

# Using the Matrox Monarch LCS Module with Crestron devices

This document describes how to use the Matrox Monarch LCS Module in a Crestron SIMPL Windows program. A Crestron system uses this module to stop/start streaming and recording on the Monarch LCS, and get the Monarch LCS' status.

## Matrox Monarch LCS Module parameter reference

The following table describes the different parameters used in the Matrox Monarch LCS module.

Signal name and type	Description
Digital input: <b>&lt;ENC1&amp;ENC2_Start&gt;</b>	The rising edge of this signal starts encoders 1 and 2 on a Monarch LCS.
Digital input: <b>&lt;ENC1&amp;ENC2_Stop&gt;</b>	The rising edge of this signal stops encoders 1 and 2 on a Monarch LCS.
Digital input: <b>&lt;Get_Status&gt;</b>	<p>The rising edge of this signal acquires the current streaming and recording status of the Monarch LCS, as well as the device name.</p> <p>Do not trigger this call too often. A call every five seconds is recommended.</p>
Digital input: <b>&lt;TCP/IP_Connected_Fb&gt;</b>	<p>This signal indicates that the control system is currently connected and communicating with the Monarch LCS over an Ethernet connection.</p> <p>Connect this input to the <b>&lt;Connect-F&gt;</b> output of the Crestron TCP/IP Client Module used to communicate with the Monarch LCS.</p>
Analog input: <b>&lt;TCP/IP_status&gt;</b>	<p>This analog signal provides the status of the TCP/IP connection.</p> <p>Connect this input to the <b>&lt;status&gt;</b> output of the Crestron TCP/IP Client Module used to communicate with the Monarch LCS.</p>
Serial input: <b>&lt;From_Device\$&gt;</b>	<p>This string is used to process answers to commands sent to the Monarch LCS.</p> <p>Connect this input to the <b>&lt;RX\$&gt;</b> output of the Crestron TCP/IP Client Module used to communicate with the Monarch LCS.</p>

Signal name and type	Description
Digital output: <b>&lt;ENC2_Started_Fb&gt;</b>	This output remains high when the Monarch LCS encoder 2 is started.
Digital output: <b>&lt;ENC2_Stopped_Fb&gt;</b>	This output remains high when the Monarch LCS encoder 2 is stopped.
Digital output: <b>&lt;ENC2_Disabled_Fb&gt;</b>	This output remains high when the Monarch LCS encoder 2 is disabled.
Digital output: <b>&lt;ENC1_Started_Fb&gt;</b>	This output remains high when the Monarch LCS encoder 1 is started.
Digital output: <b>&lt;ENC1_Stopped_Fb&gt;</b>	This output remains high when the Monarch LCS encoder 1 is stopped.
Digital output: <b>&lt;ENC1_Disabled_Fb&gt;</b>	This output remains high when the Monarch LCS encoder 1 is disabled.
Digital output: <b>&lt;ENC2&amp;ENC1_Started_Fb&gt;</b>	This output remains high when both Monarch LCS encoders are started. If either encoder is stopped, then this signal will go low.
Digital output: <b>&lt;ENC2&amp;ENC1_Stopped_Fb&gt;</b>	This output remains high when both Monarch LCS encoders are stopped. If either encoder is started, then this signal will go low.
Serial output: <b>&lt;DeviceName\$&gt;</b>	This string corresponds to the “Device name” that is specified in the <b>Account</b> page of the Monarch LCS currently being controlled.
Digital output: <b>&lt;ENC2_Mode_RTSP&gt;</b>	This output remains high when the RTSP streaming function is enabled on encoder 2 of the Monarch LCS.
Digital output: <b>&lt;ENC2_Mode_RTMP&gt;</b>	This output remains high when the RTMP streaming function is enabled on encoder 2 of the Monarch LCS.
Digital output: <b>&lt;ENC2_Mode_Record&gt;</b>	This output remains high when the recording function is enabled on encoder 2 of the Monarch LCS.
Digital output: <b>&lt;ENC2_Mode_DISABLED&gt;</b>	This output remains high when encoder 2 on the Monarch LCS is disabled.
Digital output: <b>&lt;ENC1_Mode_RTSP&gt;</b>	This output remains high when the RTSP streaming function is enabled on encoder 1 of the Monarch LCS.

Signal name and type	Description
Digital output: <b>&lt;ENC1_Mode_RTMP&gt;</b>	This output remains high when the RTMP streaming function is enabled on encoder 1 of the Monarch LCS.
Digital output: <b>&lt;ENC1_Mode_Record&gt;</b>	This output remains high when the recording function is enabled on encoder 1 of the Monarch LCS.
Digital output: <b>&lt;ENC1_Mode_DISABLED&gt;</b>	This output remains high when encoder 1 on the Monarch LCS is disabled.
Digital output: <b>&lt;TCP/IP_Busy&gt;</b>	This output remains high when the Monarch LCS TCP/IP connection is busy.
Digital output: <b>&lt;TCP/IP_Connect&gt;</b>	<p>This output indicates that the Monarch LCS Module must send a command to the Monarch LCS currently being controlled.</p> <p>Connect this output to the <b>&lt;Connect&gt;</b> input of the Crestron TCP/IP Client Module used to communicate with the Monarch LCS.</p>
Serial output: <b>&lt;To_Device\$&gt;</b>	<p>This string corresponds to a command that must be sent to the Monarch LCS by the Matrox Monarch LCS Module.</p> <p>Connect this output to the <b>&lt;TX\$&gt;</b> input of the Crestron TCP/IP Client Module used to communicate with the Monarch LCS.</p>
Parameter: <b>&lt;Username&gt;</b>	This parameter corresponds to the username used by the Monarch LCS device controlled by the Monarch LCS Module. This is the same username used to log on to the Monarch LCS device's Control Center.
Parameter: <b>&lt;Password&gt;</b>	This parameter corresponds to the password used by the Monarch LCS device controlled by the Monarch LCS Module. This is the same password used to log on to the Monarch LCS device's Control Center.

# Connecting the Matrox Monarch LCS Module to the Crestron TCP/IP Client Module

To use the Matrox Monarch LCS Module, you must add a Crestron TCP/IP Client Module to your program, and then configure the following settings to connect to the Matrox Monarch LCS Module:

- 1 Go to the configuration page of the Crestron TCP/IP Client Module.
- 2 Set the IP Net Address to the match the IP address of the Monarch LCS device.
- 3 Set the Port parameter of the TCP/IP Client module to port 80 (decimal).
- 4 Set the **<Username>** and **<Password>** parameters of the Matrox Monarch LCS Module.
- 5 Connect the TCP/IP Client Module to the Matrox Monarch LCS Module as shown:

Crestron TCP/IP Client Module	Matrox Monarch LCS Module
Digital output: <b>&lt;Connect-F&gt;</b>	Digital input: <b>&lt;TCP/IP_Connected_Fb&gt;</b>
Analog output: <b>&lt;status&gt;</b>	Analog input: <b>&lt;TCP/IP_status&gt;</b>
Serial output: <b>&lt;RX\$&gt;</b>	Serial input: <b>&lt;From_Device\$&gt;</b>
Digital input: <b>&lt;Connect&gt;</b>	Digital output: <b>&lt;TCP/IP_Connect&gt;</b>
Serial input: <b>&lt;TX\$&gt;</b>	Serial output: <b>&lt;To_Device\$&gt;</b>

- 6 Configure the **<Get\_Status>** call to trigger every five seconds (as recommended).

The **<Get\_Status>** call updates the various “Fb” output signals and the “DeviceName\$” signal from the Matrox Monarch LCS Module. This call must be triggered at least once. An interval of five seconds is recommended to ensure the “Fb” signals coming from the Matrox Monarch LCS Module accurately reflect the state of the Monarch LCS if someone were to operate it from outside your program.

After the above connections have been made, you can connect the inputs of the Matrox Monarch LCS Module to trigger the events you want, and use the different “Fb” signals coming from the module to enable or disable various UI elements.

For an example of how to use the Matrox Monarch LCS Module, see the MLCS-DEMO.SMW demo project.