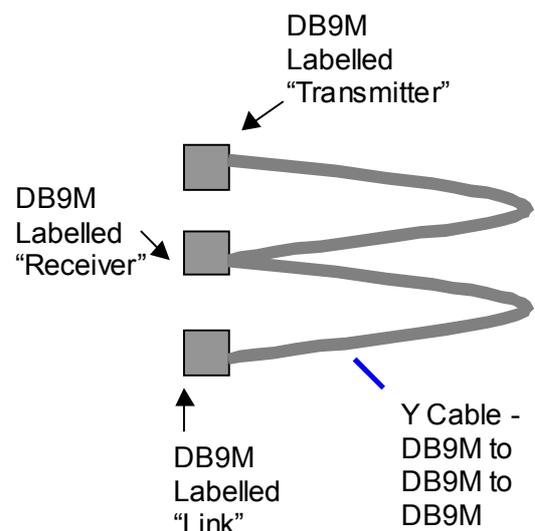


Figure 2

18. Connect any RF cables to the radios (& duplexer if fitted).
19. Run the power supply mains cable through the mains grip grommet and slid it into the slot provided on the A2000-RC rear lid. Note that the grommet slides into its slot sideways.
20. Fit the A2000-RC rear lid to the back of the case and screw it in using 4 x M3 x 6mm Black Pan Pozi Screws.

Parts List

A2K-RC-M0 – A2000-RC Mechanical Parts.

Ref. No.	Description	Part No.	Supplier	Qty
A2K-RC-M1	Enclosure, Black	A2K-RC-M1	Accumetal	1
A2K-RC-M2	Rear Panel, Black	A2K-RC-M2	Accumetal	1
A2K-RC-M3	Radio Mounting Tray, Gold Passivated	A2K-RC-M3	Accumetal	3
A2K-RC-M4	P/Supply Mounting Tray, Gold Passivated	A2K-RC-M4	Accumetal	1
A2K-RC-M5	Blank Panel Mounting Bracket, Black, Small	A2K-RC-M5	Accumetal	4
A2K-RC-M6	Blank Panel Single, Black	A2K-RC-M6	Accumetal	2
A2K-RC-M7	N Type Blanking Plate, Aluminium	A2K-RC-M7	Accumetal	1
A2K-RC-M8	D Range Blanking Plate, Aluminium	A2K-RC-M8	Accumetal	1
A2K-RC-M9	Blank Panel Triple, Black with Tait Logo. Tait Logo screen printed on by Sutek Services.	A2K-RC-M9	Accumetal	1

A2K-RC-CA1 – Cable Assembly

Ref. No.	Description	Part No.	Supplier	Qty
SIL Tubing	Silicon Tubing 1.5mm SIL Rubber, used to insulate solder joints in connectors.	400-00020-05	Tait	250mm
DB9 Male	DB9 Male Connector, Solder Pot	CODA9P	Prime	3
DB9 Cover	DB9 Connector Cover, Grey Plastic, Thumb Screw Locks	CODE9COVERL ONG	Prime	3
Cable	6 Way Multi-Core Cable 7/.20 Screened with Drain Wire	DMC6702	Tyco Aust (SECA)	1m

A2K-RC-NBW - Nuts, Bolts, and Washers

Ref. No.	Description	Use	Part No.	Supplier	Qty
Bag	Small Ziplock Bag	To Package These parts.	N/A	OEM	1
Screw	M3 x 6mm Screw Black C/S Pozi	4 x Blank Panel Brackets 2 x Spare		OEM	2
Screw	M3 x 6mm Screw Black Pan Pozi	8 x Front Panel Screws 4 x Mic Bracket 4 x Rear Panel Mounting 4 x Setec P/S Mounting 4 x N Type Blanking Plate 3 x N Type Blanking Plate 3 x Spare		OEM	30
Washer	M3 x Washer Spring	Setec P/S mounting		OEM	4
Screw	M3 x 10mm Screw Silver Zinc Pan Pozi	4 x Duplexer Mounting 4 x Rubber Feet Mounting		OEM	8
Washer	M3 x Washer Flat	Rubber Feet Mounting		OEM	4
Nut	M3 Nut Silver Zinc	Fan mounting to Rear Panel		OEM	8
Washer	M3 Star Washer	Fan mounting to Rear Panel		OEM	8
Screw	M4 x 6mm Screw Black Pan Pozi	12 x Radio Tray Mounting 4 x P/S Tray Mounting, 4 x Spare		OEM	20
Screw	M4 x 6mm Screw Silver Zinc Pan Pozi	Radio cradle to Mounting Trays		OEM	12
Screw	M3 x 20mm Screw Silver Zinc Pan Pozi	Terminal Block Mounting to P/S Tray		OEM	1

A2K-RC Large Ziplock Bag Parts

Ref. No.	Description	Part No.	Supplier	Qty
Bag	Large Ziplock Bag To Package These parts	N/A	OEM	1
A2K-RC-CA1	Cable Assembly, 3 Way DB9M Cable. From “ A2K-RC-CA1 – Cable Assembly ” above.	A2K-RC-CA1	OEM	1
A2K-RC-NBW	Small Ziplock bag with Nuts, Bolts and Washers. From “ A2K-RC-NBW - Nuts, Bolts, and Washers ” above.	A2K-RC-NBW	OEM	1
A2K-RC-M5	Metal Blank Panel Bracket, Black. From “ A2K-RC-M0 – A2000-RC Mechanical Parts ”	As Above	Accumetal	4
A2K-RC-M7	Metal N Type Blanking Plate, Black. From “ A2K-RC-M0 – A2000-RC Mechanical Parts ”.	As Above	Accumetal	1
A2K-RC-M8	Metal D Range Blanking Plate, Black. From “ A2K-RC-M0 – A2000-RC Mechanical Parts ”.	As Above	Accumetal	1
AM2K-RC	A2K-RC Fitting Instruction.	AM2K-RC.pdf	OEM	1
Fan Guard	Metal Finger Guard for 80mm Fan (Sunon FG-08 (B-1))	FAGUARD80	Prime	1
Grommet	H2097 Mains Cord Grip Grommet	COH2097	Prime	1
Grommet	K739 Grommet HD= 9.53 ID= 6.35	PBK739	Prime	3
Handle	Handle Aluminium 120mm Fixing Centre with M5 Screws	861-224	Farnell	1
Terminal Block	MK6/2 Two Way Terminal Block (equiv. to Tait T800 SI power terminal block)	062042	Weidmuller	1
Cable Tie Mount	Base Cable Tie Mount White S/AD 19mm Square	CAABMM4BWH ITE	Prime	2
Cable Tie	Cable Tie Nylon White 100*2.6mm	CART350N	Prime	4
Feet	Rubber Feet Black 16mm Dia	320-237	Farnell	4

A2K-RC Packaging Parts

Ref. No.	Description	Part No.	Supplier	Qty
Carton	Carton for T800 Rack. H338 x W600 x D503.	410-00002-11	Tait	1
Foam	Poly Packing for T800 Rack. 2 Pieces required for each carton.	410-00002-21	Tait	2