



A800-TD Ver1.1

Talk-through Default Module

Introduction

The A800-TD Talk-through Default Module is intended for use with the A800V Sinad Voter and Tait T800 base equipment. Radio networks using a Tait A800V voter have the repeat function mediated by the voter, normally located at the network hub. Failure of the interconnecting links or of the voter would result in a major system failure. To minimise the impact, A800-TD modules are fitted to each repeater which enable the repeater to default to talk through mode in the event of a link or voter failure. The A800-TD module was formally known as a 'Repeat Fail' module (A800-RF). Version 1.1 of the A800-TD is specifically packaged to suit the T800 Series II base stations, but can be easily applied to almost any radio equipment.

Operation

A A800-TD module should be fitted to each repeater in a base voting system. It is located between the base station and its link, and mediates the audio, PTT and Rx Gate functions. In normal operation, audio is received from the base station receiver and passed down the link to the voter. Audio is then voted and returned over the link for re-transmission. If a received signal is sent from the base station to the voter, but does not return back up the link for re-transmission, the A800-TD Talk Through module reverts the base to local talk through mode. In local talk through mode, the bases received audio is retransmitted directly, by its own base station transmitter. The received audio continues to be sent down the link when the repeater is in local talk through mode.

The decision as to whether the link path has failed is determined by looking at the local links receive gate. If the local base station receive gate becomes active but the link receive gate does not, then local talk through is left engaged. When the link becomes active during a transmission, local talk-through mode is cancelled and the system reverts to normal operation. As audio switching is achieved by an electronic switch the change-over is extremely rapid.

The A800-TD is an unbalanced unity gain module for both audio in and audio out on both ports. This means there are no levels to adjust. The module is suitable for system audio levels up to 0dBm.

The A800-TD module can also be fitted to base stations which are co-sited with voter (central voter hub site). In such a case, the link port on the A800-TD is connected to one of the channel ports on the A800V Sinad Voter. In such a case, the Rx and Tx lines will need to be crossed over, as will the Rx Gate and PTT line.

Installation

For use with T800 Series II base stations with T800-50-0000 Standard Backplane boards:

1. Mount the A800-TD to one of the guide rails on the top of the rack-frame using the counter sunk screws, washers and nuts supplied, as per Fig. 1.
2. Plug the leads supplied into each end of the A800-TD and the other ends of the cables into each backplane. Both cables are identical, so either cable can go on either end of the A800-TD.
3. Connect the figure 8 power wire from the A800-TD to the +13.8V supply on the rack.
4. If it is not desirable to common the Serial Com lines between the base and the link, then remove link LK2 in the A800-TD.
5. No level adjustment of the A800-TD is required. Setup up the base & link line levels as per normal. The link LK1 in the A800-TD is provided to temporarily enable the bases repeat audio while setting up line levels

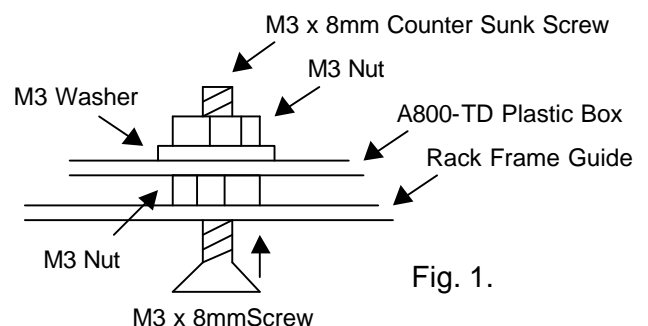


Fig. 1.

6. Parts List

A800-TD PCB

Ref. No.	Description	Part No.	Supplier	Qty
A800-TD PCB	A800-TD PCB	A800-TD1.pcb	Oz Elec.	1
C1, C3, C4, C5, C6	10uF Electro 35 Volt	228-618	Farnell	5
C2	100nF Poly	146-079	Farnell	1
D1, D2, D3	1N4148	386-106	Farnell	3
GND	1mm Test Pin	433-860	RS	1
IC1	CD4066	573-772	Farnell	1
IC2	TL072	401-158	Farnell	1
J1, J2	Header Jumpers for Links LK1 & LK2.	150-410	Farnell	2
LK1, LK2	2 Pins of a 36 Way Pin Strip, 0.1" Spacing, Gold Plated Pins	528-419	Farnell	2
R1, R2	4K7 Resistor 0.25W 1%	543-548	Farnell	2
R3, R4	1K2 Resistor 0.25W 1%	543-408	Farnell	2
R5, R6, R7, R8, R9	100K Resistor 0.25W 1%	543-860	Farnell	5
S1	Two way terminal block, PCB mount	151-789	Farnell	1
SK1, 2	9 Way Socket, D Range, Right Angle PCB Mount	892-452	Farnell	2

Cables & Connectors

Ref. No.	Description	Part No.	Supplier	Qty
Power Cable	Figure 8 Power Cable, 1402	710-167	Oz Elec.	1.1m
Multi-core	9 Core Multi-core Cable	-	Oz Elec.	1.2m
P1, P2	DB9 Male Solder Connector, for external cables.	150-808	Farnell	2
P3, P4	DB25 Male Solder Connector, for external cables.	150-810	Farnell	2
-	DB9 Connector Cover, for external cables.	-	Oz Elec.	2
-	DB25 Connector Cover, for external cables.	-	Oz Elec.	2

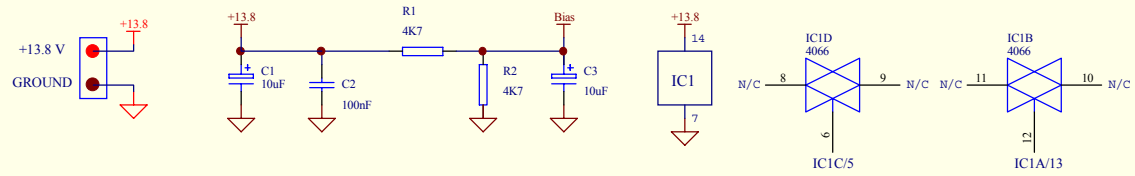
Parts Packaged with each A800-TD

Ref. No.	Description	Part No.	Supplier	Qty
AM800-TD	AM800-TD Service Manual	AM800-TD.pdf	Oz Elec.	1
-	DB9M to DB25M Cables. Parts as per 'Cables & Connectors	-	Oz Elec.	2
-	M3 x 8mm Counter Sunk Pozi Screws, Zinc Plated	-	Oz Elec.	2
-	M3 Flat Washers, Zinc Plated	-	Oz Elec.	2
-	M3 Nuts Zinc Plated	-	Oz Elec.	2

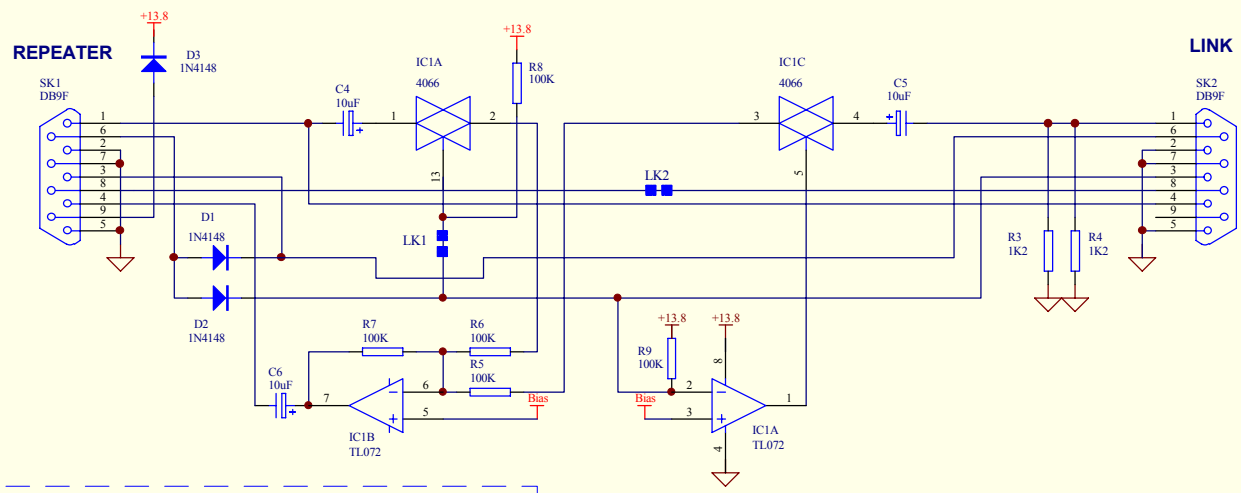
Miscellaneous Parts

Description	Part No.	Supplier	Qty
Cable Tie, White, 100-120mm	-	Oz Elec.	2
Medium Anti-Static bag	-	Oz Elec.	1
Rubber Grommet, Chassis Hole 9.5mm, Cable Hole 6mm	HP-0752	Jaycar	1
Small Ziplock bag, for nuts bolts & screw	-	Oz Elec.	1
Zippy Box, Black, 83 x 54 x 28	HB-6025	Jaycar	1

External Power

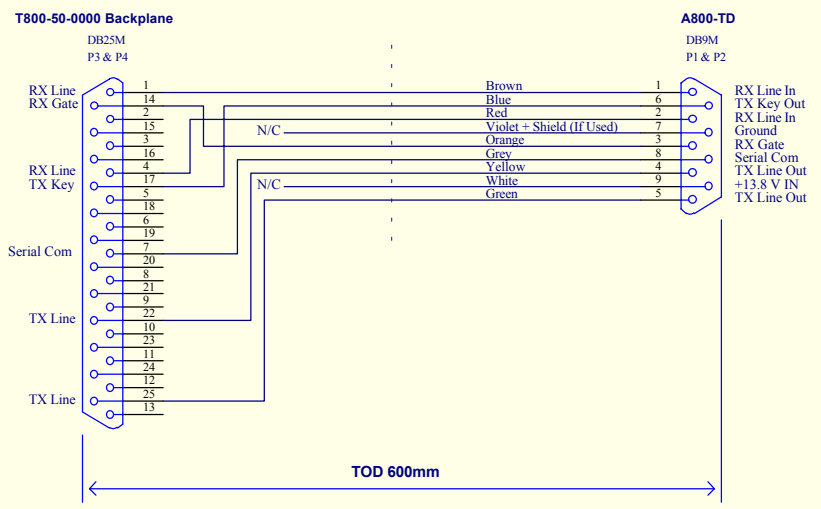


- REPEATER DB9 CONNECTIONS**
- 1 RX AUD IN
 - 2 RX AUD IN
 - 3 RX GATE IN
 - 4 TX AUD OUT
 - 5 TX AUD OUT
 - 6 TX KEY OUT
 - 7 GROUND
 - 8 SERIAL COM
 - 9 +13.8 V IN



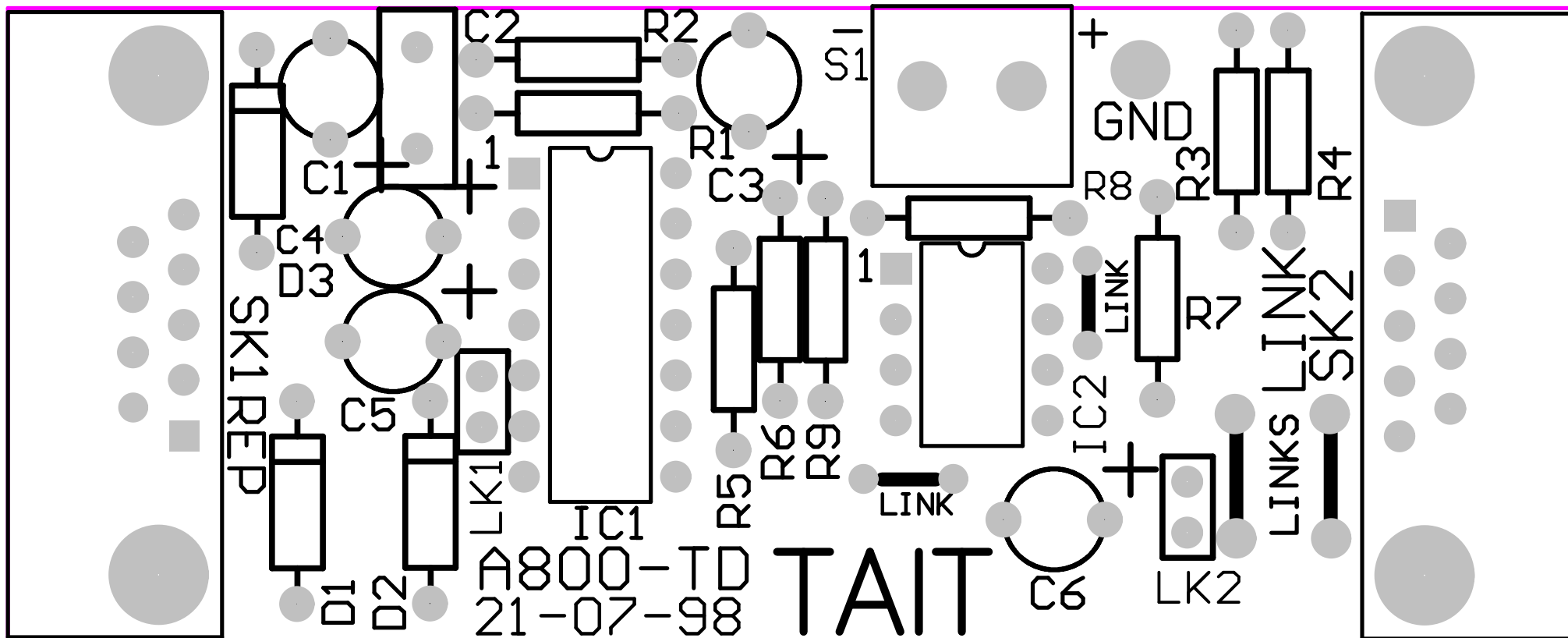
- LINK DB9 CONNECTIONS**
- 1 RX AUD IN
 - 2 RX AUD IN
 - 3 RX GATE IN
 - 4 TX AUD OUT
 - 5 TX AUD OUT
 - 6 TX KEY OUT
 - 7 GROUND
 - 8 SERIAL COM
 - 9 N/C

Repeater & Link Cables



LK1 - Repeater Test Link. This enable the repeat audio path permanently. Default = In.
LK2 - Serial Com Link. This connects the Serial Com line from the repeater to the link. This is for T800 II bases only. Default = In.

Tait Electronics (Aust) Pty Ltd		
Title: T800 Talk-through Default Module		
Size: A3	Number: A800-TD	Revision: 1.1
Drawn By: M.O'B.	Checked By: M.O'B.	
Date: 29.07.99	Sheet 1 of 1	
File: A800-TD-C1-01.sch		



A800-TD Top Overlay V1.1

Tait Electronics (Aust) Pty Ltd

Australia
Head Office
Brisbane

Tait Electronics (Aust) Pty Ltd
186 Granite St.,
Geebung, Qld., 4043
P.O. Box 679,
Virginia, Qld., 4014

Phone: 07 3865 7799
Fax: 07 3865 7990
BBS: 07 3865 6392 (Access Restricted)



Email:
Sales sales@tait.com.au
Help Desk helpdesk@tait.com.au



Internet Home <http://www.taitworld.com>

Branches

Perth

Phone: 1300 304 344
Fax: 08 9321 7338

Melbourne

Phone: 1300 304 344
Fax: 03 9690 7988

Sydney

Phone: 1300 304 344
Fax: 02 9634 7835