

PC TO VIEWMARQ COMMUNICATION



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Introduction

This chapter explains how to communicate with the ViewMarq display using a Windows based personal computer. It will cover:

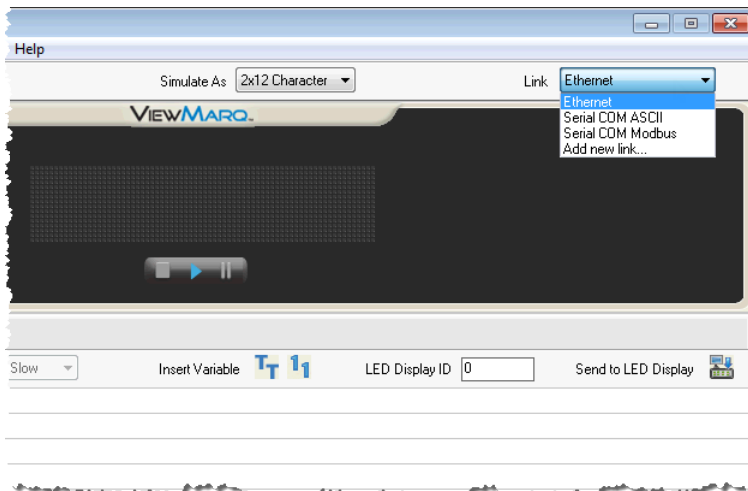
- Links and how they are used with the ViewMarq
- Creating Ethernet Links
- Browsing the Ethernet network for ViewMarq displays
- Editing ViewMarq display Ethernet settings online
- Creating serial Links

The user will need to communicate with the ViewMarq for various reasons:

- 1) Read the existing LED display configuration
- 2) Configure the ViewMarq display communication ports
- 3) Send messages to the ViewMarq display
- 4) Reset the display
- 5) Reset factory defaults in the display
- 6) Update firmware in the display
- 7) Test the LED's

Links

The ViewMarq Configuration software utilizes Links to communicate to ViewMarq displays. A Link is a set of PC communication parameters that allows the software to communicate to a display or a set of displays when necessary without having to stay “connected” to the display, tying up a port on the PC. Links are created and configured in the PC to LED display Communication dialog and once created may be easily selected from a Link drop down list at the top right of the software window as shown.



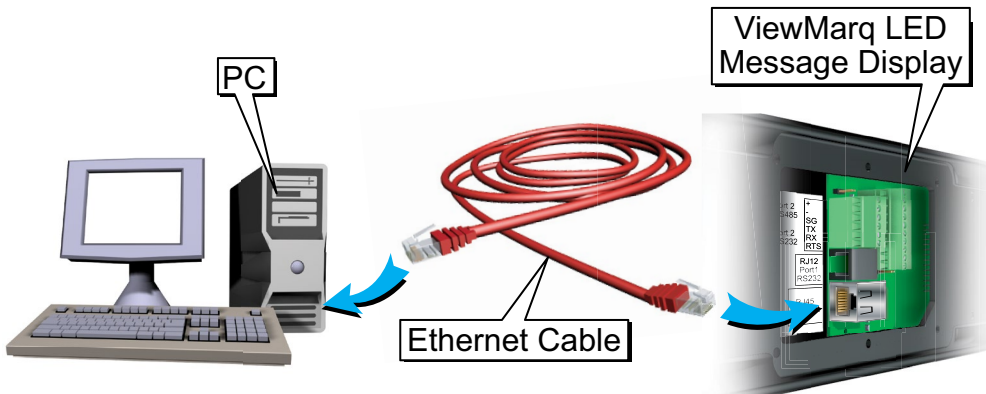
There are three types of Links:

- 1) Ethernet Modbus/TCP
- 2) Serial ASCII
- 3) Serial Modbus

Ethernet Modbus/TCP

Ethernet links are the easiest to setup and are Modbus/TCP protocol only. They are point to point; in other words, only one display can be addressed at one time via its IP address.

- 1) Using a straight-through or crossover Ethernet patch cable, connect the ViewMarq to the PC's Ethernet port. The system will automatically detect the cable type. (One 7-foot straight-through cable is supplied with the ViewMarq).
- 2) The ViewMarq LED display can also be connected to a local Ethernet network via a straight-through or crossover cable.

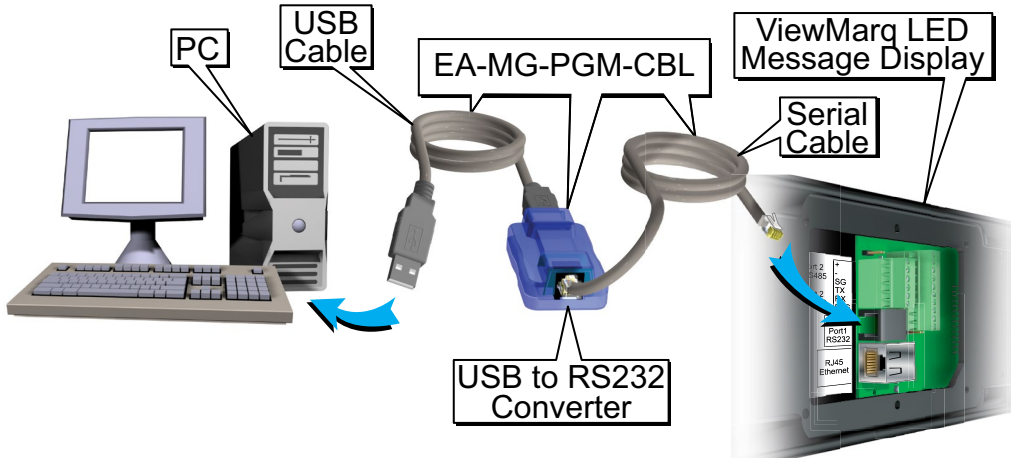


Serial ASCII

Serial ASCII Links are the most versatile. They can be set up over RS-232 or RS-485. Serial ASCII does not address a particular display by node number like Modbus or an IP address. This allows the ID in the ASCII string to be utilized to address multiple displays. See Chapter 5 for more details on LED display ID.

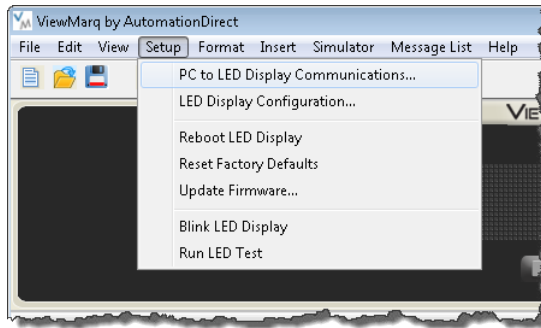
Serial Modbus

Serial Modbus links are point to point. Each transaction is directed to a particular panel via a Slave Node Number which is unique for each display on a network.



Adding a New Link

To add a new link, select PC to LED Display Communications from the Setup dropdown menu...

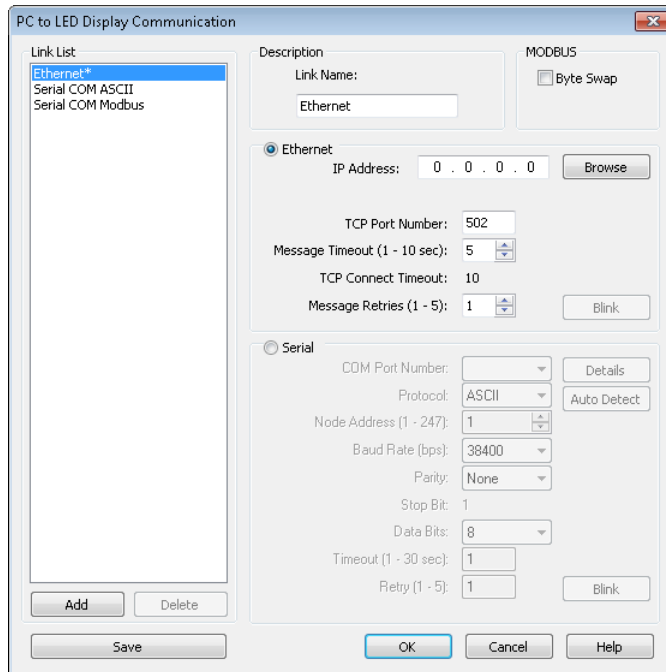


...or select the PC to LED Display Communications toolbar button.



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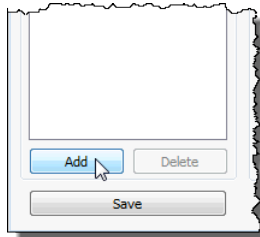
This will open the PC to LED Display Communications dialog.



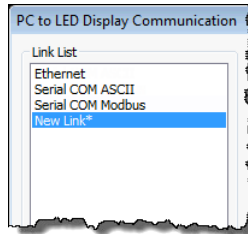
Ethernet Link

Follow these steps to add an Ethernet Link.

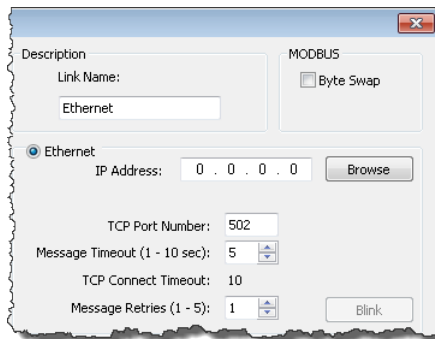
- 1) With the PC to LED Display Communication dialog open, click the Add button.



Notice that a new link named “New Link” has been added. The * indicates that the new link has not been saved yet.

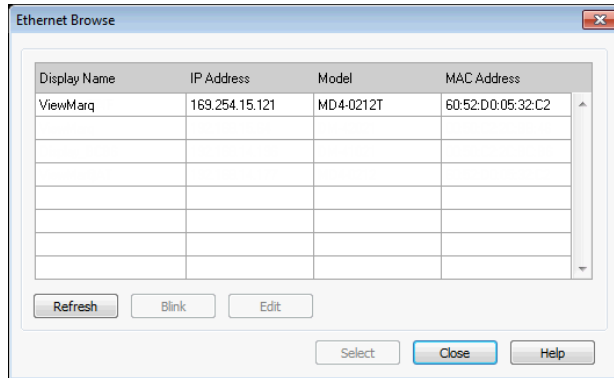


- 2) Select the Ethernet radio button.

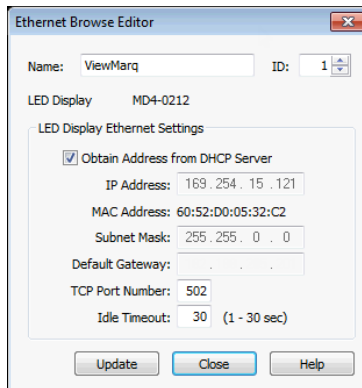


- 3) If you know the IP address of the display, enter it here and skip to step 15.
- 4) Otherwise click the Browse button to browse the network for any connected ViewMarq displays.

- 5) The Ethernet Browse dialog will open and the connected ViewMarq display will be listed as shown below.
 - A. If the ViewMarq does not show up on the list:
 - i. Check your physical connection.
 - ii. Check that the Ethernet Port on the PC is enabled.



- 6) Select the ViewMarq LED message display in the table.
- 7) If the IP Address is correct on your local Subnet, click Select and proceed to step 15.
- 8) If the IP Address is not on your Subnet it must be changed, select it and click Edit to open the Ethernet Browse Editor.



- 9) Deselect Obtain IP Address from DHCP Server



NOTE: For more information on configuring ViewMarq Communication ports see Chapter 6 - Configuring the ViewMarq LED Display.



NOTE: If no DHCP server is found, a default IP Address of 169.254.XXX.nnn will be set. The notation .nnn will vary for each display on the network.

If the IP Address of the ViewMarq is 0.0.0.0, then the Viewmarq is not connected to an Ethernet network.

- 10) Enter an IP Address, Subnet Mask and Default Gateway compatible with your PC's Ethernet network settings or check with your IT department for the proper settings.
- 11) You may also choose to change the name of the ViewMarq display and ID number at this time.
- 12) Click Update.

The display will automatically reset. The new settings will scroll on the display.

- 13) In the Browse Window click the Refresh button if the marquee is not listed.
- 14) When the ViewMarq is listed in the table again, select it and click Select.
- 15) The TCP Port Number default value is 502 which is the Ethernet port for the Modbus TCP protocol. This should not be changed unless it has been changed on the ViewMarq also.

NOTE: To communicate with the ViewMarq message display through a router, the selected must be open on the router.



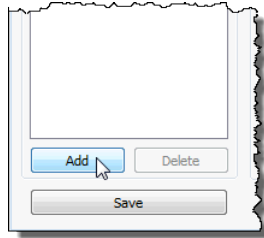
The screenshot shows the 'PC to LED Display Communication' dialog box. On the left, a 'Link List' contains 'Ethernet', 'Serial COM ASCII', 'Serial COM Modbus', and 'WH Aisle 1 Ethernet*'. The 'Description' section has a 'Link Name' field containing 'WH Aisle 1 Ethernet'. The 'MODBUS' section has a 'Byte Swap' checkbox. The 'Ethernet' radio button is selected, with fields for 'IP Address' (172.30.56.95), 'TCP Port Number' (502), 'Message Timeout (1 - 10 sec)' (5), 'TCP Connect Timeout' (10), and 'Message Retries (1 - 5)' (1). The 'Serial' radio button is unselected, with fields for 'COM Port Number' (COM1), 'Protocol' (ASCII), 'Node Address (1 - 247)' (1), 'Baud Rate (bps)' (38400), 'Parity' (Odd), 'Stop Bit' (1), 'Data Bits' (8), 'Timeout (1 - 30 sec)' (1), and 'Retry (1 - 5)' (3). Buttons for 'Add', 'Delete', 'Save', 'OK', 'Cancel', and 'Help' are at the bottom.

- 16) The Message Timeout and Message Retry values are adjusted to make network communications more tolerant of network delays and noise. The TCP connection timeout is always twice the message timeout and not configurable.
- 17) With the new link highlighted in the Link List, enter a new name for the link in the Link Name box.
- 18) Click Save and OK.

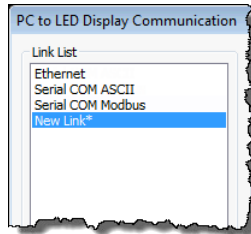
Serial Link

Follow these steps to add a Serial Link.

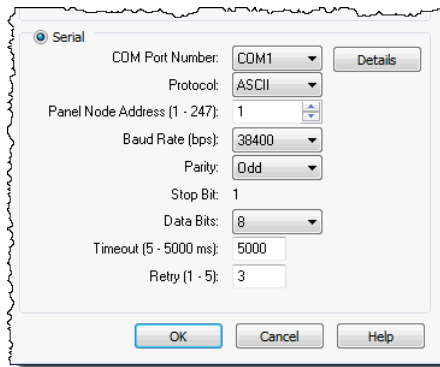
- 1) With the PC to LED Display Communication dialog open, click the Add button.



Notice that a new link named “New Link” has been added. The * indicates that the new link has not been saved yet.



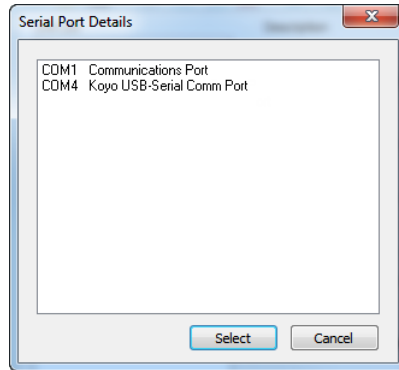
- 2) Select the Serial radio button.



- 3) If you know the COM Port Number on the PC that the View Marq is connected to, then select the COM Port number dropdown. Only the available active PC COM ports will be shown in the list.



NOTE: If using the EA-MG-PGM-CBL USB to RS-232 converter, and you aren't sure which PC COM Port is assigned, click the Detail... button to identify it. The screen below shows the Koyo USB-Serial Comm Port device assigned to COM4. Select it and click OK.

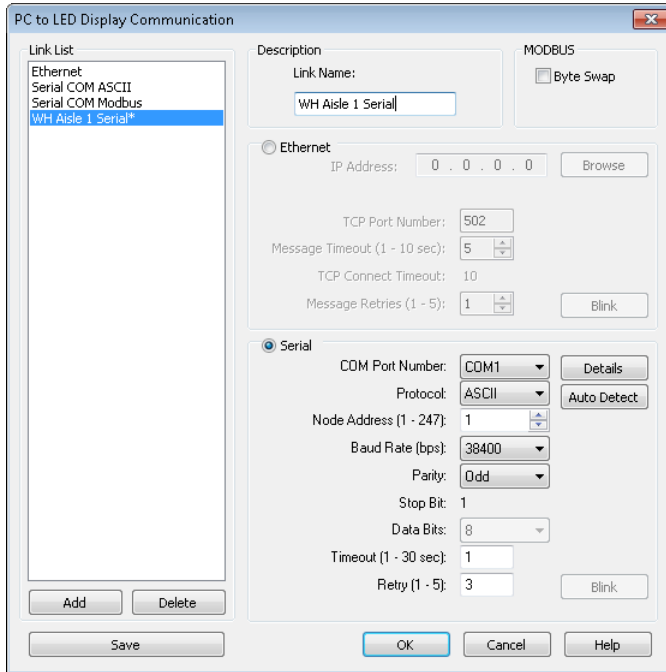


- 4) If you know the Serial Communication settings of the Serial port on the ViewMarq display, change Protocol, Panel Node Address (Modbus only), Baud Rate, Parity and Data Bits to match the settings of the ViewMarq.



NOTE: For more information on configuring the ViewMarq Communication Ports see Chapter 6 – Configuring the Viewmarq LED Display.

- 5) Default Timeout and Retry settings are usually best depending on your connection quality. You may adjust these as necessary if errors occur.



- 6) With the New Link highlighted in the Link List, enter a new name for the link in the Link Name box.
- 7) Select Save and OK.

Reset Communications to Factory Default

If the ViewMarq communication settings are unknown, they can be reset back to the factory defaults using jumper J16. The factory default settings are as follows...

Ethernet:

IP Address: DHCP

Serial:

Protocol: ASCII

Node Address: 1

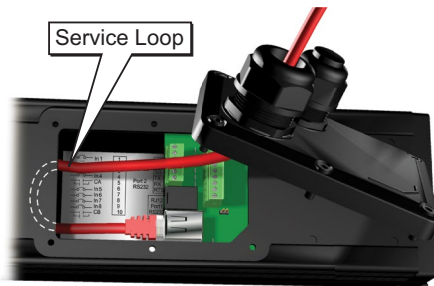
Baud Rate: 38400

Parity: Odd

Stop Bit: 1

To reset communications to the factory default settings:

- 1) Disconnect power from the ViewMarq message display.
- 2) Remove the communication connection cover from the rear of the ViewMarq panel.



- 3) Note the placement of the factory installed jumper on J7. Remove the jumper from J7 and place on J16.
- 4) With the jumper on J16, reconnect power to the ViewMarq display. The communication settings will be reset to factory default.
- 5) Disconnect power from the ViewMarq message display.
- 5) Carefully remove the jumper from J16 and place in the previous position on J7.
- 6) Replace the communication connection cover and reconnect power.

