TC-48SR FFSK 4800 BAUD MODEM USER GUIDE

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GENERAL

The TC-48SR miniature intelligent packet modem is designed to complement the TRIO TC-S Series of miniature data radios.

The TC-48SR is a true over-the-air packet protocol modem to ensure robust data communication delivery and inhibit the transfer of rogue unwanted data caused by squelch headers and tails.

CONFIGURABLE ITEMS

There are several user selectable options available on the pcb. Some of these fields are reserved for future use. Those available currently are listed opposite.

The data rate over the radio channel is factory set by firmware and hardware at 4800bps. Note that for 4800 bps operation a 25 kHz channel radio is necessary.

Various lead in delays (LID's) can be programmed to suit the radios and system (Links C, D). Suggested minimum value 60 milliSec.

The modem will control the radios transmit enable line automatically as it sends each packet or block of packets depending on the length of the incoming data frame and the modem packet size setting. The user can also overide the transmit enable line using the RS232 RTS input by closing link E.

This will inhibit the receiver, and should only be used for specific purposes such as path or VSWR testing.

The presence of RF carrier on the RX Channel is indicated by the DCD output.

The modem has a front end packet assembler / disassembler (PAD) which can be configured in a variety of ways. The PAD controls how the user data (to be transmitted) is framed. There are two distinct mechanisms that cause the packet that will carry the user data to be created. They are;

1. Maximum Frame Size: 2 selectable packet sizes (20 bytes or 253 bytes) Set by (link M).
2. Character Timer : Set to 16mSec (Close packet after a time period where no more user data is decoded)

The Modem DCE interface can be selected from 1200 baud to 9600 baud asynch (Links I,J) with 8 data bits, parity or no parity, and either 1 or 2 stop bits (Link H).

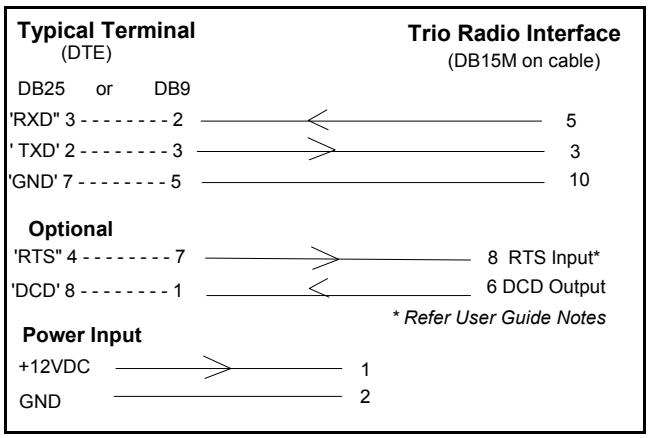
Note that this modem does not currently support 7 data bit operation.

The user can choose to run the DTE equipment at each end of the link at different data rates, providing care is taken to prevent data overflows from occurring.

An indicator LED is available to flash green to confirm delivery of good packets, and red to indicate discarded bad packets. The LED should be left off (Link O open) when not needed to minimise current consumption.

INTERFACE

The interface to the user equipment is normally '3-wire'.



LINK FIELD OPTIONS

Link Field	Link Open	Link Closed
A	Factory Set	
B	Reserved	Reserved
C	LID See Table 1	LID See Table 1
D	LID See Table 1	LID See Table 1
E	Auto Tx Enable	RTS Tx Overide
F	No Parity	Parity Enabled
G	Odd Parity	Even Parity
H	1 User Stop Bit	2 User Stop Bits
I	Baud Rate See Table 2	Baud Rate See Table 2
J	Baud Rate See Table 2	Baud Rate See Table 2
K	Reserved	Reserved
L	Reserved	Reserved
M	Packet Size 20 bytes	Packet Size 253 bytes
N	Reserved	Reserved
O	LED off	Led on
P	Factory Set	

Factory Default:

Links A, D, P, shorted; 4800, N, 8, 1, 20 byte frames; Auto Tx enable; LED off 60mS LID.

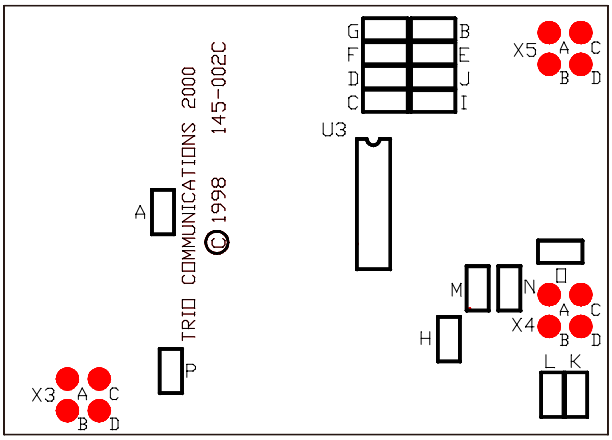


Table 1 Lead In Delay

LID	Link Field C	Link Field D
50 mS	Open	Open
60 mS	Open	Closed
70 mS	Closed	Open
100 mS	Closed	Closed

Table 2 Baud Rate

DTE Baud Rate	Link Field I	Link Field J
1200 bd	Closed	Open
2400 bd	Open	Closed
4800 bd	Open	Open
9600 bd	Closed	Closed