

## Connecting LTR Controllers to Tait T800 Equipment

### **For equipment supplied in a T800 rack frame with a T800-50-0001 Backplane**

- 1 Connect the LTR controller to PL1, the DB25 connector using the following connections

Discriminator audio	pin 24	Rx audio 1
Receiver squelch	pin 14	Rx gate
TX Data	pin 11	Tx tone in
TX Audio 1	pin 5	Tx line 1
TX Audio 2	pin 8	Tx line 4 ( if tx audio is unbalanced connect this to ground)
TX Key	pin 15	Tx key
+13.8 volts	pin 25	+13V8
ground	pin 13	GND

- 2 Modify the receiver as follows  
For the T855 receiver, remove R223 (10 ohm) and install R349 (100 ohm)  
For the T835 receiver, remove R223 (10 ohm) and install R338 (100 ohm)  
For the T865 receiver, remove R223 (10 ohm) and install R338 (100 ohm)  
For the T885 receiver, remove R223 (10 ohm) and install R390 (100 ohm)

- 3 Audio Links  
Leave as default in both the RX and TX

- 4 Two Point Modulation  
Ensure the Two Point Modulation is set up as described in the manual. This is extremely critical as LTR systems will not work reliably if this is not set up accurately.  
As a check key the transmitter and modulate it with a 120 Hz tone and observe the modulation on an oscilloscope. If there is any ripple on the sine wave adjust the “reference modulation” to reduce the ripple to a minimum

**Note from TEA** (Colin 13/12/2002) Reported that T800 Bases set up with Zetron LTR Controllers were not getting good data transmission to Motorola portables (other manufacturer’s ok). Advice from TEL is that some systems have been set up by modulating the tone (CTCSS) input on the base with a 60Hz tone (assumed at 60% max. system deviation) then displaying the recovered audio on a CRO and adjusting dual point modulation for minimum ripples on the peaks. This is reported to enhance the low frequency data response (not yet verified by customer)

## For equipment supplied in a Liberty Slimline, 2 unit rack with a T800-56-000X Backplane

- 1 Connect the LTR controller to SK6, the DB15 connector using the following connections

Discriminator audio	pin 3	Rx audio 1
Rx Squelch	pin 4	Rx gate
TX Data	pin 6	Tx tone in
TX Audio 1	pin 7	Tx line 1
TX Audio 2	pin 8	Tx line 4 (if Tx audio is unbalanced connect this to ground)
TX Key	pin 5	Tx key
+13.8 volts	pin 9	+13V8
ground	pin 15	GND

- 5 Modify the receiver as follows

For the T855 receiver, remove R223 (10 ohm) and install R349 (100 ohm)  
For the T835 receiver, remove R223 (10 ohm) and install R338 (100 ohm)  
For the T865 receiver, remove R223 (10 ohm) and install R338 (100 ohm)  
For the T885 receiver, remove R223 (10 ohm) and install R390 (100 ohm)

- 6 Audio Links

Leave as default in both the RX and TX

- 7 Two Point Modulation

Ensure the Two Point Modulation is set up as described in the manual. This is extremely critical as LTR systems will not work reliably if this is not set up accurately.

As a check key the transmitter and modulate it with a 120 Hz tone and observe the modulation on an oscilloscope. If there is any ripple on the sine wave adjust the "reference modulation" to reduce the ripple to a minimum

**Note** - Refer to note above on T800-50-0001 page

## For equipment supplied in a T800 rack frame with a T800-50-0000 Backplane

- 1 Connect the LTR controller to SK7, the DB25 connector using the following connections

Discriminator audio	pin 6	Rx audio 1
Receiver squelch	pin 14	Rx gate (if required)
TX Data	pin 18	Tx tone in
TX Audio	pin 20	Tx/Ex Audio 2
TX Key	pin 17	Tx key
+13.8 volts	pin 2	+13V8
ground	pin 23	GND

- 2 Modify the back plane as follows

Link LN9, 10, 11 and 12 between 2 and 3. Pins 1 and 2 of these links have a PC track between them that **must** be cut.  
Remove links LN1, 2, 3, 4 and 5

- 3 Modify the receiver as follows

For the T855 receiver, remove R223 (10 ohm) and install R349 (100 ohm)  
For the T835 receiver, remove R223 (10 ohm) and install R338 (100 ohm)  
For the T865 receiver, remove R223 (10 ohm) and install R338 (100 ohm)  
For the T885 receiver, remove R223 (10 ohm) and install R390 (100 ohm)

- 4 Audio Links

Leave as default in both the RX and TX

- 5 Two Point Modulation

Ensure the Two Point Modulation is set up as described in the manual. This is extremely critical as LTR systems will not work reliably if this is not set up accurately.

As a check key the transmitter and modulate it with a 120 Hz tone and observe the modulation on an oscilloscope. If there is any ripple on the sine wave adjust the “reference modulation” to reduce the ripple to a minimum

**Note** - Refer to note above on T800-50-0001 page