

## 2 T856/857 Optional Features

### 2.1 Audio Processor

The T856 and T857 come with a number of link selectable features which give added system flexibility.

Refer to Section 3.3 in Part C for further details.

### 2.2 Line Transformer Inputs And Outputs

The line transformer (T100) is designed to provide a balanced interface to 600 ohm lines. For normal operation the two centre connections (LINE I/P 2, LINE I/P 3) are shorted together, and the 600 ohm line is connected between LINE I/P 1 and LINE I/P 4.

The secondary winding of the transformer is connected via a 1k resistor to pin 7 of the D-range connector and may be used to monitor audio on the line. It is normally shorted at the connector socket to pin 6 to route the audio signal back into the processor. If required, the audio path may be broken at this point for use with signalling options, e.g. CTCSS (refer to TI-346).

*Note:* Ultra-wide band versions of the T856 have a zero ohm resistor in the line to pin 7 of the D-range.

### 2.3 Opto Key

The keying circuitry may be completely isolated from the rest of the system by means of the optocoupler (IC100) connected between pins 11 and 12 of the D-range connector. A constant current source (Q106) allows keying voltages between 6 and 50V.

### 2.4 Relay Driver

A dedicated transistor (Q105) is provided for the purpose of switching an external (e.g. coaxial) relay. The output is open collector and is activated by the Tx-reg rail.

This output is not normally connected to the standard D-range connector, and use of the relay driver will necessitate manual wiring to an additional D-range connector, as supplied with the T800-03 auxiliary D-range.

## 2.5 Local Microphone

Use of the local microphone (via the front panel stereo socket) will disable the audio input from the line. The audio switching occurs when the PTT switch is closed.

## 2.6 Keying With Option PCBs

If an option PCB (e.g. CTCSS) is fitted to the exciter, keying may then be accomplished via the TX-EN-OPT pad in the audio processor. The line must be pulled low to key.

## 2.7 Transmit Key Time

### 2.7.1 T856 Issue -03 & Later PCBs

- **Standard**

Leave LINK A open circuit.

- **Short**

Make LINK A.

### 2.7.2 T857 Issue -04 & Later PCBs

- **Standard**

Ensure that zero ohm resistor R78 is in circuit, and that solder links A & B in the synthesiser are **not** made.

The key time will be approximately 25ms.

- **Short**

Remove R78 and make solder links A & B.

The key time should now be <2ms.

In this configuration the standby spurious emission should be <-65dBm.