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Hardware User Manual

EA9-USER-M

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# HARDWARE USER MANUAL

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# **GETTING STARTED**

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## Introduction

#### The Purpose of this Manual

Thank you for purchasing our *C-more*® Touch Panel family of products. This manual describes AutomationDirect.com's *C-more* Touch Panels, their specifications, included components, available accessories and provides you with important information for installation, connectivity and setup. The manual shows you how install, wire and use the products. It also helps you understand how to interface the panels to other devices in a control system.

This user manual contains important information for personnel who will install the touch panels and accessories, and for the personnel who will be programming the panel. If you understand control systems that make use of operating interfaces such as the *C-more* touch panels, our user manuals will provide all the information you need to get, and keep your system up and running.

#### Supplemental Manuals

If you are familiar with industrial control type devices, you may be able to get up and running with just the aide of the Quick Start Guide that is included with each touch panel. You can also refer to the On-line help that is available in the *C-more* programming software for more information about programming the panel.

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#### 770-844-4200

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#### http://c-more.automationdirect.com

## **Conventions Used**

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When you see the "notepad" icon in the left-hand margin, the paragraph to its immediate right will be a special note. The word **NOTE:** in boldface will mark the beginning of the text.



When you see the "exclamation mark" icon in the left-hand margin, the paragraph to its immediate right will be a warning. This information could prevent injury, loss of property, or even death (in extreme cases). The word Warning: in boldface will mark the beginning of the text.

### Key Topics for Each Chapter

The beginning of each chapter will list the key topics that can be found in that chapter.



## **Product Overview**

Some of the features designed into the product to provide excellent hardware and software are listed below.

- Analog touch screen (no touch cell boundaries). The touchscreen is designed to respond to a single touch. If it is touched at multiple points at the same time, an unexpected object may be activated.
- Plenty of memory and methods to get data in/out of the panel
- Overlapping active devices on the touch screen
- 65,536 colors for enhanced graphics
- Screen resolutions up to 1024 X 768 pixel
- HDMI Video Output on 12-inch and 15-inch models.
- Built-in FTP client/server, E-mail client, and Web server
- Audio output port stereo, requires amplifier and speaker(s) (full feature units only)
- User configurable LED on the front of the panel
- Built-in project simulation; test on PC while developing
- Ethernet 10/100Base-T communications (not available on EA9-T6CL-R)
- 15 pin serial port with RS-232, RS422/485
- 3-wire terminal block RS-485 port and RJ12 RS-232 port (full feature units only)
- Programming via USB or Ethernet (Ethernet not available on EA9-T6CL-R)
- Optional AC/DC power adapter (EA-AC)
- · Animation of bitmaps and objects
- Thousands of built-in symbols and Windows fonts
- PID face plate, trending, alarming and a recipe database
- Event Manager to trigger actions based on assigned state changes, schedules, PLC tag names, etc. setup in a database environment. The event can also trigger a sound byte, initiate a screen capture, send a data file (FTP), send an E-mail, etc.
- Trend Data logging
- Internet Remote Access
- Customizable label on the front of the panel

## **Quick Start Steps**

#### Step 1 – Unpack and Inspect

- a.) Unpack the *C-more* Touch Panel from its shipping carton. Included in the carton are the following:
  - C-more Touch Panel
  - cutout template
  - mounting clips
  - DC power connector
  - gasket
  - logo label
  - Quick Start Guide



\*Not included with EA9-T7CL-R and EA9-T7CL.

## **Shipping Carton Contents**

### **Optional Accessories**



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#### Step 2 – Install Optional Hardware Accessories



#### Step 3 - Become Familiar with Available Communication Ports

Note: Device is only available on touch panels EA9-T12CL, EA9-T15CL and EA9-T15CL-R.



**NOTE:** See Chapter 2: Specifications and Chapter 6: PLC Communications for additional details on the available communication ports, protocols and cables.

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#### Step 4 – Install the Programming Software and Develop a Project

Download the latest version of the *C-more* Programming Software, p/n EA9-PGMSW, from the Automationdirect website. Alternately, if the *C-more* Programming Software CD is available, you may install from the software CD. Refer to the AutomationDirect website for current minimum system requirements for installation.

For software download installation, follow the screen prompts to download and install the *C-more* Programming Software.

For CD installation, insert the supplied CD into the PC's CD drive and navigate to the CD drive location on the PC. Double-click on *EA\_Setup.exe* and follow the instructions. If you need assistance during the software installation, call the AutomationDirect Technical Support team @ 770-844-4200.



**NOTES:** Regarding Ethernet access to a C-more panel.

If you intend to take advantage of the methods of remote access to the panel, including the web server, PC remote access, FTP, iOS or Android app, you need to consider the security exposure in order to minimize the risks to your process and your C-more panel.

Security measures may include password protection, changing the ports exposed on your network, including a VPN in your network, and other methods. Security should always be carefully evaluated for each installation. Refer to Appendix C - Security Considerations for Control Systems Networks.

#### Step 5 – Connect Touch Panel to Computer

- **Connect** a USB Programming Cable, such as p/n USB-CBL-AB15, from a USB type A port on the PC to the USB type B programming port on the *C-more* touch panel
- or connect the *C-more* touch panel and PC together either directly or via an Ethernet switch, and CAT5 Ethernet cables (full feature panels only)



#### Step 6 – Provide Power to the Touch Panel

- **Connect** a **dedicated** 12-24 VDC Class 2 power supply to the DC connector on the rear of the *C-more* touch panel, include wiring the ground terminal to a proper equipment ground
- or install a *C-more* AC/DC Power Adapter, EA-AC, to the rear of the touch panel and connect an AC voltage source of 100-240 VAC, 50/60Hertz, to its AC connector (see note below)
- **then** turn on the power **source** and check the LED status indicators on the front and rear of the *C-more* touch panel for proper indication (see next page)



**NOTE:** A dedicated power supply is recommended. If the power supply also feeds inductive loads such as solenoids or relays, the transients caused by these loads can affect the operation of the panel or damage panel components.



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**NOTE:** The AC/DC Power Adapter, EA-AC, is for **C-more** touch panels only. The adapter is powered from a 100-240 VAC, 50/60 Hertz power source. The adapter provides 24 VDC (a) 1.5 A. Power Fault features help protect data on an SD memory card during power failures.



Warning: Use 60 / 75°C copper conductors only.







#### Step 7 – Access the Touch Panel Setup Screens

- Access the Main Menu of the touch panel System Setup Screens by pressing the extreme upper left corner of the panel display area for three (3) seconds as shown below.
- Adjust the time and date for the panel by pressing the Setting button on the Main Menu, then press the Adjust Clock button on the Setting screen.
- Use the right pointing arrows for the time or date display to select the unit to change. Use the up and down arrows to increment or decrement the value for the selected unit.
- Press OK when done to accept the changes to the time and date in the touch panel or press Cancel to exit the Adjust Clock setup screen without making any changes.
- Press the Main Menu button on the Setting screen and then the Exit button on the Main Menu screen to return to the application screen.



#### Step 8 - Choose Touch Panel to Device Cables

The table below shows the PLCs, controllers and protocols supported by the EA9-RHMI. Ensure your controller and protocol are supported.

PLC Protocol Table			
Model Protocols			
Broductivity		Cariaa	Productivity Serial
	Productivity	Selles	Productivity Ethernet
	Do-more (BRX)		Do-more Serial
		all	Do-more Ethernet
			Modbus (CLICK addressing)
	ULIUK		Modbus TCP (CLICK addressing)
			K-Sequence
		all	Direct NET
	DL05/DL06		Modbus (Koyo addressing)
		H0-ECOM/H0-ECOM100	Direct LOGIC Ethernet
	DL105	all	K-Sequence
		D2-230	K-Sequence
		D0.040	K-Sequence
		1)2-240	Direct NET
			K-Sequence
	DL205	D2-250/D2-250-1/D2-260/D2-262	Direct NET
			Modbus (Kovo addressing)
		D2-240/D2-250-1/D2-260	Direct NET
		Using DCM	Modbus (Kovo addressing)
		H2-ECOM/H2-ECOM100	Direct LOGIC Ethernet
		D3-330/330P (Requires the use of a Data Communications Unit)	Direct NET
AutomationDirect		D3-340	Direct NET
		D3-350	K-Sequence
	DL305		Direct NET
			Modbus (Koyo addressing)
		D3-350 DCM	Direct NET
			Modbus (Koyo addressing)
			K-Sequence
		D4-430	Direct NET
			K-Sequence
		04-440	Direct NET
	51.465		K-Sequence
	DL405	D4-450/D4-454	DirectNET
			Modbus (Koyo addressing)
			DirectNET
		All with DCM	Modbus (Kovo addressing)
		H4-ECOM/H4-ECOM100	Direct LOGIC Ethernet
	H2-WinPLC (Think & Do) Live V5.2 or later and Studio any version		Think & Do Modbus RTU (serial port)
	H2-WinPLC (Think & Do) Live V5.5.1 or later and Studio V7.2.1 or later		Think & Do Modbus TCP/IP (Ethernet port)
	GS Drives		GS Drives Serial
			GS Drives TCP/IP (GS-FDRV)
SOLO Temperature Controllers (models with serial of		erature Controllers (models with serial communications)	SOLO Temperature Controller



#### Step 8 - Choose Touch Panel to Device Cables (cont'd)

PLC Protocol Table (cont'd)			
Model		Protocols	
	MicroLogix 1000, 1100, 1200, 1400, 1500, SLC 5-01/02/03	DH485/AIC/AIC+	
	MicroLogix 1000, 1100, 1200, 1400 and 1500		
	SLC 5-03/04/05	DF1 Half Duplex; DF1 Full Duplex	
	ControlLogix™, CompactLogix™, FlexLogix™	]	
	PLC-5	DF1 Full Duplex	
	ControlLogix, CompactLogix, FlexLogix - Tag Based	DF1 Half Duplex; DF1 Full Duplex	
	ControlLogix, CompactLogix, FlexLogix - Generic I/O Messaging	EtherNet/IP Server	
Allen-Bradley	ControlLogix, CompactLogix, FlexLogix - Tag Based		
	MicroLogix 1100, 1400 and SLC 5/05, via native Ethernet port	EtherNet/IP Client	
	MicroLogix 1000, 1100, 1200, 1400, 1500, SLC 5-03/04/05, all via ENI adapter		
		Modbus RTU	
	Micro 800 Series	Modbus TCP	
		DF1 Full Duplex	
	Micro 800 Series - Tag Based	EtherNet/IP Client	
Modbus RTU	Modbus RTU devices	Modbus RTU	
Modbus TCP/IP	Modbus TCP/IP devices	Modbus TCP/IP	
05	90/30, 90/70, Micro 90, VersaMax Micro	SNPX	
GE	90/30, Rx3i	SRTP Ethernet	
	FX Series	FX Direct	
Mitoubiobi	Q02, Q02H, Q06H, Q12H, Q25H	Q CPU	
INITSUDISIII	Q, QnA Serial	QnA Serial	
	Q, QnA Ethernet	QnA Ethernet	
	984 CPU, Quantum 113 CPU, AEG Modicon Micro Series 110 CPU: 311-xx, 411-xx, 512-xx, 612-xx	Modbus RTU	
Modicon	Other devices using Modicon Modbus addressing	Modbus RTU	
		TUModbus TCP/IP	
	C200 Adapter, C500	Host Link	
Omron	CJ1/CS1 Serial	FINS	
	CJ1/CS1 Ethernet		
	S7-200 CPU, RS-485 Serial	PPI	
Siemens	S7-200 CPU, S7-300 CPU, S7-400, S7-1200, S7-1500 CPU Ethernet	Ethernet ISO over TCP	

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## Step 8 – Choose Touch Panel to Device Cables (cont'd)

#### Available cables to connect from PLC to C-more serial Port 1

To use Serial communication through Port 1 of a *C-more* panel, consult the chart below for the proper cable. See Chapter 6: PLC Communications for wiring diagrams of additional user contructed cables.

Purchased Cable Description	Cable Part Number
AutomationDirect Productivity Series, Do-more, CLICK, Direct LOGIC PLC RJ-12 port, DL05, DL06, DL105, DL205, D3-350, D4-450 & H2-WINPLC (RS-232C)	EA-2CBL
<i>Direct</i> LOGIC (VGA Style) 15-pin port DL06, D2-250 (250-1), D2-260 (RS-232C)	EA-2CBL-1
DirectLOGIC PLC RJ-11 port, D3-340 (RS-232C)	EA-3CBL
<i>Direct</i> LOGIC DL405 PLC 15-pin D-sub port, DL405 (RS-232C)	EA-4CBL-1
<i>Direct</i> LOGIC PLC 25-pin D-sub port, DL405, D3-350, DL305 DCU and all DCM's (RS-232C)	EA-4CBL-2
Allen-Bradley MicroLogix 1000, 1100, 1200, 1400, 1500 (RS-232C)	EA-MLOGIX-CBL
Allen-Bradley SLC 5-03/04/05, ControlLogix, CompactLogix, FlexLogix DF1 port (RS-232C)	EA-SLC-232-CBL
Allen-Bradley PLC-5 DF1 port (RS-232C)	EA-PLC5-232-CBL
Allen-Bradley SLC 5-01/02/03, PLC5 DH485 port	EA-DH485-CBL
GE 90/30, 90/70, Micro 90, VersaMax Micro 15-pin D-sub port (RS-422A)	EA-90-30-CBL
MITSUBISHI FX Series 25-pin port (RS-422A)	EA-MITSU-CBL
MITSUBISHI FX Series 8-pin mini-DIN (RS-422A)	EA-MITSU-CBL-1
OMRON Host Link (C200 Adapter, C500) (RS-232C)	EA-OMRON-CBL



**NOTE:** The above list of pre-made communications cables may be purchased. See **Chapter 6: PLC Communications** for wiring diagrams of additional user constructed cables. Chapter 6 also includes wiring diagrams for the pre-made cables.

Pre-made cable examples



EA-2CBL



EA-2CBL-1



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#### Step 9 – Connect Touch Panel to PLC

- Connect the serial communications cable between the *C-more* touch panel and the PLC
- or connect the *C-more* touch panel and PLC together either directly or via an Ethernet switch, and CAT5 Ethernet cables (full feature panels only)

For further information on setting up communications between a *C-more* panel and a PLC, see the *C-more* programming help file topic *CM129: Creating a New Project*.



# **SPECIFICATIONS**

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# **S**PECIFICATIONS

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CHAPTER

2

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# **Available Models**

The *C-more*® Operator Interface is the next generation of touch panel brought to you by AutomationDirect. It has been designed to display and interchange graphical data from a PLC by merely viewing or touching the screen.

The *C-more* Touch Panel is available in a variety of models to suit your application. Refer to the following tables for a list of part numbers, descriptions and options available.

Part Number	Description Project SD C Memory Opti		SD Card Option	USB Device	Ethernet	HDMI Video Out
EA9-T6CL-R	<b><i>C-more</i></b> EA9 series touch screen HMI, 6in color TFT LCD, 320 x 240 pixel, QVGA, LED backlight, supports (1) serial and (2) USB ports and (1) memory card slot.	26 MB	1 slot	Yes	No	No
EA9-T6CL	<b>C-more</b> EA9 series touch screen HMI, 6in color TFT LCD, 320 x 240 pixel, QVGA, LED backlight, supports (3) serial, (1) Ethernet and (2) USB ports, (1) memory card slot and (1) audio line out.	26 MB	1 slot	Yes	Yes	No
EA9-T7CL-R	<i>C-more</i> EA9 series touch screen HMI, 7in color TFT LCD, widescreen, 800 x 480 pixel, WVGA, LED backlight, supports (1) serial, (1) Ethernet and (2) USB ports and (1) memory card slot.	26 MB	1 slot	Yes	Yes	No
EA9-T7CL	<i>C-more</i> EA9 series touch screen HMI, 7in color TFT LCD, widescreen, 800 x 480 pixel, WVGA, LED backlight, supports (3) serial, (1) Ethernet and (2) USB ports, (1) memory card slot and (1) audio line out.	26 MB	1 slot	Yes	Yes	No
EA9-T8CL	<b>C-more</b> EA9 series touch screen HMI, 8in color TFT LCD, 800 x 600 pixel, SVGA, LED backlight, supports (3) serial, (1) Ethernet and (2) USB ports, (1) memory card slot and (1) audio line out.	26 MB	1 slot	Yes	Yes	No
EA9-T10CL	<b>C-more</b> EA9 series touch screen HMI, 10in color TFT LCD, 800 x 600 pixel, SVGA, LED backlight, supports (3) serial, (1) Ethernet and (2) USB ports, (1) memory card slot and (1) audio line out.	26 MB	1 slot	Yes	Yes	No
EA9-T10WCL	C-more EA9 series touch screen HMI, 10in color TFT LCD, widescreen, 1024 x 600 pixel, WSVGA, LED backlight, supports (3) serial, (1) Ethernet and (2) USB ports, (1) memory card slot and (1) audio line out.	26 MB	1 slot	Yes	Yes	No
EA9-T12CL	<b>C-more</b> EA9 series touch screen HMI, 12in color TFT LCD, 800 x 600 pixel, SVGA, LED backlight, supports (3) serial, (1) Ethernet and (2) USB ports, (2) memory card slots, (1) HDMI video out and (1) audio line out.	82 MB	2 slots	Yes	Yes	Yes
EA9-T15CL-R	<b>C-more</b> EA9 series touch screen HMI, 15in color TFT LCD, 1024 x 768 pixel, XGA, LED backlight, supports (1) serial, (1) Ethernet port and (2) USB ports and (2) memory card slots.	82 MB	2 slots	Yes	Yes	No
EA9-T15CL	<b>C-more</b> EA9 series touch screen HMI, 15in color TFT LCD, 1024 x 768 pixel, XGA, LED backlight, supports (3) serial, (1) Ethernet and (2) USB ports, (2) memory card slots, (1) HDMI video out and (1) audio line out.	82 MB	2 slots	Yes	Yes	Yes



# **Model Specifications**

The following specification tables are separated into these groups:

- Specifications common to all models
- 6" & 7" Reduced and Full Feature Models, EA9-T6CL-R, EA9-T6CL, EA9-T7CL-R and EA9-T7CL
- 8" & 10" Full Feature Models, EA9-T8CL, EA9-T10CL and EA9-T10WCL
- 12" & 15" Reduced and Full Feature Models, EA9-T12CL, EA9-T15CL-R and EA9-T15CL

Specification tables begin on the next page.

#### Specifications common to all models

Model Specification	All Models		
Operating Temperature	0 to 50 °C (32 to 122 °F); Maximum surrounding air temperature rating: 50 °C (122 °F) IEC 60068-2-14 (Test Nb, Thermal Shock)		
Altitude	Up to 2000m (6562 ft)		
Storage Temperature	-20 to +60 °C (-4 to +140 °F) IEC 60068-2-1 (Test Ab, Cold) IEC 60068-2-2 (Test Bb, Dry Heat) IEC 60068-2-14 (Test Na, Thermal Shock)		
Humidity	5–95% RH (non-condensing)		
Environment	For use in Pollution Degree 2 environment, no corrosive gases permitted		
(EN61131-2)   EN61000-4-2 (ESD),   EN61000-4-3 (RFI)   EN61000-4-4 (FTB)   EN61000-4-5 (Serge)   EN61000-4-5 (Serge)   EN61000-4-6 (Conducted)   EN61000-4-8 (Power frequency magnetic field immunity)   (Local Test)   RFI, (145MHz, 440Mhz 10W @ 10cm)   Impulse 1000V @ 1us pulse			
Withstand Voltage   1000 VAC, 1 min. (FG to Power supply )			
Insulation Resistance	> 10M ohm @ 500V DC (FG to Power supply )		
Vibration	IEC60068-2-6 (Test Fc)		
Shock	IEC60068-2-27 (Test Ea)		
Emission	EN55011 Class A (Radiated RF emission)		
Enclosure	NEMA 250 type 4/4X indoor use only UL50 type 4X indoor use only IP-65 indoor use only (When mounted correctly)		
Backlight Average Lifetime*	50,000 hours @ 25 °C		
Touch Panel Type**	Four-wire analog resistive		
Supply Power 10.2-26.4VDC Class2 or SELV (Safety Extra-Low Voltage) Circuit or Limited (LEC) or use the AC/DC Power Adapter, EA-AC, to power the touch panel from 50/60 Hz power source. Reverse Polarity Protected			





\* **NOTE:** The backlight average lifetime is defined as the average usage time it takes before the brightness becomes 50% of the initial brightness. The lifetime of the backlight depends on the ambient temperature. The lifetime will decrease under low or high temperature usage.



\*\* **NOTE:** The Touchscreen is designed to respond to a single touch. If it is touched at multiple points at the same time, an unexpected object may be activated.

### 6-inch Models

Model Specification	6" TFT color w/ base features	6" TFT color w/ full features	
Part Number	EA9-T6CL-R	EA9-T6CL	
Display Actual Size and Type	5.7" TF	T color	
Display Viewing Area	4.54" › [115.2 mm	< 3.40" x 86.4 mm]	
Weight	1.56 lb (710g) 1.59 lb (720g)		
Screen Pixel	320 x 24	D (QVGA)	
Display Brightness	280 nit	is (typ)	
LCD Panel Dot Pitch	0.18 mm >	< 0.18 mm	
Color Scale	65,	536	
Project Memory	26	MB	
Number of Screens	Up to 999 screens – lim	ited by project memory	
Realtime Clock	Realtime Clock Built into panel, backed up for 30 days at 25°C after power has been applied 24 hours		
Calendar - Month / Day / Year	Yes - monthly deviation 60 sec at 25°C		
Serial Port 1	15-pin D-sub female - RS2342C, RS-422/485		
Serial Port 2	N/A 3-wire terminal block - RS-48		
Serial Port 3	N/A RJ-12 modular jack - RS-2320		
USB Port - Type B	USB 2.0 High speed (480 Mbps) Type B - Download/Program Max cable length - 15 ft.		
USB Port - Type A	USB 2.0 High speed (480 Mbps) Type A - for USB device options Max cable length - 15ft Bus Power – Less than 200mA at 5VDC		
Ethernet Port	N/A	Ethernet Port Ethernet 10/100 Base-T, auto MDI/MDI-X	
Audio Line Out	N/A 3.5 mm mini jack: 3-pin – require and speaker(s), Full Scale Output		
Mic In (future)	N/A 3.5 mm mini jack: 2pin, Input: 100 m Impedance: <10k0hms		
SD Card Slot	1 slot. Supports max 2 GB (SD,) max 32 GB (SDHC)		
HDMI Video Out	N/A		
Power Consumption	16.0W 1.30A @ 12 VDC 0.66A @ 24 VDC		
Internal Fuse (non-replaceable)	4	A	
Agency Approvals	UL61010 (E157382), CE (EN61131-2), CUL Canadian C22.2, RoHS (2011/65/EU)		

### 7-inch Models

Model Specification	7" TFT color w/ base features	7" TFT color w/ full features	
Part Number	EA9-T7CL-R EA9-T7CL		
Display Actual Size and Type	7.0" TF	T color	
Display Viewing Area	6.0" x 3.60" [152.4 mm x 91.4 mm]		
Weight	1.46 lb (660g) 1.48 lb (670g)		
Screen Pixel	800 x 480	D (WVGA)	
Display Brightness	350 nits (typ)		
LCD Panel Dot Pitch	0.19 mm >	k 0.19 mm	
Color Scale	65,	536	
Project Memory	26	MB	
Number of Screens	Up to 999 screens – lim	nited by project memory	
Realtime Clock	Realtime Clock Built into panel, backed up for 30 days at 25°C after power has been applied 24 hours		
Calendar - Month / Day / Year	Yes - monthly deviation 60 sec at 25°C		
Serial Port 1	15-pin D-sub female - RS2342C, RS-422/485		
Serial Port 2	N/A 3-wire terminal block - RS-485		
Serial Port 3	N/A RJ-12 modular jack - RS-232C		
USB Port - Type B	USB 2.0 High speed (480 Mbps) Type B - Download/Program Max cable length - 15 ft.		
USB Port - Type A	USB 2.0 High speed (480 Mbps) Type A - for USB device options Max cable length - 15ft Bus Power – Less than 200mA at 5VDC		
Ethernet Port	Ethernet Port Ethernet 10/1	00 Base-T, auto MDI/MDI-X	
Audio Line Out	N/A 3.5 mm mini jack: 3-pin – requires and speaker(s), Full Scale Output:		
Mic In (future)	N/A 3.5 mm mini jack: 2pin, Input: 100 n Impedance: <10k0hms		
SD Card Slot	1 slot. Supports max 2 GB (SD,) max 32 GB (SDHC)		
HDMI Video Out	N/A		
Power Consumption	16.0W 1.30A @ 12 VDC 0.66A @ 24 VDC		
Internal Fuse (non-replaceable)	4A		
Agency Approvals	UL61010 (E157382), CE (EN61131-2), CUL Canadian C22.2, RoHS (2011/65/EU)		

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### 8-inch and 10-inch Models

Model	8" TFT color w/ 10" TFT color w/		10" TFT color widescreen	
	iuli leatures iuli leatures			
Part Number	EA9-T8CL	EA9-T10CL	EA9-T10WCL	
Display Actual Size and Type	8.4" TFT color	10.4" TFT color	10.1" TFT color wide	
Display Viewing Area	splay Viewing Area   6.71" x 5.03"   8.31" x 6.24"     [170.4 mm x127.8mm]   [211.2 mm x 158.4 mm]   [222		8.769" x 4.932" [222.72 mm x 125.28 mm]	
Weight	2.93 lb (1330g)	4.19 lb (1900g)	2.43 lb (1100g)	
Screen Pixel	800 x 600 (SVGA) 1024 x 600		1024 x 600 (WSVGA)	
Display Brightness	310 nits (typ)	280 nits (typ)	240 nits (typ)	
LCD Panel Dot Pitch	0.213 mm x 0.213 mm	0.264 mm x 0.264 mm	0.218 mm x 0.209 mm	
Color Scale		65,536 colors		
Project Memory	26 MB			
Number of Screens	Up to 999 screens – limited by project memory			
Realtime Clock	Realtime Clock Built into panel, backed up for 30 days at 25°C			
Calendar - Month / Day / Year	Yes - monthly deviation 60 sec (Reference)			
Serial Port 1	15-pin D-sub female - RS2342C, RS-422/485			
Serial Port 2	3-wire terminal block - RS-485			
Serial Port 3	RJ-12 modular jack - RS-232C			
USB Port - Type B	USB 2.0 High speed (480 Mbps) Type B - Download/Program Max cable length - 15 ft.			
USB Port - Type A	USB 2.0 High speed (480 Mbps) Type A - for USB device options Max cable length - 15ft Bus Power – Less than 200mA at 5VDC			
Ethernet Port	Ethernet Po	ort Ethernet 10/100 Base-T, auto	MDI/MDI-X	
Audio Line Out	3.5 mm mini jack – requires amplifier and speaker(s)			
Mic In (future)	3.5 mm mini jack			
SD Card Slot	1 slot. Supports max 2 GB (SD,) max 32 GB (SDHC)			
HDMI Video Out	N/A			
Power Consumption	18.0W 1.50A @ 12 VDC 0.75A @ 24 VDC		17.0W 1.42A @ 12 VDC 0.71A @ 24 VDC	
Internal Fuse (non-replaceable)	6.3A			
Agency Approvals	UL508 (E157382), CE (EN61131-2), CUL Canadian C22.2, RoHS (2011/65/EU)			

### 12-inch and 15-inch Models

Model Specification	12" TFT color w/ full features	12" TFT color w/ full features15" TFT color w/ base features		
Part Number	EA9-T12CL	EA9-T15CL-R	EA9-T15CL	
Display Actual Size and Type	12.1" TFT color	15.	0" TFT color	
Display Viewing Area	9.69" x 7.26" [246.0 mm x 184.5 mm]	11. [304.1 r	.97" x 8.98" nm x 228.0 mm]	
Weight	4.85 lb (2200g)	6.46 lb (2930g)	6.50 lb (2950g)	
Screen Pixel	800 x 600 (SVGA)	1024	4 x 768 (XGA)	
Display Brightness		280 nits (typ)		
LCD Panel Dot Pitch	0.3075 mm x 0.3075 mm	0.297 r	nm x 0.297 mm	
Color Scale		65,536 colors		
Project Memory		82 MB		
Number of Screens	Up to 999	to 999 screens – limited by project memory		
Realtime Clock	Realtime Clock Bu	Clock Built into panel, backed up for 30 days at 25°C		
Calendar - Month / Day / Year	Yes - mo	nonthly deviation 60 sec (Reference)		
Serial PLC Interface Port 1	15-pin D-:	D-sub female - RS2342C, RS-422/485		
Serial PLC Interface Port 2	3-wire terminal block - RS-485	N/A 3-wire terminal block - RS		
Serial PLC Interface Port 3	RJ-12 modular jack - RS-232C	2C N/A RJ-12 modular jack		
USB Port - Type B	USB 2.0 High spe	USB 2.0 High speed (480 Mbps) Type B - Download/Program Max cable length - 15 ft.		
USB Port - Type A	USB 2.0 High speed (480 Mbps) Type A - for USB device options Max cable length - 15ft Bus Power – Less than 200mA at 5VDC			
Ethernet Port	Ethernet Port E	Ethernet 10/100 Base-T, au	uto MDI/MDI-X	
Audio Line Out	3.5 mm mini jack – requires amplifier and speaker(s)	(s) N/A 3.5 mm mini jack – requires amplifier and spe		
Mic In (future)	3.5 mm mini jack	N/A 3.5 mm mini jack		
SD Card Slot	2 slots. Suppo	orts max 2 GB (SD), max 3	32 GB (SDHC)	
HDMI Video Out	HDMI Type A Port	N/A HDMI Type A F		
HDMI Supported Resolution	VII Supported Resolution   800 x 600 (SVGA)   N/A   1024 x 70		1024 x 768 (XGA)	
Power Consumption	21.0W 1.75A @ 12 VDC 0.88A @ 24 VDC	29.0W 2.40A @ 12 VDC 1.20A @ 24 VDC		
Internal Fuse (non-replaceable)		6.3A		
Agency Approvals	UL508 (E157382), CE (EN	UL508 (E157382), CE (EN61131-2), CUL Canadian C22.2, RoHS (2011/65/EU)		

## EA9-T6CL-R, EA9-T6CL

#### Dimensions, Inches [mm]

All the necessary mounting hardware is provided with the touch panel. Use the four mounting clips and screws to secure the touch panel to the cabinet or enclosure surface.

A template for marking the cutout dimensions on the mounting surface is provided in the box.





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### EA9-T7CL-R, EA9-T7CL

#### Dimensions, Inches [mm]

All the necessary mounting hardware is provided with the touch panel. Use the four mounting clips and screws to secure the touch panel to the cabinet or enclosure surface.

A template for marking the cutout dimensions on the mounting surface is provided in the box.





PRODUCT LABEL FOR FUTURE USE

USB

DEVICE

2

AUTO LINE

OUT

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ETHERNET

PC/PLC

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### EA9-T8CL

#### Dimensions, Inches [mm]

All the necessary mounting hardware is provided with the touch panel. Use the four mounting clips and screws to secure the touch panel to the cabinet or enclosure surface.

A template for marking the cutout dimensions on the mounting surface is provided in the box.





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# EA9-T10CL

### Dimensions, Inches [mm]

All the necessary mounting hardware is provided with the touch panel. Use the eight mounting clips and screws to secure the touch panel to the cabinet or enclosure surface.

A template for marking the cutout dimensions on the mounting surface is provided in the box.





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# EA9-T10WCL

#### Dimensions, Inches [mm]

MOUNTING CLIP

SCREW TORQUE

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All the necessary mounting hardware is provided with the touch panel. Use the eight mounting clips and screws to secure the touch panel to the cabinet or enclosure surface.

A template for marking the cutout dimensions on the mounting surface is provided in the box.



10" Wide,

15"

0.039 - 0.20 inch

[1 – 5 mm]

92 - 106 oz-in

[0.65 - 0.75 Nm]

Metal



#### Ports and Memory Expansion

EA9-USER-M Hardware User Manual, 1st Ed. Rev. K

# EA9-T12CL

#### Dimensions, Inches [mm]

All the necessary mounting hardware is provided with the touch panel. Use the eight mounting clips and screws to secure the touch panel to the cabinet or enclosure surface.

A template for marking the cutout dimensions on the mounting surface is provided in the box.



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#### Ports and Memory Expansion



# EA9-T15CL-R, EA9-T15CL

#### Dimensions, Inches [mm]

All the necessary mounting hardware is provided with the touch panel. Use the eight mounting clips and screws to secure the touch panel to the cabinet or enclosure surface.

A template is provided for marking the cutout dimensions on the mounting surface.



### and Mounting Clip Screw Torque

	Touch Panel Size	Enclosure Thickness Range	Mounting Clip Screw Torque	Material
BRACKET	6", 7", 8", 10" & 12"	0.039 - 0.20 inch [1 – 5 mm]	63 - 77 oz-in [0.45 - 0.55 Nm]	Metal
\_ MOUNTING CLIP SCREW TORQUE	10" Wide, 15"	0.039 - 0.20 inch [1 – 5 mm]	92 - 106 oz-in [0.65 - 0.75 Nm]	Metal

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### Ports and Memory Expansion

EA9-USER-M Hardware User Manual, 1st Ed. Rev. K Cmore 2-23



# **Mounting Clearances**

The following drawing shows the mounting clearances for the *C-more* touch panel. There should be a minimum of 4 inches of space between all sides of the panel and the nearest object or obstruction and at least 1.72 inches between the rear of the panel and the nearest object or obstruction.





#### EA9-T15CL-R, EA9-T15CL Derating

If EA9-T15CL-R and EA9-T15CL are mounted off the vertical plane facing upward, the temperature shall be derated as shown below. Other panels may be mounted at any angle without derating consideration.





# **Communications Ports**

### **Ethernet Port**

The Ethernet port can be used several ways: for programming the panel (downloading a project), for PLC communication, and for the advanced features, such as sending e-mail, web server, FTP access, and allowing users to access and control the panel remotely.

The Ethernet connector is an RJ-45 Module jack.



NOTE: EA9-T6CL-R does not include an Ethernet port and does not have these capabilities.

Refer to http://c-more.automationdirect.com for the latest driver information.

# **Communications Ports (cont'd)**

#### **USB Type B Port**

Program *C-more* via the USB programming port. It's fast and easy, with no baud rate settings, parity, or stop bits to worry about. We stock standard USB cables for your convenience, such as part no. USB-CBL-AB15. The USB type B port can be used to upload or download projects to and from a PC (personnel computer).

#### **USB** Type A Port

The USB type A port is a standard feature for all models and can be used to connect various USB 2.0 HID (Human Input Device) devices to the panel, such as:

- USB pen drives, (ADC p/n USB-FLASH)
- USB keyboards
- USB barcode scanners
- USB card scanners

*C-more* can log data to the USB pen drive as well as restore projects to the panel from the pen drive. You can also back up project files and panel firmware.



NOTE: Output current is less than 200mA @ 5VDC.

### Sound Interface (Audio Line Out)

When attached to an amplifier and speaker(s), *C-more* can play warning sounds, or pre-recorded messages such as: "conveyor is jammed". Various "Objects" in the *C-more* programming software support sounds. *C-more* supports WAV type files. Sound files are stored in the sound library.

#### **Audio WAV File Specifications**

The *C-more* Audio Line Out port supports the following WAV file specifications:

Audio Format (codec): PCM

Audio Sample Rate: 44.1 kHz

Channels: 2 (stereo)

Audio Sample Size: 16-bit

### **Serial Communication Ports**

#### Port 1

Connect to your serial controller network via Port 1. Port 1 is a 15-pin port that supports RS-232 and RS-422/485.

#### Port 2

Connect your RS-485 network via Port 2. Port 2 is provided with a 3-wire removable terminal block.

#### Port 3

Connect to your RS-232C device via Port 3. Port 3 is an RJ12 connection



NOTE: EA9-T6CL-R, EA9-T7CL-R and EA9-T15CL-R do not include Serial Ports 2 and 3.

### HDMI Port Video Out

EA9-T12CL and EA9-T15CL include an HDMI Type A port to provide video output to a projector or monitor.

Model	Supported Resolution
EA9-T12CL	SVGA 800 x 600 pixel
<b>A9-T15CL</b> XGA 1024 x 768 pixel	
Dutput Video Data - Same Screen as Panel	
Sound Pass Through Does not support Mic sound Pass Thro	

### User Defined LED

The user defined LED on the panel front bezel can be controlled from the project to illuminate red, green or orange. It can also be configured to blink these colors. Refer to the online help file provided with the programming software for details.





## Handling External Memory Devices

#### Writing to External Memory Devices

Different types of numeric and text data from the *C-more* touch panel can be stored on an SD card or a USB memory device. Numeric data from Line Trend Graph and PID Faceplate Trend Graph objects may be stored. Text data from Lookup Text and Multi-state Text objects can also be stored.

Up to 16 objects may be configured in the C-more programming software to log data. Along with the 16 object limit, available storage on the external memory device is subject to the memory capacity of the SD card or USB memory device. One log file is created in a 24 hour period for each object. Additionally logging data is initially stored in the buffer in the panel MRAM and data is written to the external memory device:

- when 2kB of data is cached,
- when 20 records have been stored,
- periodically, once every 1 minute,
- when one of the "SYS Copy LogTo %device%" or "SYS %device% Eject" tags is turned on.
- when there is an email or FTP action
- when the System Screen is called
- when the panel date is changed

#### Memory Device Formatting

Memory Devices should be formatted according to the following guidelines to insure best performance and integrity of logged data.

Item		Capacity	Supported Resolution	Supported
		up to 2GB	FAT	Yes
USB Memory Device		4GB to 32GB	FAT 32	Yes
-		64GB or larger	exFAT	Yes
	Туре			
SD Cord	SD	up to 2GB	FAT	Yes
SD Galu	SDHC	4GB to 32GB	FAT 32	Yes
	SDXC		exFAT	No

SD cards must be formatted using the SD formatter provided by the SD Association at www.sdcard.org using the standard allocation unit size for best performance.

#### **Minimizing Data Errors**

To minimize data errors when logging data to external memory, consider the following:

- Do not turn off power to the *C-more* touch panel while the external memory device is being accessed. The optional EA-AC power adapter is designed to protect external memory devices from damage during power failure.
- Do not remove any external memory device with the device is being accessed by the *C-more* panel.

The following internal tags should be used to monitor, access and safely remove external memory devices:

SYS SD1 WriteStatus SYS SD2 WriteStatus SYS USB WriteStatus SYS Copy LogToSD1 SYS Copy LogToSD2 SYS Copy LogToUSB SYS SD1 Eject SYS SD2 Eject SYS SD1 ReadyToUse SYS SD2 ReadyToUse SYS USB ReadyToUse

- Be sure to backup the memory device at regular intervals.
- If you suspect the memory device is bad, you may want to use a PC to re-format the device, or use a known good memory device.
- The number of times the memory device can be written to is limited. Consequently, logging frequently will may shorten the service life of the memory device. Using slower sample rates will increase the life of the device.

#### Monitoring Available Memory

Each external memory device can be monitored and events can be configured to alert the user when available memory is approaching the maximum capacity of the external memory device. The following internal tags allow external memory devices data to be monitored:

SYS SD1 TotalMemory SYS SD1 FreeMemory SYS SD1 UsedMemory SYS SD2 TotalMemory SYS SD2 FreeMemory SYS USB TotalMemory SYS USB FreeMemory SYS USB FreeMemory SYS USB UsedMemory

Refer to the *C-more* programming software online help files for additional information on system tags and managing data logging devices.

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### **File Name Limitations**

There is a limit of 999 file names with the same first four characters. Internal file names are restricted by the DOS 8-character-dot-3-character limit. Therefore trend log files are identified internally by the first four characters of the object name plus tilde plus a three digit number.

Examples are:

TREND GRAPH EAST CHILLER TEMP\_130925.txt is saved internally as TREN-001.txt TREND GRAPH WEST CHILLER TEMP\_130925.txt is saved internally as TREN-002.txt

As new log files are created in each 24 hour period, these files count against the maximum of 999 files. If multiple graph objects appear on one screen, the files will be identified internally by the first Two Characters of the screen name plus the first Two Characters of the object name plus tilde plus three digit number.

To maximize storage capabilities on external memory devices use screen names that have unique characters in the first four digits and object names that are unique in the first two characters.



**NOTE:** When the 999 filename limit is reached, the oldest files will automatically be deleted and logging will continue.

#### **Power Loss Retention**

When a power loss is detected, the panel will attempt to complete all data logging operations safely.

The power retention while using a DC power is not long enough to complete writes to an SD Card or USB device. An Uninterruptable Power Supply (UPS) should be considered.

Power Loss Detection (at 25°C)				
Power Supply	Detect Loss			
DC (Panel only)	8.9 VDC			
EA-AC	67VAC (6 - 10 inch) 70VAC (12 - 15 inch)			

# **Chemical Compatibility**

The *C-more* touch panels comprise three different materials that may be exposed to outside elements: a gasket, a screen sheet and a bezel.

- Gasket material is silicone.
- Screen sheets are PET.
- Panel bezels are ABS plastic.

# Accessories



### 

## **Accessories Overview**



Part Number	Description		
EA-AC	AC/DC power adapter, 24 VDC. For use with C-more EA7 and EA9 series touch panels.		
EA-6-COV2	Screen protector, non-glare, 6in. Package of 3. For use with C-more and C-more Micro 6in panels.		
EA-7-COV2	Screen protector, non-glare, 7in. Package of 3. For use with C-more 7in panels.		
EA-8-COV2	Screen protector, non-glare, 8in. Package of 3. For use with C-more and C-more Micro 8in panels.		
EA-10-COV2	Screen protector, non-glare, 10in. Package of 3. For use with C-more EA9-T10CL and C-more Micro EA3-T10CL HMIs.		
EA-10W-COV2	Screen protector, non-glare, 10in. Package of 3. For use with C-more EA9-T10WCL widescreen HMI.		
EA-12-COV2	Screen protector, non-glare, 12in. Package of 3. For use with C-more 12in panels.		
EA-15-COV2	Screen protector, non-glare, 15in. Package of 3. For use with C-more 15in panels.		
EA-SD-CARD	SD memory card, 2GB, industrial.		
USB-FLASH	SanDisk USB Flash drive, 32GB.		
EA-COMCON-3*	DSUB port adapter, 15-pin male to 6-pole RS-422/485 terminal block, right angle cable entry. For use with C-more Micro EA1 series 4in and 6in HMIs, C-more Micro EA3 series 3in, 4in, and 6in HMIs, C-more EA9 6in and 7in HMIs.		
EA-COMCON-3A* EA-COMCON-3 is low profile and fits EA9-T6CL-R, EA9-T6CL, EA9-T7CL and EA9-T7CL-R EA-COMCON-3A is straight and fits EA-T8CL, EA9-T10CL, EA9-T12CL and EA9-T15CL			
		*Note: EA-COMCON-3	is low profile and fits EA9-T6CL-R, EA9-T6CL, EA9-T7CL and EA9-T7CL-R
EA-CUMCON-3A is str	aight and tits EA-18CL, EA9-11UCL, EA9-112CL and EA9-115CL		

# **AC/DC** Power Adapter

The optional *C-more* AC/DC Power Adapter can be used to power the *C-more* touch panels from a 100-240 VAC, 50/60 Hertz, voltage source. The adapter provides 24 VDC @ 1.5 A to the touch panel's DC power connector and can be conveniently secured to the touch panel with two captive screws. The adapter provides a power loss signal to the touch panel that causes the touch panel to stop writing data to SD memory devices providing a controlled shutdown for increased data logging reliability.



Tightening Torque			
Power supply cable torque	71 - 85 oz-in (0.5 - 0.6 Nm)		
Power connector mounting torque	71 - 85 oz-in (0.5 - 0.6 Nm)		
Mounting flange screw torque	57 - 71 oz-in (0.4 - 0.5 Nm)		



Warning: Use 60 / 75°C copper conductors only.

AC/DC Power Adapter Specifications	
Part Number	EA-AC
Input Voltage & frequency	100-240 VAC; 50/60 Hertz
Operating Temperature Range	0 °C to 50 °C [32 to 122 °F] Maximum surrounding temperature rating, 50 °C
Storage Temperature Range	-20 to 60 °C [-4 to 140 °F]
Operating & Storage Humidity	10-85% RH (non-condensing)
Noise Immunity	1000 VAC p-p (Pulse width 1 μs, rise time: 1 ns) With proper ground connection on AC terminal block.
Hi-pot	1000 VAC, 1 minute With proper ground connection on AC terminal block.
Insulation Resistance	500 VDC, 10 M ohm or above With proper ground connection on AC terminal block.
Vibration	Compliant with IEC61131-2
Shock	Pulse shape: Sine half wave, Peak acceleration: 147 m/s2 (15 G), X, Y, Z: 3 directions, 2 times each
Thermal Protection	140 °C [284 °F], with autorecovery
Short Circuit Protection	85 VAC: 2.6 A, 100 VAC: 2.8 A, 264 VAC: 3.9 A
Static Electricity Discharge Resistance	Compliant with IEC61000-4-2, Contact: 4 kV, Air: 8 kV
Agency Approvals	UL508, UL Recognized, cUL, CE, EMC EN61132-2
Environment	For use in pollution degree 2 environment
Grounding	Ground resistance: less than 100 ohm
Weight	6.13 oz. [175 g]
Removable AC Power Connector	EA-AC-CON or DECA Switchlab MC101-508-03G Secure with (2) captive M2.5 screws, torque to 70 oz-in [0.5 Nm]
Output Current	Maximum 1.5 A
Inrush Current	For 100 VAC: 15 A, 3 ms or less For 240 VAC: 20 A, 3 ms or less
Recommended AC Supply Fuse	3.0 A time delay, ADC p/n MDL3
Power Supply Cable Torque	71 - 85 oz-in (0.5 - 0.6 Nm)
Mounting to Touch Panel	Secure with (2) spring loaded captive M3-20 screws, torque to 50 oz-in [0.35 Nm]



**NOTE:** Logic within the EA-AC will turn off the backlight instantly when a power failure is detected to allow the CPU to run longer. The backlight turns on automatically when the power returns to the **C-more** operating voltage.

3





### Panel Depth with AC/DC Power Adapter Installed



#### AC/DC Power Adapter Installation



WARNING: This procedure should only be performed by qualified personnel who are experienced in working with electronic equipment. Take the necessary steps to prevent damage that may be caused by static electricity discharge. Disconnect input power to the touch panel before proceeding.



Preparation: Place the touch panel face down on a lint-free soft surface to prevent scratching the display screen if not already installed in a control cabinet. Remove the DC power connector if it is installed.



Secure the AC/DC Power Adapter to the touch panel by tightening the two (2) spring loaded captive M3-20 screws to a torque of 50 oz-in [0.35 Nm].



Insert the AC/DC power adapter into the touch panel's 5-position DC power connector.



Plug the wired 3-pin AC Power Connector into its mating connector on the adapter and secure in place by tightening the two (2) captive M2.5 screws to a torque of 70 oz-in [0.5 Nm].

# **EA-ECOM Ethernet Communication Module**

The EA-ECOM Ethernet Communication module plugs into the expansion port on the rear of the EA3 series 6, 8, and 10-inch *C-more* Micro panels to allow Ethernet communications for programming and PLC communications at a speed of 10/100 Mbps.

# EA-ECOM


## **D-SUB 15-pin to Terminal Block Adapters**

These adapters are plugged into the 15-pin serial port on the rear of the panels to allow wire terminal connections for RS-422/485 PLC communication cable. The wiring of both adapters is the same.

EA-COMCON-3 is used with EA9-T6CL-R, EA9-T6CL, EA9-T7CL-R and EA9-T7CL. EA-COMCON-3 is UL Recognized.

EA-COMCON-3A is NOT UL Recognized or Listed. It is used with EA9-T8CL, EA9-T10CL, EA9-T12CL, EA9-T15CL-R and EA9-T15CL



#### EA-COMCON-3A



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## **Non-glare Screen Covers**

Non -glare PET screen covers are protective overlays used to protect the touch screen and help reduce glare from external light sources. (pk of 3)

#### Part No. EA-6-COV2, EA-7-COV2, EA-8-COV2, EA-10-COV2, EA-10W-COV2, EA-12-COV2 & EA-15-COV2





Non-glare Screen Covers Dimensions - inches [mm]							
Part Number	Α	В	C	D			
EA-6-COV2	4.91 [124.8]	3.80 [96.4]					
EA-7-COV2	6.40 [162.6]	4.00 [101.5]					
EA-8-COV2	7.32 [185.8]	5.44 [138.2]					
EA-10-COV2	8.91 [226.2]	6.61 [168.0]	0.197 [5.0]	0.157 [4.0]			
EA-10W-COV2	9.23 [234.5]	5.38 [136.7]					
EA-12-COV2	10.26 [260.6]	7.64 [194.1]					
EA-15-COV2	12.56 [319.1]	9.37 [238.1]					

## Non-glare Screen Covers (cont'd)

Clear Screen Overlay Installation Step 1



Check to be sure that the proper size non-glare screen cover is being used on the subject touch panel. Notice that the outer perimeter of the screen cover has an adhesive band. The adhesive band will be located on the outside edge of the touch panel's white frame bordering the touch area when installed.



Align the screen cover over the touch panel's white frame, then start on one side and gently lay the cover over the entire touch area. Step 2



Start in one corner and peel the screen cover from the backing.





Smooth out the screen cover and press all around the outside perimeter to secure the cover in place. The screen cover can be removed by lifting up on the small tab and gently pulling the cover away form the touch panel's surface.





**NOTE:** The protective cover ships with a thin protective sheet on the face of the cover that needs to be carefully removed. If your panel is not clear, the protective sheet may not have been removed.

## **SD** Card

SD memory card for non-volatile storage, 2GB industrial grade. 85° C maximum operating temperature makes it suitable for data logging in industrial applications. Recommended for *C-more* EA9 series. The EA-SD-CARD utilizes SLC technology so it is the fastest option for writing and storing data. If logged data is saved to external memory, AutomationDirect recommends using an EA-SD-CARD.

## EA-SD-CARD



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	=
	=
-	

**NOTE:** SLC Flash memory utilized by EA-SD-CARD has the advantage of being the most accurate flash memory type when reading and writing data. SLC flash has the longest lifespan of flash types and can operate in a broader temperature range than other types.

EA-SD-CARD with SLC Flash memory is recommended for industrial workloads that require heavy read/write cycles.

## **USB FLASH Drive**

USB-FLASH sold by AutomationDirect has been tested with *C-more* HMIs and is Hi-Speed USB 2.0 certified. The EA-SD-CARD is the best option for logging data, but the USB-FLASH is a high quality flash drive perfect for transferring log files, capturing screens, backing up and restoring projects and storing images for the Image Viewer object.

## **USB-FLASH**





# INSTALLATION AND WIRING



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#### **Safety Guidelines**

**NOTE:** Products with CE marks perform their required functions safely and adhere to relevant standards as specified by CE directives provided they are used according to their intended purpose and that the instructions in this manual are adhered to. The protection provided by the equipment may be impaired if this equipment is used in a manner not specified in this manual. A listing of our international affiliates is available on our Web site: http://www. automationdirect.com



WARNING: Providing a safe operating environment for personnel and equipment is your responsibility and should be your primary goal during system planning and installation. Automation systems can fail and may result in situations that can cause serious injury to personnel or damage to equipment. Do not rely on the automation system alone to provide a safe operating environment. You should use external electromechanical devices, such as relays or limit switches, that are independent of the PLC application to provide protection for any part of the system that may cause personal injury or damage. Every automation application is different, so there may be special requirements for your particular application. Make sure you follow all national, state, and local government requirements for the proper installation and use of your equipment.

#### **Plan for Safety**

The best way to provide a safe operating environment is to make personnel and equipment safety part of the planning process. You should examine every aspect of the system to determine which areas are critical to operator or machine safety. If you are not familiar with control system installation practices, or your company does not have established installation guidelines, you should obtain additional information from the following sources.

 NEMA — The National Electrical Manufacturers Association, located in Washington, D.C. publishes many different documents that discuss standards for industrial control systems. You can order these publications directly from NEMA. Some of these include:

ICS 1, General Standards for Industrial Control and Systems

ICS 3, Industrial Systems

ICS 6, Enclosures for Industrial Control Systems

- NEC The National Electrical Code provides regulations concerning the installation and use of various types of electrical equipment. Copies of the NEC Handbook can often be obtained from your local electrical equipment distributor or your local library.
- Local and State Agencies many local governments and state governments have additional requirements above and beyond those described in the NEC Handbook. Check with your local Electrical Inspector or Fire Marshall office for information.

#### Introduction

The installation and wiring of the *C-more*® touch panels requires selecting an appropriate location for the touch panel, laying out the cutout dimensions on the surface of the control cabinet that the panel will be mounted through, securing the touch panel with the provided mounting clips, tightening the screws to the appropriate torque rating to assure the gasket is sealing correctly, and finally connecting the appropriate power source to the touch panel.



**NOTE:** Each **C-more** touch panel is provided with a cutout template to make marking the proper cutout size on the surface of the control cabinet that the panel will be mounted through a simple task.

This chapter covers the proper mounting of the touch panel and connecting power. Once power is applied to the touch panel, the user will want to read Chapter 5 on the System Setup Screens in order to set the internal time and date for the panel, become familiar with the touch panel test features, and check memory options.

## **Mounting Clips - EA9-BRK**



## EA9-T6CL-R, EA9-T6CL, EA9-T7CL-R and EA9-T7CL Cutout Dimensions

The *C-more* 6" and 7" touch panels are mounted into a cutout through the control cabinet and secured with four (4) mounting clips. The mounting clips are provided with the touch panel. The mounting clips will insert into a series of slots around the rear perimeter of the touch panel. Each clip has a tab that will mate to a slot. The screw of each mounting clip needs to be tightened to the torque rating shown in the table below so that the gasket is compressed to form the proper seal between the panel and cabinet surface.







#### EA9-T8CL and EA9-T10WCL Cutout Dimensions

INCHES [MM]

ΠШ

The *C-more* EA9-T8CL and EA9-T10WCL touch panels will mount into the same cutout and are mounted into the cutout through the control cabinet and secured with four (4) mounting clips. The mounting clips are provided with the touch panel. The mounting clips will insert into a series of slots around the rear perimeter of the touch panel. Each clip has a tab that will mate to a slot. The screw of each mounting clip needs to be tightened to the torque rating shown in the table below so that the gasket is compressed to form the proper seal between the panel and cabinet surface.



THICKNESS RANGE Materia Panel Size **Screw Torque** Thickness Range MOUNTING 6", 7", 8", 10" & 12" 0.039 - 0.20 inch 63 - 77 oz-in BRACKET Metal [1 – 5 mm] [0.45 - 0.55 Nm] MOUNTING CLIP 10" Wide, 0.039 - 0.20 inch 92 - 106 oz-in SCREW TORQUE Metal 15" [1 – 5 mm] [0.65 - 0.75 Nm]



#### EA9-T10CL Cutout Dimensions

The *C-more* 10" touch panels are mounted into a cutout through the control cabinet and secured with eight (8) mounting clips. The mounting clips are provided with the touch panel. The mounting clips will insert into a series of slots around the rear perimeter of the touch panel. Each clip has a tab that will mate to a slot. The screw of each mounting clip needs to be tightened to the torque rating shown in the table below so that the gasket is compressed to form the proper seal between the panel and cabinet surface.

INCHES [MM]



MOUNTING CLIP

Panel Size	Thickness Range	Screw Torque	Material
6", 7", 8",	0.039 - 0.20 inch	63 - 77 oz-in	Metal
10" & 12"	[1 – 5 mm]	[0.45 - 0.55 Nm]	
10" Wide,	0.039 - 0.20 inch	92 - 106 oz-in	Metal
15"	[1 – 5 mm]	[0.65 - 0.75 Nm]	

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#### EA9-T12CL Cutout Dimensions

The *C-more* 12" touch panels are mounted into a cutout through the control cabinet and secured with eight (8) mounting clips. The mounting clips are provided with the touch panel. The mounting clips will insert into a series of slots around the rear perimeter of the touch panel. Each clip has a tab that will mate to a slot. The screw of each mounting clip needs to be tightened to the torque rating shown in the table below so that the gasket is compressed to form the proper seal between the panel and cabinet surface.



-more

#### EA9-T15CL-R and EA9-T15CL Cutout Dimensions

The *C*-more 15" touch panels are mounted into a cutout through the control cabinet and secured with eight (8) mounting clips. The mounting clips are provided with the touch panel. The mounting clips will insert into a series of slots around the rear perimeter of the touch panel. Each clip has a tab that will mate to a slot. The screw of each mounting clip needs to be tightened to the torque rating shown in the table below so that the gasket is compressed to form the proper seal between the panel and cabinet surface.

INCHES [MM] 2X 0.41 14.93 [379.2] [10.4] 2X 0.41 [10.4] 1 OUTER EDGE FRONT BEZEL 11.27 OUTER EDGE CONTROL CABINET PANEL CUTOUT **Enclosure Mounting Thickness Ranges** and Mounting Clip Screw Torque 88888888 Ь ENCLOSURE MOUNTING Enclosure Mounting Clip Touch THICKNESS RANGE Materia П 0 ШШ Panel Size Thickness Range Screw Toraue MOUNTING 6", 7", 8", 10" & 12" 0.039 - 0.20 inch 63 - 77 oz-in BRACKET Metal [0.45 - 0.55 Nm] [1 – 5 mm] MOUNTING CLIP 10" Wide. 0.039 - 0.20 inch 92 - 106 oz-in SCREW TORQUE Metal [1 – 5 mm] [0.65 - 0.75 Nm]

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15"

## **Mounting Clearances**

The following drawing shows the mounting clearances for the *C-more* touch panel. There should be a minimum of 4 inches of space between all sides of the panel and the nearest object or obstruction and at least 1.72 inches between the rear of the panel and the nearest object or obstruction.



#### EA9-T15CL-R, EA9-T15CL Derating

If EA9-T15CL-R and EA9-T15CL are mounted off the vertical plane facing upward, the temperature shall be derated as shown below. Other panels may be mounted at any angle without derating consideration.



## **Wiring Guidelines**



WARNING: To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call technical support at 1-800-633-0405 or 770-844-4200. This publication is based on information that was available at the time it was printed. At Automationdirect.com® we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without obligation. This publication may also discuss features that may not be available in certain revisions of the product.

#### Agency Approvals

Some applications require agency approvals for particular components. The *C-more* touch panel agency approvals are listed below:

- UL (Underwriters' Laboratories, Inc.)
- CUL (Canadian Underwriters' Laboratories, Inc.)
- CE (European Economic Union)

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## Wiring Guidelines (cont'd)

#### Providing Power to the Touch Panel

- **Connect** a **dedicated** 12-24 VDC Class 2 power supply to the DC connector on the rear of the *C-more* touch panel, include wiring the ground terminal to a proper equipment ground
- or install a *C-more* AC/DC Power Adapter, EA-AC, to the rear of the touch panel and connect an AC voltage source of 100-240 VAC, 50/60Hertz, to its AC connector (see note below)
- **then** turn on the power **source** and check the LED status indicators on the front and rear of the *C-more* touch panel for proper indication (see next page)



**NOTE:** A dedicated power supply is recommended. If the power supply also feeds inductive loads such as solenoids or relays, the transients caused by these loads can affect the operation of the panel or damage panel components.



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**NOTE:** The AC/DC Power Adapter, EA-AC, is for **C-more** touch panels only. The adapter is powered from a 100-240 VAC, 50/60 Hertz power source. The adapter provides 24 VDC @ 1.5 A. Power Fault features help protect data on an SD memory card during power failures.



Warning: Use 60 / 75°C copper conductors only.

#### **C-more LED Status Indicators**

User Defined LED (Green, Oran Off Green Red User Defin Refer to onlin file for further of Sinking Crean Blitking Crean Sinking Crean	ed e help details)
	Front View
CPU Status LED (Green, Orange & F Off Power Off Green Normal – CPU Run State Red Memory Error Binking Watchdog Timer Error Binking OS Error Binking Power Loss Detection	Red)

Rear View



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## SYSTEM SETUP SCREENS

#### In This Chapter...

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#### Introduction

The *C-more* touch panels include a series of built-in System Setup Screens that allow the user to view detailed information about the panel; adjust certain features; configure communications; test various functions of the touch panel; backup & restore firmware, recipe, log and project memory; clear memory and reset all values and conditions back to the original factory defaults.

The four Main Menu selections are:

#### Information

ation
)

The information tabs display details about the touch panel model; the panel's name; version information for the hardware, boot loader and firmware; clock source, and beeper status. Other tabs display details on the panel's internal memory and the status of any external memory

devices. Communication port details are available in this area, as well as an error log to help in trouble-shooting the system

#### Setting



This is the area for 1.) making adjustments to the internal clock, 2.) adjusting the brightness of the display, 3.) setting the IP address 4.) adjusting (calibrating) the touch panel, 4.) enabling or disabling the internal beep, and 5.) enabling or disabling a mouse pointer.

#### Test Menu



From this sub menu, the user can 1.) test the touch panel, 2.) test the display, 3.) test the user LED 4.) test the communication ports, and 5.) test both the internal beeper or the audio line output, if a speaker with an amplifier is connected. A WAV sound file is system provided for the

audio line output test.

#### Memory



Select the Memory menu item to either backup or restore your project, log data, recipe data and/or system memory. Selections can be made to backup to optional SD card memory or USB pen drive memory. The menu selections also give the user the ability to clear the memory, and

there is also a selection to reset all of the touch panel settings back to the original factory defaults.

#### Accessing the System Setup Screens (no project loaded)

To access the Main Menu of the touch panel System Setup Screens prior to downloading a project, press the extreme upper left corner of the panel display area for 3 seconds as shown below. The Main Menu will then be displayed.



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## Accessing the System Setup Screens (with project loaded)

To access the Main Menu of the touch panel System Setup Screens with a project loaded into memory, press the upper left corner of the panel display area for 3 seconds as shown below.



If no system screen password is enabled, the following WARNING dialog box will appear on the touch screen.:

System Screen Called
Activating System Screen will stop the Panel Run Mode. Do you want to continue?
OK Cancel

- Pressing OK will display the system setup screen. See the WARNING below!
- Pressing Cancel will take you back to the project screen.
- Communications with the PLC is active while the Warning is displayed.
- The dialog box will close if no action is taken for 60 seconds.
- The dialog box will not display if the touch panel does not have a project loaded.
- The dialog box will display after a valid password is entered if the System Screen password is enabled.



WARNING: Pressing OK at this point will STOP the PLC driver and therefore all communications between the touch panel and PLC will cease. It is strongly recommended that the password system tag "SYS SYSTEMSCREENPW" be enabled to add a safeguard step in accessing the system setup screens. See the next section for an overview for setting the System Tags in the Event Manager Database.

#### System Setup Screens

The OK button in the Warning dialog box will bring up the Main Menu as shown below. You can then proceed to the other system setup screens.



#### Password Protecting System Screen Access



**NOTE:** If the password system tag **SYS SYSTEMSCREENPW** is enabled, the Enter Security Code keypad shown below will open. The procedure to enable the **SYS SYSTEMSCREENPW** is detailed below. Entering the correct password will display the Panel Run Mode warning dialog described previously. PLC communications continue while the keypad is displayed. The keypad will timeout after 60 seconds.

E	Enter Security Code						
7	8	9					
4	5	6					
1	2	3	Enter				
-	0	CL	Cancel				

## System Setup Screens – Enable Password in Software

Under the *C-more* Programming Software's Navigation window, select the Function tab, then double click on "Alarm Action" to display the Event Manager Database shown below:





The Event Add dialog box will be displayed as shown.

Click on the **Tag Name:** pull down menu and select the internal **System Bit On** (**SYS BIT ON**) tag as shown. This will force the tag event type to be continuously active.



Use the **Eve**nt Name: text box to document the event as "System Screen PW" for record keeping This is optional.

In the Action box, click once on the displayed 01-Alarm under the Sequence List: so that 01-Alarm is highlighted. Then click the **Delete Action** button to remove the **01-Alarm**.



In the Action box, click on the Add Action... button. This will bring up the Add Action dialog box as shown below:

Tag 💌	Teg Name: SYS BIT ON
Event Name. System Screen PW	Event State
	Add Action
Action Sequence List	Add Command Sequence R.
	DK Cancel Help Add Action

Click on the **Command:** pull down list in the **Add Command** box, select **Tag** from the list, then click **OK**.



more

A 01-Tag action item will then be added to the Sequence List.

vent Type			
Tag 🔛	Teg Name: 5YS	BIT ON 🖉	
Event Name. System Screen PW	-E ve	Image: Solution of the	
			01-Tag
chon Sequence List I D1-Tag	Leo Leg Name:		- 01-Tag
shan Sequence List ₩ D1-Tag	Teg Nørne:	Re Slate   Wile Value	O1-Tag
dan Sequence List ₩ D1.Tap	Teg Name:	te State © DN Vaue 0 0 0 0 0 0 0 0 0 0 0 0 0	Ol-Tag
chan Sequence List Ø D1.Tap	Teg Name:	ke State © ON © OFF	● 01-Tag

Click on the **Tag Name:** pull down list down arrow in the **Action** box's **Tag** tab, select **SYS SYSTEMSCREENPW** from the list, and click **OK**.





Enter a numeric value into the **Value:** box, such as "777". This value becomes the Password code to access the System Setup Screen's **Main Menu**.



Click the **Apply** button in the Event Add dialog box and then the Close button to return to the Event Manager Database. You now will see that the first event in the database is for the System Screen Password and it is enabled.

	— Event —		ŭ.			
Event No.	Event Name	Event Type	Alarm	Tag	Tag Copy	Sound
1	System Scre	Tag		Yes		
		-	-	-		
			-	-		
				-		

## System Setup Screens Flowchart



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## Main Menu



The **Main Menu** system setup screen is the top layer in the menu structure.

#### **Touch Screen Calibration**

While the **Main Menu** system setup screen is being displayed, the extreme upper left corner of the touch panel can be pressed for 3 seconds to access the **Touch Screen Calibration** display. This feature is used if the touch panel data becomes corrupted and touching the **Main Menu** buttons does not work. It allows a shortcut to the touch panel calibration screen





## **Information Menu**

#### Information - General tab

Information			
Gerieral	Memory	Ethemet	Erro
PanelType	EA9-T10C	L	
Panel Name	EA9-T10C	L-00224A	
Version			
Hardware	0800		
	00-00-00-0	00-00-00-00-00	
Boot Loader	: 0800		
Firmware			
-OS	Ver 0.99 Jul 18 2013 at 07 03 33		
-Runtime	: V4.81 Test	:15	
-System Screen	: V4.81 Test	15	
Clock	Internal	(6	
Веер	Enable	C	/
		_	Main N

The **General** tab under the Information menu provides detailed information of the *C-more* touch panel.

ltem No.	Function	Description	Comments
1	Panel Type	EA9-T6CL-R EA9-T6CL EA9-T7CL-R EA9-T7CL EA9-T7CL EA9-T10CL EA9-T10WCL EA9-T12CL EA9-T15CL-R EA9-T15CL-R EA9-T15CL	Model Number
2	Panel Name	The panel name is configured in the programming software and saved with a project.	The default panel name is the model number plus the lower three bytes of the panel MAC address, ie EA9- T8CL-0022C4.
3	Version	The version identifications provide information on the components and firmware in the panel	Files reside in the <i>C-more</i> touch panel's memory.
4	Clock	Internal/External clock selection.	Configured in the <i>C-more</i> Programming Software.
5	Beep	Status of the internal beeper.	Configurable in the <b>Setting Menu –</b> <b>Beeper</b> shown on page 5-23 or in the <i>C-more</i> Programming Software.
6	Main Menu	Press to return to the Main Menu screen.	Main Menu shown on previous page.

Information			
General	Memory	Ethernet	Error
	Total	Usage	Free
SDRAM :	108 MB	60 MB	48 MB
MRAM :	512 KB	6 KB	506 KB
Built-in Flash:	81 MB	9 MB	72 MB
	$\sim$	$\sim$	
Resource Mor		(3	) Main Menu

#### Information - Memory tab

1. Memory components - Status of each memory component - SDRAM, MRAM and Built-in Flash are internal memory components. When external memory devices are installed in the panel they will be included in this list : SD1, SD2 (12 and 15 inch panels only) and USB.

Information			
General	Memory Total	Ethernet	Error
SDR Error List			OK × 9 MB
Built-			9 MB
SD2 USB			B G B 1 MB
	1	1	
- Clivar	729e0r	Lafellinen	Clase
Resource Mor	litor		Main Menu

- 2. **Resource Monitor** this troubleshooting tool displays CPU and panel internal memory usage. When enabled, the Resource Monitor will display on the panel screen WHILE THE PROJECT IS RUNNING that is, after you click Main Menu then click Exit) - the Resource Monitor also allows access to the Error Tab WITHOUT STOPPING COMMUNICATIONS WITH THE PLC
- 3. Main Menu Press to return to the Main Menu screen - Main Menu shown previously

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#### Information - Ethernet tab

Information			
General	Memory	Ethernet	Error
Ethernet (Link . C	nline)		
MAC Address	: 00:D0:7C:0	30:22:4 <b>A</b>	
Address Type	: Static		
IP Address	: 10.11.0.15	5	
Subnet Mask	: 255.255.0.	0	
Default Gatewar	0.0.0.0 V		
DNS Server	: Automatica	ally	
		(	2)
			<b>_</b> )
			Main Me
			WIGHT IVE

ltem No.	Function	Description	Comment
1	Ethernet (Link: Online)	Ethernet Settings: MAC Address: 00 D0 7C XX XX XX Address Type: DHCP/Static IP Address: Subnet Mask: Default Gateway: DNS: 1.) Automatically 2.) Use Designated Address Note: N/A - not available on reduced featured models (-R)	Configurable in the <b>Setting Menu</b> – <b>IP Address Setting</b> shown on in this section or in the <i>C-more</i> Programming Software.
2	Main Menu	Press to return to the Main Menu screen.	





#### **Error Message Format:**

Item No.	Function	Description	Comment		
Order of error message functions: Error Number, Date, Time, Error Port, Device Name, Error Type, PLC Device, Access Bytes, Error Message					
1	Date	Format: MM/DD/YY	Date error occurred.		
2	Time	Format: HH/MM/SS	Time error occurred.		
3	Error Port	PLC Serial Communications Port: Ethernet:			
4	Device Name	The name of the device reporting the error.	Device names are configured in the programming software, Panel Manager		
5	Error Type	RD: Read WT: Write			
6	PLC Address	The assigned address of the PLC that caused the error.			
7	Access Bytes	The number of access bytes.			
8	Error Message	The error message is the same as the message displayed in the upper left of the <b><i>C-more</i></b> touch panel's display.	A list of Error Massages is shown in Appendix A		

#### Error Message navigation buttons:

ltem No.	Function	Description	Comment
1	Clear	Press to clear all error messages. This button is grayed out when there are no error messages to display.	Errors are also cleared with firmware is updated on the panel. Errors are not cleared on power cycle or project transfer.
2	Page Down	Press to go to to the next page. This button is grayed out when there is no error messages on the next page.	
3	Page Up	Press to go to the previous page. This button is grayed out when there is no error messages on the previous page.	
4	Main Menu	Press to return to the Main Menu screen.	
# **Setting Menu**



The **Setting Menu** is used to adjust the time & date, adjust the contrast or brightness of the display, enter the IP address settings, adjust (calibrate) the touch screen, enable or disable the internal beep and turn on and off the mouse cursor.

Item No.	Function	Description	Comments
1	Adjust Clock	Press to go to the Adjust Clock screen.	
2	Adjust Display	Press to go to the Adjust Display screen.	
3	IP Address	Press to go to the IP Address screen	The IP Address can also be set from the programming software or by the project.
4	Adjust Touch Panel	Press to go to the Adjust Touch Panel screen.	
5	Beep	Press to go to the <b>Beep</b> screen.	
6	Mouse	Press to go to the <b>Mouse</b> screen.	
7	Main Menu	Press to return to the Main Menu screen.	

 Item No.
 Function
 Description

 1
 Adjust Clock
 Press to go to the Adjust

### Setting – Adjust Clock

Time

13:58:43

1

2

Adjust Clock

Date

0K

-

68-16-2013

5

Cancel

Item No.		Function	Description	Comments
1	Select		Time: Each press of the <b>Select</b> button will cycle thru the following settings. 1.) No Selection to Hours 2.) Hours to Minutes 3.) Minutes to Seconds 4.) Seconds back to Hours <b>Date:</b> Each press of the <b>Select</b> button will cycle thru the following settings. 1.) Month to Day 2.) Day to Year 3.) Year back to Month	
2	Up		Press to increment the value by "1" with each press.	
3	Down		Press to decrement the value by "1" with each press.	
4	OK		Press to accept the changes.	
5	Cancel		Press to return to the <b>Setting Menu</b> screen without accepting the changes.	



**NOTE:** The function buttons used to adjust the clock settings on the panel's setup screen are **disabled** if an **External** clock source is selected in the **C-more** programming software. The choice of an internal or external clock source is available by selecting **Clock Source** in the **C-more** programming software under the **Main Menu** drop down function **Setup**.



**NOTE:** The panel's clock can also be adjusted from the **C-more** programming software. The **Adjust Clock** function can be accessed in the software by selecting **Adjust Clock** under the **Main Menu** drop down function **Panel** or selecting **Adjust Clock** under the **Panel** tab in the software's **Navigation** window.



### Setting – Adjust Display



ltem No.	Function	Description	Comments
1	Setting	Use the Up and Down arrows to change the brightness.	
2	Color Sample	Displays a sample of how colors will appear with the new setting.	
3	Contrast Sample	Displays a sample of contrast with the new setting	
4	ОК	Press to accept the changes.	
5	Cancel	Press to return to the <b>Setting Menu</b> screen without accepting the changes.	

### Setting - Adjust Touch Panel

This procedure is used to calibrate the touch screen to ensure accuracy of the touch areas. There are five points on the touch screen that the calibration is based around. The adjustment relies on very narrow areas for the calibration points.



**NOTE:** The panel will display the **Adjust Touch Panel** window on power up until the calibration procedure is completed.



Item No.	Function	Description	Comment
1	Start Calibration	Press to begin the touch screen calibration	
2	Cancel	Press to return to the <b>Setting Menu</b> screen.	
3	Points 3a thru 3e	The touch screen calibration crosshairs will appear individually in the order of point 3a thru 3e respectively as each proceeding crosshair is pressed.	If the touched co-ordinate point is too far off from normal, then the procedure will return to Point 3a.

### Setting – Beep



This system setup screen function is used to enable or disable the touch panel's internal beep function.

ltem No.	Function	Description	Comments
1	Enable Beep	Check to enable the internal beep.	
2	ОК	Press to accept the changes.	
3	Cancel	Press to return to the <b>Setting Menu</b> screen without accepting the changes.	



**NOTE:** The project settings in the **C-more** programming software **Panel Manager** will override the touch panel's internal setting upon initial download.

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### Setting - Mouse

Mous	e		
Show Mouse cursor O On Off			
J			
		ок Са	ancel

This system setup screen function is used to enable/ disable the arrow mouse cursor on the panel screen. It may be valuable to display the mouse cursor, for example, when an external USB keyboard is connected to the panel..



**NOTE:** The project settings in the **C-more** programming software **Panel Manager** will override the touch panel's internal setting upon initial download.





2

ltem No.	Function	Description	Comment
1	DHCP	"DHCP" is enabled as the default when this system setup screen is first selected. All of the other selections on this screen are dimmed when "DHCP" is selected and are not available.	
2	IP Address	The "Use the following IP Address" setting is selected when its radio button is pressed. Use the numerical keypad to assign the IP address.	Note: If an Ethernet cable is not connected to the touch panel from an active Ethernet device, then the IP Address will show as 0.0.0.0.
3	IP Address Subnet Mask Default Gateway	Select the field that needs to be assigned by touching the entry value and use the keypad to enter the desired address.	Each field can be independently assigned.
4	Keypad	The keypad is used to enter the Address: Use the numeric keys to enter the address, e.g: 192.168.10.1 "CL" = Clear value entered	
5	ОК	Press to accept the changes and return to the <b>Setting Menu</b> screen.	
6	Cancel	Press to return to the <b>Setting Menu</b> screen without accepting the changes.	



**NOTE:** The project settings in the **C-more** programming software **Panel Manager** will override the touch panel's internal setting upon initial download.

### Test Menu **Test Touch** Test Display Test User LED Panel ř A., 2 3 1 Test Comm. Test Beep/Sound Port 5 Main Menu 6

The **Test Menu** gives the user the ability to test the operation of the touch screen, test the LCD display, test the various communication ports, and also test the internal beeper and the audio line out through an user supplied amplified (stereo) speaker(s).

ltem No.	Function	Description	Comments
1	Test Touch Panel	Press to go to the Test Touch Panel screen.	
2	Test Display	Press to go to the <b>Test Display</b> screen.	
3	Test User LED	Tests the user configurable LED on the front of the panel. Refer to the online help file for details on the configuration of this LED.	
4	Test Communication Port	Press to go to the <b>Test Communication Port</b> screen.	
5	Test Beep/Sound	Press to go to the <b>Test Beep/Sound</b> screen.	
6	Main Menu	Press to return to the Main Menu screen.	

# **Test Menu**

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<b></b>	Test Touch Panel	Using this to operation of determined <b>Testing:</b> If an area of be inoperaby while in the mode. The in that area black when is defective <b>Setting - Ad</b>	est, normal or unusual f the analog touch panel can be The touch screen is suspected to ble, touch that area of the screen he <b>Test Touch Panel</b> screen screen pixels should turn black . If the screen pixels do not turn touched, then the touch screen or needs to be calibrated. See djust Touch Screen
Item No.	Function	Description	Comments
1	Touch area	Touch to turn on pixels on the screen.	Both the title bar (Test Touch Panel) and <b>Cancel</b> button can be drawn across to test the touch operation.
2	Cancel	Press to return to the <b>Test Menu</b> screen.	



**NOTE:** The Touchscreen is designed to respond to a single touch. If it is touched at multiple points at the same time, an unexpected object may be activated.

### Test Menu – Test Display

There are two different test patterns that may be run on the display to allow the user to check for display screen defects. If the screen is not touched within 3 seconds of **Test Pattern 1** being displayed, then **Test Pattern 2** will be displayed until the screen is touched, otherwise **Test Pattern 1** will remain until cancelled.

Test Pattern 1 displays a test pattern of 16 grayscale graduations and RGB colors.



**Test Pattern 2** will follow the pattern as shown in the following chart with the color wiping across the screen in the direction indicated by the arrows, then repeats:



Item No.	Function	Description	Comments
1	Touch the Test Display screen.	Press the screen anywhere except the <b>Cancel</b> button and the shown <b>Test Pattern 1</b> remains.	If the <b>Test Display</b> screen is not touched, then in three seconds the display will move to <b>Test Pattern 2</b> .
2	Cancel (Test Pattern 1)	Press to return to the Test Menu screen.	
3	Touch Anywhere (Test Pattern 2)	Touch the sceen anywhere during <b>Test</b> <b>Pattern 2</b> and return to the <b>Test Menu</b> screen.	

**Test Results:** If any pixels on the screen do not appear the same color as the surrounding pixels, the screen may be defective. A single pixel gone bad is relatively common. Surrounding pixels going bad over time is another indication the screen may be defective.

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### Test Menu – Test Communication Ports: Serial Ports



The following test can be used to check the operation of the serial communication ports, with the use of a loop back connector and can also check the serial communications to any connected and configured PLC.

Item No.	Function	Description	Comments
1	Loop Back Test	The loop back test checks the hardware components of the selected port for proper operation.	The loop back test may be performed on Serial Port 1 or Serial Port 3. Each tab shows diagrams to assist the user in building the loop back connector
2	PLC Enquiry Test	This function allows the ability to select any PLC that that may be connected to the touch panel via a serial connection and checks to see if the communications are working correctly.	The PLC must be configured for the selected port in the C-more programming software Panel Manager and transferred tot he panel before attempting the PLC Enquiry test.
3	Cancel	Press to return to the Test Menu screen.	



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### Test Menu - PLC Serial Comm Port - Loop Back Test

### **Test Results**

- 1.) Bytes Sent: The number of bytes sent after a test is started.
- 2.) Receive Counts: The number of bytes which are received after the test is started.
- 3.) Error Counts: The number of bytes which have not been received after the test is started.
- 4.) RTS/CTS Test: Pass/Fail

RTS is turned on and if CTS receives the signal then the test shows "Pass", otherwise the test shows "Fail".



]

**NOTE:** The test will continue to run until the Cancel button is pressed. If there are any error counts, check the loop back connector.

	Test Co	<b>nn.</b> Port	
	Serial : Lo	op Back Test	
COM3 Port	Bytes	Receive	Error
TXD/RXD	Sent	Counts	Counts
Test	8	8	0
RTS/CTS			
Test	Pass		
			Cancel

### Test Menu - PLC Enquiry Test: Serial Connection

Serial 1 Seria	I 2 Serial 3	Ethernet
Loop Back Test	PLC E	Enquiry Test
lse Loop-Back Connect RS232 합편하 'in assignment	or Select PLC:	•

This function allows the ability to select any PLC that may be connected to the touch panel through the selected serial comm. port connection and checks to see if the communications are working correctly.

Â	<u></u>	
$\square$		

**NOTE:** The communications protocol for the PLC being selected must be configured the same as the **C-more** touch panel. The touch panel's PLC serial communications are configured using the **C-more** Programming Software's Panel Manager.

### **PLC Enquiry Test**

Four test packets are sent to the selected PLC. The test result with return either Pass or Fail.



### Test Menu – Test Communication Ports: Ethernet

 

 Test Comm. Port

 Serial 1
 Serial 2
 Serial 3
 Ethernet

 Link : Offline Address : DHCP 0.0.0
 2
 PLC Enquiry Test

 0.0.0
 Select PLC:

 1
 Image: Select PLC:

 3
 Cancel

The following test feature can be used to check the operation of the Ethernet communication port by indicating if an Ethernet link has been established or not, and can also check the status of the Ethernet communications to any connected PLC.

Base featured models (-R) do not include an Ethernet port, therefore this check is not displayed.

**NOTE:** The communications protocol for the PLC being selected must be configured the same as the **C-more** touch panel. The touch panel's PLC serial communications are configured using the **C-more** Programming Software's Panel Manager.

ltem No.	Function	Description	Comments
1	Ethernet Connected	This area displays information to whether an Ethernet link has been established for the touch panel's Ethernet comm port or not. Displays panel's IP address and shows whether it is static or assigned by a DHCP server.	
2	PLC Enquiry Test	This function allows the ability to select any PLC configured in the project that may be connected to the touch panel via an Ethernet connection and checks to see if the communications are working correctly.	The PLC must be configured for the selected port in the C-more programming software Panel Manager and transferred to the panel before attempting the PLC Enquiry test.
3	Cancel	Press to return to the <b>Test Menu</b> screen.	

Example of displayed message when the touch panel's Ethernet port is not connected. Note that the address resets to 0.0.0.0 even if it has previously been entered.







### Test Menu – PLC Enquiry Test: Ethernet Connection



This function allows the ability to select any PLC configured in the project that may be connected to the touch panel through an Ethernet port connection and checks to see if the communications are working correctly.



**NOTE:** The communications protocol for the PLC being selected must be configured the same as the **C-more** touch panel. The touch panel's PLC serial communications are configured using the **C-more** Programming Software's Panel Manager.

### **PLC Enquiry Test**

Following are the steps that the Ethernet PLC Enquiry Test performs:

- 1.) Ping the network 4 times for the PLC selected.
- 2.) Four of the test read packets are sent to the selected PLC.

The test result will either be Pass or Fail. However, if the result of pinging the network shows an error, the test is stopped.

# Test Conm. Port Ethernet : PLC Enquiry Test Selected PLC : H0-ECOM Ping Test Data1:Reply from PLC:bytes=32 time=1ms TTL=128 Data2:Request timed out Data3:Request timed out Data4:Request timed out Protocol Test Data2:Test Fail. Data3:Test Fail. Data4:Test Fail. Cancel

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# Test Beep/Sound Beep Speaker Beep Test Beep Test 1 Cancel

Test Menu - Test Beep/Sound

The internal Beeper can be tested from this system setup screen whether the Beeper is enabled or disabled. After the **Beep Test** button is pressed and released, the Beeper will sound for 500 msec.



The **Speaker Test** function requires that a speaker(s) with an amplifier (can be stereo) be connected to the Audio Line Out stereo jack on the rear of the touch panel.

After the **Speaker Test** button is pressed then released, a system provided Test.WAV file will play once.



WARNING: Hearing damage may occur if the volume on the user supplied external amplified speaker is set too high.



## **Memory Menu**



The user's project, Firmware and OS, log and recipes files can be backed up to or restored from an SD memory card (SD Card Slot 1 or SD Card Slot 2), or a USB memory device. From this menu the user can also clear the project log files. The user also has the ability to clear the memory within the *C-more* touch panel.

ltem No.	Function	Description	Comments
1	Backup	Backup project, Firmware and OS, log & recipe files to the following memory devices: USB port - Type A: USB pen drive SD Card Slot1 (All panels): SD card SD Card Slot2 (12-inch & 15-inch): SD Card	Any USB 2.0 pen drive. SD formats SD and SDHC are supported. Capacity up to 32 GB. The backup data files are created and copied to a folder on the memory device named "EA_Memory Copy." The project file is named StartupStorage.eas9 "Log" and "Recipe" folders with the appropriate data files are also created on the memory device.
2	Restore	Restore project, Firmware and OS, log & recipe files to the internal memory from one of the following memory devices: USB port - Type A: USB pen drive SD Card Slot1 (All panels): SD card SD Card Slot2 (12-inch & 15-inch): SD Card	A folder on the memory device named "EA_Memory Copy" must exist containing a file named "StartupStorage. eas9". The project data file is stored in this file, and if the system data file was backed up, it also will be stored in this file. Any backed up log or recipe data files will be located under the appropriate "Log" or "Recipe" folders.
3	Clear Memory	Clear selected data files from the memory of the following internal memory or external memory devices: Built-in FLASH Memory USB port - Type A: USB pen drive SD Card Slot1 (All panels): SD card SD Card Slot2 (12-inch & 15-inch): SD Card	Can only clear project, log and recipe data files of the Built-in FLASH memory. Can clear entire contents or individual data files of external memory devices.
4	Reset to Factory Default	The touch panel's internal memory is set to the original factory defaults.	Clears all project memory.
5	Main Menu	Press to return to the Main Menu screen.	



**NOTE:** The Project is RESTORED to the panel from an external memory device. A project can be TRANSFERRED to and SD card or USB memory from the programming software to be RESTORED to a panel that is not connected to the programming software. This file has the .eas9 extension NOT the .eap9 extension of a projects SAVED from the software.

### Project Executed from SD Card Slot 1

If the Project Storage/Boot Location is set to Auto or SD1 in the *C-more* software Panel Manager, and an SD memory card is located in the SD Card Slot 1 at the time a project is transferred to the panel, the project will be stored on the SD card, and the Internal Project Memory will be cleared.

If Slot 1 contains an SD memory card with a project and the touch panel's power is cycled, then the project file stored on the SD card is loaded into the touch panel's internal memory and executed. Any project in the internal FLASH memory is cleared.



WARNING: During power up with an SD memory card plugged into an SD card slot, do not remove the memory card from the slot. Damage to the SD memory card and possibly the touch panel may result.



WARNING: After a firmware update, the project files which are located in either the touch panel's internal FLASH memory or an SD memory card plugged into an SD card slot are cleared. The programming software will need to be used to Transfer the project file back into the panel. If you wish to retain the project on the SD memory card, power down the panel and remove the SD card before performing a firmware upgrade.

### Increasing Project Memory Size using an SD memory card:

If a project is transferred to the panel with an SD memory card in SD slot 1, the Font and Recipe data files are not included in the 26 MB (82MB for 12" and 15" models) project size. Therefore using an SD memory card can allow a project to be loaded that is larger than 26MB IF the excessive size is caused by Fonts and/or Recipe Sheets.



# Backup Step-1 : Select backup device Image: Select backup device Select backup device</t

Memory - Backup

Backup Step-1: Select backup device Step-1: Select backup device USB Total: 488 MB Free : 0 KB SD1 Total: 8 GB Free : 0 KB SD2 Total: NA Free : 0 KB Next >> Cancel

The Memory - Backup selection allows you to backup the panel's **Project**, **Log** files, **Recipe** files or even the **Firmware** files to either an SD memory card or **USB** pen drive. The available memory devices will be displayed with their total and free memory.

If the device is not available, it will be grayed out. The **Next** button is grayed out until a device is selected.

The **Cancel** button can be pressed at any time to return to the **Memory Menu** screen.

This is an example of selecting a USB memory device to write the backed up files to.

The selected device is highlighted. Pressing again deselects it.

Even if there is only one available memory device, it still needs to be highlighted in order to go to the next step.

Press the Next button to continue to Step 2.

Please read the explanation for the availability of SD1 under different conditions that follow:

5

# Memory – Backup (cont'd)

### SD Card Slot1 Availability Explanation:



SD1 may be unavailable (grayed out) if there is no card in SD Slot 1 or the card in SD slot 1 has the project currently running on the panel stored on it. The project will exist on SD1 if the SD card was installed in SD1 when the project was TRANSFERRED to the panel by the *C-more* programming software.

	Backup
Step-1 : Select backup devi	сө
er er	USB Total: 498 MB Free 0 KB
SD1 Total:8GB Free:8GB	SD2 Total: N/A Froe N/A
	Next >> Cancel

If the panel is powered up or rebooted with an SD card inserted into SD1 Slot, then the SD1 button's Total and Free memory will be displayed.



### Memory – Backup (cont'd)

	=
=	_
-	_

NOTE: The following definitions are for the various file types that can be backed up:

**Project data** – consists of the actual developed project data that is created in the **C-more** programming software and includes all functionality, objects, screens, tag names, labels, comments, graphics, etc. Included in backup file name StartupStorage.eas9.

**Recipe data** – consists of all the data values and labels that have been created for the various recipe sheets. Includes all recipe sheets loaded to the panel. Only recipe sheets used in the project are loaded to the panel. **Firmware** – consists of the operating system, firmware and run time files. Included in backup file name StartupStorage.eas9.

Log data - consists of the Alarm Log, Message Log and Trend Data Logging files.

Select the data file(s) to be backed up by pressing the appropriate data file button. The selection will be highlighted.

Ba	ickup
Step-2 : Select Data Area to Ba	ckup
Project Total: 507 KB	Recipe Total : 0 KB
Log Total : 5 MB	Firmware Total : 17 MB
	Prev. Next >> Cancel

Pressing the highlighted data file button again will turn it off.

The Next >> button will stay grayed out until at least one data file is selected.

Any file type not available will be grayed out.

The Next >> button is now enabled.

Pressing Cancel will return to the previous menu.

Press the Next button to continue.



**NOTE:** In the case of the **Project** and **Firmware** files, these can be **Restored** later to another panel. **Recipe** files can be edited externally from the panel and then **Restored** to the panel. The **Log** files are for viewing purposes only.

See **Memory - Restore** later in this chapter for instructions on Restoring the Project, Firmware and or Recipe files to a Panel.



### Memory – Backup (cont'd)

### **Backup Data Files Naming and Organization**

The following graphic shows how the various data files are organized on the memory device when doing a **Backup** and also the file naming convention that is used when viewed in Windows® Explorer on a PC.



### Memory – Backup (cont'd)

Bac	kup
Step-3 : Panel to USB	
Panel Total : 17 MB Project : 2 MB Firmware : 15 MB	USB Total : 488 MB Used : 624 KB Free : 487 MB
<< Prev.	OK Cancel

The next system setup screen allows the verification of the data file selections. When the OK button is pressed, the backup begins.

The user can return to the previous screen by pressing the << Prev button.



This message is displayed during the **Backup** copying process. Press the **Cancel** button to abort the backup.

The following text is shown in the copying progress message box:

Copy to USB Memory:

"Please do not Power Off and Remove USB"

Copy to SD1 or SD2: "Please do not Power Off and Remove SD"



WARNING: During the copying process do not power off the touch panel or remove the memory device.



This message is displayed to indicate the **Backup** is complete. Press the **OK** button to return to the previous menu selection.

5

### Memory - Backup (cont'd)

# Backur Ster-3 : Panel to USB System Screen Tot Prc Not enough Memory Space in USB. OK OK Cancel

### Warning Messages

If the destination does not have enough space to store the selected memory size, then the message shown here will be displayed. Press the **OK** button to clear the warning message.

The warning message will read "Not enough Memory Space in %Device%".

%Device% will show either "SD1", "SD2", or "USB".



This warning message will be displayed if the backup Memory device fails or is removed during the backup. Press the OK button to clear the warning message.

The warning message will read "Backup Failed. "%Device% cannot be found".

%Device% will show either "SD1", "SD2", or "USB".

Refer to **Chapter 8: Troubleshooting** for additional help.

Backur	
Step-3 : Panel to USB	
System Screen	
Backup Failed.	
OK	
<pre> OK Cance:</pre>	L

For any other reason the backup fails, then this warning message will be displayed. Press the **OK** button to clear the warning message.

The warning message will read "Backup Failed".

Refer to **Chapter 8: Troubleshooting** for additional help.

### Memory – Restore



### The Memory - Restore function is used to:

1.) **Restore** a project previously backed up on an SD card or USB pen drive memory device to the same panel. See **Memory - Backup** previously in this chapter.

2.) Copy a project from one panel to another panel using a memory device to physically transport the data files.

3.) **Restore** a project into the panel that was transferred to an "External Memory Device" using the *C-more* Programming Software.

4.) **Restore Recipe Sheet(s)** previously backed up to a memory device or copied to the memory device using a PC.

The available memory devices will be displayed showing the total and free available memory for that device. If the device is not available, it will be grayed out. The **Next** button is grayed out until a device is selected.

The **Cancel** button can be pressed at any time to return to the **Memory Menu** screen.

This is an example of a USB memory device selected to be the source for restoring the data file(s).

The selected device is highlighted. Pressing again deselects it.

Even if there is only one available memory device, it needs to be highlighted in order to go to the next step.

Press the **Next** button to continue to Step 2.

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1	
1	
L	

**NOTE:** If you have a memory device inserted into the proper port on the touch panel, but it doesn't show up as highlighted in Step 1 of the **Backup** setup screen, then try a different device to determine if the memory device is defective or if there is a possible problem with the memory device connection. It may not be compatible with the panel. Some USB pen drives are not USB 2.0 compatible and will not work with **C-more** touch panels. Some USB pen drives may take several minutes before they are recognized by the panel. SD cards must be formatted using the SD formatter provided by **SDcard.org** 

Please read the explanation for the availability of SD1 under different conditions as shown on this page and the next.

### SD1 Availability Explanation:



SD1 may be unavailable (grayed out) if there is no card in SD Slot 1 or the card in SD slot 1 has the project currently running on the panel stored on it.

The project will exist on SD1 if the SD card was installed in SD1 when the project was TRANSFERRED to the panel by the *C-more* programming software.

 Restore
 If

 Step-1: Select Device where data is stored
 Ca

 Image: Select Device where data is stored
 Total: 488 MB

 Image: Select Device where data is stored
 USB

 Total: 488 MB
 Free : 0 KB

 Free : 0 KB
 SD2

 Total: 8 GB
 Total: N/A

 Free : 8 GB
 Free : N/A

 Next >>
 Cancel

If the panel is powered up or rebooted with an SD card inserted into SD1 Slot, then the SD1 button's Total and Free memory will be displayed.



**NOTE:** The following definitions are for the various file types that can be restored:

**Project data** – consists of the actual developed project data that is created in the **C-more** programming software and includes all functionality, objects, screens, tag names, labels, comments, graphics, etc. Included in backup file name StartupStorage.eas9.

**Recipe data** – consists of all the data values and labels that have been created for the various recipe sheets. Includes all recipe sheets loaded to the panel. Only recipe sheets used in the project are loaded to the panel. **Firmware** – consists of the operating system, firmware and run time files. Included in backup file name StartupStorage.eas9.

Log data - consists of the Alarm Log, Message Log and Trend Data Logging files.

5

Res	tore	
Step-2 : Select Data Area to Restore		
Project Recipe Total : 172 KB Total : 1 KB		
Log Total : 268 KB	System Total:16 MB	
< Prev.	Next >> Cancel	

Select the data file(s) to be restored by pressing the appropriate data file button. The selection will be highlighted. The data file can be either the **Project**, **Firmware** and/or **Recipe files**. The selected data is restored to the internal built-in memory if there is no SD card inserted into the SD1 slot.

Pressing the highlighted data file again will turn it off.

The **Next** >> button will stay grayed out until at least one data file is selected.

Any file type not available will be grayed out.





**NOTE:** The following definitions are for the various file types that can be restored: **Project data –** consists of the actual developed project data that is created in the **C-more** programming software

and includes all functionality, objects, screens, tag names, labels, comments, graphics, etc. Included in backup file name StartupStorage.eas9.

**Recipe data** – consists of all the data values and labels that have been created for the various recipe sheets. Includes all recipe sheets loaded to the panel. Only recipe sheets used in the project are loaded to the panel. **Firmware** – consists of the operating system, firmware and run time files. Included in backup file name StartupStorage.eas9.

Log data - consists of the Alarm Log, Message Log and Trend Data Logging files.



Restore	
Ster-3 : USB to Panel	
System Screen	
Tot Pro	
OK	
<< Prev. OK Cance	1

This message is displayed to indicate the **Restore** is complete. Press the **OK** button to return to the previous menu selection.

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### Restore Step-3 : USB to Panel System Screen Tot Not enough Memory Space in System Prd Memory. ÖK << Prev. οк Cancel





If the system memory does not have enough space to restore the selected memory size, then the message shown here will be displayed. Press the **OK** button to clear the warning message.

The warning message will read "Not enough Memory Space in System Memory".

The Project size must be less than 10 MByte for 6"-10" panels and less than 40 MByte for 12" & 15" panels.

This warning message will be displayed if the restore Memory device fails or is removed during the backup. Press the **OK** button to clear the warning message.

The warning message will read "Restore Failed. "%Device% cannot be found".

%Device% will show show "SD1", "SD2", or "USB".

Try using a different device with known good data in the same connector or using the device that is causing the error in a different connector.



For any other reason the restore fails, then this warning message will be displayed. Press the OK button to clear the warning message.

### Memory – Clear Memory

Clear Memory Step-1 : Select Device to Clear	
Total : 81 MB	Total : 488 MB
Free : 72 MB	Free : 0 KB
SD1	SD2
Total∶8 GB	Total: N/A
Free ∶8 GB	Free N/A
	Next >> Cancel

This function is used to clear individually selected data files, or all data files, within the panel's **Built-in Memory**, or any installed memory device such as a USB pen drive or an SD card.

Select the memory device to clear. If the device is not available, it will be grayed out.

The Next button is grayed out until a device is selected.

Clear Memory	
Step-1 : Select Device to Clea	ar
Built-in Memory Total : 77 MB Free : 69 MB	USB Total : 488 MB Free : 481 MB
SD1 Total : 15 GB Free : 15 GB	SD2 Total : N/A Free : N/A
	Next >> Cancel

The selected device is highlighted. Pressing again deselects it.

When there are more than two available backup devices, the one selected will be highlighted. If another is selected, then the highlight will change to the last one pressed. Only one device can be selected at a time.

Press the **Next** button to continue.

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### Memory – Clear Memory (cont'd)



Select the data file(s) to be cleared.

This is an example of an SD card or USB memory that was selected in **Clear Memory - Step-1**.

The selected file will be highlighted. Pressing again deselects it.

The **Next** >> button will stay grayed out until file(s) are selected.

Selecting **Clear All** will erase all files located on the memory device.

This is an example of **USB Memory** that was selected in **Clear Memory - Step-1**.

Notice the ability to select either the **Project** file, **Log** files, **Recipe** files, or the **System** files.



NOTE: Firmware files cannot be cleared from internal memory.



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