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Using the Transcom RS-232 to Fiber Interface Converters

Application Note #13

Overview

This Application Note will provide guidelines regarding the use of the Transcom RS-232 to Fiber Interface Converters. These converters are designed to significantly extend the distance, up to several kilometers, between a PC and one or more attached dataloggers, all while providing 100% noise and electrical transient immunity.

An installation requires a base station unit, the XC2-23-FO-T, and a remote unit, the XC3A-23FOM, for each connected datalogger.

Please consult the **Transcom Interface Converter** manual, available via the Internet, found on the Transcom website at http://www.transcom.eutron.it/.

Wiring

The base station unit connects to the PC serial port using standard DB25M (XC2-23-FO-T) to 9 or 25-pin connector, to match the connector on the PC. Power is provided by an AC power cord.

NOTE: Be sure to set the internal jumpers for the appropriate AC power connection!

The remote units (XC3A-23FOM) connect to the Campbell CSI I/O using the SC32B. Standard DB9 cables may be used to make these connections. **Note: When using the older SC32A provision must be made on the terminal side of the SC32A for power**. Power is supplied via the V+ and V- screw terminals in the form of 12V and ground.

Note: The quiescent power consumption of the XC3A-23FOM is approximately 100mA, this must be considered as it relates to battery operation. If there is a strong likelihood of AC power loss at the datalogger location then it is recommended that the XC3A-23FOM be powered by a separate 12V power supply.

DIP Switch Configuration

The base station and remote units have DIP switches on them to configure the interface type and other communication parameters. The base station DIP switch is located inside the enclosure.

Base Station DIP Switch Configuration

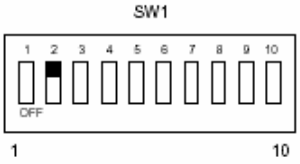
The base station unit must be configured as a DCE device, configuration shown below.

Configured DCE

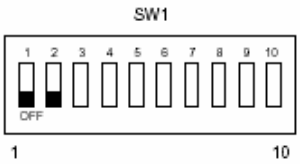
Configured DTE

This DIP switch pack also controls Echo, Echo should be disabled for both ports, as shown below.

Echo On Fiber Optic Port



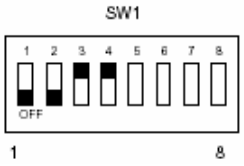
Echo On RS232 Port



Echo Disabled Both Ports

Remote DIP Switch Configuration

There are two DIP switches on the remote units, used to configure the interface type and other communication parameters and the node address. The first DIP switch, SW1, configures the node and interface type, usually configured as Master and DTE, as shown below.



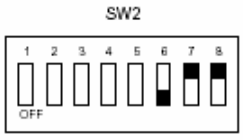
Configured MASTER

Configured NODE

Configured DTE

Configured DCE

The second DIP switch, SW2, configures the baud rate and node address. The DIP switch shows a baud rate of 1200, usually you will use 9600. The address configuration shows address 1.



BAUD RATE= 1200

BAUD	6	7	8
---	OFF	OFF	OFF
---	OFF	OFF	ON
---	OFF	ON	OFF
1200	OFF	ON	ON
2400	ON	OFF	OFF
4800	ON	OFF	ON
9600	ON	ON	OFF
19200	ON	ON	ON

ADDR	1	2	3	4	5
0	OFF	OFF	OFF	OFF	OFF
1	OFF	OFF	OFF	OFF	ON
2	OFF	OFF	OFF	OFF	ON
.					
.					
31	ON	ON	ON	ON	ON

Software Configuration

The remote units must be given their password (the default is hexadecimal 1B 02 FC 3B A7 D5 5B 03 or Decimal 27 2 252 59 167 213 91 3) and address (in the form of Hex xxyy, where xx= a hex number from 01 to 1F (Decimal 01 to 31) and yy = hex FF-xx, for example Hex 01FE (decimal 1 254) or Address = 1) in order to activate it. A special program available from Transcom, **tam-prog.exe**, must be used to change the password.

The example shown below depicts a Transcom base station model XC2-23-FO-T connected to COM1, then a single CR10X connected via a remote unit, the XC3A-23FOM, with the default password and address of 01h entered in the **Dialed Using Generic Dial String** edit. Note the T command preceding the quoted characters, this instructs MultiLogger to transmit the quoted characters.

NOTE: This configuration requires MultiLogger version 2.2 or higher! Contact Canary Systems to obtain upgrade information if you have an older version of the software. Software updates are available without charge to registered users via the Canary Systems website.