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Introduction

This is a reference manual to describe the interface provided between an RTI system and a Modular Matrix Switch through a network connection. It also describes how the RTI system can be used to send serial commands to third party devices via the Receiver's serial port.

This module was written and tested with a 32x32 matrix: firmware version 2.1. RTI Integration Designer version 9.3.0.3850 and XP firmware version 3.8.4, Bootloader 1.4.

Version History

1.0 IP support of Modular matrix (up to 32x32) 19/08/2014

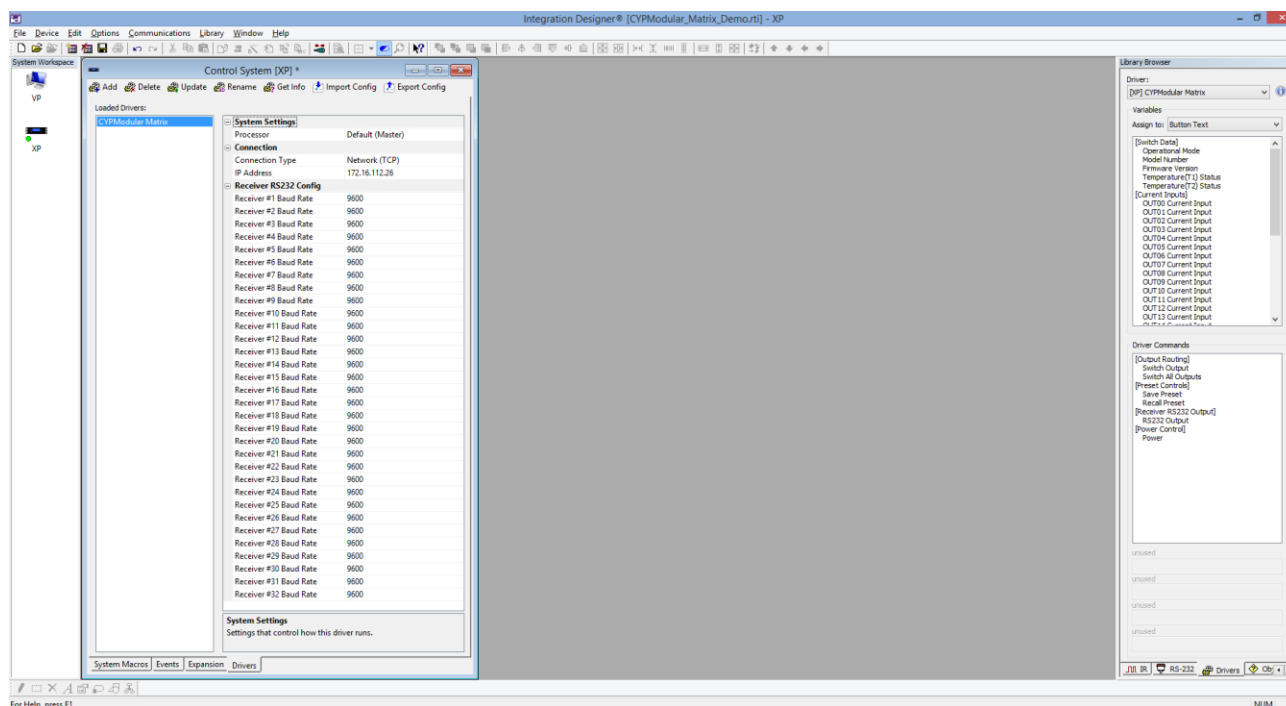
RTI Configuration

Open the RTI Integration Designer System file called CYPModular_Matrix_Demo.rti by double clicking on the file.

Click on the XP-8 icon in the System Workspace area to display the Control System [XP-8] window. A green circle will be displayed below the XP-8 icon in the System Workspace, denoting the current selection.

Click on the Drivers tab of the Control System window and select the Add Driver icon, to add the RTIDRIVER file called CYPModular_Matrix. Locate the CYPModular_Matrix.rtidriver file on your PC and select OPEN to add the file to the system.

The Matrix Switch driver should be displayed as a Loaded Driver. Select the driver and the configuration settings will be displayed.





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Configuration Settings

Connection Type

The Matrix Switch is controlled via a network connection

IP Address

The IP address of the Matrix switch for network connection.

Receiver RS232 Configuration

For each receiver in the system, specify the baud rate used for communication via the serial port. Note that the serial port is fixed at 8-bit, 1-stop bit, no-parity.

Virtual Panel - Interface

Click on the VP icon in the System Workspace and the test harness will be displayed. This interface provides a demonstration of the driver's capabilities as well as way of testing the driver with your existing system.

Variables

Current Inputs

This is an integer which can be displayed to indicate the current input for each output.

Switch Data

The operational mode, model number, firmware version and temperature status of the matrix can all be displayed as text strings on an RTI interface.

Commands

Routing

You can assign a command to a button to switch a given input port to a specific output port. You can also specify an input port to which all output ports are switched.

Presets

You can assign buttons to save and recall preset configurations of the matrix.

Power

Assign buttons (or macros) to power the matrix on or off.

Receiver RS232 Control

You can assign a command to a button to send a serial command to a third party device via the RS232 Out port on a Receiver. Enter the number of the output port to which the receiver is connected and the RS232 string to be sent. Note that non-printable ASCII characters must be escaped using "\x" followed by the 2 digit hex code representing that ASCII character (single "\" character must be escaped as "\\"). Additionally, the following normal escape sequences are recognized: "\n", "\r", "\t", "\b", "\f". Note also that quotation marks (") are forbidden.



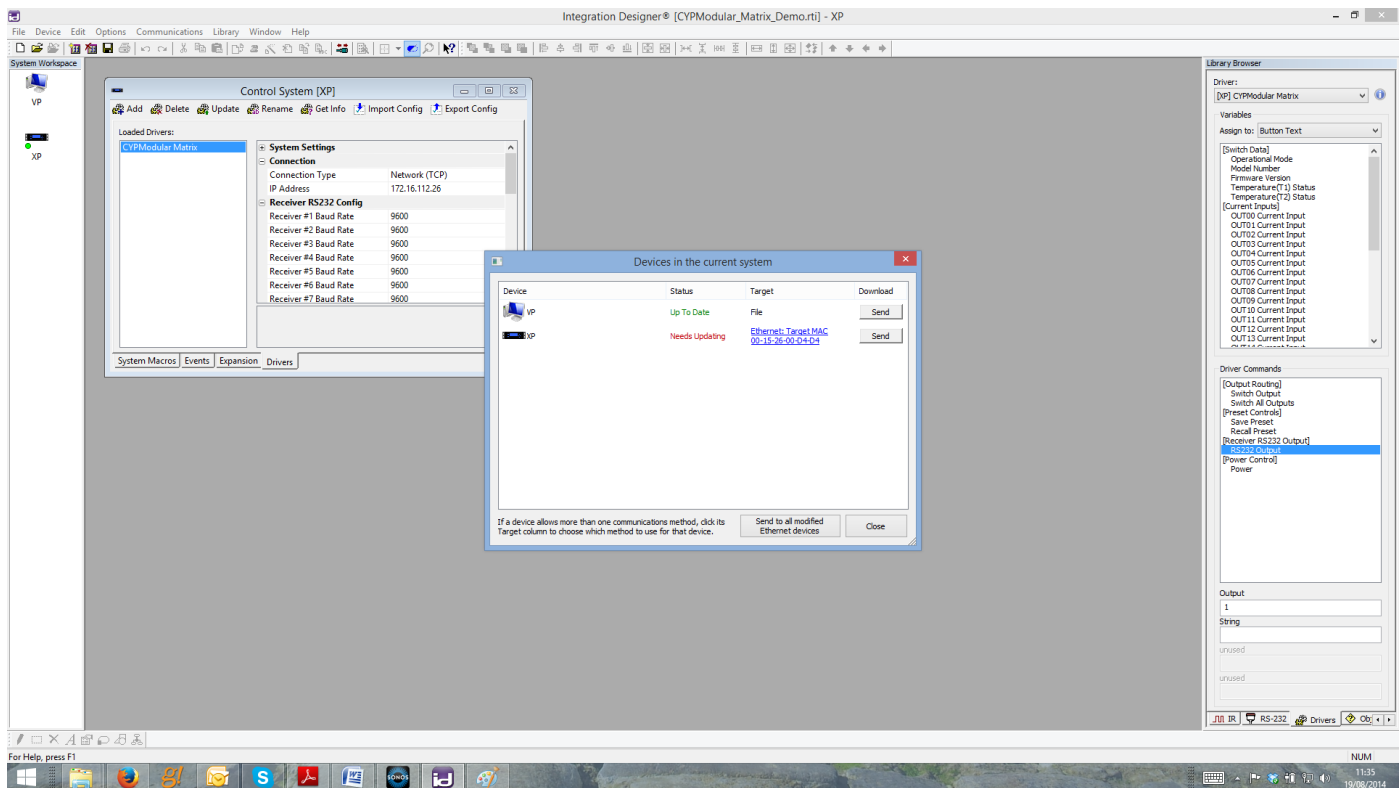
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Downloading the Software

Select the Send File icon and display the Devices in the Current System window.

Set up the method of file transfer, e.g. USB or MAC addressing and download the file to the XP-8 by selecting the Send button. The status for each device should update to display "Up to Date".



Troubleshooting

Network connection to the Matrix Switch

A CAT5 network cable is required to connect the network port of Matrix Switch to the same local network as the RTI XP-8/XP-6. To check the network connection, use a windows cmd session and use the telnet command to connect to the ip address of the matrix switch e.g. telnet 172.12.111.2. Send a st command to the switch and a status report should be displayed. Close down the cmd session and follow the installation instructions described above.