1 T835 Link Selectable Features

1.1 Flat Or De-emphasised Response

The links of PL210 and PL220 may be set to give either a flat or de-emphasised audio frequency response (refer to Section 1.7 for further details).

1.2 Mute Relay Control

A relay with undedicated contacts (RL210) is available in the audio processor circuit block for various switching applications. A link (PL270) is available for control of the relay from the mute circuit (refer to Section 1.7). This makes the relay suitable for controlling the keying of a transmitter in repeater applications.

1.3 Mute Selection

Link PL250 may be set to operate with noise mute or carrier mute (refer to Section 1.7).

1.4 Receiver Disable

The receiver audio can be disabled by pulling the RX-DISABLE line low. When the circuit is pulled from low to high, the receiver audio cannot be re-enabled until the disable timer completes its operation. This time is variable from 15ms to 200ms by adjusting RV220 in the audio processor section.

If required, the operation of this circuit can be disabled by changing the link of PL260 from 1-2 to 2-3.

Typical applications of the receiver disable are as an extra mute for signalling purposes, or when the T835 is configured as a line controlled base station (refer to Section 4).

1.5 CTCSS Configuration

Links PL230 & PL240 select various CTCSS options (refer to Section 1.7.2).

1.6 300Hz High Pass Filter

Link PL240 also allows the insertion of this filter to improve hum and noise performance.

1.7 Audio Processor Links

The tables in this section are the same as those in Section 3.5 in Part B. They have been repeated here for ease of reference.

1.7.1 General

Use the following table to set up the audio processor to the configuration you require. You should set the audio processor links before carrying out the receiver alignment. The factory settings are shown in brackets [ ].

Plug	Link	Function
PL210	[1 - 2] 2 - 3	de-emphasised response flat response
PL220	1 - 2 [2 - 3]	flat response de-emphasised response
PL230*	1 - 2 [2 - 3] 3 - 4	audio input via AUDIO-2 pad audio from internal CTCSS speech filter audio input via I/O pad P250
PL240*	1 - 2 [2 - 3] or 3 - 4 4 - 5	bypass high pass filter 300Hz high pass filter in circuit audio input via PL230 or I/O pad
PL250	[1 - 2] 2 - 3	noise mute carrier mute
PL260	1 - 2 [2 - 3]	RX-DISABLE link not connected
PL270	[1 - 2] 2 - 3	relay link not connected

*Refer to Section 1.7.2 for further details.

1.7.2 Audio Processor Linking Details For CTCSS

You must connect the audio processor links correctly according to the CTCSS option used, as shown in the table below.

CTCSS Option	PL230	PL240
standard, no CTCSS	2 - 3	2 - 3
received CTCSS + speech passed to line output	3 - 4	1 - 2
high pass filtered speech, internal CTCSS detection	2 - 3	4 - 5
external CTCSS detection	1 - 2	4 - 5

The conditions stated in the above table are defined as follows:

- standard, no CTCSS
  - no CTCSS or other sub-audio signalling used
  - audio bandwidth 300Hz to 3kHz
  - hum & noise 55dB
- received CTCSS tone + speech to line output
  - tone and speech transmitted down 600 ohm line
  - audio bandwidth 10Hz to 3kHz
  - hum & noise 45dB
- high pass filtered speech + internal CTCSS detection
  - 400Hz to 3kHz
  - hum & noise 30dB with 250.3Hz tone present
- external CTCSS detection
  - decoding performed through the receiver (but externally)
  - speech injected back into receiver via “AUDIO-2” and sent down 600 ohm line

Note 1: AUDIO-2 is available on D-range 1 (PL100) pin 7 via the link resistor R160. Although PL100 pin 7 is already assigned to SERIAL-COM, this can be disabled by removing R808.

Note 2: External CTCSS units can connect in series with the audio chain via AUDIO-1 and AUDIO-2.

