

2 T800-22-0000 Circuit Operation

This section provides a basic description of the circuit operation of the T800-22-0000 base station/repeater rack frame.

The following topics are covered in this section.

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2.1 Channel Select Lines And DIP Switch Operation

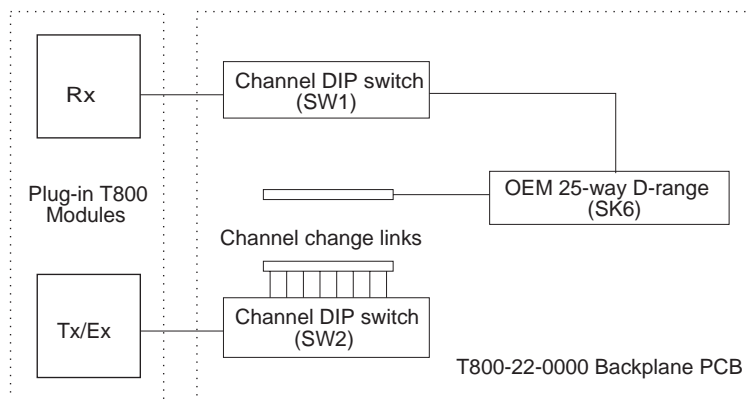


Figure 2.1 Channel Select Lines And DIP Switch Operation

Refer to the above Figure.

External channel selection is only available if an optional D-range (T800-03-0000) has been fitted to one or both T800 Series II modules.

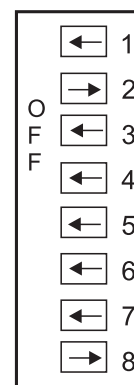
The channel selection lines need to be set to ground to change their states, as they pull up to 5V normally.

Both Rx and Tx/Ex T800 Series II modules have a separate 8-way DIP switch available on the backplane PCB. You can use this switch to select one channel from any of the channels already programmed into the module by PGM800Win.

Note: Channels 1-128 must be programmed using PGM800Win.

PGM800Win can provide the user with a DIP switch code for each channel address, for example channel 125 will be assigned a switch code of 10000010 (1-128 numbering). In this case the DIP switches should be set as shown at right. (See Section 2.2 for switch assignment).

Note: The DIP switch settings override the default channel programmed by PGM800Win. To set a default channel via the software, all DIP switches must be set to "off" (i.e. 00000000).

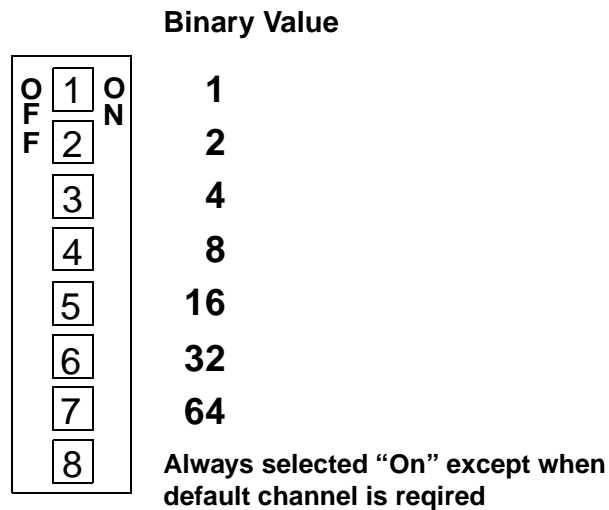


The channel select DIP switches may also be paralleled for single channel operation across both Rx and Tx/Ex modules. To do this, solder bridge the channel change links, shorting them out. Then set all 8 switches on SW2 to off, and use SW1 for the master channel selection across both modules.

When the two modules have been linked via the channel change links, the channel select lines may also be accessed via the OEM 25-way D-range (SK6 - refer to Figure 2.6).

2.2 PGM800Win DIP Switch Assignment

The DIP switches are a form of binary counting to select channel numbers. The binary value of each DIP switch is shown below.

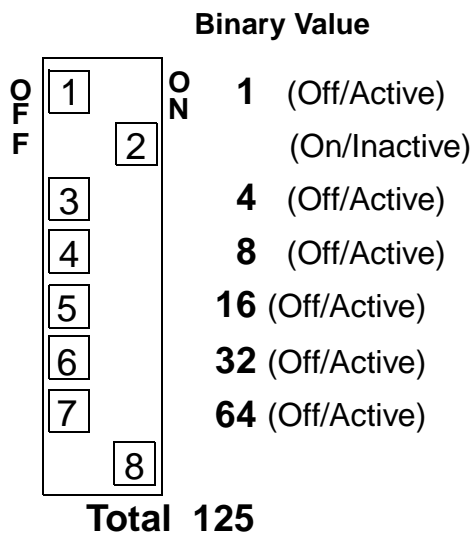


When a switch is "Off" its binary count is active, when a switch is "On" its binary count is inactive.

The various combinations of switching a DIP switch on or off provide a total, which is then the channel number.

To select a channel, set the appropriate DIP switch or switches to "Off" to make the binary count total the channel number you want. Set all other switches to "On".

Example: To select channel 125, the DIP switch settings are as shown below.



2.3 Link Configuration

The backplane PCB has link jumpers which are used for configuring rack frame functions as described in the table below.

Link	Description	Function
1	Audio 1	Fitted for repeater function.
2	Audio 2	Normally fitted LN2-1 to LN3-1 LN2-2 to LN3-2 (centre taps). Only changes for special applications. Contact your nearest Tait Dealer or Subsidiary for more information.
3	Audio 3	
4	Audio 4	Fitted for repeater function.
5	Rx Gate/Tx Key	Fitted for repeater function.
6	Serial Comms	Fitted 1-2 - program through D-range 2. Fitted 2-3 - program through D-range 1.
7	Optional	Link normally fitted.
8 (Backplane PCB 220-01409-03 Only)	Fan Drive	If the link is not fitted there is no fan operation. Fitted 1-2 - fan runs when Tx is keyed. Fitted 2-3 - fan runs continuously.

Note 1: Link LN2-1 to LN3-1
LN2-2 to LN3-2 to set the configuration for a base station.

Note 2: Link LN1 to LN5 to set the configuration for a repeater.

2.4 Speaker and Programming Port

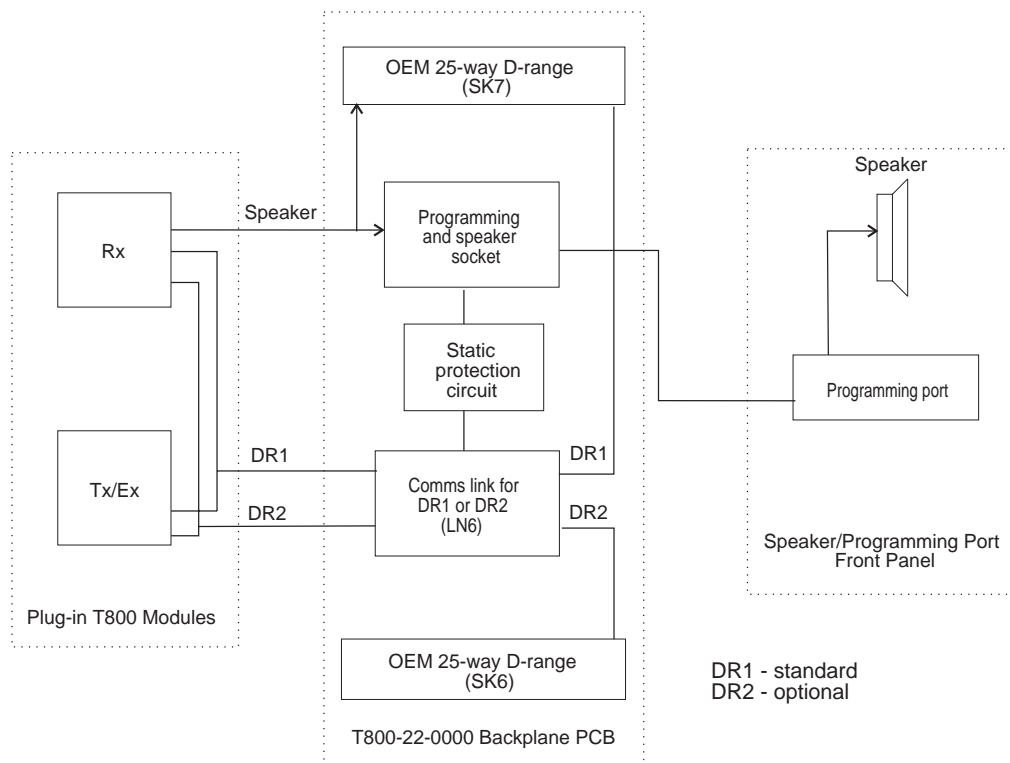


Figure 2.2 Speaker and Programming Port Configuration

The T800-22-0000 has a standard Series II speaker/programming port front panel fitted (T800-15-0000). This panel has an RJ11 connector for programming via the programming lead (T800-01-0002). If the speaker/programming port front panel needs to be removed, a mirror RJ11 programming port connector is provided on the backplane PCB.

There is a static protection circuit for EMC requirements which will dissipate spikes of greater than $\pm 5.6V$ to ground via both the speaker/programming port front panel socket and the backplane PCB programming socket.

LN6 is used to select the communications link to the module via either DR1 or DR2.

SK/Pin Connections	LN6 Link	Programming Via	D-range Fitted
SK7, Pin 7	Rx1/Tx1, Pins 7/7	DR1, Pin 7	DR1
SK6, Pin 24	Rx2/Tx2, Pins 12/24	DR2 Pin 12 or DR1 Pin 7	DR1 & DR2

2.5 Cooling Fan Driver

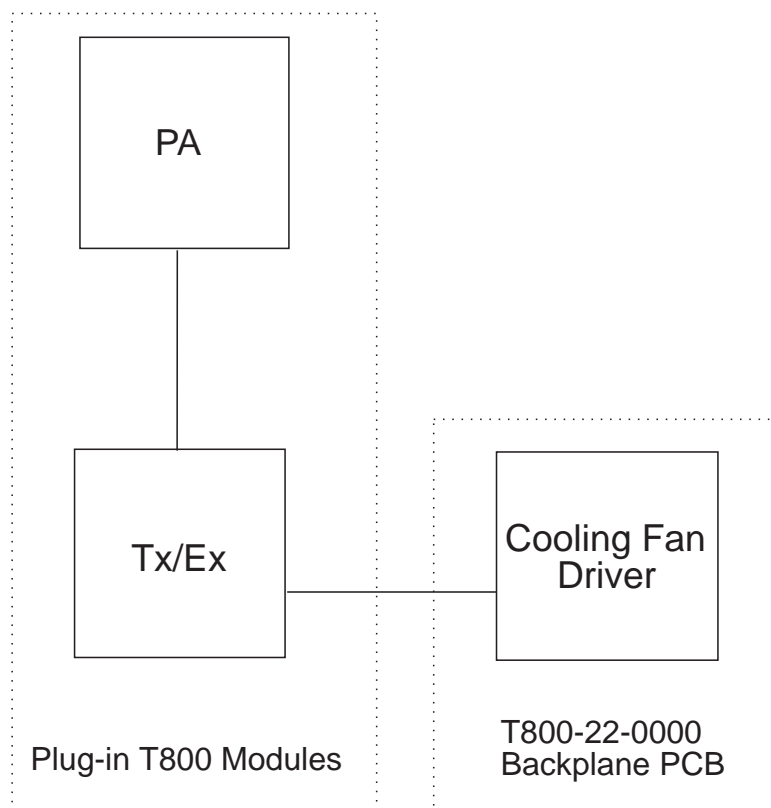


Figure 2.3 Cooling Fan Driver

The fan driver is supplied via a BC327 PNP transistor (Q1), which is switched by the Tx key line (DR1 pin 5 of Tx/Ex) to supply negative volts on CN2 pin 2. (Refer to Section 3.2 for the backplane PCB layout and the location of CN2.) CN2 pin 1 is supplied continuously by +13.8V. The fan and mounting hardware is supplied as optional kits (T800-19-0000 Series II fan mounted underneath the rack frame, T800-19-0010 Series II guide mounted fan.).

The side panels of the rack also provide mounting holes for the old Series I fan assembly. The fan may be fitted in a front, middle or rear mounted position on the guide rails. This hardware is supplied as an optional kit (T800-19).

2.6 Coaxial Relay Driver

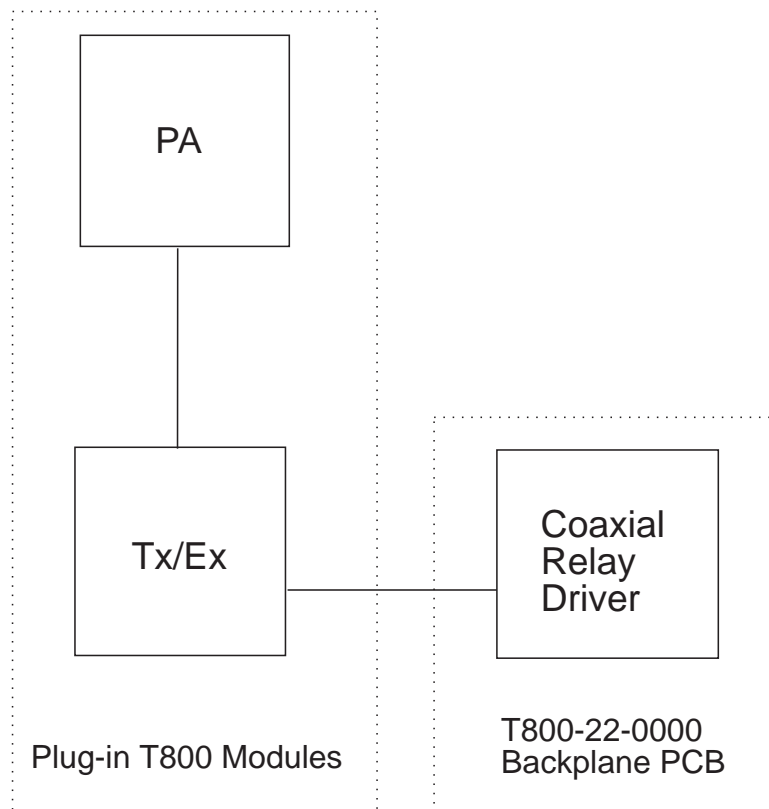


Figure 2.4 Coaxial Relay Driver

The coaxial relay driver connector (CN1) has +13.8V continuously supplied on pin 1. (Refer to Section 3.2 for the backplane PCB layout and the location of CN1.) Negative volts are supplied via CN1 pin 2 from DR2 pin 9 when the optional D-Range (T800-03-0000) is fitted. Modifications to Rx disable should be carried out on the Rx module. The module is linked in via LN7 on the backplane PCB.

The coaxial relay kit (T004-72) is available from your nearest Tait Dealer or Subsidiary.

2.7 Power Supply Configuration For Backplane PCB

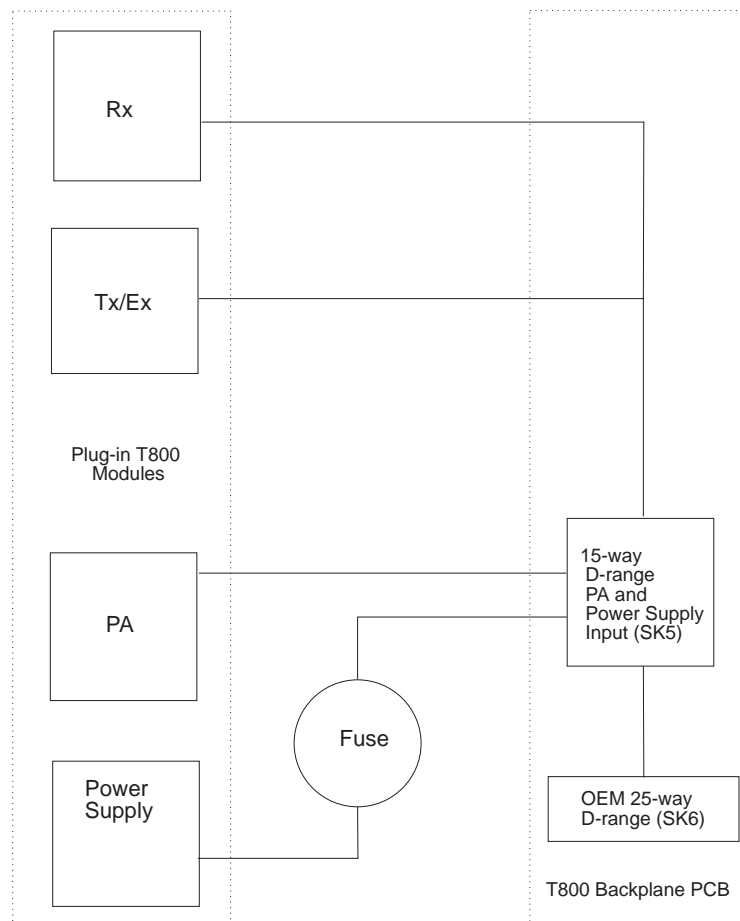


Figure 2.5 Power supply configuration for backplane PCB

The power supply feed is arranged so that maximum voltage and current is supplied to 50/100W PAs (when fitted) and 25W PAs (when higher power modules are not fitted).

The supply is fused between the power supply and high powered PA modules by a Bussmann fuse holder on the rear bottom rail. The following fuses should be used:

- 15A slow blow for T8X6, T8X8
- 30A slow blow for T8X9.

Supply to the backplane PCB is via a 15-way D-range (SK5) which supplies both Rx and Tx/Ex modules. It also provides an OEM power supply on SK6 of +13.8V, 6A.

