

TSAN 032 INTEGRA DL3282

Dataradio Technical Support

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Products:

Dataradio DL-3282™ Bell modems

Dataradio DL-3400 analog radios

Integra-TR wireless modems

Integra-H wireless modems

Application: Provide interface information for the Integra-TR or the Integra-H wireless modem to a Bell 202 standard device or a Dataradio DL-3400 radio. The former configuration could be used to replace an analog phone line that was previously connected to a Dataradio DL-3282 modem and a DL-3400 configuration.

Overview: The Integra-TR and the Integra-H cannot be directly connected to a Bell 202 standard analog line. However the Integra modems can be used in a Bell 202 compliant application when used in conjunction with a Dataradio DL-3282 modem. The DL-3282 is Bell 202 compatible. The 10-pin connector on the DL-3282 is used to connect to the analog connections. The DL-3282 connects to the Integra via its RS-232 port. Figure 1 illustrates a typical configuration.

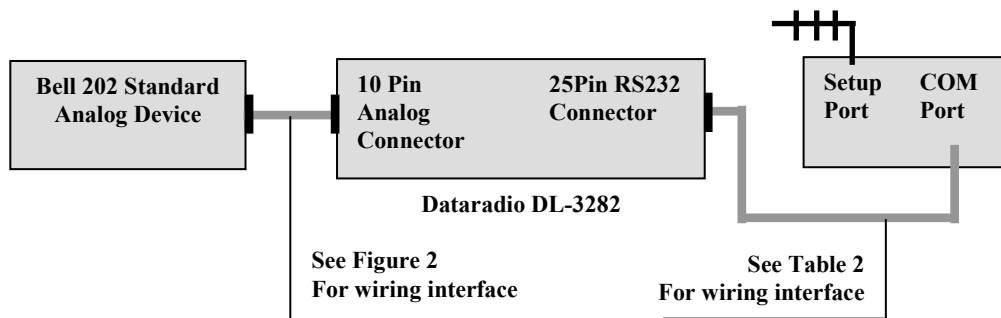


Figure 1

Typical configuration for the Integra to a Bell 202 standard device using the DL-3282

Setup:

DL-3282 Modem

The technical manual for the DL-3282 modem, (p/n 001-3282-001) section 2.3.1, should be referenced for setup. The internal dipswitch S101 must be set to the following table below. This configures the DL-3282 modem into a full duplex 1200 baud mode. It also implements a 30ms delay between activating Push-to-talk (PTT) and activating Clear-to-send (CTS). If a longer time delay is determined by transmission errors, the RTS/CTS delay timer may be adjusted up to 240 ms. Please refer to the setup section 2.3 in the DL-3282 modem technical manual for the appropriate settings and help for the DIP switch S101.

Table 1: Dataradio DL-3282 DIP switch settings

Position	Function	Settings for Switch 101
1. Normal/Loop	Normal operation/loop back test mode	Off – Normal
2. Conventional	Normal operation of interfacing to trunking radio systems	Off – Conventional
3. Bell 202/103	Selects modem format – 1200 baud	Off – Bell 202
4. Squelch Invert	Carrier detect inversion	On – Active low
5. Half / Full Duplex	Duplex mode determine	On – Full
6. Option 1	Self-test mode	Off – Self-test mode
7 and 8. RTS / CTS Delay	Set RTS/CTS delay timer	Off, Off – 30 ms

The 10-pin connector is used to connect the Dataradio DL-3282 modem to the standard analog connection. Figure 2 shows a possible connection between the DL-3282 modem and a standard analog connection. This arrangement uses *Push-to-talk* (PTT) pin 6 and *Carrier detect* in pin 7 as control for the modem.

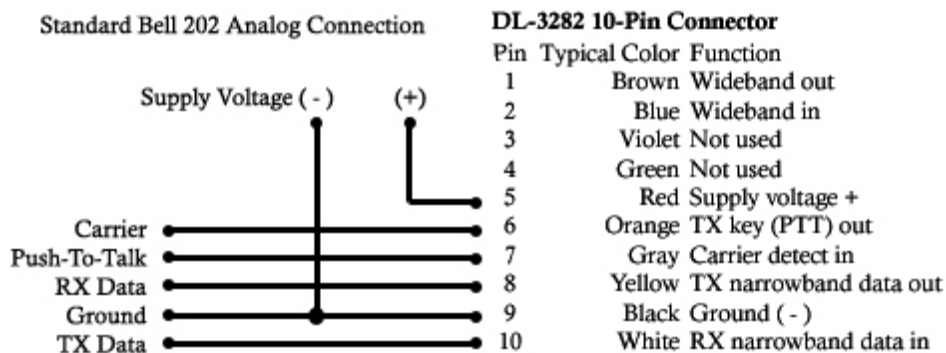


Figure 2

Standard wiring diagram for a Bell 202 standard device to a Dataradio DL-3282

Integra-TR and Integra-H interface to DL-3282 modem

Table 2 shows the pin out for the 25 pin RS-232 connector located on the DL-3282 modem connected to a 9 pin RS-232 connector located on the Integra-TR. Refer to the technical manual for the Integra-H (p/n 001-4009-101) or the Integra-TR (p/n 001-4008-101) for the proper wiring setup.

Table 2: DL-3282 modem connection to Integra-TR or Integra-H COM port RTS mode

<i>DL-3282 modem 25-pin connector</i>		<i>Integra 9-pin COM port</i>	
	<i>Pin</i>		<i>Pin</i>
RS-232_RTS	J101-4	-----	1 DCD
RS-232_DCE RXD	J101-2	-----	2 RXD
RS-232_DCE TXD	J101-3	-----	3 TXD
RS-232_CTS	J101-5	-----	4 Not connected
RS-232_GND	J101-7	-----	5 GND
RS-232_DSR	J101-6	-----	6 Not connected
RS-232_DCD	J101-8	-----	7 RTS
RS-232_DTR	J101-20	-----	8 Not connected
Shield_Gnd	J101-1	-----	9 Not connected

Integra-H setup

The Integra-H must be programmed to either DOX (Data activated) or RTS mode using the Field Programming Software. Refer to the technical manual for setup parameters. The Integra-H should be programmed with a deferred RX Data Delivery of at least 10ms. If errors occur during transmission, a longer data deferred time is suggested.

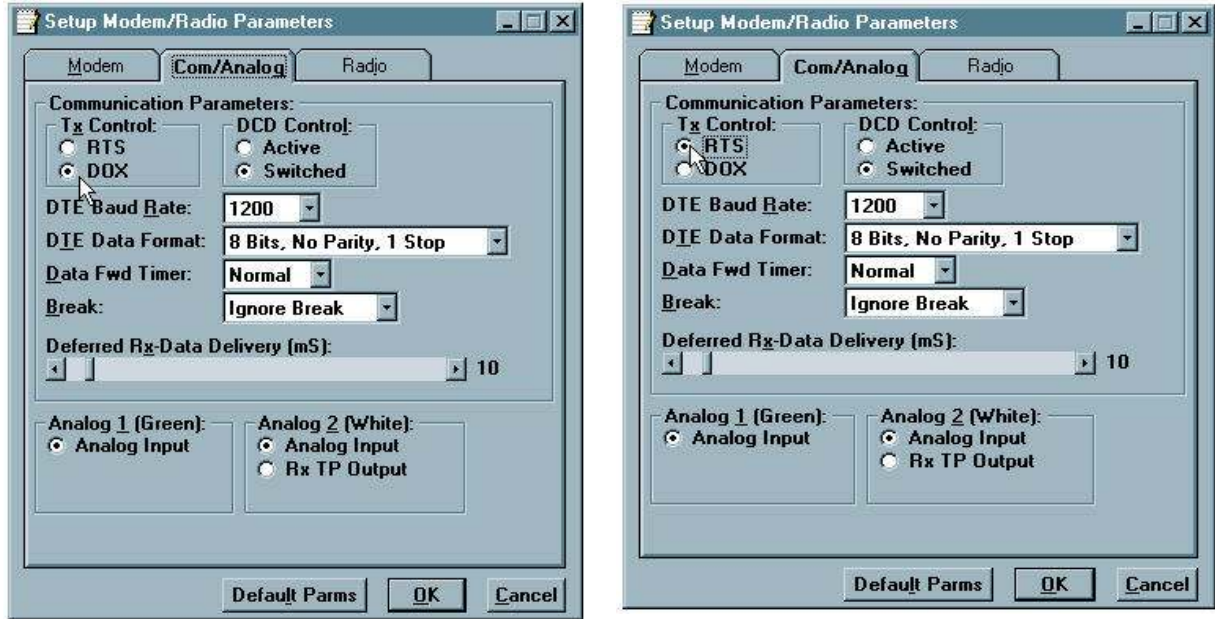


Figure 3:
Integra-H Field Programming Software selection mode: DOX or RTS

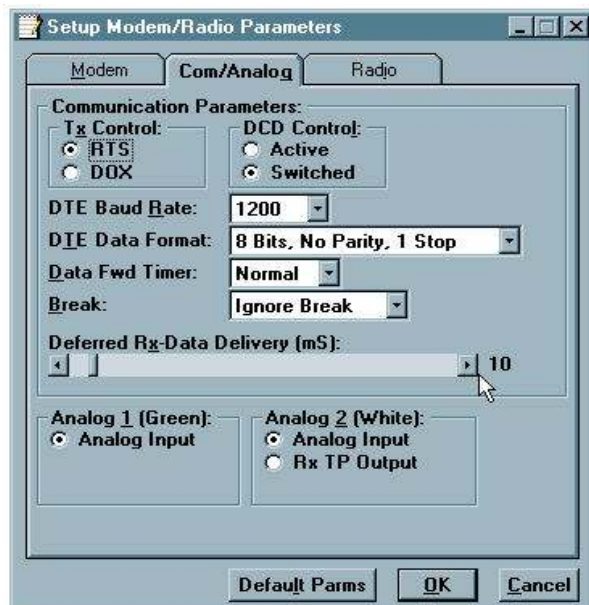


Figure 4:
Integra-H Deferred Data Delivery set to at least 10 ms

The DTE Baud Rate must match the DL-3282 baud rate set by the switches in Table 1. Figure 5 shows how to select the DTE baud in the Field Programming Software.

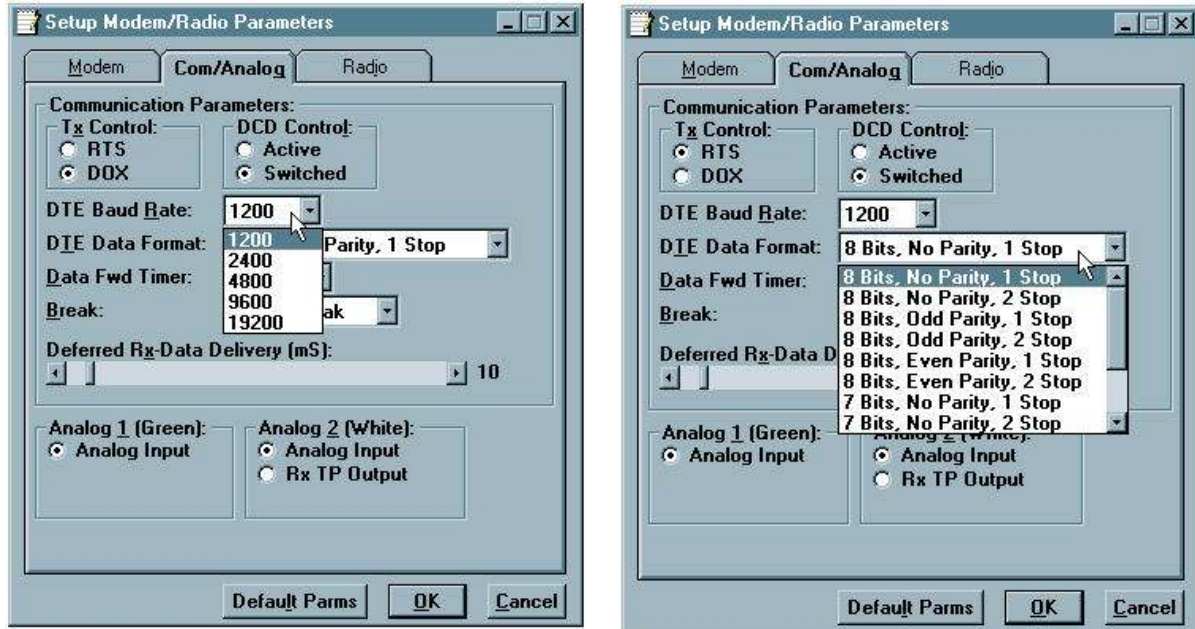


Figure 5: 1200 DTE Baud Rate and DTE Data format for the Integra-H

Integra-TR setup

The Integra-TR must be programmed to either DOX or RTS mode with the appropriate Dataradio Field Programming Software. Please refer to the appropriate technical manual for setup parameters. The Integra-TR should be programmed with a deferred RX Data Delivery of at least 10 ms.

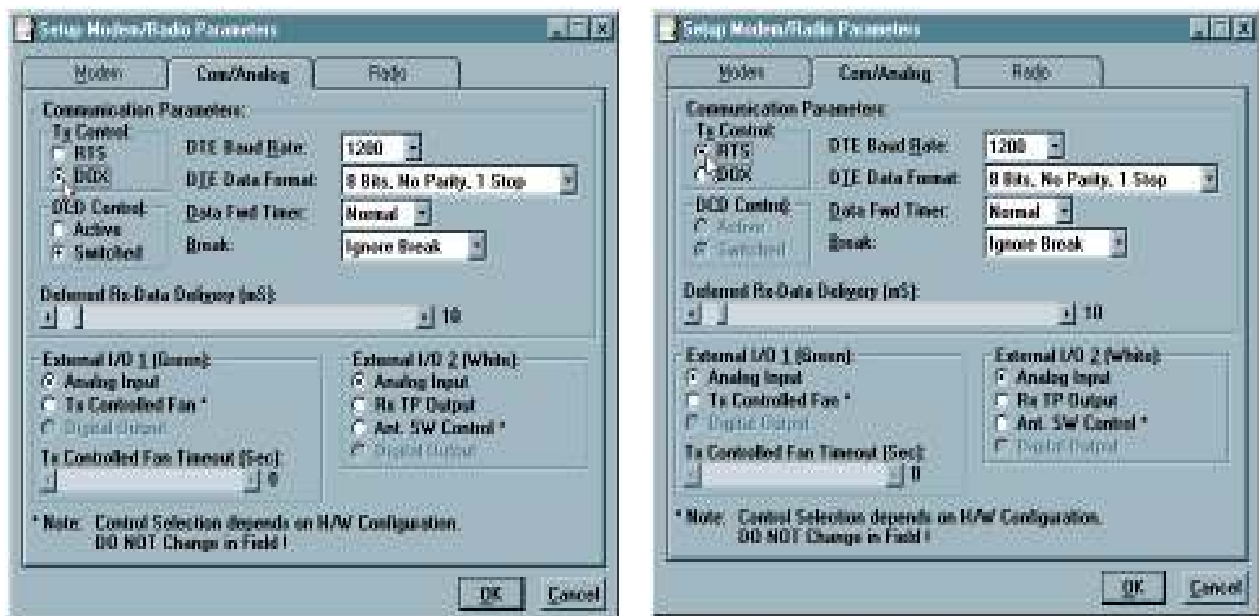


Figure 6: Integra-TR Field Programming Software selection mode DOX or RTS

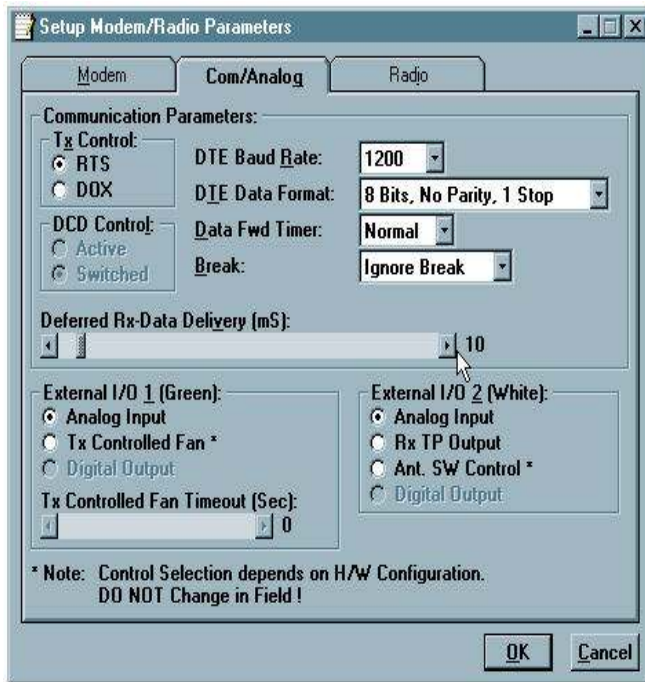


Figure 7:
Integra-TR Deferred Data Delivery set to at least 10 ms

The DTE Baud Rate must match the DL-3282 baud rate as set by the switches in Table 1. Figure 8 shows how to select the DTE Baud Rate and the DTE Data Format in the Field Programming Software.

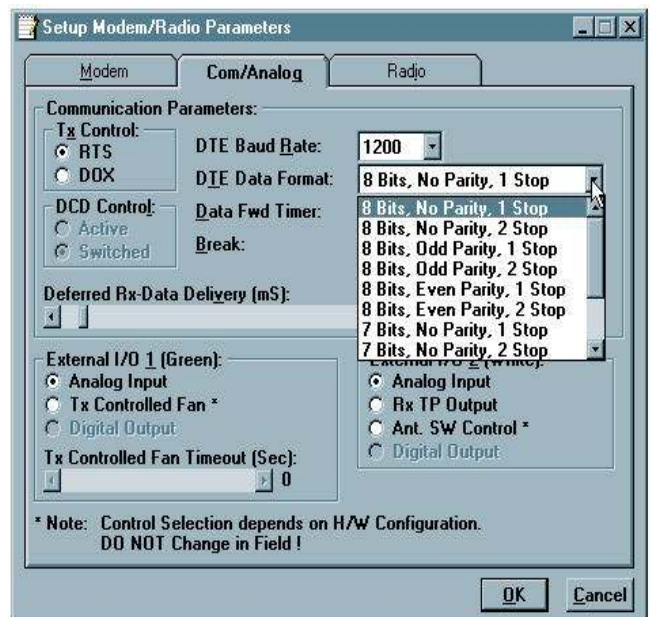
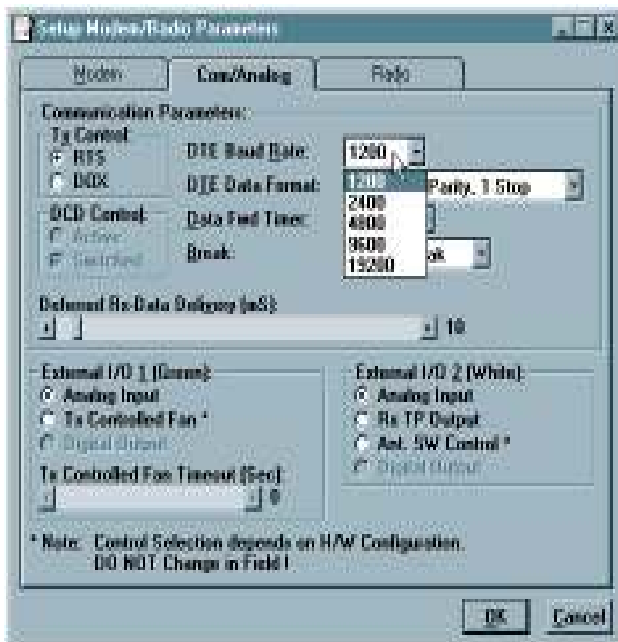


Figure 8:
1200 DTE Baud Rate and DTE Data Format for the Integra-TR

Dataradio DL-3400 and DL-3282 interface to the Integra-TR or the Integra-H

Table 2 (above) shows the typical wiring configuration between a DL-3400 and a DL-3282. Refer to the DL-3282 technical manual (p/n 001-3282-101) for wiring connections between the DL-3400 and the DL-3282. Dataradio cable (p/n 023-3410-125) can be used for this connection. This cable is 3 feet long and one end will not be used. Individual wires should be insulated from each other so they will not to interfere with the operation of the units.

The internal switch settings on the DL-3282 should be setup according to Table 1 (above). The DL-3400 should be programmed using the appropriate Field Programming Software. Figure 9 shows the appropriate parameter selections for the DL-3400.

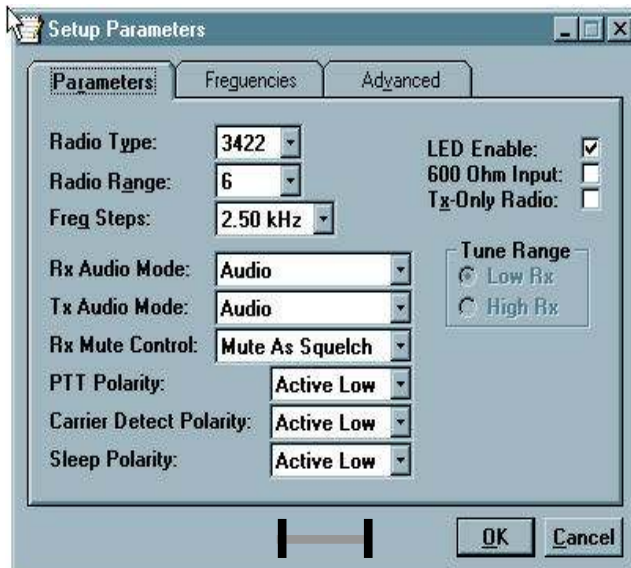


Figure 9: Parameters for the DL-3400

Figure 10 illustrates the connection between the Integra-H or the Integra-TR and the DL-3400 with the DL-3282.

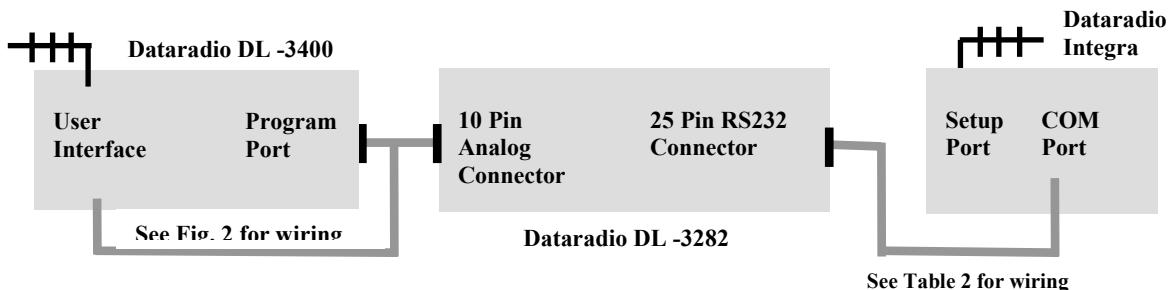


Figure 10:
The connection between the Integra-H or the Integra-TR and the DL-3400 and the DL-3282