Maintenance

In This Chapter...

Maintenance

Although the *C-more*® Micro-Graphic panels require very little maintenance, setting up a routine maintenance schedule will insure the longevity of the product in your application.

The following are some suggestions of items to include in a preventive maintenance list or schedule. Most of these items should be scheduled quarterly or bi-annually.

Project Backup

During a routine preventive maintenance check is a good time to make sure that there is an up-to-date backup of the application project. Although the *C-more* Micro-Graphic panel with its programming software has the ability to upload the complete project from a panel, insurance is warranted just in case the worse case scenario happens and the entire panel is destroyed.

Check Operating Environment

Make sure the Micro-Graphic panel is operating in the proper temperature range: (0 to 50 °C (32 to 122 °F)).

Make sure the Micro-Graphic panel is operating within the specified humidity range: (5–95% RH, non-condensing).

Make sure the operating environment is free of corrosive gasses.

Check Operating Voltage

Check the input voltage that is powering the Micro-Graphic panel to make sure it is within the appropriate range.

5 VDC: If the panel is being powered with 5 VDC from an *AutomationDirect* PLC's RJ12 serial communications port to Port 1 on the panel, the acceptable voltage range to the panel is 4.75-5.25 VDC (1.05 W @ 5 VDC (210 mA)).

24 VDC: If the panel is being powered from the optional EA-MG-P1 DC Power Adapter, or the EA-MG-SP1 Serial Port with DC Power Adapter, the acceptable voltage range to the adapter is 10.8-26.4 VDC (100 mA @ 24 VDC).

Check Transmit and Receive Indicators

During a routine maintenance check is a good time to take a quick look at the status indicators on the back of the *C-more* Micro-Graphic panel, and the EA-MG-SP1 Serial Port w/ DC Power Adapter, if being used. There should be activity on both the TxD and RxD LED indicators when connected serially to a PLC or control device from either port.

TxD Indicator
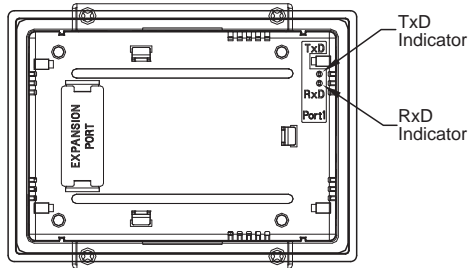
RxD Indicator

**Micro-Graphic Panel
Port 1 Status Indicators**

TxD Indicator

RxD Indicator

**EA-MG-SP1
Port 2 Status Indicators**

Port 2
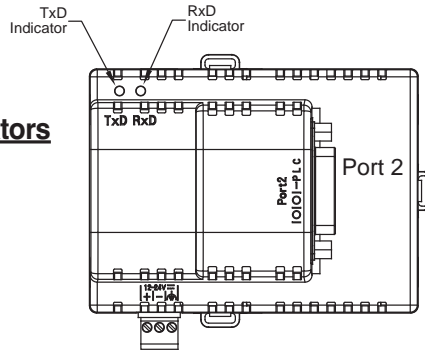
Check Physical Conditions

Make sure that harmful chemicals are not being used around the *C-more* Micro-Graphic panel. Look for any deterioration of the panel's bezel and front display area. See **Chapter 2: Specifications** for identification of the materials on the face of the panels and accessory bezels.

Check the mounting gasket to make sure it is sealing properly and has not deteriorated. Replace the mounting gasket if there are any signs of deterioration, or if there is any evidence that moisture/liquids have penetrated to the inside of the enclosure where the panel is mounted. Information on replacement gaskets can be found in **Chapter 9: Replacement Parts**.

Check to make sure that none of the cooling vents around the inside section of the Micro-Graphic panel are clogged with dust or debris. Also make sure that there is clearance around the panel as shown in **Chapter 4: Installation and Wiring**.

Run Tests under the System Setup Screens

Use the *C-more* Micro-Graphic panel's System Setup Screens to test communication ports, PLC connectivity, and the internal beeper. See **Chapter 5: System Setup Screens** for additional details. Below is shown the Test Menu. Please note the Serial Port2 selection will only be seen when the EA-MG-SP1 Serial Port with DC Power Adapter option is installed on the panel.
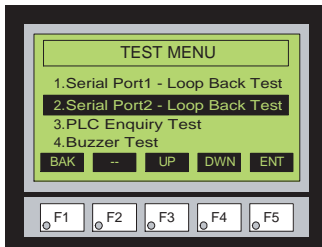
Serial Port 1 - Performs a test to verify the RJ12 serial communications port (Port 1) on the panel is operating correctly. Requires a loop back connector inserted into the port to properly run the test. A wiring diagram for the loop back connector is shown below.

Serial Port 2 - Performs a test to verify either the RS-232 or the RS485/422 serial communications functionality from the 15-pin connector (Port 2) on the EA-MG-SP1 Serial Port with DC Power Adapter is operating correctly. Requires a loop back connector inserted into the port to properly run the test. A wiring diagram for either a RS-232 or RS-485/422 loop back connector is shown below.
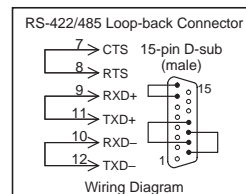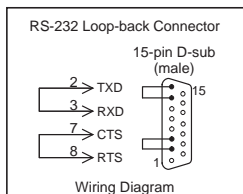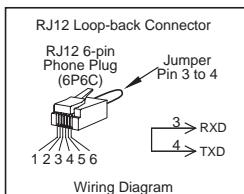
PLC Enquiry Test - Tests the communications with the selected PLC protocol between the panel and a connected PLC. Is used with both Port 1 and Port 2.

Buzzer Test - Use this option to test the internal audible beeper of the panel.

NOTE: *The panel has one built-in RJ12 serial communications port (Port 1 - RS-232) and the option to add one 15-pin serial communications port (Port 2 - RS-232/422/485) to the panel by installing the EA-MG-SP1 module.* **Only one** *of the ports can be used with a connected PLC. The programming software allows the user to select either Comm. Port1 or Comm. Port2 under the Panel Manager dialog box. When using Port 2 to communicate with the connected PLC, Port 1 can still be used with the EA-MG-PGM-CBL Software Programming Cable Assembly to transfer projects between the PC and panel.*

Check Settings under the System Setup Screens

Use the *C-more* Micro-Graphic panel's System Setup Screens to check the various settings such as the LCD contrast, background color, beep, etc. See **Chapter 5: System Setup Screens** for additional details. Below is shown the Setting Menu. Note the use of the up/down keys to access the last item.
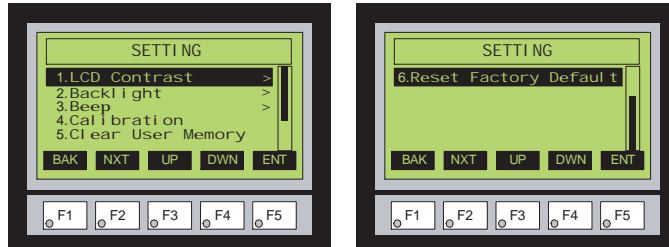
LCD Contrast - Used to adjust the LCD display's contrast. The default is a value of 3, and the range is 1 to 5, with 5 being the highest contrast.

Backlight - There are five different available backlight colors. Use this option to select the default screen color and also cycle through the colors for checking.

Cleaning the Display Screen

The display screen should be cleaned periodically by wiping it with a lint free damp cloth using a mild soap solution. Dry the surface when finished with a lint free cloth. Do not clean with ammonia based products. The ABS material the bezel is made from is reactive with ammonia.

The longevity of the display screen on the touch screen models can be increased by the use of a **EA-MG-COV-CL** clear screen overlay. See **Chapter 3: Accessories** for additional information on the screen overlay.

To prevent damage to the display screen on the touch screen models, avoid touching the screen with sharp objects, striking the screen with a hard object, using abrasives near the screen, or using excessive force when pressing the touch screen.
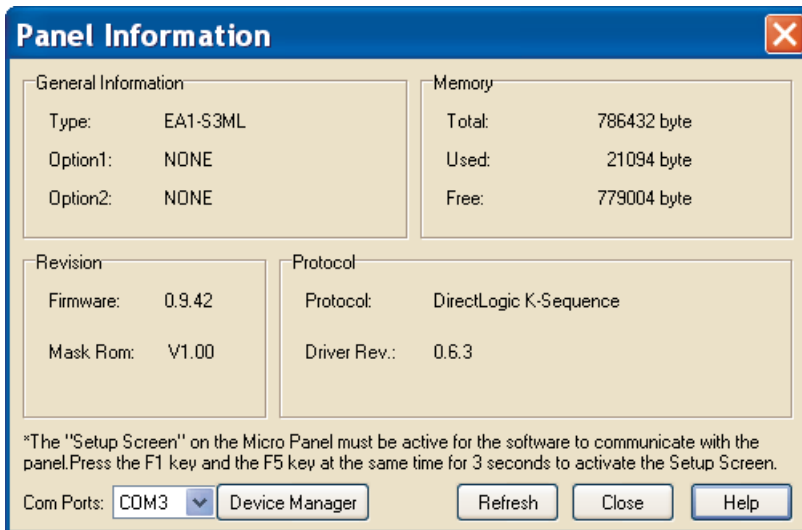
Check Project Functionality

During a routine maintenance check is a good time to verify the functionality of your application, making sure that various areas on different screens do what they were designed to do. An outline or specification for the application is a useful tool for testing the various aspects of your application. As a starting point, you may want to run through all the screens to make sure they are accessible.

If there are any trouble-shooting procedures built into the Micro-Graphic panel application, now is a good time to also check these aids.

Checks from the *C-more* Micro-Graphic Programming Software

If you have a PC available with the *C-more* Micro-Graphic Programming Software, EA-MG-PGMSW, installed, and the PC is connected to the panel, you can check the status of the panel by using the **Panel Information** window.

The **Panel Information** window shown below will indicate the panel type, any options such as a keypad bezel or DC power adapter that have been installed, the total memory, memory used, free memory, firmware version, mask ROM version, and the PLC protocol the panel has been setup for using on its serial communication port. The programming software can also be used to update the panel's firmware to the latest version.

Notes:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____