

Technical Support Application Note

(TSAN006DL3400)

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Product: DL-3400 series analog transceiver and DL-3282 Bell 202/103 modem

Application: Provide technical information for connecting a DL-3400 series analog transceiver to a DL-3282 modem. The DL-3400 transceiver family is designated as part numbers 242-40W0-XYZ, available in VHF (132-174 MHz), and UHF (380-512 MHz). The DL-3282 modem (part number 250-3282-002) and is configurable in Bell 202 or Bell 103 formats (DIP switch selectable). Combined, the DL-3400 and DL-3282 provide a reliable 300 bps or 1200 bps RS-232 serial data system.

Modem Set-up: The DL-3282 modem does not require any special programming for normal Bell 202 or Bell 103 format. All data parameters are set using an eight position DIP switch located inside the modem. The functions of these switches are:

<u>Position</u>	<u>Function</u>	<u>Factory Default</u>
1 Normal/Loop	Normal Operation/ Loopback Test Mode	Off – Normal
2 Conventional	Normal Operation or Interfacing to Trunking Radio System.	Off – Conventional
3 Bell 202/103	Selects Modem Format	Off - Bell 202
4 Squelch Invert	Carrier Detect Inversion	Off - Active High
5 Half/Full-Duplex	Duplex Mode Determination	Off - Half Duplex
6 Option 1	Self-Test Mode	Off - Self-Test Off
7,8 RTS/CTS	Set RTS/CTS Delay Timer	On, On – 240 mSec. Delay

Radio Programming: The DL-3400 transceiver is computer programmable using Dataradio's Field Programming Software (part number 250-4000-001). Connection from the computer to the radio is through a standard DB-9 straight through serial cable.

Power for the radio connects to the 10-pin ribbon cable connection located on the front of the radio. Dataradio offers a cable assembly (part number 023-3410-125) that consists of two 10-pin connectors to three feet of wire with spade lug terminations. This cable is applicable for both applying power to the radio for programming and for connecting the radio to the modem for application

purposes. The red (B+) wire and the black (B-) wires are to be connected to a DC voltage supply of +10 to +15 VDC.

After the programming software is installed, the Field Programming Software start up screen displays a toolbar with several options.

Click on the Read button (Fig. 1) to download the parameters from the radio.

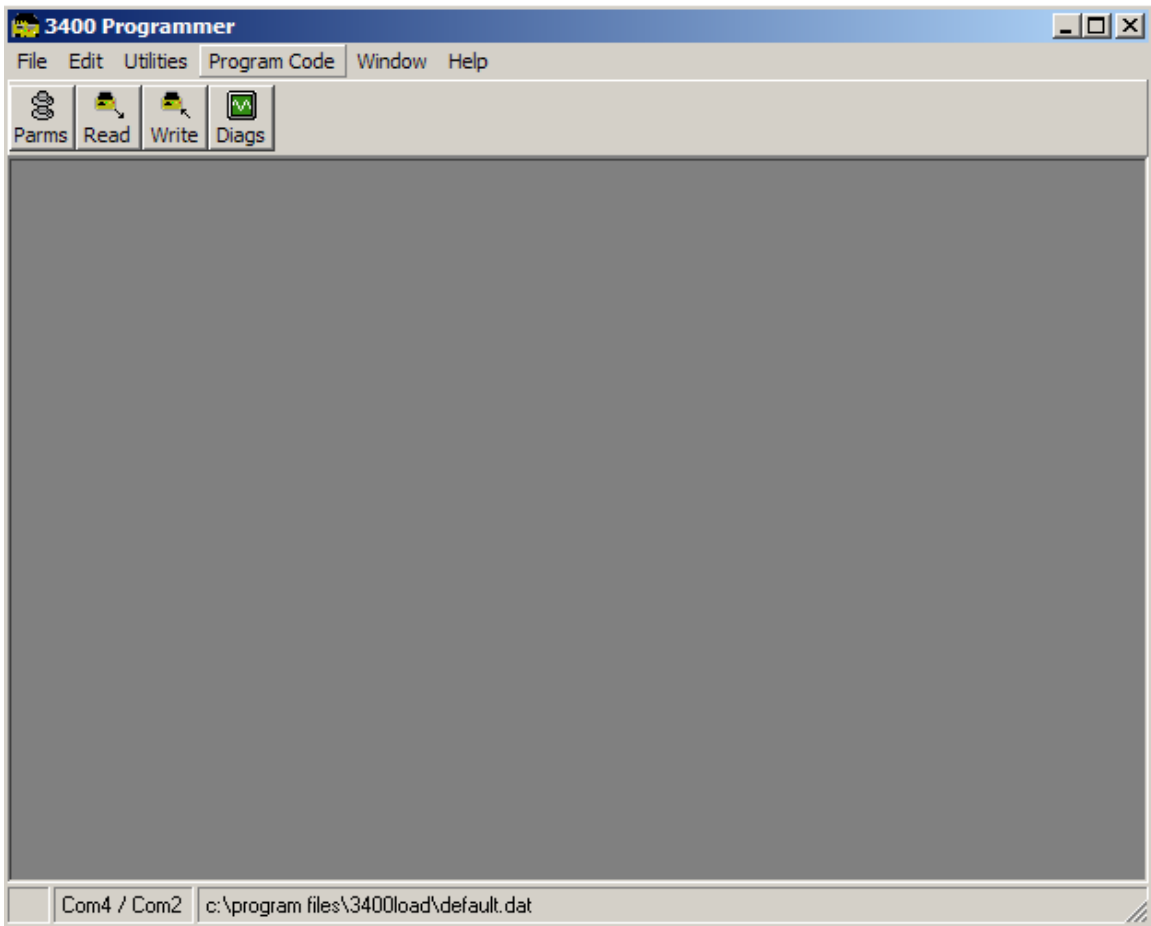


Fig. 1

Click on the Parameters tab (Fig. 2) and set the following items:

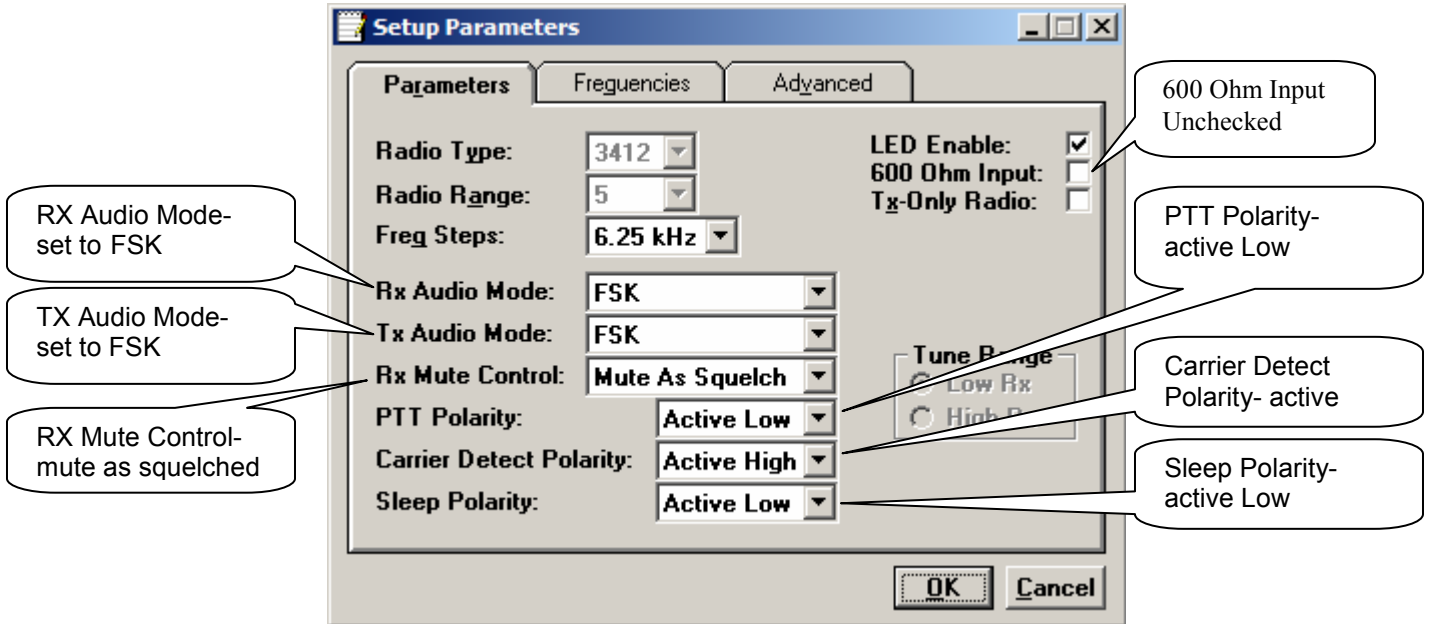


Fig. 2

Click on the Frequencies Tab (Fig 3):

Select Frequencies- highlight and type in the frequencies. We suggest that all 8 channels be programmed the same unless your application uses the channel select feature.

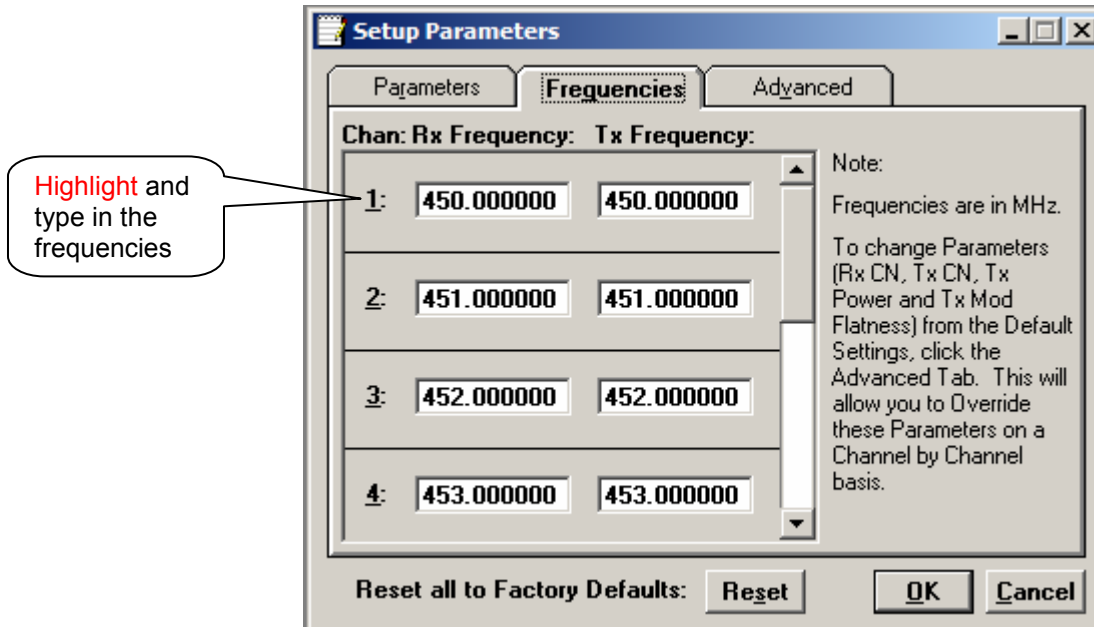
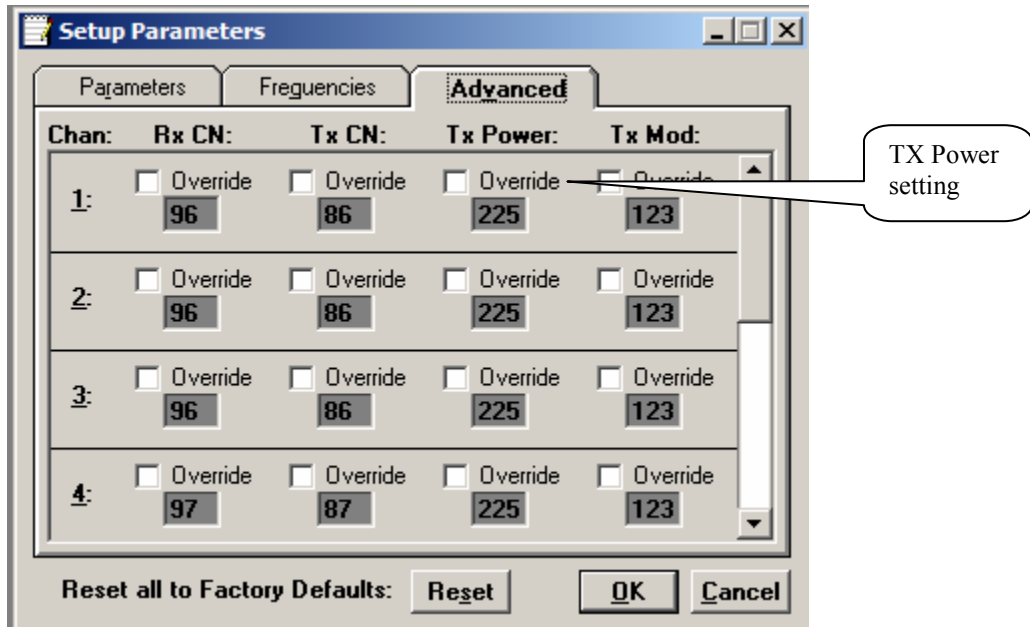


Fig. 3

Advanced Tab (Fig. 4): Unless the output power is to be set to a value lower than the factory set level, there is no need to access this tab.



At the conclusion of making any changes, click on the WRITE button to write the new values into the radio. Then do a READ to verify the changes have been made. The OK button is a "save and continue" but not a write button.

For further information, refer to service manual (001-4000-101) for DL-3400 transceivers and (001-3282-101) for DL-3282 modems.

Connection: Figure 4 shows the connection between the DL-3400 and DL-3282 using Dataradio ribbon cable assembly (023-3410-125) dual 10-pin cable. Figure 2 gives a pin-out description of the 10-pin connector. Figure 5 shows typical configuration and connection of the radio and modem.

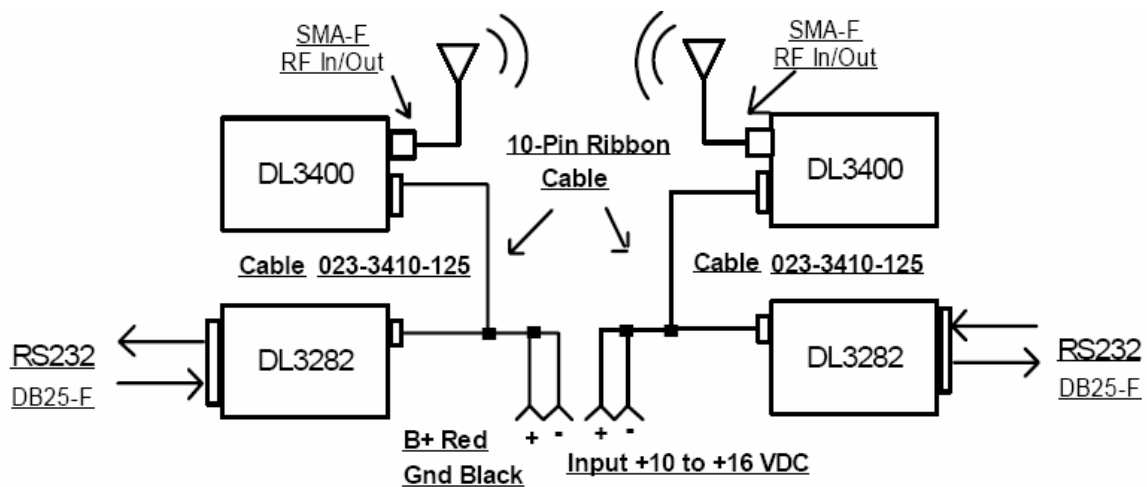
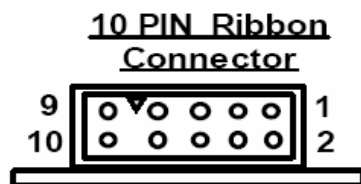


Fig. 4



**Radio Connector
Pin Assignment**

<u>PIN</u>	<u>COLOR</u>	<u>FUNCTION</u>
1	Brown	TX Wideband Data Out
2	Blue	RX Wideband Data In
3	Violet	Not Used
4	Green	Not Used
5	Red	Supply Voltage (+)
6	Orange	TX Key (PTT) Out
7	Gray	Carrier Detect In/Out
8	Yellow	TX Narrowband Data In/Out
9	Black	Ground (-)
10	White	RX Narrowband Data In/Out

Fig. 5

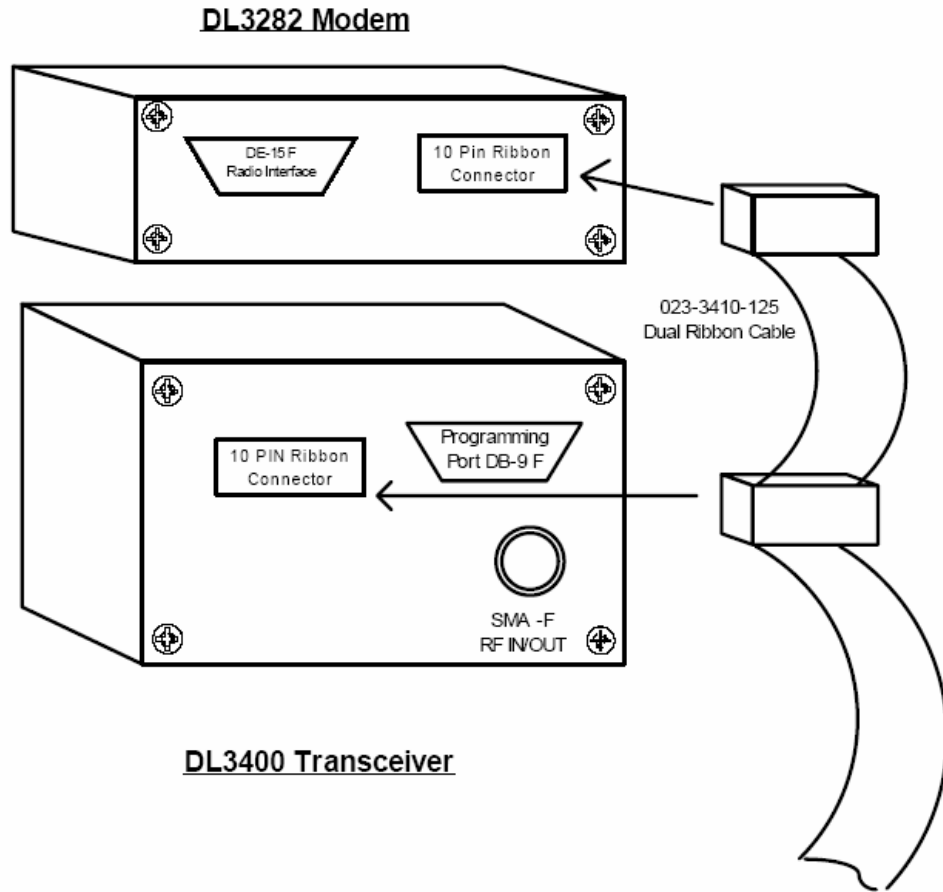


Fig. 6