

TSAN 031 INTEGRA CM SCADA PACK

Dataradio Technical Support

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Products: Dataradio Integra-TR and Integra-H
Control Microsystems SCADA Pack PLC using TelePACE MODBUS

Application: This application note documents the configuration needed to set up a master to remote radio link using the Control Microsystems SCADA Pack PLC and a Dataradio Integra-TR or Integra-H wireless modem. Figure 1 illustrates a typical configuration. The test described in this note utilized a TelePACE MODBUS RTU and MODBUS ASCII at data rates of 19.2 kbps and 9600 bps. The Integra-TR and the Integra-H wireless modems will operate at speeds of up to 19.2 kbps.

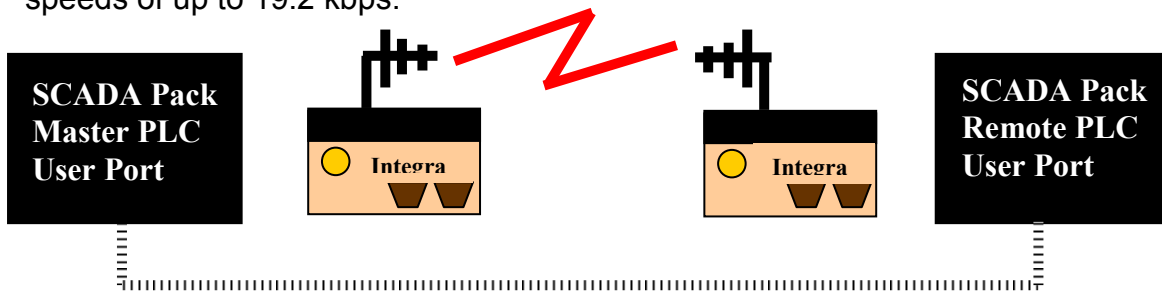


Figure 1: Typical configuration between master and remote.

Overview: The Integra-TR and Integra-H wireless modems can be configured to work as an RF link between a Control Microsystems master SCADA Pack PLC and a remote SCADA Pack PLC. Users must have the ability to use the TelePACE setup program. The TelePACE program allows the user to configure the serial ports in each controller to the proper operating parameters.

SCADA Pack Setup: The SCADA Pack controller (model 5203) has three RS-232 ports. Communication parameters for each serial port can be programmed using the TelePACE software. The SCADA Pack can be programmed for either Full-Duplex mode or Half-Duplex mode. These parameters must first be set in the TelePACE software and then downloaded as part of a PLC user ladder program. Refer to the TelePACE manuals for programming instructions.

Integra Setup: The Integra-TR and the Integra-H can be programmed to use RTS control line or ignore control lines (DOX mode). Refer to the Dataradio technical manual (p/n 001-4008-001 for the Integra-TR or p/n 001-4099-101 for the Integra-H) for programming instructions.

Note: The parameters for the Integra-TR or the Integra-H COM port must match the parameters programmed in the SCADA Pack PLC program for the application port.

Full-Duplex Mode: If the SCADA Pack is programmed for Full-Duplex mode, the Integra must be programmed for DOX mode. In Full-Duplex mode the serial port requires only three wires as shown in Figure 2. Figure 3 shows the port parameters for the SCADA Pack and the Integra-TR. Figure 4 shows these settings for the Integra-H.

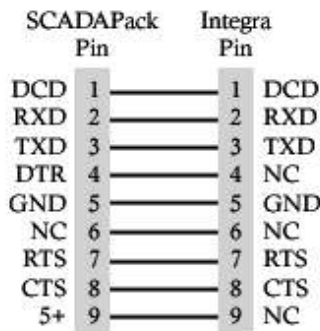


Figure 2: Cable connections for Full-Duplex DOX mode

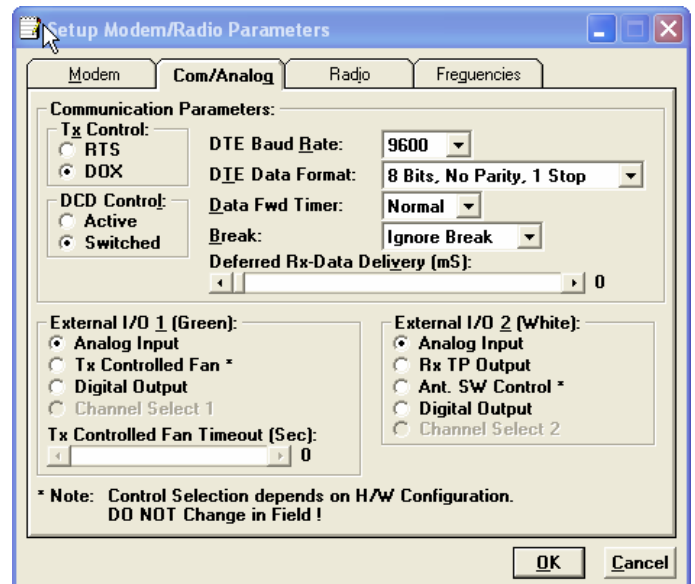
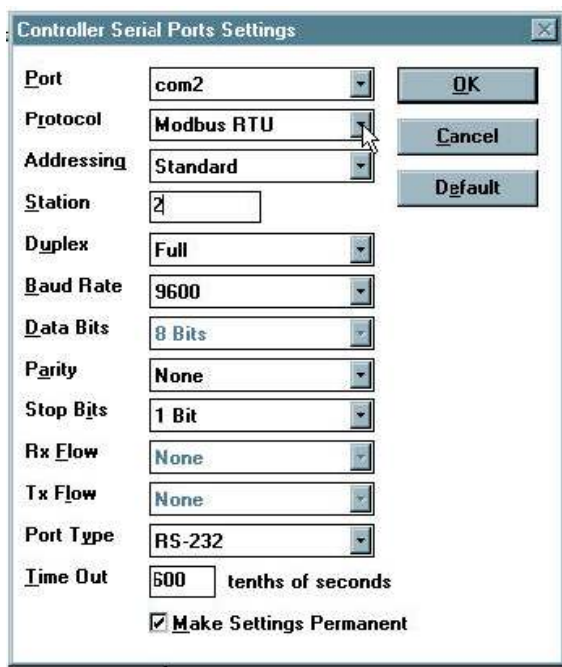


Figure 3: SCADA Pack Full-Duplex Mode (left) and Integra-TR DOX settings (right)

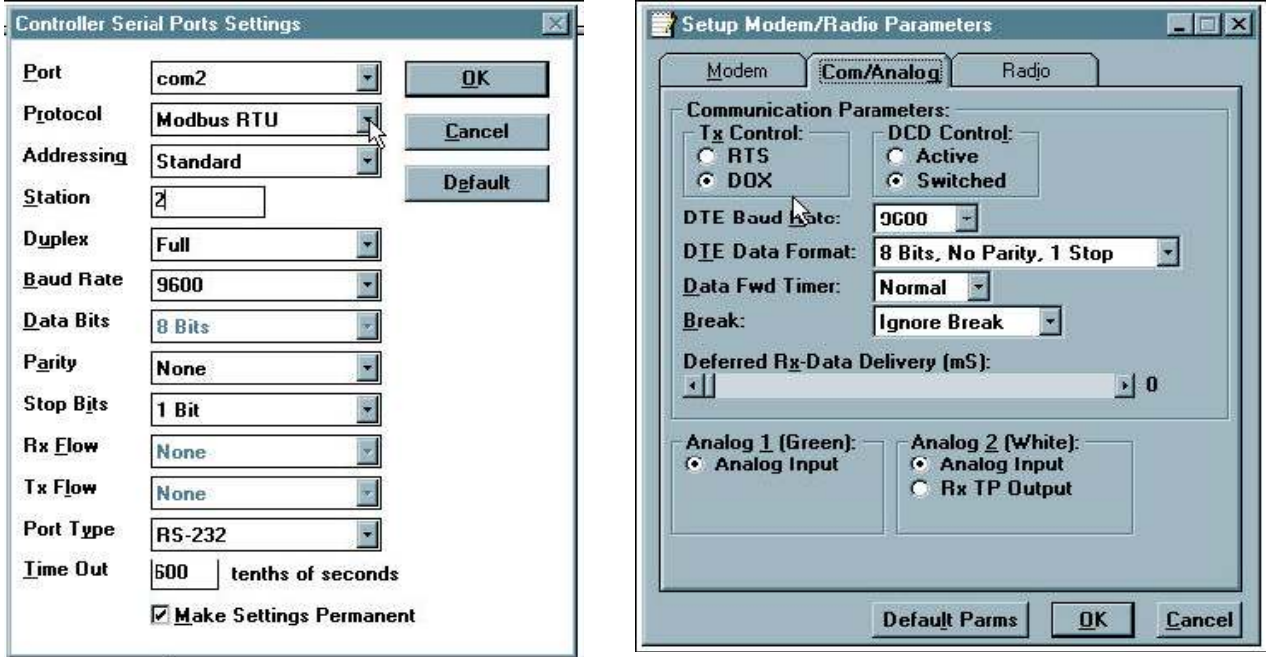


Figure 4: SCADA Pack Full-Duplex Mode (left) and Integra-H DOX settings (right)

Half Duplex Mode: If the SCADA Pack was programmed for Half-Duplex mode, the Integra must be programmed for RTS mode. The serial port will be wired as shown in Figure 5. The SCADA Pack port settings for Half-Duplex mode are shown in figure 6.

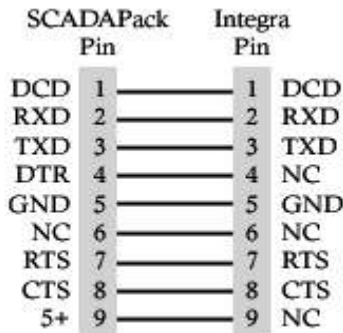


Figure 5: Cable connections for RTS/CTS Half-Duplex mode

Controller Serial Ports Settings

Port	com2	OK
Protocol	Modbus RTU	Cancel
Addressing	Standard	Default
Station	1	
Duplex	Half	
Baud Rate	Full	
Data Bits	8 Bits	
Parity	None	
Stop Bits	1 Bit	
Rx Flow	None	
Tx Flow	None	
Port Type	RS-232	
Time Out	600 tenths of seconds	
	<input checked="" type="checkbox"/> Make Settings Permanent	

Figure 6:
SCADA Pack
settings for
Half-Duplex
mode