

MAINTENANCE



CHAPTER 7

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Maintenance



Although the **C-more** HMIs require very little maintenance, setting up a routine maintenance schedule will ensure 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 semi-annually.

Project Backup

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

Check Operating Environment

- Make sure the HMI is operating in the proper temperature range:
0 to 50°C (32 to 122°F).
- Make sure the HMI 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 HMI to make sure it is within the appropriate range.

DC: 12-24 VDC



Check Status Indicators

- During routine maintenance is a good time to take a quick look at the status indicators on the front of the HMI. The Power LED (PWR) indicator should be on, and there should be activity on the TxD and RxD LED indicators when connected serially to a PLC or control device. Check the status of the CPU LED and compare it to the chart shown in the illustration below. Any indication of the CPU LED other than a solid green shows there is a possible problem, and the condition needs to be corrected.

Refer to **Chapter 4 - Installation and Wiring, C-more LED Status Indicators** for more information.

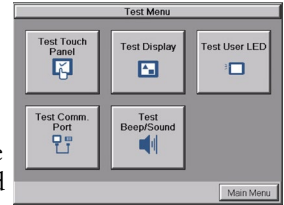
Check Physical Conditions

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

Run Tests under System Setup Screens

- Use the HMI's System Setup Screens to test the communication ports and beeper. See **Chapter 5: System Setup Screens** for additional details for the **Test Menu**.

Test Comm. Port - used to test the functionality of the 15-pin PLC communication serial port, the 3-wire terminal block RS-485 port, the RJ12 RS-232 port and the Ethernet port. A loop-back connector can be fabricated and used on the serial ports to test the RS-232 or RS-422/485 communications for the TxD and RxD signals and also the RTS and CTS signals if applicable. The **Test Comm. Port** setup screens and **Chapter 5** show pin-outs for the RS-232 and RS-422/485 loop-back connectors. The Ethernet connection can also be tested for communications if it is at least connected to an Ethernet switch. If the HMI is connected to a PLC, then an inquiry test can also be done to test the communications between the panel and the PLC. Press the Cancel button when finished to return to the **Test Menu** screen.



Check Memory Usage

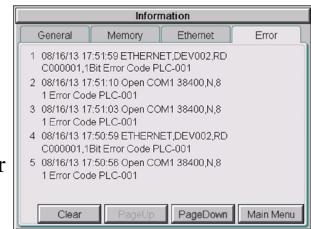
- A good time to check and record the HMI's memory usage for future reference is during a routine maintenance schedule. The various memory devices being used by the panel are listed under the tab. This includes internal memory as well as any external memory device such as a USB pen drive or SD card memory. If no external memory device is inserted, none will show up on the list.
- The memory usage can be viewed by use of the panel's **System Setup Screen's Main Menu**, and then selecting the **Information** button then the **Memory** tab. See **Chapter 5: System Setup Screens** for additional details on using the **Memory** tab.

Information			
General	Memory	Ethernet	Error
	Total	Usage	Free
SDRAM	232 MB	126 MB	106 MB
MRAM	512 KB	201 KB	311 KB
Built-in Flash	77 MB	42 MB	35 MB

Resource Monitor Main Menu

Check Error Log

- Another good practice is to review the HMI's **Error Log**. The log can be viewed by use of the panel's **System Setup Screen's Main Menu**, and then selecting the **Information** button. Look under the **Error** tab. See **Chapter 5: System Setup Screens** for additional details on using the **Error** tab, **Appendix A: PLC Protocol Error Codes** for a list of the error codes as they relate to the specific PLC that is being used with a description of the error, and **Appendix B: HMI Runtime Errors** for a list of errors that may occur when the panel is in operation.

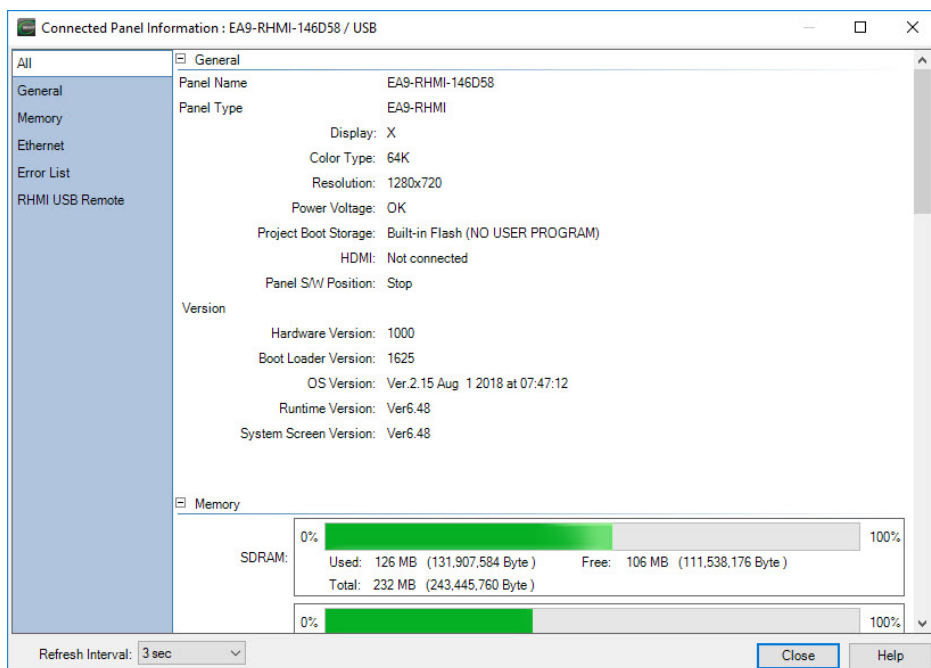


Check Project Functionality

- During routine maintenance is a good time to check 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 HMI application, now is a good time to also check these aids.

Checks from *C-more* Programming Software

- If you have a PC available with the *C-more* programming software, EA9-PGMSW, installed, and the PC is connected to the HMI, there are checks you can make to the status of the HMI by using the **Panel Information...** feature located under the **Main Menu** heading **Panel**. This includes the following:
 - Connected panel details
 - Memory availability and usage
 - Revisions



- Other functions that can be accessed from the programming software directly to the HMI include **DisplayScreen**, **Reboot**, **AdjustClock**, **MemoryClear**, and **Update Firmware**. Additional information concerning these functions can be found in the *C-more* programming software online help file.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on its right side, suggesting it's resting on a surface. There is no handwriting or other markings on the paper.