

*Allen-Bradley*

## **PanelView Plus Terminals**

**2711P**

**(400, 600, 700, 1000, 1250, 1500)**

**User Manual**

**Rockwell  
Automation**

## Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. *Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls* (Publication SGI-1.1 available from your local Rockwell Automation sales office or online at <http://www.ab.com/manuals/gi>) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

Reproduction of the contents of this manual, in whole or in part, without written permission of Rockwell Automation, Inc. is prohibited.

Throughout this manual, when necessary we use notes to make you aware of safety considerations.

---

### WARNING



Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.

---

---

### IMPORTANT

Identifies information that is critical for successful application and understanding of the product.

---

---

### ATTENTION



Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you:

- identify a hazard
  - avoid a hazard
  - recognize the consequence
- 

---

### SHOCK HAZARD



Labels may be located on or inside the equipment (e.g., drive or motor) to alert people that dangerous voltage may be present.

---

---

### BURN HAZARD



Labels may be located on or inside the equipment (e.g., drive or motor) to alert people that surfaces may be dangerous temperatures.

---

<b>Preface</b>	Objectives . . . . .	Preface-i
	Packing List . . . . .	Preface-i
	Manual Contents . . . . .	Preface-ii
	Intended Audience . . . . .	Preface-ii
	Related Publications . . . . .	Preface-iii
	European Communities (EC) Directive Compliance . . . . .	Preface-iii
	Rockwell Automation Support . . . . .	Preface-iv
	<b>Chapter 1</b>	
<b>Overview</b>	Chapter Objectives . . . . .	1-1
	Software Support . . . . .	1-1
	PanelView Plus 400 - 600 Features . . . . .	1-2
	PanelView Plus 700 - 1500 Features . . . . .	1-7
	Catalog Number Configuration . . . . .	1-12
	PanelView Plus Product Components . . . . .	1-12
	<b>Chapter 2</b>	
<b>Installation</b>	Chapter Objectives . . . . .	2-1
	Hazardous Locations . . . . .	2-1
	Environmental Considerations . . . . .	2-3
	Enclosures . . . . .	2-3
	Clearances . . . . .	2-4
	Outdoor Installation . . . . .	2-4
	Required Tools . . . . .	2-5
	Cutout Dimensions . . . . .	2-5
	Mounting Dimensions . . . . .	2-6
	400 - 600 Panel Installation . . . . .	2-12
	700 - 1500 Panel Installation . . . . .	2-14
	<b>Chapter 3</b>	
<b>Applying Power</b>	Chapter Objectives . . . . .	3-1
	Wiring and Safety Guidelines . . . . .	3-1
	Installing and Removing Power Terminal Block . . . . .	3-2
	Connecting DC Power . . . . .	3-3
	Connecting AC Power . . . . .	3-5
	Resetting the Terminal . . . . .	3-6
	Startup Sequence . . . . .	3-8
	<b>Chapter 4</b>	
<b>Using Configuration Mode</b>	Chapter Objectives . . . . .	4-1
	Starting Configuration Mode . . . . .	4-1
	Loading an ME Application . . . . .	4-4
	Running an Application . . . . .	4-5
	Application Settings . . . . .	4-5
	Terminal Settings . . . . .	4-5

Networks and Communications . . . . .	4-6
Diagnostic Setup . . . . .	4-15
File Management . . . . .	4-16
Display . . . . .	4-19
Font Linking . . . . .	4-21
Input Devices . . . . .	4-22
Print Setup . . . . .	4-26
Startup Options . . . . .	4-28
System Event Log . . . . .	4-32
System Information . . . . .	4-33
Time/Date/Regional Settings . . . . .	4-36

## **Installing and Replacing Components**

### **Chapter 5**

Chapter Objectives . . . . .	5-1
Required Tools . . . . .	5-1
Precautions . . . . .	5-1
Compatibility of Terminal Components . . . . .	5-2
Installing RAM and Internal Compact Flash . . . . .	5-3
Installing and Replacing the Logic Module . . . . .	5-4
Installing/Replacing a Communication Module . . . . .	5-6
Replacing the Display Module . . . . .	5-10
Replacing the Battery . . . . .	5-12
Replacing Bezel . . . . .	5-14
Replacing Backlight . . . . .	5-16
Installing the Remote AC Power Supply . . . . .	5-19
Removing the Product ID Label . . . . .	5-19
Installing Keypad Legend Inserts . . . . .	5-20
Using an External Compact Flash Card . . . . .	5-21

## **Terminal Connections**

### **Chapter 6**

Chapter Objectives . . . . .	6-1
Wiring and Safety Guidelines . . . . .	6-1
Logic Controller Cable Charts . . . . .	6-2
USB Ports . . . . .	6-5
Serial Connections . . . . .	6-6
Ethernet Connections . . . . .	6-9
DH-485/DH+/Remote I/O Module . . . . .	6-11
ControlNet Module . . . . .	6-16



---

<b>Transferring files and Upgrading Firmware</b>	<b>Chapter 7</b>	
	Chapter Objectives . . . . .	7-1
	Transferring Files Using a Compact Flash Card . . . . .	7-1
	Transferring Files from a Computer . . . . .	7-1
	Upgrading Firmware . . . . .	7-1
<b>Troubleshooting and Maintenance</b>	<b>Chapter 8</b>	
	Chapter Objectives . . . . .	8-1
	LED Indicators . . . . .	8-1
	General Troubleshooting . . . . .	8-2
	Troubleshooting Components . . . . .	8-4
	Ethernet Problems . . . . .	8-8
	Advanced Troubleshooting . . . . .	8-9
	Startup Error Messages . . . . .	8-10
	Startup Status Messages . . . . .	8-11
	System Identification Errors . . . . .	8-12
	Startup Problems . . . . .	8-13
	Entering Configuration Mode . . . . .	8-13
	Restarting in Safe Mode . . . . .	8-13
	Cleaning the Display Window . . . . .	8-14
	<b>Appendix A - Specifications</b>	
	<b>Appendix B - Compatible USB Devices</b>	
	<b>Appendix C - Available Fonts for Terminal Applications</b>	
	<b>Index</b>	



### **Objectives**

This preface provides information on the contents of this manual including:

- Contents of manual
- Intended audience
- European Union Directive Compliance
- Rockwell Automation Support

### **Packing List**

The following items are shipped with an assembled PanelView™ Plus terminal:

- DC Power terminal block (AC or DC terminal block for 400-600 terminals)
- RSView Machine Edition Runtime (preloaded)
- Mounting levers for 400 -600 terminals (8)
- Mounting clips for 700 - 1500 terminals (up to 8)
- Installation Instructions
- Panel cutout template

## Manual Contents

Chapter	Title	Description
1	Overview	Provides overview of the PanelView Plus terminals including features and product components.
2	Installation	Gives Instructions on how to install the PanelView Plus terminal in a panel or enclosure.
3	Applying Power	Describes how to apply power and reset the PanelView Plus terminal.
4	Using Configuration Mode	Shows how to use the PanelView Plus configuration screens to load/run applications and configure terminal settings for the PanelView Plus terminal.
5	Installing and Replacing Components	Shows how to install and replace components of the PanelView Plus terminal including: <ul style="list-style-type: none"><li>• Logic Module</li><li>• RAM/Internal Compact Flash</li><li>• Communication Module</li><li>• Display Module</li><li>• Battery</li><li>• Display Module Bezel</li><li>• Backlight</li><li>• AC Power Supply</li><li>• Product Label</li><li>• Keypad Legend Inserts</li><li>• External Compact Flash Card</li></ul>
6	Terminal Connections	Describes connections on the base unit of the PanelView Plus terminal and the communication modules.
7	Transferring Files and Upgrading Firmware	Provides information on transferring files using an External Compact Flash Card and performing firmware upgrades.
8	Troubleshooting and Maintenance	Provides assistance on isolating problems and general maintenance.

## Intended Audience

No special knowledge is required to understand this manual or operate the PanelView Plus terminal. However, it is important that you understand the functions and operations of Machine Edition applications that will run on the terminal. Consult the application designer for this information.

Equipment installers must be familiar with standard panel installation techniques.

## Related Publications

You may want to refer to the following for additional information:

- online help for RSView Studio or RSLinx
- documentation for your logic controller or processor

## European Communities (EC) Directive Compliance

If this product has the CE mark it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

### EMC Directive

This product is tested to meet the Council Directive 89/336/EC Electromagnetic Compatibility (EMC) by applying the following standards, in whole or in part, documented in a technical construction file:

- EN 50081-2 EMC - Generic Emission Standard, Part 2 - Industrial Environment
- EN 61000-6-2 EMC - Generic Immunity Standard, Part 2 - Industrial Environment

This product is intended for use in an industrial environment.

### Low Voltage Directive

This product is tested to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131-2 Programmable Controllers, Part 2 - Equipment Requirements and Tests. For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as the Allen-Bradley publication Industrial Automation Wiring and Grounding Guidelines For Noise Immunity, publication 1770-4.1.

Open style devices must be provided with environmental and safety protection by proper mounting in enclosures designed for specific application conditions. See NEMA Standards publication 250 and IEC publication 529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.

## Rockwell Automation Support

Rockwell Automation provides technical information on the web to assist you in using our products. At <http://support.rockwellautomation.com>, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration and troubleshooting, we offer TechConnect Support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://support.rockwellautomation.com>.

### Installation Assistance

If you experience a problem with a hardware module within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your module up and running:

United States	1.440.646.3223 Monday – Friday, 8am – 5pm EST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

### New Product Satisfaction Return

Rockwell tests all of our products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned:

United States	Contact your distributor. You must provide a Customer Support case number (see phone number above to obtain one) to your distributor in order to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for return procedure.

### Software and Firmware Upgrades

To receive software updates (software serial number required) and firmware upgrades for your terminal:

- call your local Rockwell Automation sales office or distributor
- call Rockwell Software at 1-440-646-7800 or fax 1-440-646-7801
- access [www.software.rockwell.com](http://www.software.rockwell.com)

## Overview

### Chapter Objectives

This chapter gives an overview of the PanelView Plus terminal line including:

- software support
- PanelView Plus 400 - 600 terminal features
- PanelView Plus 700 - 1500 terminal features
- catalog number configuration
- product components

### Software Support

RSView Machine Edition runtime is included with all PanelView Plus terminals. RSView Machine Edition is runtime and terminal configuration software for the PanelView Plus terminals and does not require activation.

RSView Studio is used on a personal computer to create applications that run in the PanelView Plus terminals. This software is purchased separately.



## PanelView Plus 400 - 600 Features

This section gives an overview of the PanelView Plus 400 and 600 terminals including:

- hardware features
- base configured units
- communication modules
- AC or DC power supply
- displays

### Hardware Features



The PanelView Plus 400 and 600 terminals are operator interface devices. These terminals feature:

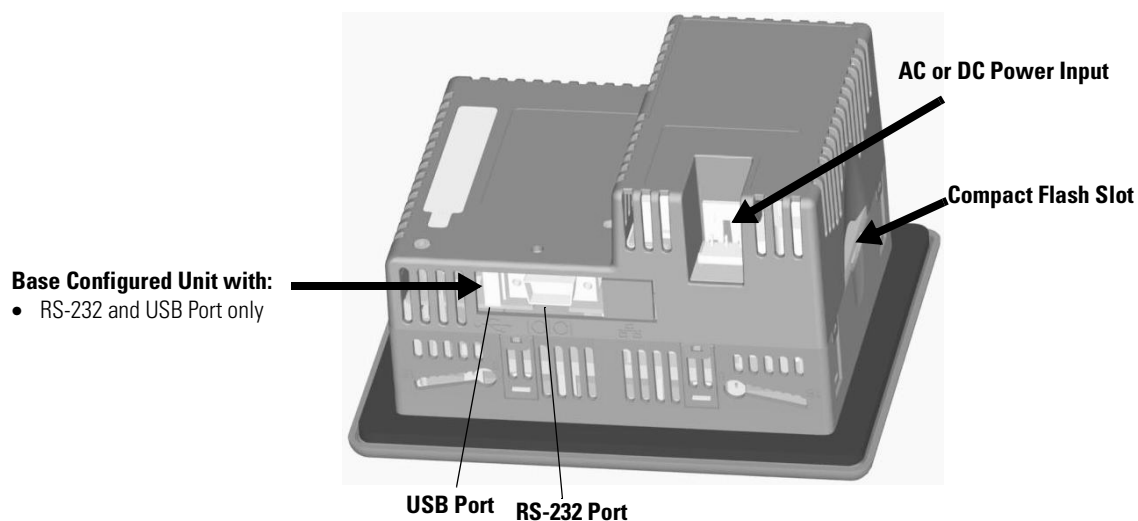
- PanelView Plus 400 terminals offer:
  - grayscale graphic displays
  - keypad input support
- PanelView Plus 600 terminals offer:
  - color or grayscale graphic displays
  - keypad, touch screen or keypad & touch screen input
- base configured unit with:
  - RS-232 Only **or**
  - RS-232, Ethernet and modular communications interface
- communication modules provide add-on capability to base configured units with modular communications interface
- AC (85...264V ac) or DC (18...32V dc) power input
- Compact Flash Card slot supports Type I Compact Flash Cards
- USB port for attaching mouse, keyboard, printer, bar code scanner, and other devices
- same panel cutouts as the PanelView Standard 550 terminals

## Base Configured Units

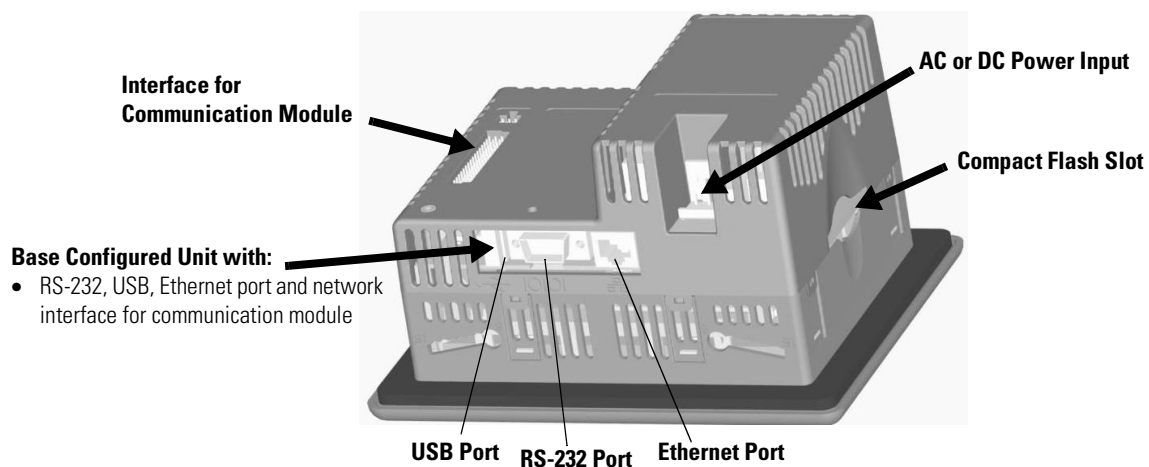
The base configured unit of the PanelView Plus 400 and 600 terminals are available in two versions:

- Base unit with RS-232 only and (1) USB port
- Base unit with RS-232, 10/100BaseT Ethernet, (1) USB port and a network interface for communication module

### RS-232 Only



### RS232, Ethernet and Modular Communications Interface

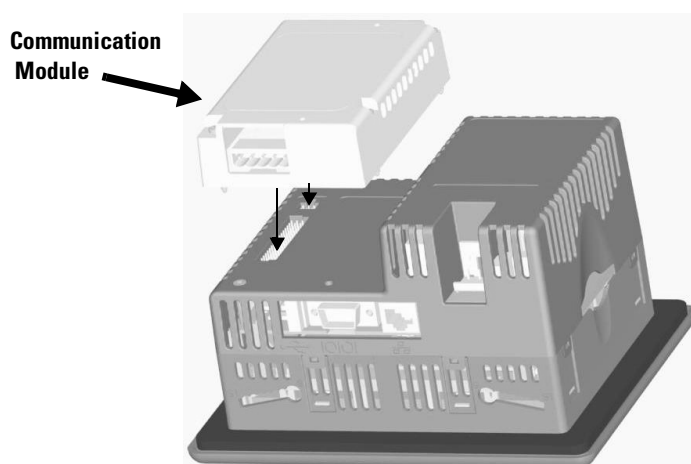


## Communication Modules

You can attach a separate communication module to the base configured unit of the PanelView Plus with a network interface to increase your communications capability.

- DH-485
- DH+
- Remote I/O (single rack)
- Isolated RS-232

The Communication Module installs easily on the back of the unit.



## AC or DC Power

The base configured unit of the PanelView Plus 400/600 terminals is available with either AC (85...264V ac) or DC (18...32V dc) power input providing application flexibility.

## Displays and Input Options

PanelView Plus 400 and 600 terminals are available with the following display and operator input options:

- 400 terminals: 3.8 inch grayscale (320 x 240) graphics display with keypad
- 600 terminals: 5.5 inch color or grayscale (320 x 240) graphics display with keypad, touch screen, or keypad & touch support

### *Touch Screen*

The PanelView Plus 600 terminals offer an analog resistive touch screen allowing for flexible touch area configuration.

#### **600 Color or Grayscale Terminals with Touch Screen**



*Keypad or Keypad & Touch*

The keypad versions of the PanelView Plus 400 and 600 terminals are available with the following options:

- 400 terminals: grayscale display with keypad input only
- 600 terminals: color or grayscale displays with either keypad or keypad & touch input

The following illustration shows the features of each terminal:



Keys		Description
400	F1 - F8	Programmable keys that initiate functions on terminal display. Replaceable legends are available for the 600 terminals allowing for custom function key labels.
600	F1 - F10	
ID Label		Allen-Bradley ID label. The ID label is replaceable allowing for custom product identification.
Numeric Keypad		0-9, ., -, Backspace, Enter, Left and Right Tab keys, Shift keys
Navigation Keys		Use the arrow keys for navigation.  Use the Alt+arrow keys to activate home, end, page up, and page down functions.

## PanelView Plus 700 - 1500 Features

This section gives an overview of the PanelView Plus 700, 1000, 1250, 1500 terminals including:

- hardware features
- modular components
- base configured unit
- communication modules
- remote AC power supply
- display modules

### Hardware Features

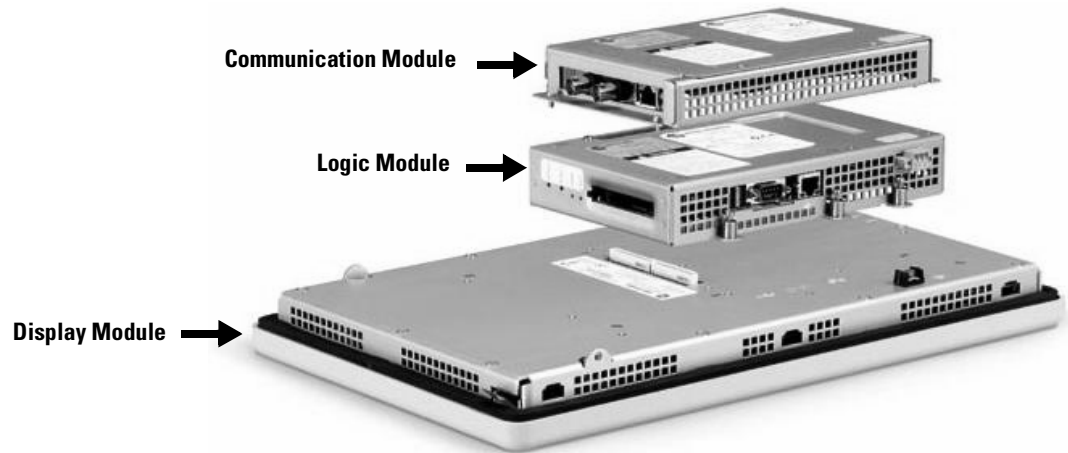


The PanelView Plus 700 - 1500 terminals are operator interface devices that feature:

- graphic color display modules with keypad, touch screen, or keypad & touch screen support
- analog resistive touch screen
- field replaceable bezels
- modular communications for easy add-on capability
- memory expansion modules for field upgrades to 256 MB RAM and 512 MB Compact Flash
- Compact Flash Card slot supports Type I Compact Flash Cards
- USB ports provide connections for keyboard/mouse/printer
- Ethernet and serial communications
- same panel cutouts as the PanelView Standard and PanelView Enhanced terminals

## Modular Components

The PanelView Plus 700 - 1500 terminals use modular components allowing for flexible configuration, installation, and upgrades. Items can be ordered as separate components or factory assembled per your configuration.



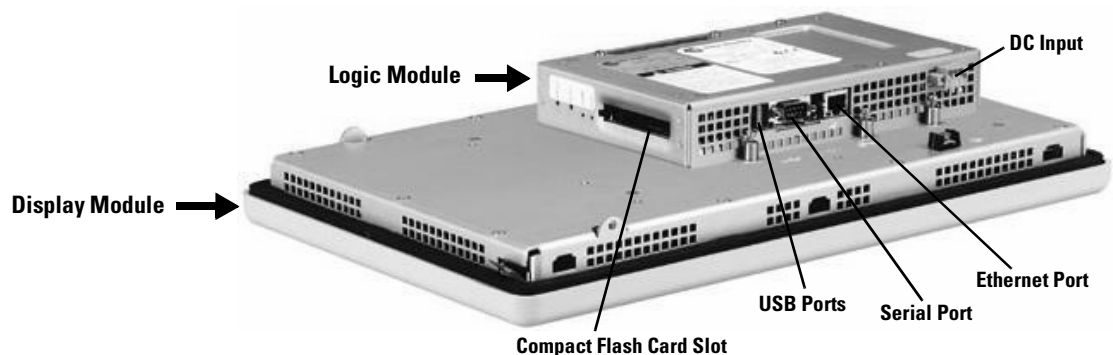
## Base Configured Unit

The base configured unit of the PanelView Plus terminal consists of:

- Display Module (700, 1000, 1250, 1500) with Keypad, Touch or Keypad & Touch Input
- Logic Module

The Logic Module contains:

- 24V dc input (18...32V dc)
- SDRAM and Flash memory (various sizes)
- 10/100BaseT Ethernet Port
- Serial RS-232 Port for file transfers, printing and logic controller communications
- 2 USB Ports for attaching mouse, keyboard or printer
- Compact Flash Card Slot for Type I Compact Flash cards
- Battery-backed real-time clock

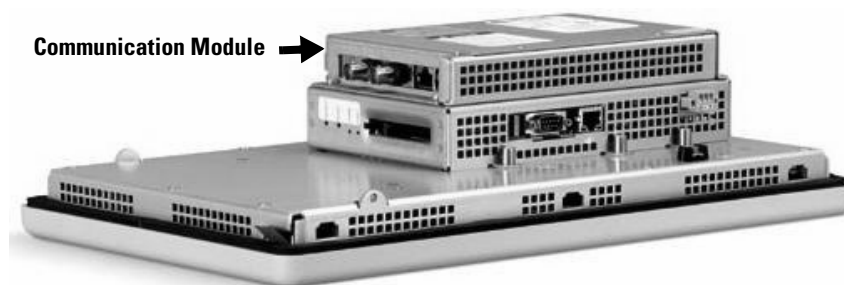




## Communication Modules

You can attach a separate Communication Module to the base configured unit of the PanelView Plus terminal to increase your communications capability.

The Communication Modules install easily on top of the Logic Module on the back of the unit.



## Remote AC Power Supply

The Logic Module provides a DC power input. For applications using AC power, a remote AC to DC power supply is available for DIN Rail mounting.

## Display Modules

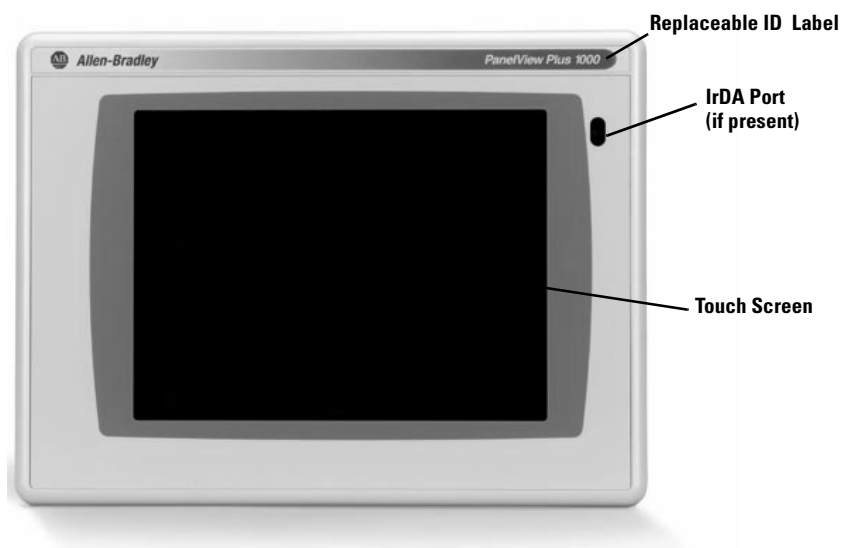
PanelView Plus 700 - 1500 terminals offer a range of TFT color graphic displays with either keypad, touch screen, or keypad & touch support.

- 700 (6.5 inch)
- 1000 (10.4 inch)
- 1250 (12.1 inch)
- 1250 High-Bright Touch (12.1)
- 1500 (15 inch)

All of the displays have common features and firmware providing for easy migration to a larger display. Field replaceable bezels are also available.

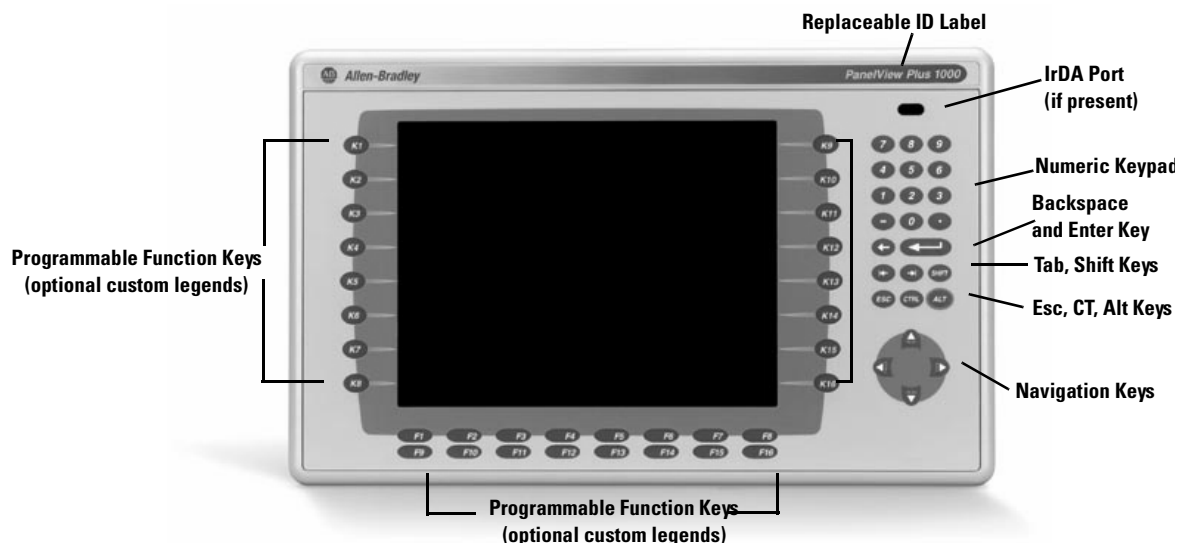
### *Touch Screen*

The following illustration shows a 1000 touch screen display. All of the touch screen displays are analog resistive and similar except for size.



## Keypad or Keypad & Touch

The following illustration shows the features of the 1000 keypad or keypad & touch display. All of the displays are similar except for size and the number of function keys available.



All of the Kxx and Fxx function keys on the keypad terminals are programmable.

Feature	Description
Function Keys 700 (F1-F10, K1-K12) 1000 (F1-F16, K1-K16) 1250 (F1-F20, K1-K20) 1500 (F1-F20, K1-K20)	Programmable keys that initiate functions on terminal display. Replaceable legends are available for the terminals allowing for custom function key labels.
Label	Allen-Bradley ID label. The ID label is replaceable allowing for custom product identification.
Numeric Keypad	0-9, ., -, Backspace, Enter, Left and Right tab, Shift, Esc, Ctrl, Alt keys
Navigation Keys	Use the arrow keys to move cursor in lists, select objects,  Alt+arrow key activates home, end, page up, page down functions.

# Catalog Number Configuration

The following table shows the catalog number configuration for PanelView Plus terminals.

	Input Type	Display Size	Display Type	Communications	Power	Memory Flash/RAM <sup>(1)</sup>	Label
2711P-	<b>K</b> = Keypad	<b>4</b> = 3.8 inch	<b>C</b> = Color	<b>PanelView Plus 400 and 600 Terminals</b>	<b>A</b> = AC	<b>1</b> = 32 MB/64 MB	<b>Blank</b> = AB Label
	<b>T</b> = Touch	<b>6</b> = 5.5 inch	<b>M</b> = Grayscale	<b>1</b> = Remote I/O (single rack), ENet, RS-232 & USB	<b>B</b> = AC (DIN Mtg.) <sup>(1)</sup>	<b>2</b> = 128MB/128 MB <sup>(1)</sup>	<b>N</b> = No Label
	<b>B</b> = Key & Touch	<b>7</b> = 6.5 inch		<b>3</b> = DH-485, ENet, RS-232 & USB	<b>D</b> = DC	<b>3</b> = 256 MB/256 MB <sup>(1)</sup>	
		<b>10</b> = 10.4 inch		<b>5</b> = RS-232 & USB			
		<b>12</b> = 12.1 inch		<b>8</b> = DH+, ENet, RS-232 & USB			
		<b>15</b> = 15 inch		<b>20</b> = ENet, RS-232 & USB			
				<b>PanelView Plus 700 - 1500 Terminals</b>			
				<b>4</b> = ENet, RS-232 & (2) USB			
				<b>6</b> = DH+, DH-485, RIO, ENet, RS-232 & (2) USB			
				<b>15</b> = CNet, ENet, RS-232 & (2) USB			

<sup>(1)</sup> Applies to PanelView Plus 700-1500 terminals only.

# PanelView Plus Product Components

All of the components listed in this section are available as separate catalog numbers for field installation or replacement.

## Display Modules (700 - 1500 only)

Cat. No.	Description
2711P-RDK7C	700 Keypad Color Display
2711P-RDT7C	700 Touch Color Display
2711P-RDB7C	700 Keypad and Touch Color Display
2711P-RDK10C	1000 Keypad Color Display
2711P-RDT10C	1000 Touch Color Display
2711P-RDB10C	1000 Keypad and Touch Color Display
2711P-RDK12C	1250 Keypad Color Display
2711P-RDT12C	1250 Touch Color Display
2711P-RDT12H	1250 Touch High-Bright Color Display
2711P-RDB12C	1250 Keypad and Touch Color Display
2711P-RDK15C	1500 Keypad Color Display
2711P-RDT15C	1500 Touch Color Display
2711P-RDB15C	1500 Keypad and Touch Color Display

## Logic Modules (700 - 1500 only)

Cat. No.	Description
2711P-RP	Logic Module without Flash/RAM memory
2711P-RP1	Logic Module with 32 MB Flash/64 MB RAM
2711P-RP2	Logic Module with 128 MB Flash/128 MB RAM
2711P-RP3	Logic Module with 256 MB Flash/256 MB RAM

## Communication Modules

Terminal Type	Cat. No.	Description
400 - 600	2711P-RN1	Single Rack Remote I/O Communication Module
	2711P-RN3	DH-485 Communication Module
	2711P-RN8	DH+ Communication Module
	2711P-RN22C	RS-232 Isolated Communication Module
700 - 1500	2711P-RN6	DH+/DH-485/Remote I/O Communication Module
	2711P-RN15S	ControlNet Communication Module

## Internal Compact Flash Cards (700 - 1500 only)

Cat. No.	Description
2711P-RW1	32 MB Compact Flash with RSView Machine Edition
2711P-RW2	128 MB Compact Flash with RSView Machine Edition
2711P-RW3	256 MB Compact Flash with RSView Machine Edition

## RAM Memory (700 - 1500 only)

Cat. No.	Description
2711P-RR64	64 MB SODIMM Memory
2711P-RR128	128 MB SODIMM Memory
2711P-RR256	256 MB SODIMM Memory

## Compact Flash Cards (Blank)

Cat. No.	Description
2711P-RC1	32 MB Blank Compact Flash Card
2711P-RC2	128 MB Blank Compact Flash Card
2711P-RC3	256 MB Blank Compact Flash Card
2711P-RC4	512 MB Blank Compact Flash Card
2711P-RCH	Compact Flash to PCMCIA Adapter

## Legend Kits

Cat. No.	Description
2711P-RFK6	Replacement Legend Strips for 600 Keypad Terminal
2711P-RFK7	Replacement Legend Strips for 700 Keypad Terminal
2711P-RFK10	Replacement Legend Strips for 1000 Keypad Terminal
2711P-RFK12	Replacement Legend Strips for 1250 Keypad Terminal
2711P-RFK15	Replacement Legend Strips for 1500 Keypad Terminal

## Backlights (700 - 1500 only)

Cat. No.	Description
2711P-RL7C	Replacement Color Backlight for 700 Displays
2711P-RL10C	Replacement Color Backlight for 1000 Displays
2711P-RL12C	Replacement Color Backlight for 1250 Series A and B Displays
2711P-RL12C2	Replacement Color Backlight for 1250 Series C Displays

## Replacement Bezels

Cat. No.	Description
2711P-RBK7	Replacement Bezel for 700 Keypad Terminal
2711P-RTK7	Replacement Bezel for 700 Touch Terminal
2711P-RBB7	Replacement Bezel for 700 Keypad or Keypad/Touch Terminal
2711P-RBK10	Replacement Bezel for 1000 Keypad Terminal
2711P-RTK10	Replacement Bezel for 1000 Touch Terminal
2711P-RBB10	Replacement Bezel for 1000 Keypad or Keypad/Touch Terminal
2711P-RBK12	Replacement Bezel for 1250 Keypad Terminal
2711P-RTK12	Replacement Bezel for 1250 Touch Terminal
2711P-RBB12	Replacement Bezel for 1250 Keypad or Keypad/Touch Terminal
2711P-RBK15	Replacement Bezel for 1500 Keypad Terminal
2711P-RTK15	Replacement Bezel for 1500 Touch Terminal
2711P-RBB15	Replacement Bezel for 1500 Keypad or Keypad/Touch Terminal

## Protective Antiglare Overlays

Cat. No.	Description
2711P-RGK4	Antiglare Overlay for PanelView Plus 400 Keypad Terminal
2711P-RGK6	Antiglare Overlay for PanelView Plus 600 Keypad or Keypad/Touch Terminal
2711P-RGT6	Antiglare Overlay for PanelView Plus 600 Touch Terminal
2711P-RGK7	Antiglare Overlay for PanelView Plus 700 Keypad or Keypad/Touch Terminal
2711P-RGT7	Antiglare Overlay for PanelView Plus 700 Touch Terminal
2711P-RGK10	Antiglare Overlay for PanelView Plus 1000 Keypad or Keypad/Touch Terminal
2711P-RGT10	Antiglare Overlay for PanelView Plus 1000 Touch Terminal
2711P-RGK12	Antiglare Overlay for PanelView Plus 1250 Keypad or Keypad/Touch Terminal
2711P-RGT12	Antiglare Overlay for PanelView Plus 1250 Touch and High-Bright Touch Terminal
2711P-RGK15	Antiglare Overlay for PanelView Plus 1500 Keypad or Keypad/Touch Terminal
2711P-RGT15	Antiglare Overlay for PanelView Plus 1500 Touch Terminal

## Adapter Plates

Cat. No.	Description
2711P-RAK4	Adapts a PanelView Plus 400 Keypad Terminal to a PanelView Standard 550 Keypad Cutout
2711P-RAK6	Adapts a PanelView Plus 600 Keypad Terminal to a PanelView Standard 600 Keypad Cutout
2711P-RAK7	Adapts a PanelView Plus 700 Keypad Terminal to a PanelView Standard 900 Keypad Cutout
2711P-RAT7	Adapts a PanelView Plus 700 Touch Terminal to a PanelView Standard 900 Touch Cutout
2711P-RAK10	Adapts a PanelView Plus 1000 Keypad Terminal to a PanelView 1000/1000E Keypad Cutout
2711P-RAT10	Adapts a PanelView Plus 1000 Touch Terminal to a PanelView 1000/1000E Touch Cutout
2711P-RAK12E	Adapts a PanelView Plus 1250 (or PV1000/1000E) Keypad Terminal to a PanelView 1200/1400E Keypad Cutout
2711P-RAT12E2	Adapts a PanelView Plus 1250 (or PV1000/1000E) Touch Terminal to a PanelView 1200E Touch Cutout
2711P-RAT12E	Adapts a PanelView Plus 1250 (or PV1000/1000E) Touch Terminal to a PanelView 1400E Touch Cutout
2711P-RAK12S	Adapts a PanelView Plus 1250 (or PV1000/1000E) Keypad Terminal to a PanelView Standard 1400 Keypad Cutout
2711P-RAT12S	Adapts a PanelView Plus 1250 (or PV1000/1000E) Touch Terminal to a PanelView Standard 1400 Touch Cutout
2711P-RAK15	Adapts a PanelView Plus 1500 Keypad or Keypad & Touch Terminal to a PanelView 1200E/1400E Keypad Terminal
2711P-RAT15	Adapts a PanelView Plus 1500 Touch Terminal to a PanelView 1400E Touch Cutout



## Cables

Cat. No.	Description
2711-NC13	RS-232 Operating/Programming Cable (9-pin D-Shell to 9-pin D-Shell), 5 m (16.4 ft)
2711-NC14	RS-232 Operating/Programming Cable (9-pin D-Shell to 9-pin D-Shell), 10 m (32.7 ft)
2711-NC17	Remote RS-232 Serial Cable (9-Pin D-Shell to 9-Pin D-Shell)
2711-NC21	RS-232 Operating Cable (9-pin D-Shell to 8-pin Mini DIN), 5 m (16.4 ft)
2711-NC22	RS-232 Operating Cable (9-pin D-Shell to 8-pin Mini DIN), 10 m (32.7 ft)
1761-CBL-AS03	DH-485 Operating Cable (6-pin Phoenix to RJ45), 3 m (10 ft)
1761-CBL-AS09	DH-485 Operating Cable (6-pin Phoenix to RJ45), 9 m (30 ft)
1746-C10	DH-485 Network Interface Cable (SDL AMP to RJ45), 1.83 m (6 ft)
1746-C11	DH-485 Network Interface Cable (SDL AMP to RJ45), .3 m (1 ft.)
1784-CP14	DH-485 Network Interface Cable (5-pin Phoenix to RJ45)
2711P-CBL-EX04	Ethernet CAT5 Crossover Cable, Industrial Grade, 4.3 m (14 ft)
2711P-CBL-US02	USB to Serial Network Interface Cable
2711P-CBL-UU02	USB Host-to-Host Data Transfer Cable

## Communication Adapters

Cat. No.	Description
2711P-CBL-UP02	USB to PS/2 Adapter
1761-NET-AIC	AIC+ Advanced Interface Converter
1747-AIC	DH-485 Isolated Link Coupler for use with DH-485 Communication Modules (2711P-RN3, 2711P-RN6)

## Remote AC Power Supply (700 - 1500 only)

Cat. No.	Description
2711P-RSACDIN	AC to DC DIN Rail Power Supply, 85...265V ac, 47...63 Hz

## Miscellaneous

Cat. No.	Description
2711P-RVT12	Solar Visor for Outdoor High-Bright 1250 Touch Screen Display Modules
2711P-RY2032	Replacement Battery for 700 - 1500 terminals
2711P-RTMC	Replacement Mounting Clips for 700 - 1500 terminals
2711P-RTFC	Replacement Mounting Levers for 400 - 600 terminals
2711P-RVAC	Replacement AC Power Terminal Block for 400 - 600 terminals
2711-TBDC	Replacement DC Power Terminal Block for 400 - 600 terminals
6189-2CONN	Replacement AC/DC Connectors for PanelView Plus 700 - 1500 terminals

## Firmware Upgrade Kits

Cat. No.	Description
2711P-RU310	PanelView Plus Media Kit includes Firmware Upgrade Wizard, 1 Firmware License, Certificate of Authenticity, End User License Agreement.
2711P-RUA310	PanelView Plus Advanced Media Kit includes the 2711P-RU310 Media Kit, PCMCIA to Compact Flash Adapter, and 32 MB Compact Flash Card.
2711P-RUL01	Firmware Upgrade License Kit with (1) PanelView Plus Firmware License. <sup>(1)</sup>
2711P-RUL05	Firmware Upgrade License Kit with (5) PanelView Plus Firmware Licenses. <sup>(1)</sup>
2711P-RUL10	Firmware Upgrade License Kit with (10) PanelView Plus Firmware Licenses. <sup>(1)</sup>
2711P-RUL25	Firmware Upgrade License Kit with (25) PanelView Plus Firmware Licenses. <sup>(1)</sup>
2711P-RUL50	Firmware Upgrade License Kit with (50) PanelView Plus Firmware Licenses. <sup>(1)</sup>

<sup>(1)</sup> Also includes Certificate of Authenticity, End User License Agreement, Installation Instructions.



## Installation

### Chapter Objectives

This chapter provides instructions on how to install the PanelView Plus terminals. It provides information on:

- hazardous locations
- environment
- enclosures
- clearances
- outdoor installation (1250 High-Bright Display only)
- required tools
- cutout dimensions
- mounting dimensions
- 400 - 600 panel installation
- 700 - 1500 panel installation

### Hazardous Locations

This PanelView Plus terminals are suitable for use in:

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, Group IIC
- Class II, Division 2, Groups F, G
- Class III
- or (ordinary) non-hazardous locations

The following statement applies to use in hazardous locations.

---

**WARNING****Explosion Hazard**

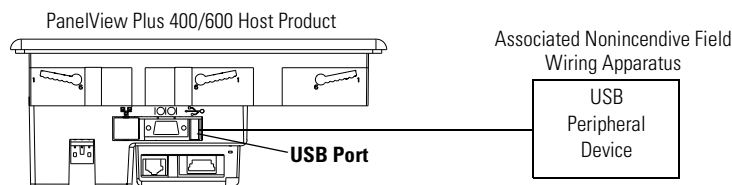
- Substitution of components may impair suitability for hazardous locations.
- Do not disconnect equipment unless power has been switched off and area is known to be non-hazardous.
- Do not connect or disconnect components unless power has been switched off.
- All wiring must comply with N.E.C. articles 501-4(b), 502-4(b), 503-3(b) as appropriate.
- Peripheral equipment must be suitable for the location it is used in.

---

The PanelView Plus terminals have a temperature code of T4 when operating in a 55 °C (131 °F) maximum ambient temperature. Do not install the terminals in environments where atmospheric gases have ignition temperatures **less** than 135 °C (275 °F).

## USB Ports

The PanelView Plus Terminals contain USB (Universal Serial Bus) ports which comply with hazardous location environments. The 400/600 terminal has one USB port; the 700-1500 terminals have two USB ports. This section details the field wiring compliance requirements and is provided in accordance with the National Electrical Code, article 500.



The USB peripheral device must be rated for use in the hazardous location environment in which it is used and also comply with the circuit parameters in Table 2.2.

The circuit parameters in Table 2.1 define the maximum voltage and current of the PanelView Plus USB ports.

**Table 2.1 PanelView Plus USB Port Circuit Parameters**

Parameter	Value	Parameter Definition
$V_{oc}$	5.25V dc	Open circuit voltage of the host USB port.
$I_{sc}$	1.68 A	Maximum output current of the host USB port.

The circuit parameters in Table 2.2 define the maximum voltage, current, capacitance, and inductance values for any peripheral device connected to a PanelView Plus USB port in a hazardous location environment.

**Table 2.2 Required Circuit Parameters for the USB Peripheral Device**

Parameter	Value	Parameter Definition and Application Requirement
$V_{max}$	5.25V dc	Maximum applied voltage rating of the USB peripheral device. $V_{max}$ shall be greater than or equal to $V_{oc}$ in Table 2.1. ( $V_{max} \geq V_{oc}$ )
$I_{max}$	1.68 A	Maximum current to which the USB peripheral device can be subjected. $I_{max}$ shall be greater than or equal to $I_{sc}$ in Table 2.1. ( $I_{max} \geq I_{sc}$ )
$C_a$	10 $\mu$ F	Maximum allowed capacitance of the USB peripheral device and its associated cable. The sum of $C_{int}$ of the USB peripheral device and $C_{cable}$ of the associated cable shall be less than or equal to $C_a$ . ( $C_{int} + C_{cable} \leq C_a$ )
$L_a$	15 $\mu$ H	Maximum allowed inductance of the USB peripheral device and its associated cable. The sum of $L_{int}$ of the USB peripheral device and $L_{cable}$ of the associated cable shall be less than or equal to $L_a$ . ( $L_{int} + L_{cable} \leq L_a$ )

### *Application Information*

Per the National Electrical Code, the circuit parameters of associated field wired apparatus for use in hazardous locations shall be coordinated with the host product such that their combination remains nonincendive. The PanelView Plus terminal and the USB peripheral device shall be treated in this manner.

The circuit parameters of the PanelView Plus USB ports are given in Table 2.1. The USB peripheral device and its associated cabling shall have circuit parameters with the limits given in Table 2.2 for them to remain nonincendive when used with the PanelView Plus USB port. If cable compliance and inductance are not known, use the following values from UL 913:

$$C_{\text{cable}} = 60 \text{ pF/ft}$$
$$L_{\text{cable}} = 0.20 \text{ }\mu\text{H/ft}$$

## **Environmental Considerations**

The PanelView Plus terminals are suitable for use in an industrial environment when installed in accordance with these instructions. Specifically, this equipment is intended for use in clean, dry environments (Pollution Degree 2<sup>(1)</sup> and with circuits not exceeding Over Voltage Category II<sup>(2)</sup> (IEC 60664-1).<sup>(3)</sup>

- (1) Pollution Degree 2 is an environment where, normally only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation shall be expected.
- (2) Over Voltage Category II is the load level section of the electrical distribution system. At this level transient voltages are controlled and do not exceed the impulse voltage capability of the product's insulation.
- (3) Pollution Degree 2 and Over Voltage Category II are International Electrotechnical Commissions (IEC) designations.

## **Enclosures**

The terminals must be mounted in a panel or enclosure to protect the internal circuitry. The terminals meet IP54, IP65 and NEMA Type 12/13 and 4X (indoor) ratings only when mounted in a panel or enclosure with the equivalent rating. When the terminal is not mounted in a panel, it is not secure or safe for operation. You must comply with NEMA Type 4X (indoor) requirements for environmental specifications. For more enclosure and certification information on the Outdoor High-Bright Display Module, refer to publication 2711P-IN026.

## Clearances

You must allow adequate clearances around the terminal, inside the enclosure, for adequate ventilation. Consider heat produced by other devices in the enclosure. The ambient temperature around the terminals must be between 0...55 °C (32...131 °F).

Clearance	400 - 600 Terminals	700 - 1500 Terminals
Top	51 mm (2 in)	51 mm (2 in)
Bottom	102 mm (4 in)	51 mm (2 in)
Side <sup>(1)</sup>	25 mm (1 in)	25 mm (1 in)
Back	none	none

<sup>(1)</sup> Maximum side clearance for insertion of memory card and cable wiring is 102 mm (4 in).

## Outdoor Installation

When using the High-Bright Display Module outdoors, the following are important in maximizing the field life of the front bezel and display:

- selecting proper enclosure
- orientation of the terminal

Both ultraviolet and infrared radiation can reduce the field life of any electronic device. While the materials used in the PanelView Plus bezels provide long field life, that life can be improved by proper installation.

Ultraviolet radiation from the sun causes all plastics to fade or yellow and become brittle over time. Using an antiglare overlay (2711P-RGT12) will protect the front of the terminal from direct exposure to UV radiation and greatly increase its field life.

When installing the High-Bright Display Module in an environment where the front of the terminal will be in direct sunlight during the hottest part of the day and the external ambient temperature can exceed 40 °C (104 °F), use the 2711P-RVT12 visor kit. The visor reduces the solar load on the front of the display and helps to maintain internal temperatures within specification.

The High-Bright Display Module has a built in temperature sensor that automatically reduces the backlight intensity if the temperature inside the cabinet exceeds 55 °C. This reduces the risk of damage to the display.

The paint color, size and power dissipated by the internal components of an enclosure affect the temperature rise inside the cabinet. Hoffman, a Rockwell Automation Encompass Partner, has information to assist you with enclosure selection and heating/cooling accessories to meet the temperature requirements of the installed equipment. See website <http://www.hoffmanonline.com>.



Stirring fans or active cooling may be required in high altitude and high ambient temperature locations to keep the internal enclosure temperature below 55 °C (131 °F). Use a heater in installations where the ambient temperature is below 0 °C (32 °F) for any length of time.

The backlight of the high-bright display generates a significant amount of heat when set to full intensity. To minimize the amount of heat generated and extend the life of the backlight, decrease the display intensity by using the screen saver with a 5 - 10 minute delay.

Avoid placing the terminal on the south (north in the southern hemisphere) or west side of the cabinet, if possible. This will reduce the heat rise due to solar loading during the hottest part of the day.

Mount the terminal vertically to minimize solar loading on the display. Do not mount the terminal in a sloped enclosure if it will be exposed to direct sunlight.

## Required Tools

Besides the tools required for the panel or enclosure cutouts, you will need the following for installation:

- small slotted screw driver for securing power and RS-232 connections
- torque wrench (N•m/in-lb) for tightening the mounting clips on the PanelView Plus 700 - 1500 terminals

## Cutout Dimensions

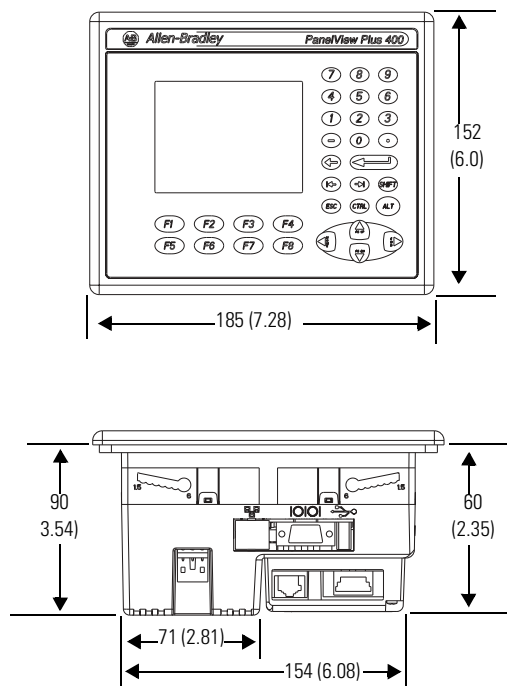
This section provides panel cutout dimensions for each terminal. Use the full size template shipped with your terminal to mark the cutout dimensions. All dimensions are in mm (inches).

PanelView Plus Terminal	Height	Width
400 Keypad	123 (4.86)	156 (6.15)
600 Keypad or Keypad & Touch	142 (5.61)	241 (9.50)
600 Touch	123 (4.86)	156 (6.15)
PanelView Plus 700 Keypad or Keypad & Touch	167 (6.57)	264 (10.39)
PanelView Plus 700 Touch	154 (6.08)	220 (8.67)
PanelView Plus 1000 Keypad or Keypad & Touch	224 (8.8)	375 (14.75)
PanelView Plus 1000 Touch	224 (8.8)	305 (12.00)
PanelView Plus 1250 Keypad or Keypad & Touch	257 (10.11)	390 (15.35)
PanelView Plus 1250 Touch / 1250 High-Bright Touch	257 (10.11)	338 (13.29)
PanelView Plus 1500 Keypad or Keypad & Touch	305 (12.00)	419 (16.50)
PanelView Plus 1500 Touch	305 (12.00)	391 (15.40)

## Mounting Dimensions

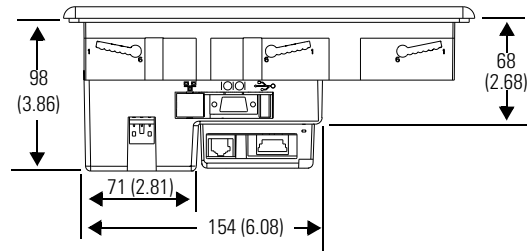
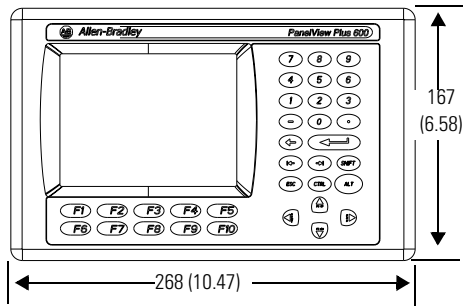
This section provides mounting dimensions for the entire line of PanelView Plus terminals. All measurements are in mm (inches).

### PanelView Plus 400

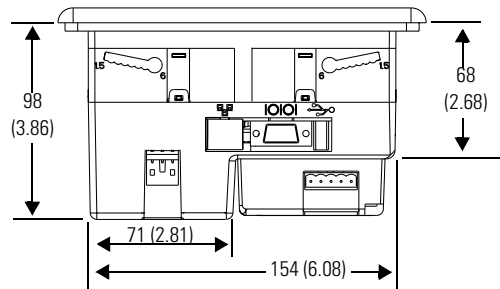
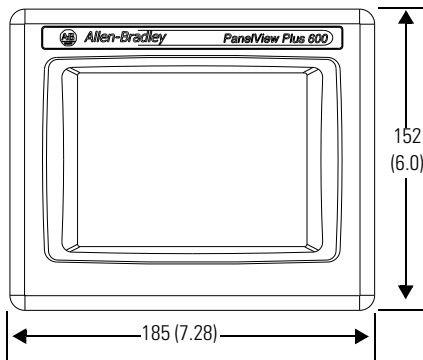


## PanelView Plus 600

### 600 Keypad or Keypad & Touch Terminal



### 600 Touch Terminal

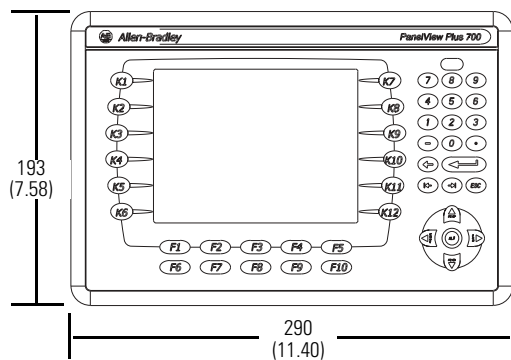


## PanelView Plus 700

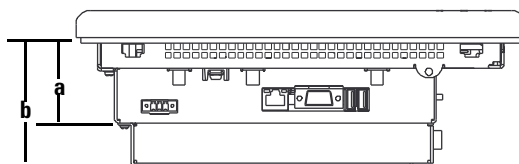
The depth dimensions are shown for:

- base configured unit (Display Module and Logic Module)
- base configured unit with Communication Module

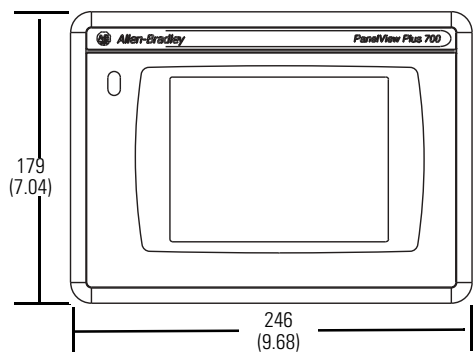
### 700 Keypad or Keypad & Terminal



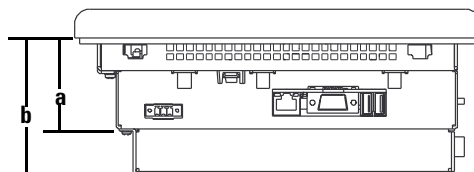
- a** 55 (2.18) Display to Logic Module
- b** 83 (3.27) Display to Communication Module



### 700 Touch Screen Terminal



- a** 55 (2.18) Display to Logic Module
- b** 83 (3.27) Display to Communication Module

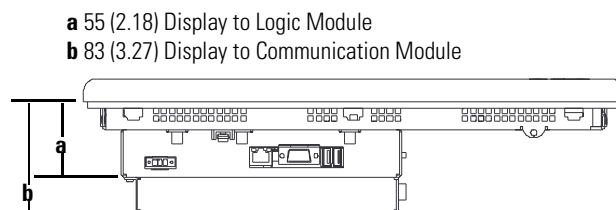
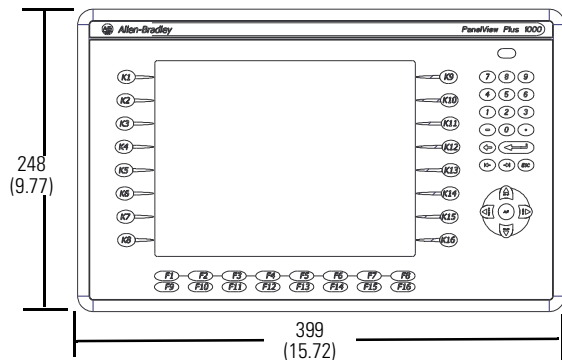


## PanelView Plus 1000

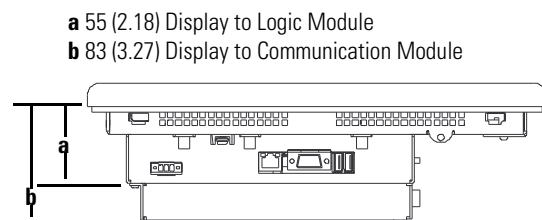
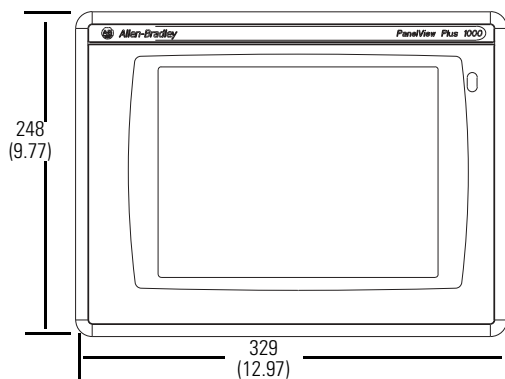
The depth dimensions are shown for:

- base configured unit (Display Module and Logic Module)
- base configured unit with Communication Module

### 1000 Keypad or Keypad & Touch Terminal



### 1000 Touch Screen Terminal

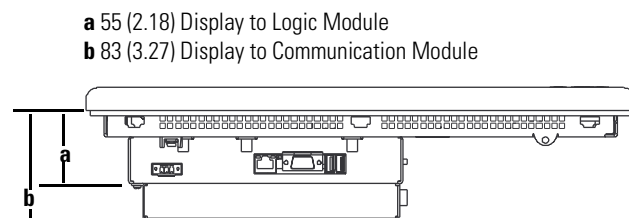
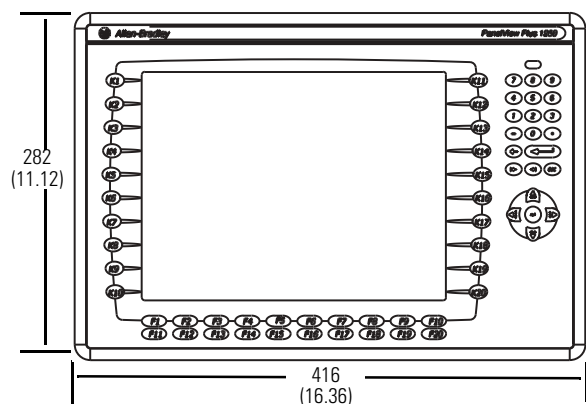


## PanelView Plus 1250

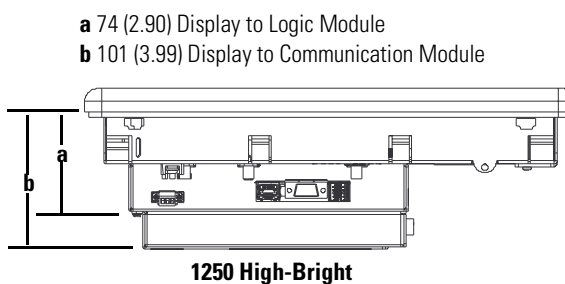
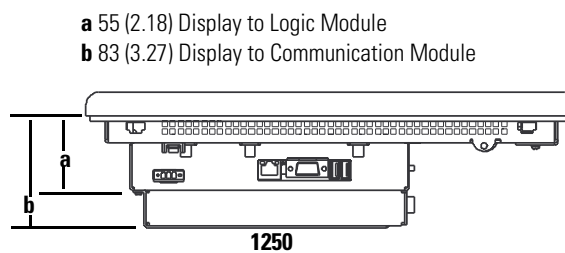
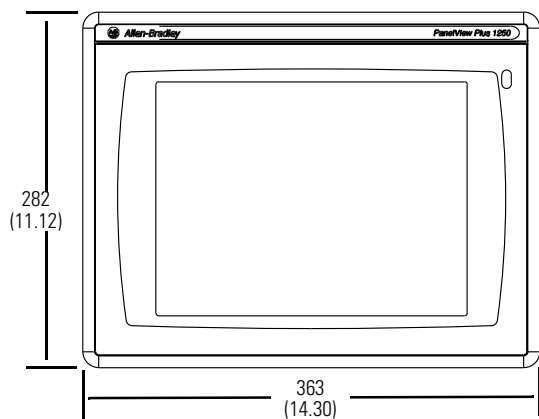
The depth dimensions are shown for:

- base configured unit (Display Module and Logic Module)
- base configured unit with Communication Module

### 1250 Keypad or Keypad & Touch Terminal



### 1250 Touch Screen Terminal

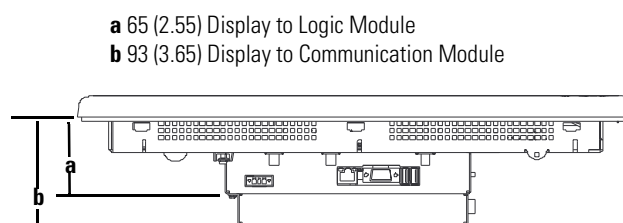
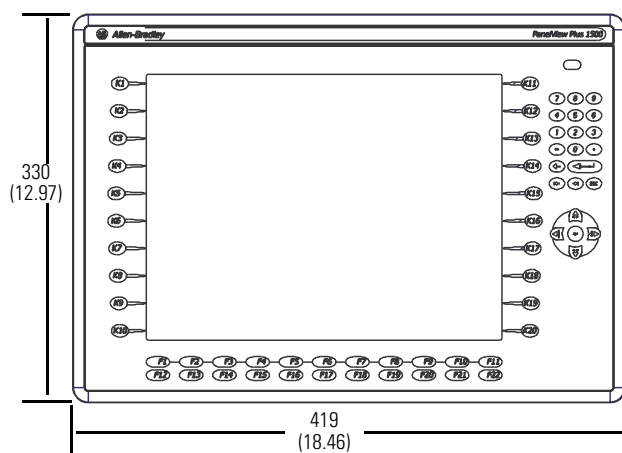


## PanelView Plus 1500

The depth dimensions are shown for:

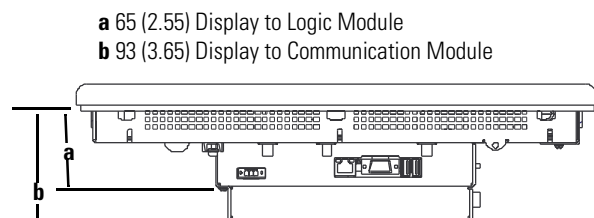
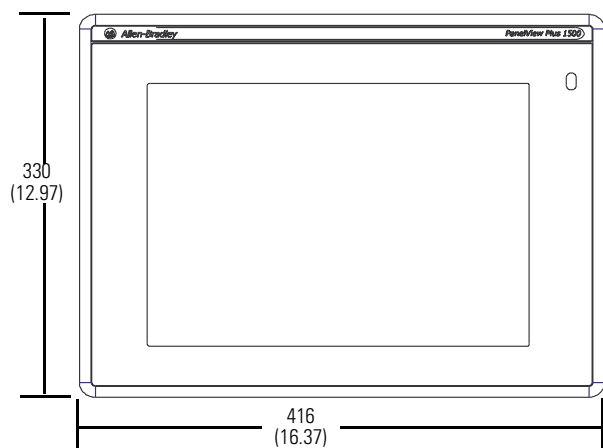
- base configured unit (Display Module and Logic Module)
- base configured unit with Communication Module

### 1500 Keypad or Keypad & Touch Terminal



- a** 65 (2.55) Display to Logic Module  
**b** 93 (3.65) Display to Communication Module

### 1500 Touch Screen Terminal



- a** 65 (2.55) Display to Logic Module  
**b** 93 (3.65) Display to Communication Module

## 400 - 600 Panel Installation

The PanelView Plus 400 and 600 terminals are installed in the same manner using mounting levers. The number of levers used (4 or 6) varies by terminal type. The mounting levers are shipped with each terminal.

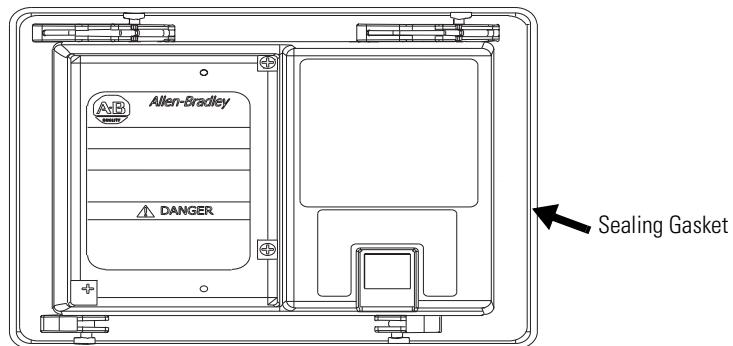
### ATTENTION



- Disconnect all electrical power from the panel before making the panel cutout.
- Make sure the area around the panel cutout is clear.
- Do not allow metal cuttings to enter any components already installed in the panel.
- Failure to follow these instructions may result in personal injury or damage to panel components.

### To install terminal in a panel:

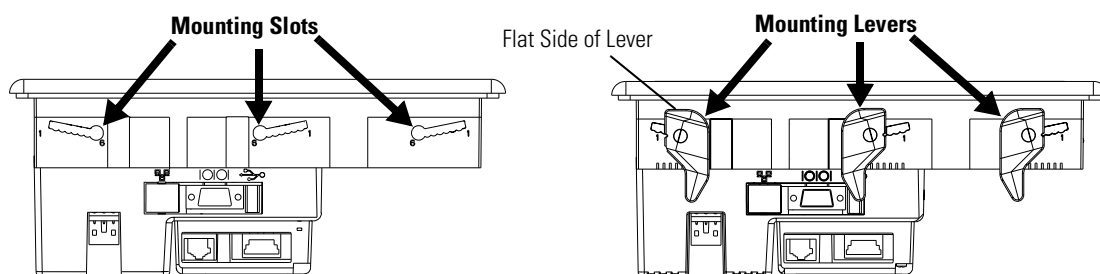
1. Cut an opening in the panel using the panel cutout provided with the terminal. Remove any sharp edges or burrs.
2. If Communication Module is ordered separately, attach module to the base unit before panel installation. Refer to the instructions shipped with module.
3. Make sure the terminal sealing gasket is properly positioned on the terminal as shown. This gasket forms a compression type seal. Do not use sealing compounds.



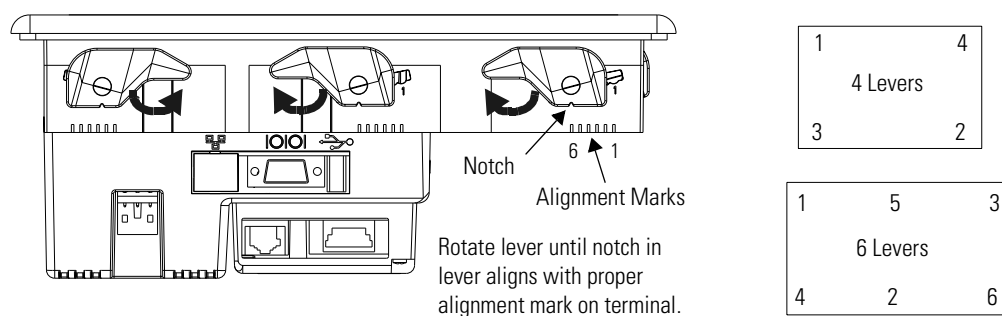
4. If using keypad legend strips on the 600 keypad terminals, we recommend that you install the strips before installing the terminal. Be careful not to pinch legend strip during installation.
5. Place the terminal in the panel cutout.  
If installing terminal in existing 550 panel cutout, align terminal with center of cutout for best gasket sealing.



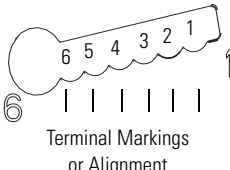
6. Insert all mounting levers (4 or 6) into the mounting slots on the terminal (as shown below). Slide each lever until flat side of lever touches the surface of the panel.



7. When all levers are in place, slide each lever an additional notch or two until you hear a click.
8. Rotate each lever in direction indicated until lever is in final latch position. Follow the latching sequence below to obtain optimum terminal fit.



Use the table below as a guide to insure an adequate gasket seal between terminal and panel.

	Lever Position	Panel Thickness Range	Typical Gauge
	1	0.15 - 2.01 mm (0.060 - 0.079 in)	16
	2	2.03 - 2.64 mm (0.08 - 0.104 in)	14
	3	2.67 - 3.15 mm (0.105 - 0.124 in)	12
	4	3.17 - 3.66 mm (0.125 - 0.144 in)	10
	5	3.68 - 4.16 mm (0.145 - 0.164 in)	8/9
	6	4.19 - 4.75 mm (0.165 - 0.187 in)	7

#### ATTENTION



Follow instructions above to provide a proper seal and to prevent potential damage to the terminal. Allen-Bradley assumes no responsibility for water or chemical damage to the terminal or other equipment within the enclosure because of improper installation.

## 700 - 1500 Panel Installation

The PanelView Plus 700 - 1500 terminals are installed in the same manner using clips for mounting. The number of clips used (4, 6 or 8) varies by terminal type. The mounting clips are shipped with each terminal.

### ATTENTION



- Disconnect all electrical power from the panel before making the panel cutout.
- Make sure the area around the panel cutout is clear.
- Do not allow metal cuttings to enter any components already installed in the panel.
- Failure to follow these instructions may result in personal injury or damage to panel components.

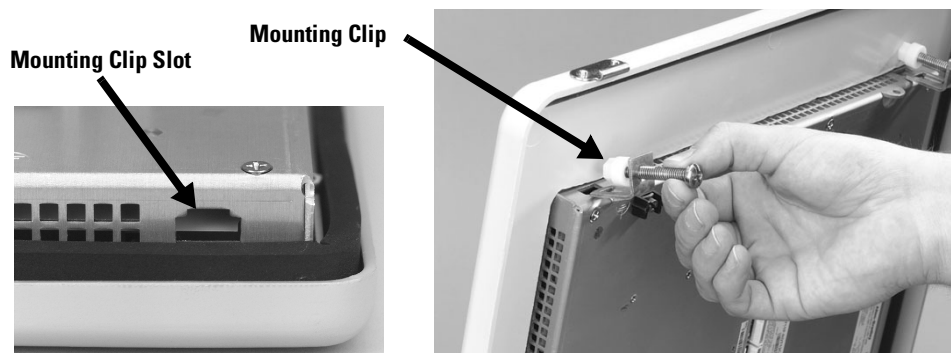
### To install a PanelView Plus terminal in a panel:

1. Cut an opening in the panel using the panel cutout provided with the terminal. Remove any sharp edges or burrs.
2. Make sure the terminal sealing gasket is properly positioned on the terminal as shown. This gasket forms a compression type seal. Do not use sealing compounds.



3. If using keypad legend strips on keypad terminals, we recommend that you install the strips before installing the terminal. Be careful not to pinch the legend strip during installation.
4. Place the terminal in the panel cutout.

5. Install the mounting clips. The ends of the clips slide into the slots on the terminal.



6. Tighten the clip mounting screws by hand until the gasket seal contacts the mounting surface uniformly.



7. Alternately tighten the mounting clips screws to a torque of .90 - 1.1 N•m (8 - 10 in-lb). Do not over-tighten.

1	4
Torque Sequence for 4 Clips	
3	2

1	5	3
Torque Sequence		
4	2	6

1	6
Torque Sequence	
3	8
7	4
5	2

#### ATTENTION



Tighten the mounting clip screws to a torque of .90 - 1.1 N•m (8 - 10 in-lb) to provide a proper seal and to prevent potential damage to the terminal. Allen-Bradley assumes no responsibility for water or chemical damage to the terminal or other equipment within the enclosure because of improper installation.



## Applying Power

### Chapter Objectives

This chapter provides information on:

- wiring and safety guidelines
- removing and installing power terminal block
- connecting DC power
- connecting AC power
- resetting the terminal
- startup sequence

### Wiring and Safety Guidelines

Use publication NFPA 70E, "Electrical Safety Requirements for Employee Workplaces", IEC 60364 "Electrical Installations in Buildings" or other applicable wiring safety requirements for the country of installation when wiring the VersaView CE terminals. In addition to the NFPA guidelines:

- connect the terminal and other similar electronic equipment to its own branch circuit.
- protect the input power by a fuse or circuit breaker rated at no more than 15 Amps.
- route incoming power to the terminal by a separate path from the communication lines.
- where power and communication lines must cross, they should cross at right angles. Communication lines can be installed in the same conduit as low level DC I/O lines (less than 10 volts).
- shield and ground cables appropriately to avoid Electromagnetic Interference (EMI). Grounding minimizes noise from EMI and is a safety measure in electrical installations.

For additional grounding recommendations, refer to the National Electrical Code published by the National Fire Protection Association of Boston.

## Installing and Removing Power Terminal Block

You can remove and re-install the DC or AC power terminal block for ease of installation, wiring, and maintenance. The terminal block is pre-installed when shipped.

### WARNING



### Explosion Hazard

- Substitution of components may impair suitability for hazardous locations.
- Do not disconnect equipment unless power has been switched off and area is known to be non-hazardous.
- Do not connect or disconnect components unless power has been switched off.
- All wiring must comply with N.E.C. articles 501-4(b), 502-4(b), 503-3(b) as appropriate.
- Peripheral equipment must be suitable for the location it is used in.

### ATTENTION



Disconnect all power before installing or replacing components. Failure to disconnect power may result in electrical shock and/or damage to the terminal.

### ATTENTION

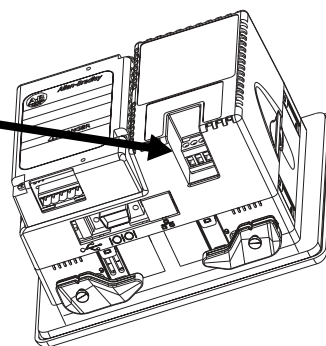
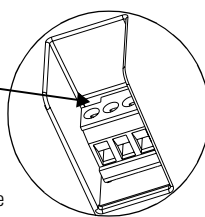


AC and DC terminal blocks are keyed and marked differently so be sure to follow markings. Do not force terminal blocks into connectors to prevent potential damage to terminal.

## 400 - 600 Terminals

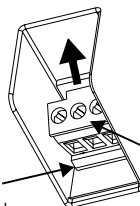
### To remove terminal block:

1. Insert tip of small, flat-blade, screw driver into terminal block access slot.
2. Gently pry terminal block away from terminal to release locking mechanism



### To install terminal block:

1. Press terminal block base in first with block leaning outward.



2. Gently push top of terminal block back to vertical position to snap in locking tab.

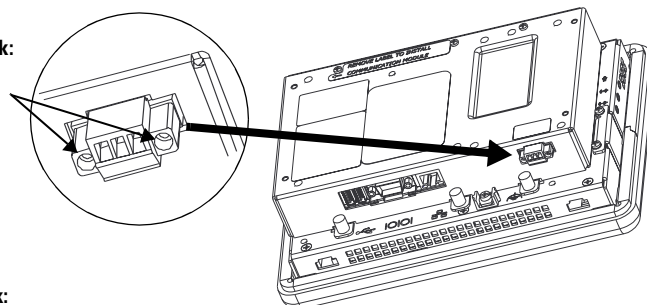
## 700 - 1500 Terminals

### To remove terminal block:

1. Loosen the two screws that secure the terminal block.
2. Gently pull the terminal block away from the connector.

### To install terminal block:

1. Re-attach the terminal block to the connector until seated.
2. Replace the 2 screws that secure the terminal block to the connector.



## Connecting DC Power

The PanelView Plus terminals have an integrated DC power supply. The electrical input ratings for DC power are:

Power Type	Terminal	Input Range
DC	400 - 600	24V dc nominal (18...30 V dc) 25 Watts maximum (1.0 A at 24V dc)
	700 - 1500	24V dc nominal (18...32 V dc) 70 Watts maximum (2.9 A at 24V dc)

The DC power supply is internally protected against reverse polarity.

The input power terminal block on the integrated power supply is removable and supports the following wire sizes:

Terminal	Wire Type	Wire Size (2-wire maximum per terminal)	Terminal Block Screw Torque
400 - 600	Stranded or Solid	#18 to #12 AWG	.23 - .45 N•m (2 - 4 in-lbs)
700 - 1500	Stranded	#16 to #22 AWG	
	Solid	#18 to #22 AWG	

PanelView Plus terminals using 24V dc power are EN 61131-2 Equipment Class II devices.

**ATTENTION**



For DC powered units, use a Class 2/SELV (Safety Extra-Low Voltage) isolated and ungrounded power supply as input power to the PanelView Plus terminal. This power source provides protection so that under nominal and single fault conditions, the voltage between conductors and between conductors and Functional Earth/Protective Earth does not exceed a safe value.

**ATTENTION**

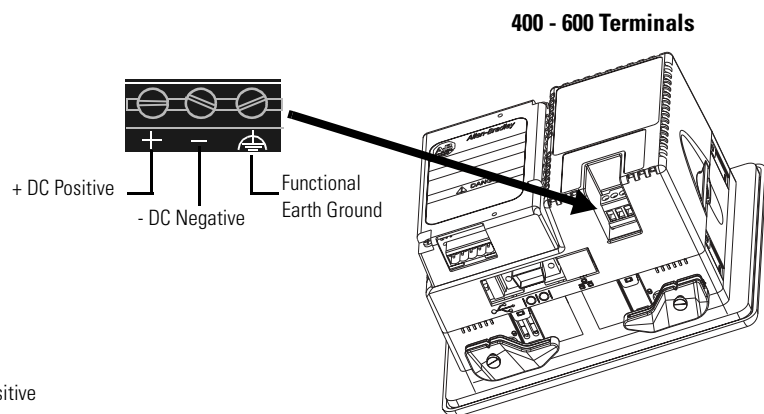
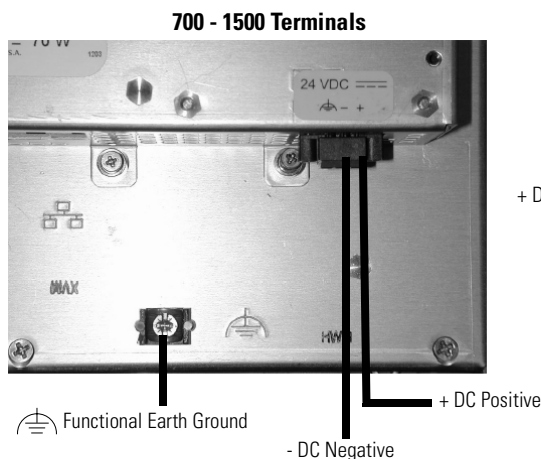


Explosion Hazard - Do not connect or disconnect equipment while circuit is live unless area is known to be non-hazardous.

Disconnect all power before installing or replacing components. Failure to disconnect power may result in electrical shock and/or damage to the terminal.

**To connect DC power:**

1. Secure the DC power wires to the terminal block screws. Follow the markings on terminal blocks and labels on terminal for proper connections.
2. Secure the Earth Ground wire to the appropriate terminal block screw.



3. Apply 24V dc power to the terminal.



## Connecting AC Power

The PanelView Plus 400 - 600 terminals are available with an integrated AC power supply. A DIN Rail mounted AC power supply is available as a separate catalog number for the PanelView Plus 700 - 1500 terminals.

Power Type	Terminal	Input Range
AC	400 - 600	85...264V ac (47...63 Hz) 60 VA maximum
	700 - 1500 <sup>(1)</sup>	85...264V ac (47...63 Hz) 120 VA maximum

<sup>(1)</sup> Requires the DIN Rail Mounted AC power supply (2711P-RSACDIN). For more information, see installation instructions shipped with power supply.

The input power terminal block on the PanelView Plus 400-600 integrated power supply is removable and supports these wire sizes:

Terminal	Wire Type	Wire Size (2-wire maximum per terminal)	Terminal Block Screw Torque
400 - 600	Stranded or Solid	#18 to #12 AWG	.23 - .45 N•m (2 - 4 in-lbs)

PanelView Plus 400 and 600 terminals using AC power are EN 61131-2 Equipment Class I devices.

### ATTENTION



Explosion Hazard - Do not connect or disconnect equipment while circuit is live unless area is known to be non-hazardous.

Disconnect all power before installing or replacing components. Failure to disconnect power may result in electrical shock and/or damage to the terminal.

### ATTENTION

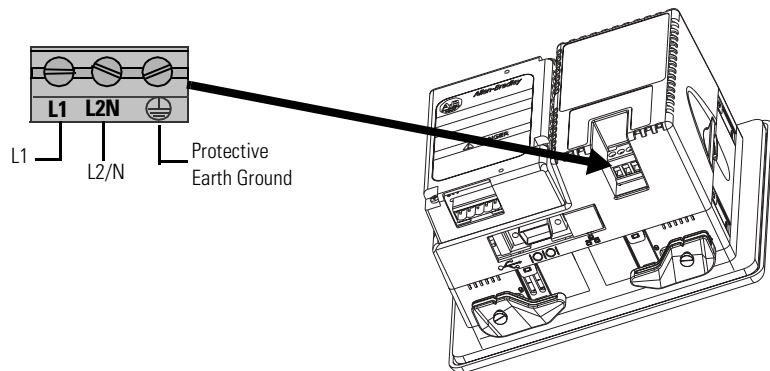


Improper wiring of power terminals may result in voltage at the communication connector shells. Refer to the following figure when wiring.

Do not apply power to the terminal until all wiring connections have been made. Failure to do so may result in electrical shock.

**To connect AC power:**

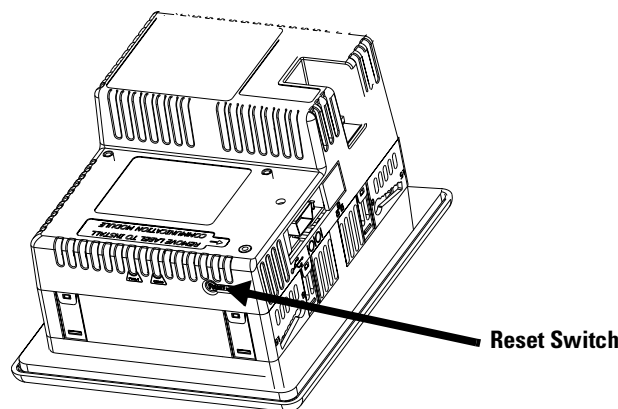
1. Secure the AC power wires to the terminal block screws.
2. Secure the Earth Ground wire to the appropriate terminal block screw.



3. Apply power to the terminal.

**Resetting the Terminal****400 - 600 Terminals**

The PanelView Plus 400 and 600 terminals have a Reset switch on the side of the terminal. Use the Reset switch to restart the terminal without having to disconnect and reapply power. When reset, the terminal will perform a series of startup tests and run RSView ME. The loaded .MER application may also run depending on how the terminal is configured.



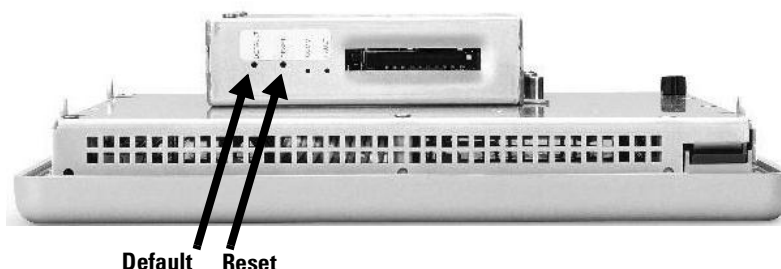
Press Reset with your finger or a nonconducting object.

**ATTENTION**

Use a nonconducting object to press the RESET switch. **Do not** use a conducting object such as a paper clip or you may damage the terminal. **Do not** use the tip of a pencil; graphite may damage the terminal.

## 700 - 1500 Terminals

The PanelView Plus 700 - 1500 terminals have both a Reset switch and a Default switch on the side of the logic module.



### *Reset*

Use the RESET switch to restart the terminal without having to disconnect and reapply power. Insert a thin probe into the hole marked RESET and press the switch. The terminal will perform a series of startup tests and run RSVIEW ME. The loaded .MER application may also run depending on how the terminal is configured.

### *Default*

Use the DEFAULT switch with the RESET switch to start the terminal in Safe Mode. This is a diagnostics mode where the system is reduced to a known state that allows recovery from a software problem. Safe Mode ignores all user changes to the system and avoids any problem that is due to interactions with end-user software or changes.

For more details on Safe Mode, refer to page 8-13.

- Insert a thin probe into the hole marked DEFAULT and press the switch, then;
- Insert the probe into the hole marked RESET and press the switch. The system will restart immediately into the Safe Mode.

### **ATTENTION**



Use a nonconducting object to press the RESET and DEFAULT switch. **Do not** use a conducting object such as a paper clip or you may damage the terminal. **Do not** use the tip of a pencil; graphite may damage the terminal.

## Startup Sequence

After a reset, the PanelView Plus performs a series of startup tests and then either:

- runs the .MER application currently loaded in the terminal
- enters PanelView Plus configuration mode

The action that occurs depends on what startup options are configured for your PanelView Plus terminal.

## Using Configuration Mode

### Chapter Objectives

This chapter shows how to use the configuration screens of your PanelView Plus terminal to:

- perform data entry and navigation
- load an ME application
- run an ME application
- modify application settings
- modify terminal settings

### Starting Configuration Mode

When you reset or start up the PanelView Plus, you should automatically enter Configuration Mode. Your application will automatically run on startup if you configured this option under Terminal Settings>Startup Options.

If you are unable to enter configuration mode, see page 8-14 in Chapter 8, Troubleshooting.

#### To access Configuration Mode from a running application:

- press the Goto Configuration Mode button.

This button is added to application screen in RSView Studio.

The application stops running but is still loaded.

Name of application that is currently loaded.  
Only appears if application is loaded.

To activate buttons:

- on keypad terminals, select the corresponding function key [Fx]
- on touch screen terminals, tap the button with your finger or stylus.
- if a mouse is attached, make selections with the mouse.

Current application:  
Objects Demo4.mer

Load Application [F1]    Run Application [F2]    Application Settings [F3]

Terminal Settings [F4]    Delete Log Files Before Running [F5]    ☐ Yes  
☒ No

Reset [F7]    Exit [F8]







Main Screen Button	Description
Load Application (F1)	Opens another screen where you can select an application to load. Once loaded, the application name will appear under Current Application.
Run Application (F2)	Runs the .MER application displayed under Current Application. An application must be loaded before you can run it.
Application Settings (F3)	Opens a menu of application-specific configuration settings.
Terminal Settings (F4)	Opens a menu of options to configure non-application, specific terminal settings for the PanelView Plus terminal.
Delete Log Files Before Running (F5)	Toggles between Yes and No. If you select Yes, all data log files, alarm history and alarm status file will be deleted before the application is run. If you select No, log files are not deleted first.
Reset (F7)	Resets the terminal. The action that occurs on startup depends on whether you defined shortcut paths in the Windows Startup folder.
Exit (F8)	Exits Configuration Mode.

## Data Entry and Navigation

Configuration Mode uses screen buttons for data entry and navigation.

- On terminals with a touch screen, tap the button with your finger or stylus.
- On terminals with a keypad, select the function key listed on the button, or in some cases, the corresponding key on the keypad.

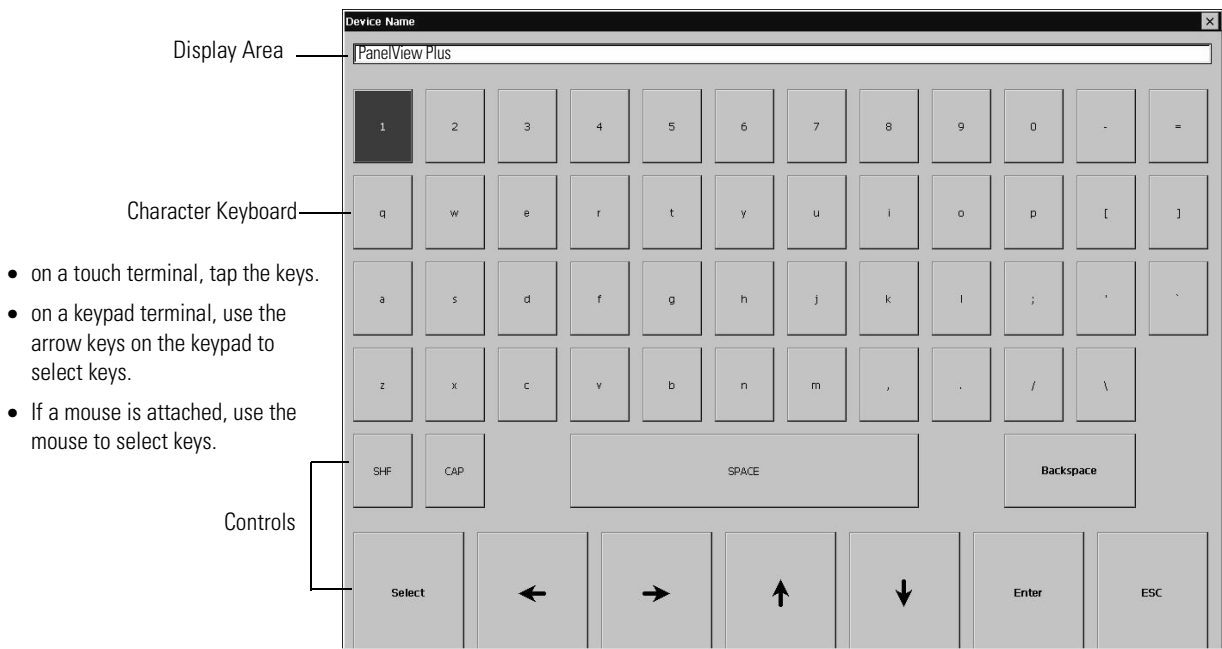
Besides operation specific buttons which are used to modify configuration data, most screens have a combination of the following buttons.

Screen Buttons	Description
	Returns to the previous screen.
	Accepts modified values and returns to previous screen.
	Cancels the current operation without saving any changes.
 	Moves highlight up or down a list.
	Selects a highlighted screen or item from a list.

## Input Panel

Many screens have buttons that access fields where you must enter/edit data. When you press the button or function key, the Input Panel opens ready for you to input data.

If the field is restricted to a numeric value, only the 0-9 keys will be enabled. If the value is an IP address, the 0-9 and decimal point keys will be enabled. All other buttons will be disabled.



Controls	Function
SHF	Switches keys between their shifted and unshifted state. The initial default is shifted.
CAPS	Switches keys between lowercase and uppercase characters. The initial default is lowercase.
SPACE	Enters a space between characters in the Display Area.
Backspace	Deletes the previous character (to the left of the cursor) in the Display Area.
Select	Selects a character and enters it in the Display Area.
Right, Left, Up, Down Arrow Keys	Selects the character to the right, left, above or below the currently selected character.
Enter	Accepts the entered characters and returns to the previous screen
ESC	Cancels the current operation and returns to the previous screen.

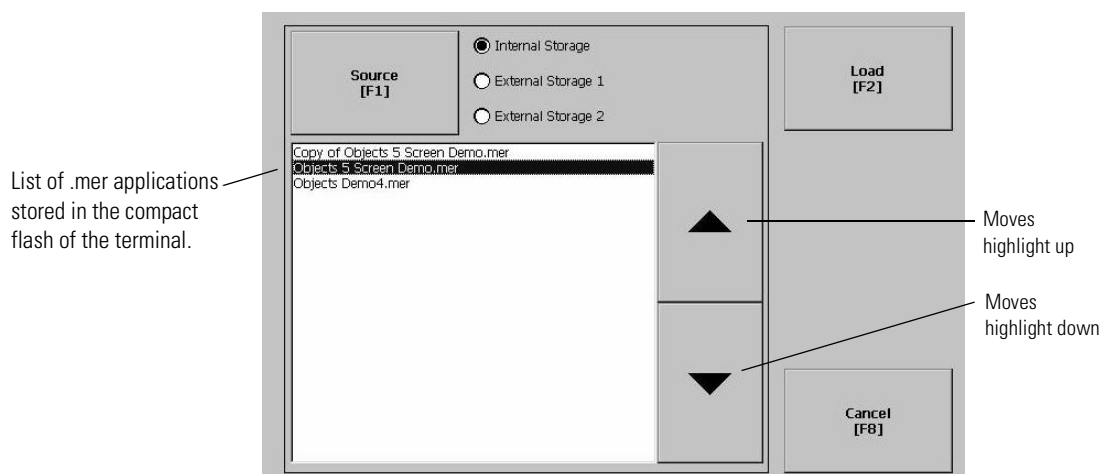
### To enter characters in the Display Area:

1. Select a character on the Character Keyboard.
2. Press the **Select** button to copy the character to the Display Area.
3. When done entering all characters, press **Enter**. You will return to the previous screen.

You will return to the previous screen with the newly data entered.

## Loading an ME Application

To load an RSView ME .MER application, select the **Load Application** button on the main screen:



1. Select the **Source** button to select the storage location of the application file you want to load. The options are:
  - Internal Storage - the Internal Compact Flash in the PanelView Plus terminal.
  - External Storage 1 - the External Compact Flash card loaded in the card slot of the terminal.
  - External Storage 2 - for future use.

### TIP

RSView ME only recognizes files located in the `\RockwellSoftware\RSViewME\Runtime\` folder.

2. Select an .MER file from the list. Use the up and down cursor keys to select a file.
3. Select the **Load** button to load the application.  
You will be asked if you want to replace the terminals' current communication configuration with the application's communication configuration.
4. Select **Yes** or **No**. If you select **Yes**, any changes made to the device addresses or driver properties in the RSLinx Communications screen will be lost.

The name of the currently loaded application will appear at the top of the main Configuration Mode screen.



## Running an Application

To run the currently loaded application, select the **Run Application** button on the main Configuration Mode screen. An application must be loaded, before you can run it. Log files generated by the application may be deleted if this option was selected on the main screen or enabled as a Startup Option under Terminal Settings.

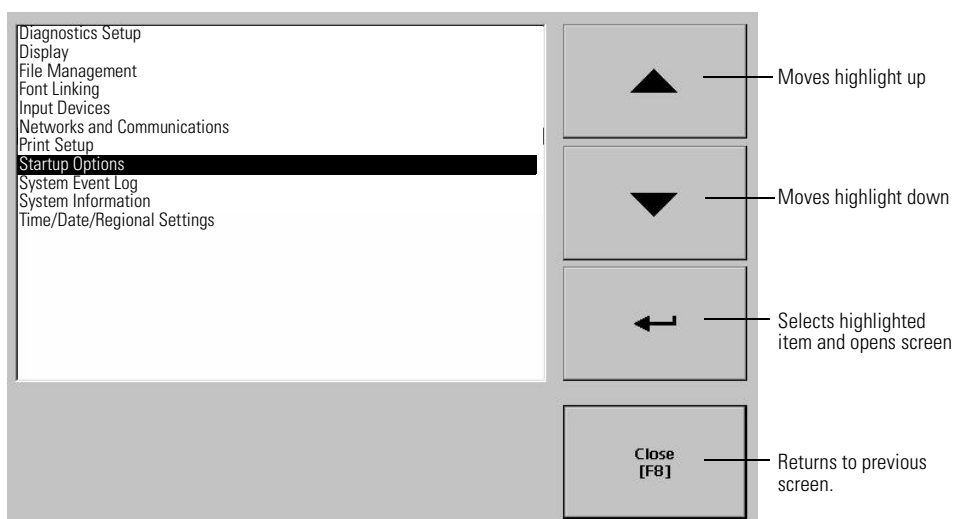
## Application Settings

From the Application Settings screen, you can show device shortcuts defined for the loaded .MER application. For example, your .MER application might have SLC defined as a device shortcut name for the SLC 5/05. Device shortcuts are read-only and cannot be edited.

## Terminal Settings

From Terminal Settings, you can open screens to configure and modify non-application settings for the PanelView Plus terminal.

- On a touch terminal, tap the button.
- On a keypad terminal, press the corresponding key on the keypad



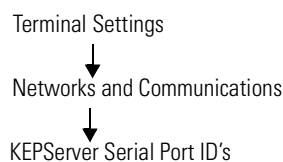
Terminal Setting	Description
Diagnostics Setup	Forwards diagnostic messages from a remote log destination to a computer running diagnostics.
Display	Shows the temperature of the display, sets the intensity of the backlight, contrast of grayscale displays, and enables/disables the screen saver.
File Management	Copies or deletes application files or font files from a storage location.
Font Linking	Links a font file to a base font loaded on the terminal.
Input Devices	Configures settings for the keypad, touch screen, or attached keyboard and mouse.
Networks and Communications	Configures network connections and communication settings specific to the application (DHPlus, DH485, Remote I/O, ControlNet, Serial).
Print Setup	Configures settings for printing displays, alarm messages, and diagnostics messages generated by the application.

Terminal Setting	Description
Startup Options	Specifies whether the terminal starts up in configure or run mode. Also lets you enable/disable tests to run on the terminal at startup.
System Event Log	Displays a list of system events currently logged by the terminal.
System Information	Displays power, temperature, battery and memory details for the terminal. Also shows the firmware number for RSView ME and technical support information.
Time/Date/Regional Settings	Sets the date, time, language and numeric format used by the terminal and applications.

## Networks and Communications

From the Networks and Communications screen, you can access settings for:

- KEPServer Serial Port ID's
- Network Connections
- RSLinx Enterprise Communications



### KEPServer Serial Port ID's

To access the KEPServer Serial Port ID's screen, you must have KEPServer Enterprise installed on your terminal. Otherwise, you will get an error message when accessing this screen. If you plan on using KEPServer Enterprise and serial communications, you must specify which COM port to use.

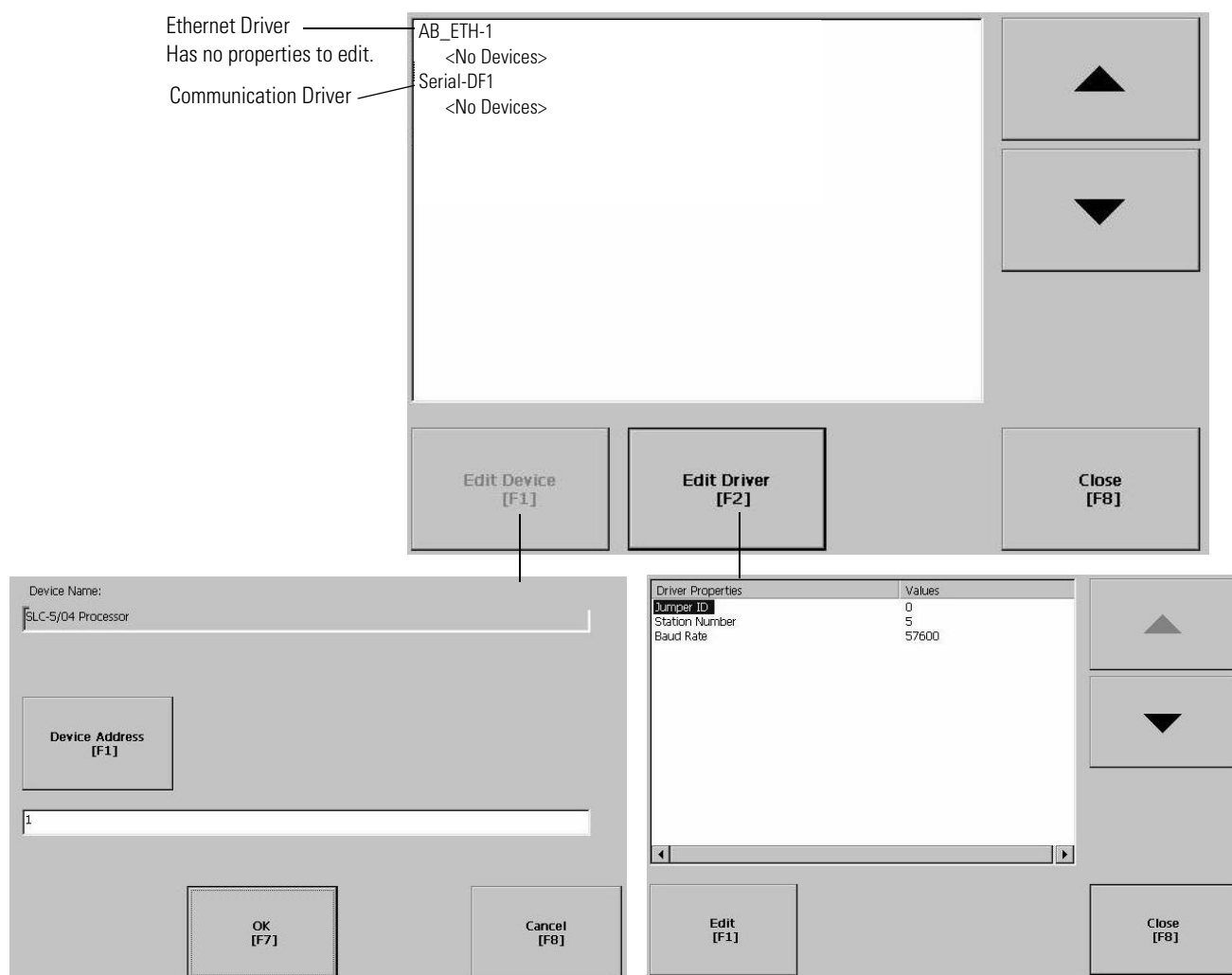
Terminal Settings  
 ↓  
 Networks and Communications  
 ↓  
 RSLinx Enterprise Communications

## RSLinx Enterprise Communications

The RSLinx Enterprise Communications screen shows a treeview of installed communication cards and network configurations. You can:

- edit/view the driver settings for the communication protocol used by your .MER application.
- edit the device address of the controller on the network.

The procedure for editing these settings is the same regardless of the communication protocol. The only differences are the properties for each communication protocol and the device address of the logic controller. The properties for each communication protocol are defined immediately after this section.



**To edit communication settings:**

1. From the RSLinx Configuration Screen, select the communication card installed on your terminal.
2. Select the **Driver Settings** button.  
A properties screen opens showing the current communication settings for the driver.
3. To modify a setting, select the setting and then the **Edit** button.  
The Input Panel opens showing the current setting.
4. Using the Input Panel, modify the setting and then select the **Enter** button.

You return to the previous screen with the newly entered data.

**To edit the device address of the logic controller:**

1. From the RSLinx Configuration screen, select a device node.
2. Select the **Edit Device** button.  
A screen opens showing the name of the device and its current node address.
3. To modify the device address, press the **Device Address** button.  
The Input Panel opens showing the current address.
4. Using the Input Panel, modify the address and then select the **Enter** button.

You return to the previous screen with the new address.

---

**IMPORTANT**

Modified settings do take effect until the terminal is rebooted.

---

## DHPlus Properties

The DHPlus Properties screen lets you view or modify settings for a PanelView Plus connected to a DHPlus network.

Field	Description	Valid Values
Jumper ID <sup>(1)</sup>	Identifies the communication card if multiple cards are installed on terminal.	0 - 3
Station Number	The unique address of the PanelView Plus on the DHPlus network.	0 - 77 (octal)
Baud Rate	The baud rate of the DHPlus network.	57600 (default) 115200 230400

<sup>(1)</sup> For use with PanelView Plus 700-1500 terminals only.

## DH485 Properties

The DH485 Properties screen lets you view or modify settings for a PanelView Plus connected to a DH-485 network.

Field	Description	Valid Values
Jumper ID <sup>(1)</sup>	Identifies the communication card if multiple cards are installed on terminal.	0 - 3
Station Number	The unique station number of the PanelView Plus on the DH-485 network.	0 - 31 (decimal)
Baud Rate	The baud rate of the DH-485 network.	9600 19200
MaxStationNumber	The maximum station number on the DH-485 network. The value must be greater than or equal to the Station Number.	0-31 (decimal)

<sup>(1)</sup> For use with PanelView Plus 700-1500 terminals only.

## Remote I/O Properties

The RIO Properties screen configures Remote I/O communication settings for the PanelView Plus terminal on a Remote I/O link.

Field	Description	Valid Values
Jumper ID <sup>(1)</sup>	Identifies the communication card if multiple cards are installed on terminal.	0 - 3
Baud Rate	The baud rate of the Remote I/O network.	57600 (default) 115200 230400

<sup>(1)</sup> For use with PanelView Plus 700-1500 terminals only.

## ControlNet Properties

The ControlNet Properties screen configures ControlNet communication settings for the PanelView Plus terminal on a ControlNet network.

Field	Description	Valid Values
Device ID	Unique address of the PanelView Plus terminal on the ControlNet network.	1 - 99

## Serial Properties

The Serial Properties screen configures settings for serial communications (using the RS-232 serial port) on the PanelView Plus terminal.

Field	Description	Valid Values
Device	The serial device your PanelView Plus terminal is connected to.	PLC_CH0 KF2 SLC_CH0 KF3 KFC KFC15 AC_CH0
Error Check	Type of error checking used. Error checking is automatically configured if Use Auto Config is set to Yes.	BCC, CRC
Parity	Type of parity used. The parity is automatically configured if Use Auto Config is set to Yes.	None, Odd, Even
Stop Bits	Number of stop bits used.	1 or 2
Ack Timeout	Ack/Poll timeout value in milliseconds.	20 - 60,000 ms
Max Retries	Maximum number of retries before the serial driver fails.	0 - 255
Station	Station number based on a specific device.	PLC_CH0 0-77 (octal) KF2 0-77 (octal) SLC_CH0 0-31 KF3 0-31 KFC 1-99 KFC15 1-99 AC_CH0 0-255
Baud Rate	Data rate at which serial driver communicates. The baud rate is automatically configured if Use Auto Config is set to Yes.	110, 300, 600, 1200, 4800 9600, 19200, 38400, 115200
Use Auto Config	Automatically or manually configures the baud rate, parity and error checking parameters.	Yes (auto configure) No (manual configure)
Com Port	Communication port used on the PanelView Plus terminal.	1 (COM1) 2 (COM2)

Terminal Settings  
 ↓  
 Networks and Communications  
 ↓  
 Network Connections

## Network Connections

The Network Connections screen lets you configure the following for the PanelView Plus terminal:

- Device Name
- Network Adapters
- Network Identification

Terminal Settings  
 ↓  
 Networks and Communications  
 ↓  
 Network Connections  
 ↓  
 Device Name

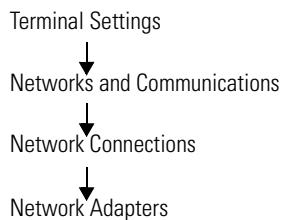
### *Device Name*

The Device Name screen identifies the PanelView Plus terminal to other computers on the network.

The screenshot shows a configuration window with a light gray background. On the left, there are two labels: 'Device Name [F1]' and 'Device Description [F2]'. To the right of each label is a text input field. The first field contains 'PanelView Plus' and the second contains '2711P-PVPlus'. At the bottom right of the window, there are two buttons: 'OK [F7]' and 'Cancel [F8]'.

Field	Description	Valid Values
Device Name <sup>(1)</sup>	Name that identifies the PanelView Plus terminal to other computers on the network.	1 to 15 characters A leading character in the range 'a - z' or 'A - Z' Remaining characters in the range 'a - z', 'A - Z', '0 - 9', or '-' (hyphen)
Device Description	Provides a description of the terminal.	50 characters maximum

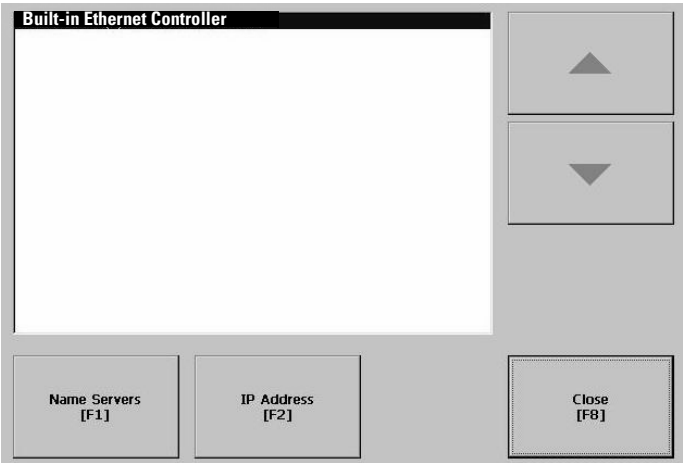
<sup>(1)</sup> Check with your network administrator to determine a valid device name.



### Network Adapters

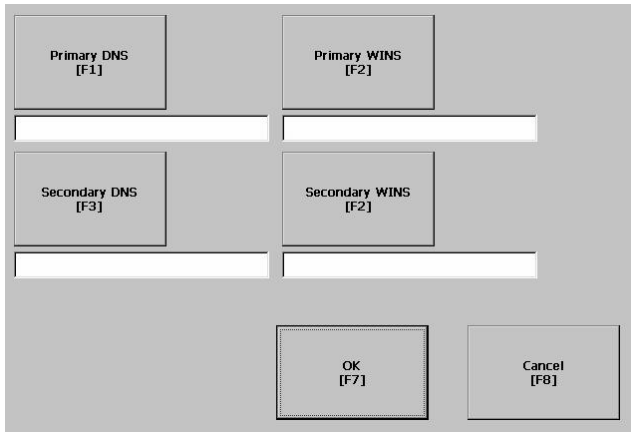
The Network Adapters screen configures driver settings for all network adapters installed on the terminal. The only network adapter on the PanelView Plus terminal is the (IntelR) Fast Ethernet Controller.

Press the **Name Servers** button and/or **IP Address** button to access driver settings.



### Name Servers

Defines Name Server addresses for the Network Adapter. These addresses are automatically assigned if DHCP is enabled for the network adapter.



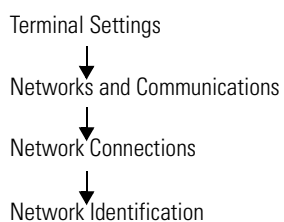
Field	Description	Valid Values
Primary DNS	The address of the primary DNS resolver.	xxx.xxx.xxx.xxx
Secondary DNS	The address of the secondary DNS resolver.	xxx.xxx.xxx.xxx
Primary WINS	The address of the primary WINS resolver.	xxx.xxx.xxx.xxx
Secondary WINS	The address of the secondary WINS resolver.	xxx.xxx.xxx.xxx



## IP Address

The IP Address screen identifies the IP address of the selected network adapter. If the network the PanelView Plus is connected to does not automatically assign an IP address, you can assign the address in this screen.

Field	Description	Valid Values
Use DHCP	<p>Enables or disables DHCP (Dynamic Host Configuration Protocol) settings. DHCP automatically allocates network devices and configurations to newly attached devices on the network.</p> <p>If DHCP is set to Yes, the PanelView Plus is automatically assigned an IP address, Subnet Mask and Gateway. The fields are disabled.</p> <p>If DHCP is set to No, you can enter the IP address, Subnet Mask and Gateway address.</p>	<p>Yes (default)</p> <p>No</p>
IP Address	A unique address identifying the PanelView Plus on the Ethernet network.	<p>xxx.xxx.xxx.xxx</p> <p>000.000.000.000 (default)</p> <p>Range of values for the first set of decimal numbers is 1-255 unless all fields are set to 000. The range of values for the last three sets of decimal numbers is 0-255.</p>
Subnet Mask	Address must be identical to the server subnet mask.	xxx.xxx.xxx.xxx
Gateway	Optional Gateway address.	xxx.xxx.xxx.xxx
Mac ID	Read only field	



### *Network Identification*

The Network Identification screen configures settings that enable the PanelView Plus terminal to gain access to network resources. You can enter a user name, password and domain (provided by your network administrator).

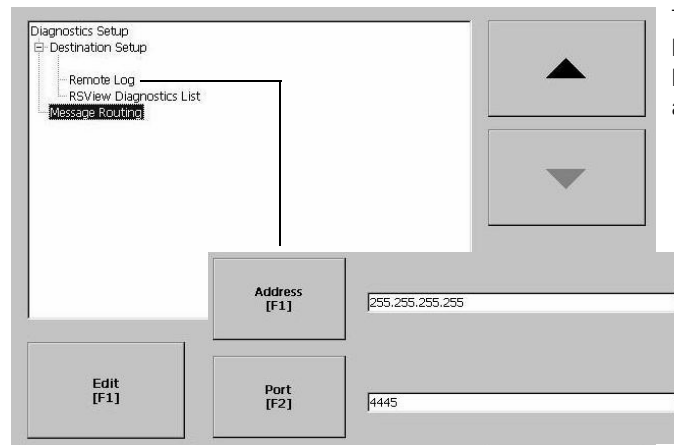
The image shows a graphical user interface for network identification. It features three input fields stacked vertically. The first field is labeled 'User Name' with a function key indicator '[F1]'. The second field is labeled 'Password' with a function key indicator '[F2]'. The third field is labeled 'Domain' with a function key indicator '[F3]'. Below these fields are two buttons: 'OK' with function key indicator '[F7]' and 'Cancel' with function key indicator '[F8]'. The entire interface is set against a light gray background.

Field	Description	Valid Values
User Name	Identifies the user to the network.	70 characters maximum
Password	Characters that gain access to network along with the user name.	No character limitation
Domain Name	Provided by network administrator.	15 characters maximum

## Diagnostic Setup

Terminal Settings  
↓  
Diagnostic Setup

The Diagnostic Setup screen configures diagnostics for the current computer. The screen shows a treeview of possible diagnostic nodes.



To access the Remote Log Setup or Message Routing, select the node and then the Edit button.

The Remote Log Destination forwards messages that it receives to a Windows 2000/XP computer running diagnostics. The location is determined by the IP address and port number.

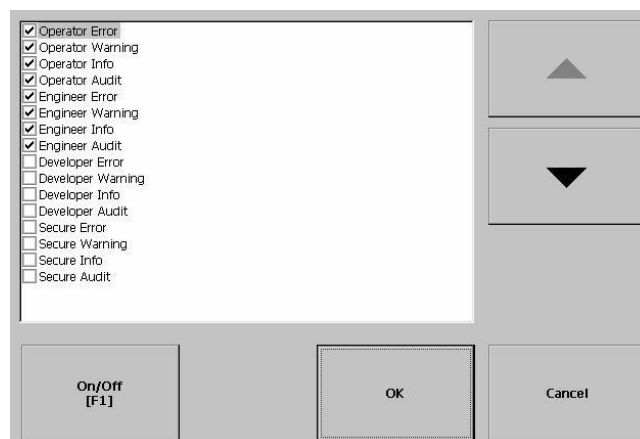
Field	Description	Valid Values
Address	Address of the remote Windows 2000/XP computer.	xxx.xxx.xxx.xxx
Port	The port used to communicate with the remote Windows 2000/XP computer.	4445 (default)

## Message Routing

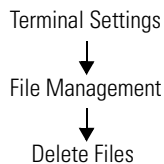
The Message Routing screen lets you access the following screens:

- Remote Log
- RSView Diagnostics List

Each one of the above screens shows a list of messages that can be sent to that destination. The list shows the On/Off status of each message type. Use the **On/Off** button to turn a message type on or off. A message type is enabled if it has a checked box.



## File Management



The File Management screen lets you access screens to:

- Delete Files
- Copy Files

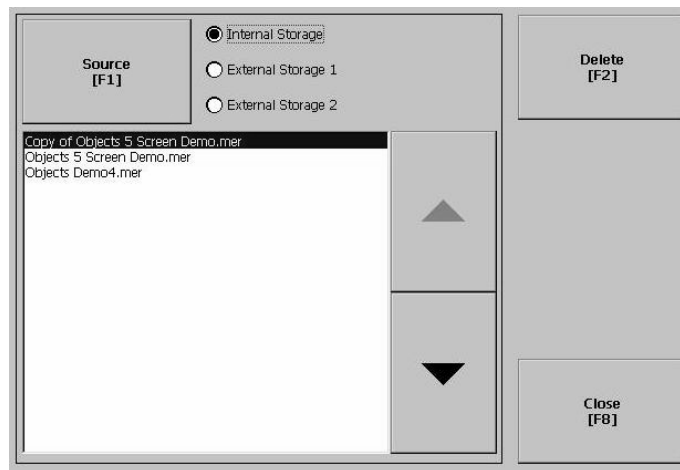
### Delete Files

From the Delete Files screen you can select options to:

- Delete Applications - deletes an .MER application file from a storage location.
- Delete Fonts - deletes a font file from a storage location.
- Delete Log Files - deletes any data log files, alarm history files and alarm status files in the System Default location on the PanelView Plus terminal.

#### *Delete Application or Font Files*

The process for deleting an application file or a font file is the same.



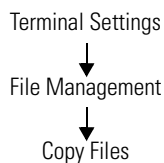
1. Select the **Source** button to select the storage location of the application or font file that you want to delete.
  - Internal Storage - the Internal Compact Flash in the PanelView Plus terminal.
  - External Storage 1 - the External Compact Flash card loaded in the card slot of the terminal.
  - External Storage 2 - for future use.
2. Select a file from the list.
3. Select the **Delete** button.
4. You will be asked if you want to delete the selected application or font file from the storage location. Select **Yes** or **No**.

### Delete Log Files

Select this option to delete any data log files, alarm history files and alarm status files in the System Default location on the PanelView Plus terminal. You will be asked to confirm the operation.

Do you want to delete all of the RSVIEW ME Station Log Files?

Select **Yes** or **No**. Any log files not located in the System Default location will not be deleted.



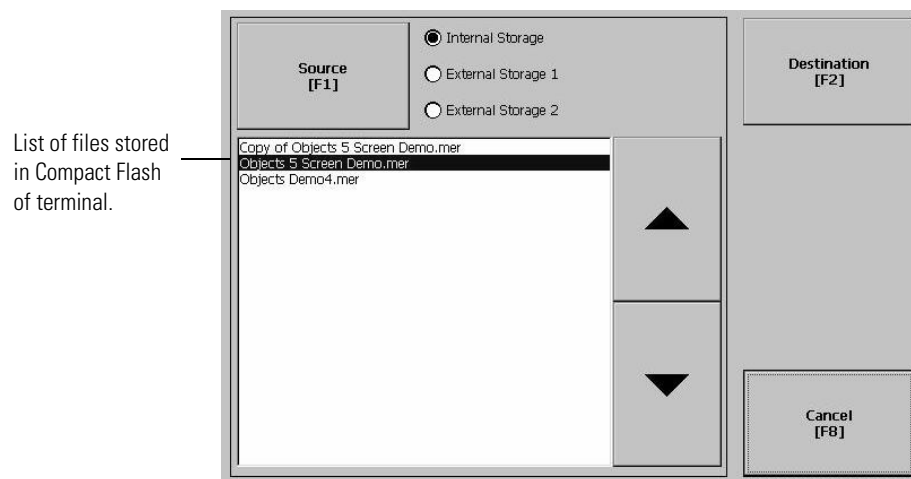
### Copy Files

From the Copy Files screen, you can select options to:

- *Copy Applications* - copies an .MER application file from one storage location to another
- *Copy Fonts* - copies a font file from one storage location to another.

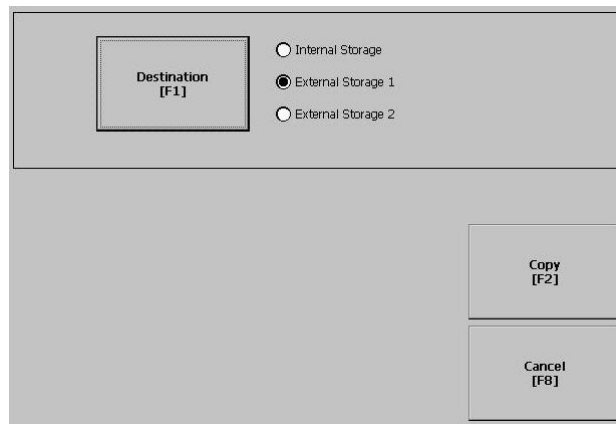
### Copy Applications or Fonts

The process for copying an application file or a font file is the same.



1. Select the **Source** button to select the location of the application or font file that you want to copy.
  - Internal Storage - the Internal Compact Flash in the PanelView Plus terminal.
  - External Storage 1 - the External Compact Flash card loaded in the card slot of the terminal.
  - External Storage 2 - for future use.

2. Select the **Destination** button on the same screen to open the following screen.



3. Select the **Destination** button to select the storage location where you want to copy the application or font file to.
  - Internal Storage - the Internal Compact Flash in the PanelView Plus terminal.
  - External Storage 1 - the External Compact Flash card loaded in the card slot of the terminal.
  - External Storage 2 - for future use.
4. Select the **Copy** button to copy the selected application or font file to the selected destination.

If the file exists, you will receive a warning and will be asked if you want to overwrite the existing application.
5. Select **Yes** or **No**.

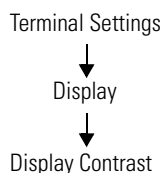
**TIP**

RSView looks for .MER files in the  
\\RockwellSoftware\\RSViewME\\Runtime folder  
and font files in the  
\\RockwellSoftware\\RSViewME\\Fonts\\ folder.

## Display

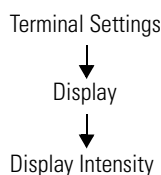
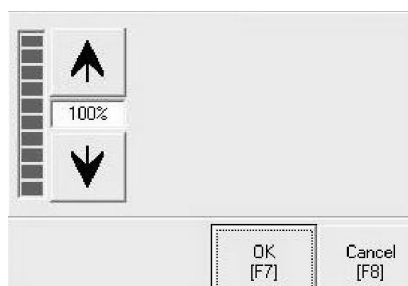
The Display screen lets you open screens to access:

- Display Contrast
- Display Intensity
- Display Temperature
- Screen Saver
- Cursor



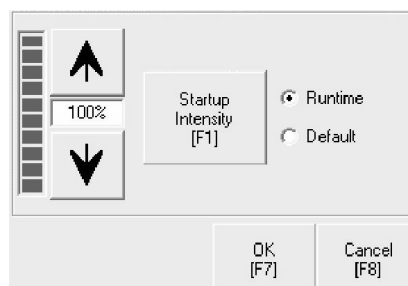
### Display Contrast

The Display Contrast screen lets you view and modify the current contrast setting of the PanelView Plus 400 - 600 grayscale displays. The numeric display shows the current contrast level as a percentage. The change is not permanent until you select **OK**.



### Display Intensity

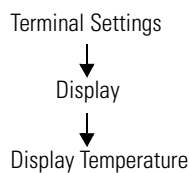
The Display Intensity screen lets you view or modify the current intensity of the backlight. The default intensity is 100%. When you change the intensity, the terminal temporarily changes to that intensity. The change is not permanent until you select **OK**.



The Startup Intensity button toggles between Runtime and Default. If Runtime is selected, the terminal startup screens will use the runtime intensity setting selected on the above screen. If Default is selected, the terminal startup screens will use the terminal default setting, which is near 100%.

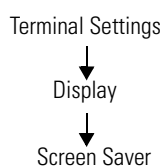
#### TIP

Displays are shipped with the contrast level set at 50% which is the optimum setting.



## Display Temperature

The Display Temperature screen shows the current temperature of the display.

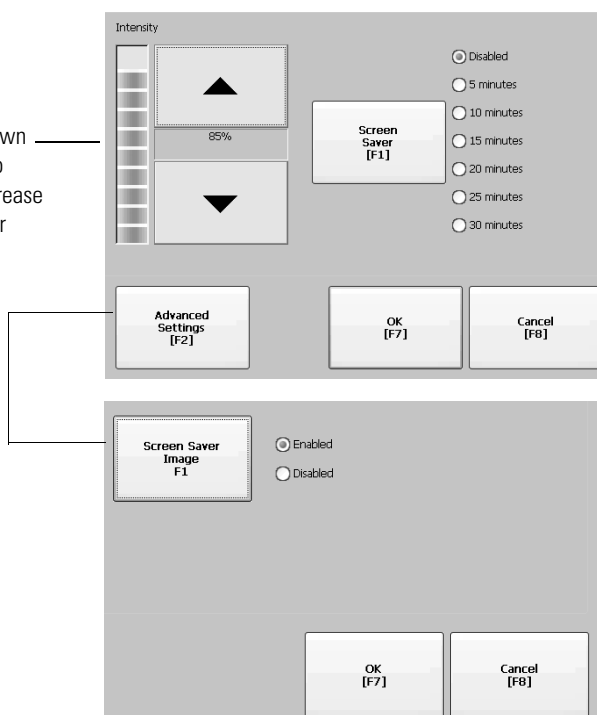


## Screen Saver

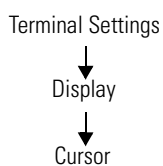
The Screen Saver screen lets you:

- disable the screen saver
- enable the screen saver after the selected idle time
- adjust the brightness intensity of the screen saver
- enable/disable the screen saver bitmap

Select Up or Down  
Cursor button to  
increase or decrease  
the screen saver  
brightness

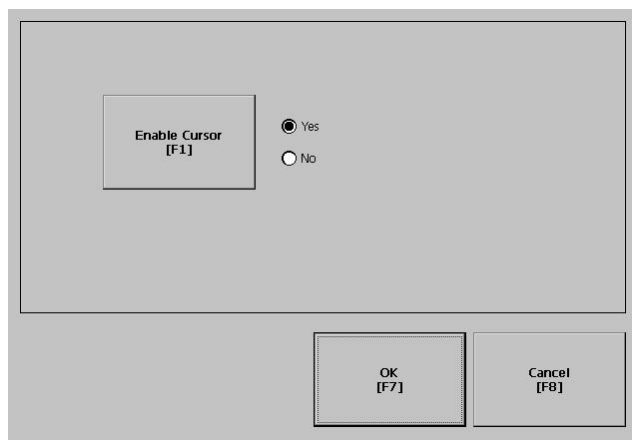




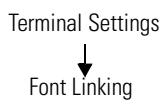


## Cursor

The Cursor screen enables/disables the on-screen cursor.

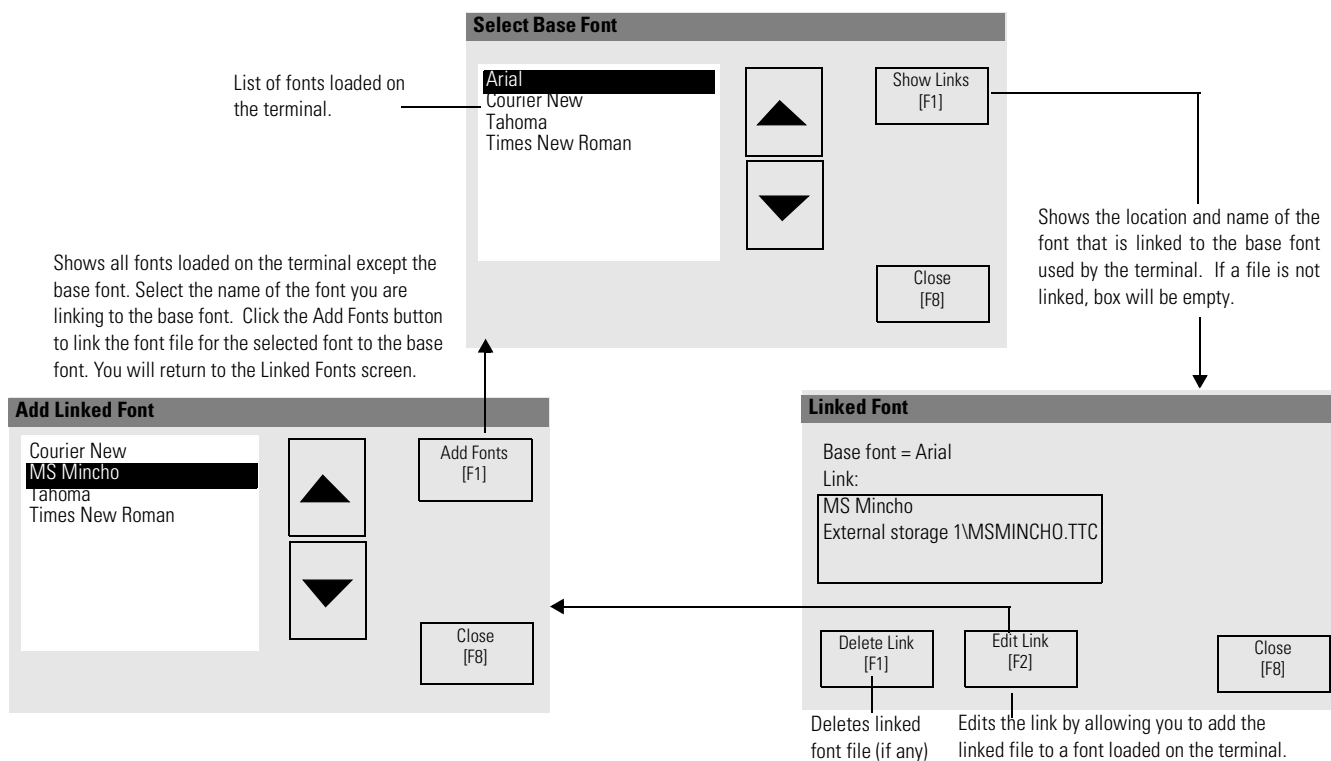


## Font Linking



Font linking allows you to run a translated application on the terminal by linking a font file to the base font (for example, linking a Chinese font file to the base font Arial).

For more details on pre-installed terminal fonts and additional fonts available for downloading, see Appendix C.



# Input Devices

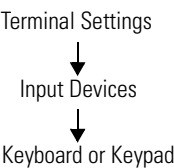
The Input Devices screen lets you access screens to view and modify settings for:

- Keyboard
- Keypad
- Mouse
- Touch Screen

## Keyboard and Keypad Setup

The Keyboard and Keypad screen opens these screens:

- Key Repeat Settings
- Keypad Settings



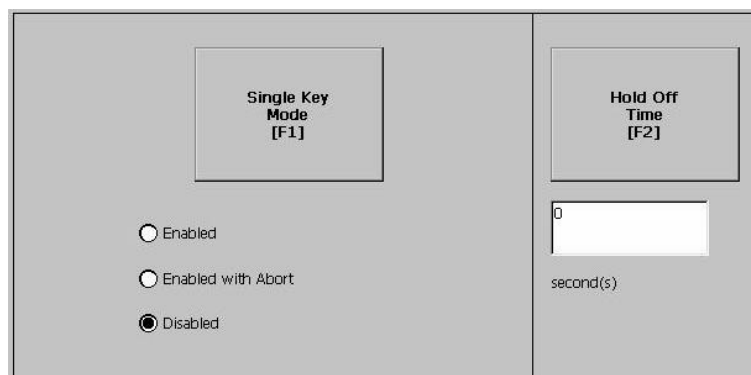
### Key Repeat Settings for Attached Keyboard or PanelView Plus Keypad

The Key Repeat Settings configures settings for keys on the PanelView Plus terminal **or** keys an attached keyboard.

Field	Description	Valid Values
Repeat Rate	The number of times a key is repeated per second when you hold down a key.	Keypad: 0, 2 - 30 Keyboard: Device dependent 0, 2 - 30 is typical
Repeat Delay	The amount of time that elapses before a key is repeated.	200 ms 400 ms 600 ms 1 sec 1.5 sec 2 sec 2.5 sec  Values are device dependent. An unsupported value is disabled (grayed).

### *Key Settings for PanelView Plus Keypad*

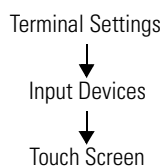
The Keypad Settings screen enables/disables Single Key Mode option which is used to restrict multiple or simultaneous key presses.



Field	Description	Valid Values
Single Key Mode	Enables or disables Single Key Mode.  If enabled, any programmable key that is pressed inhibits all keys until the programmable key is pressed again. This includes the Alt, Ctrl, Shift keys.  If enabled with abort, any secondary key press will terminate the initial key press immediately.  If disabled, there are no restrictions on key presses.	Enabled Enabled with Abort Disabled (default)
Hold Off Time	The length of time to ignore multiple presses of the same key.	400 ms (default)

**IMPORTANT**

The keypad cannot produce Home, End, Page Up or Page Down when Single Key mode is enabled.



## Touch Screen

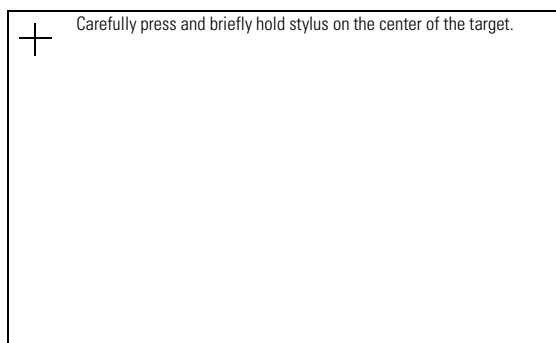
The Touch Screen lets you access the following screens:

- Calibration
- Cursor
- Double-Tap Sensitivity

### *Touch Screen Calibration*

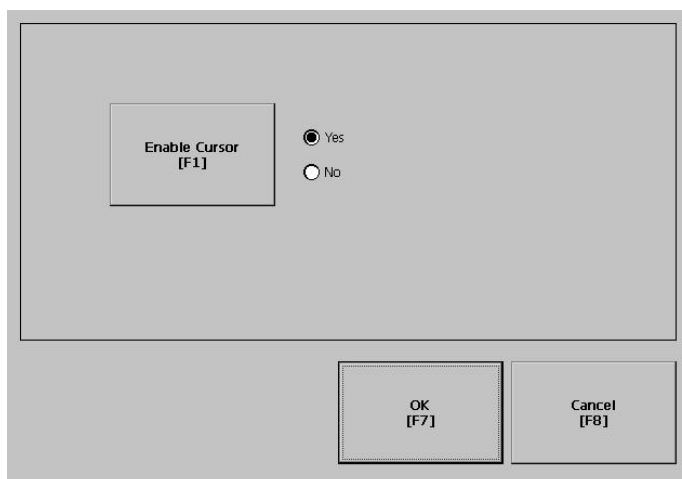
This screen calibrates the touch screen of the PanelView Plus terminal. Touch the center of the target (+) each of the 4 times it appears. When the calibration is complete, you will see the message:

"Tap the screen to register saved data. Wait for 30 seconds to cancel saved data and keep the current settings."



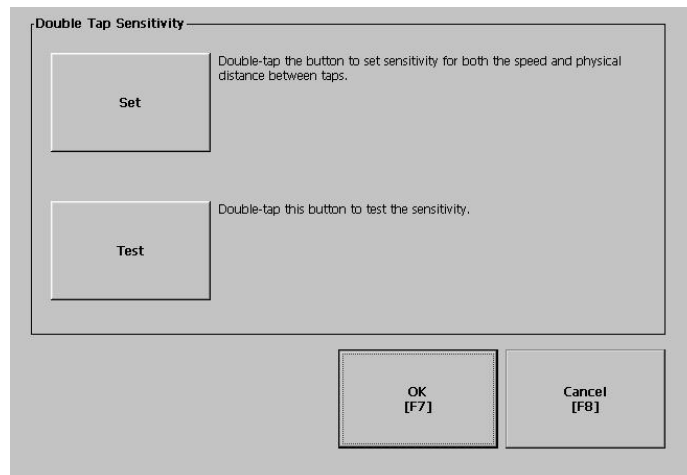
### *Cursor*

This screen enables or disables the cursor on touch screen terminals. Disabling the touch screen cursor will not disable the mouse.

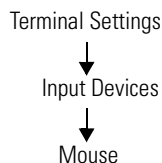


### Double-Tap Sensitivity

This screen lets you set and test the sensitivity for both speed and physical distance between touch screen presses.



- The **Set** button sets the sensitivity of touch screen presses.
- The **Test** button tests the sensitivity of touch screen presses. If you double-tap the test button with the time set using the Set button, the **Test** button will reverse its foreground and background colors.



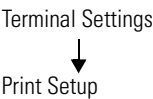
### Mouse

The Mouse screen sets and tests the sensitivity for both speed and physical distance between mouse clicks. This process is identical to that for setting Double-Tap sensitivity for the touch screen.

# Print Setup

The Print Setup screen lets you access screens to configure print options for:

- Displays
- Alarms
- Diagnostic messages.



## Display, Alarm, and Diagnostic Print Setup

The general setup for printing displays, alarm messages and diagnostics messages from an RSView .MER application is the same. The Advanced Settings for each function are different.

The screenshot shows a graphical user interface for printer configuration. It includes buttons for selecting the printer type (PCL Printer), the communication port (Port), the network path (Network Path), and advanced settings (Advanced Settings). There are also OK and Cancel buttons at the bottom.

Field	Description	Valid Values
PCL Printer	Type of printer to use.	Laser (default) Inkjet
Port	Port to use for printing displays, alarm messages, and diagnostic messages.	Network (default) USB
Network Path	Network path of printer to use if the Port selection is Network.	519 characters maximum
Advanced Settings	Press this button to open additional settings.	

### Advanced Settings for Display Print Setup

Select the **Advanced Settings** button to:

- change print orientation (portrait or landscape)
- enable or disable draft mode

### Advanced Settings for Diagnostic Messages and Alarm Messages

The following screen configures when to print diagnostic or alarm messages that are sent to the Network or USB port.

To configure how messages are queued for printing, select the **Print Messages After** button and set one of the following options:

- **Specified number of messages**

Prints messages after 60 are queued or another specified value. The default is 60 (about one full page of messages.)

- **500 messages or timeout period, whichever is first**

Prints after 500 messages are queued or a specific time period has elapsed, whichever comes first. The default time period is 168 hours (7 days). You can specify another value. For example, if 350 messages are in the queue and 7 days have elapsed, the 350 messages will print.

- **Specified number of messages or timeout period, whichever is first**

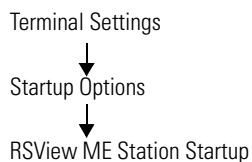
Prints after a specified number of messages are queued or a specific time period has elapsed, whichever comes first.

The default number of messages to queue is 60. The default timeout period is 168 hours (7 days). You can change both values. For example, the number of messages is set to 75 and the timeout period is set to 48 hours (2 day). If the queue has 75 messages after only 24 hours, these messages will print. If there are only 15 messages in the queue at 48 hours, the 15 messages will not print until the time period has elapsed.

## Startup Options

The Startup Options screen accesses the following screens to modify:

- RSVIEW ME Station Startup
- Startup Tests

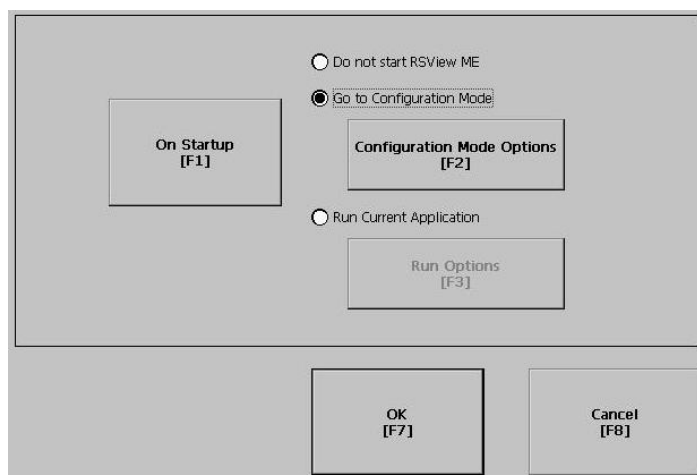


### RSVIEW ME Station Startup

The RSVIEW Machine Station Startup screen specifies what action the PanelView Plus terminal takes on startup:

- Do not start RSVIEW ME Station
- Go to Configuration Mode
- Run the Current Application

This option is available only if an application is loaded.



RSVIEW ME Station will start up based on shortcuts in the Windows Startup folder and whether an application is loaded.

Select the **On Startup** button to switch between Do not start RSVIEW ME, Go to Configure Mode, or Run the Current Application. Select the button under the last two options to configure specific settings for each mode.



### Configuration Mode

The Configuration Mode Options screen specifies whether the PanelView Plus will boot up in Configure Mode:

- with the current application loaded.
- with the communication configuration of the current application or the terminal's RSLinx communication configuration.

If you select **Yes** to replace the terminal's communication configuration with that of the application, any changes made to the device addresses or driver properties in the RSLinx Communications screen will be lost.

These options are available only if an application is loaded in the terminal. If an application is not loaded, both options are disabled and set to **No**.

#### Configuration Mode

Load Current Application  
[F1]

☒ Yes  
☐ No

Replace RSLinx Communications  
[F2]

☐ Yes  
☒ No

OK  
[F7]

Cancel  
[F8]

#### Run Options

Replace RSLinx Communications  
[F1]

☐ Yes  
☒ No

Delete Log Files  
[F2]

☐ Yes  
☒ No

OK  
[F7]

Cancel  
[F8]

### Run Options

The Run Options screen specifies whether or not:

- to replace the terminal's communication (RSLinx) settings with application settings when the application is run.  
If you select **Yes**, any changes to the device addresses or driver properties in the RSLinx Communications screen will be lost when the terminal boots up.
- to delete log files (data, alarm history, alarm status) generated by the terminal from the System Default location before running the application.

Terminal Settings  
↓  
Startup Options  
↓  
Startup Tests

## Startup Tests

The PanelView Plus can run extended tests on startup. The Startup Tests screen provides access to these screens:

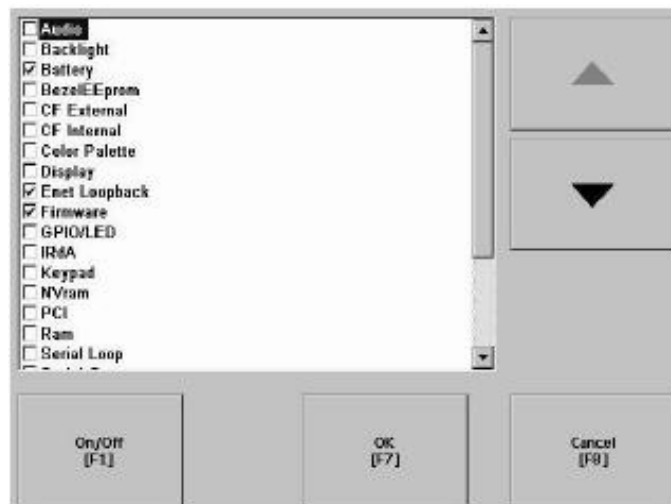
- Startup Tests Settings
- Repeat Count

### IMPORTANT

Startup Tests apply only to PanelView Plus 700 - 1500 terminals.

### Select Tests

The Select Tests screen shows a list of each test that can be performed on the PanelView Plus terminal at startup and its current On/Off status. You can turn any test in the list on or off by selecting the **On/Off** button. The terminal will only run tests with a checked box.



### *Startup Tests Settings*

From the Startup Tests Settings screen, you can:

- enable extended diagnostics to run on the terminal at startup
- disable extended diagnostics at startup
- specify how many times to repeat the selected tests that are run on the terminal during startup.

The Repeat Count field shows the current value. You can enter a value in the range of 0 - 128.

Number of times to repeat tests

Repeat Count [F1] 0

Enable Extended Diagnostics [F2]

☐ Yes

☒ No

OK [F7] Cancel [F8]

**IMPORTANT**

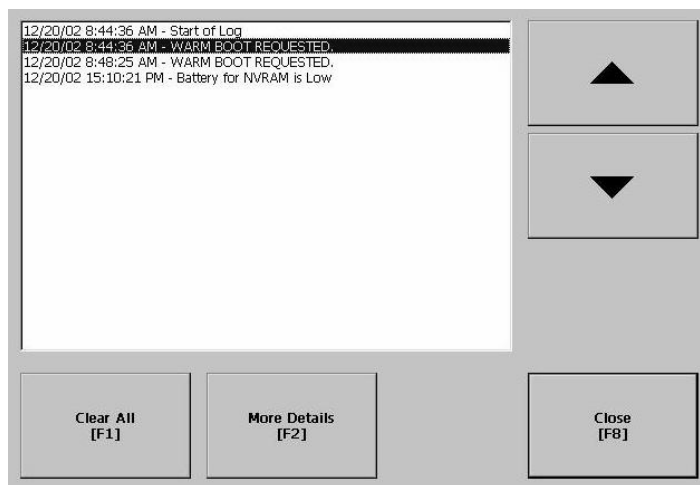
Enabling Extended Diagnostics and setting a high Repeat Count will increase the time it takes the terminal to reboot.

The tests will run each time you reset or cycle power to the terminal until you disable Extended Diagnostics. Setting a low repeat count will also decrease the startup time.

## System Event Log

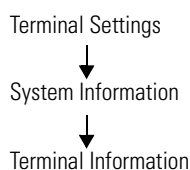
The System Event Log screen displays a list of system events currently logged by the PanelView Plus terminal.

Terminal Settings  
↓  
System Event Log



- To display System Event Log Details for a specific event, select an event and then select the **More Details** button.
- To clear all System Event Logs, press the **Clear All** button.

## System Information



The System Information screen lets you access:

- RSView ME Station information
- Terminal Information

### Terminal Information

The Terminal Information screen displays the following details for the PanelView Plus terminal:

- total power on time
- processor temperature
- battery voltage and battery state
- amount of memory on terminal

<b>Total power on time (minutes):</b> <input type="text" value="34200"/>	<b>Battery voltage:</b> <input type="text" value="3.22"/>
<b>Processor temperature:</b> <input type="text" value="40.00 °C"/>	<b>Battery state:</b> <input type="text" value="GOOD"/>
<b>Memory:</b> 48144KB RAM	
<b>Memory Allocation</b> [F1]	<b>Close</b> [F8]

All fields are read only except for memory allocation. To access details on Memory Allocation, select the **Memory Allocation** button.

### Battery State

Battery State	400-600	700-1500
Good	Good battery condition	Good battery condition
Failing	Does not have a replaceable battery. Replace terminal.	Low battery. Replace battery.
Bad	N/A	Battery is missing or bad. Replace battery.

### Battery Voltage

For PanelView Plus 400-600 terminals, the Battery Voltage field indicates the battery state only.

### Processor Temperature

For the 400-600 terminals, the Processor Temperature shows the temperature of the display.

### Memory Allocation

The Memory Allocation screen displays:

- amount of allocated storage or program memory
- amount of storage or program memory currently in use

The Memory Allocation screen is divided into two main sections: Storage memory and Program memory. Each section has an 'Up' button (F1 for Storage, F3 for Program) and a 'Down' button (F2 for Storage, F4 for Program). Below the buttons, there are two fields: 'Allocated' and 'In use'. The 'Allocated' field for Storage memory shows 24172 KB, and for Program memory, it shows 24116 KB. The 'In use' field for Storage memory shows 688 KB, and for Program memory, it shows 4972 KB. At the bottom of the screen, there are two buttons: 'OK' (F7) and 'Cancel' (F8).

Memory Type	Up Button	Down Button	Allocated (KB)	In use (KB)
Storage memory	Up [F1]	Down [F2]	24172	688
Program memory	Up [F3]	Down [F4]	24116	4972

OK [F7]      Cancel [F8]

You can modify the allocation of storage or program memory. Press the **Up** or **Down** button to increase/decrease the memory allocation. Each button press changes the allocation by a value of 4. If you change the allocation for one type of memory, the other is automatically updated accordingly.

**TIP**

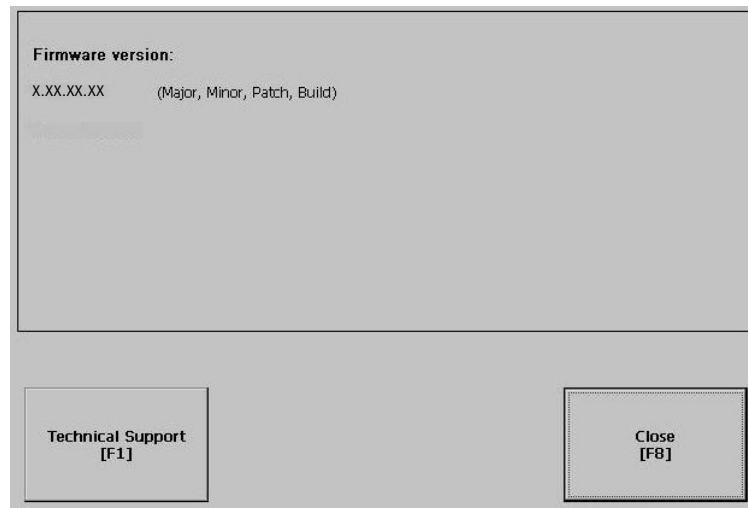
These settings are not retained after a power cycle. Values return to the default settings.

Terminal Settings  
↓  
System Information  
↓  
About RSView ME Station

## RSView ME Station Information

The About RSView ME Station screen provides access to:

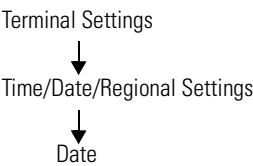
- RSView ME Station firmware number
- Rockwell Technical Support information



# Time/Date/Regional Settings

The Time/Date/Regional Settings screen lets you access the following screens to set:

- date
- regional settings
- time
- time zone



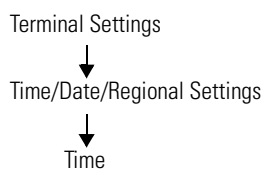
## Date

The Date screen shows and configures the current date in separate Year, Month and Day fields.

The screenshot shows a terminal window with a grey background. In the center, there are three white rectangular input fields arranged horizontally. The first field contains '2002', the second '12', and the third '20'. Below each field is a label: 'Year [F1]' under the first, 'Month [F2]' under the second, and 'Day [F3]' under the third. At the bottom right of the screen, there are two buttons: 'OK [F7]' and 'Cancel [F8]'. The entire screen is enclosed in a thin black border.

Field	Description	Valid Values
Year	The current year in a 4-digit format.	1980 - 2099
Month	The current month.	1 - 12
Day	The current day. The day of the month is validated based on the month.	0 - 31





## Time

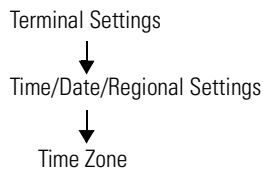
The Time screen shows and configures the current time in 24-hour format in separate Hour, Minute and Second fields.

Enter time in 24 hour format:

8	17	25
Hour [F1]	Minute [F2]	Seconds [F3]

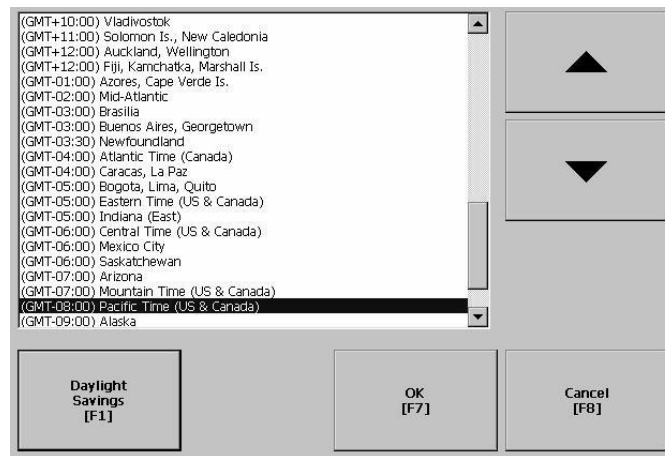
OK [F7]      Cancel [F8]

Field	Description	Valid Values
Hour	The current hour in 24-hour format.	0 - 23
Minute	The current minute in 24-hour format.	0 - 59
Seconds	The current second in 24-hour format.	0 - 59



## Time Zone

The Time Zone screen shows the current time zone that is installed on the PanelView Plus terminal. Time zones are installed as a part of the operating system. Changing the time zone adjusts the current time and date to match the new time zone.

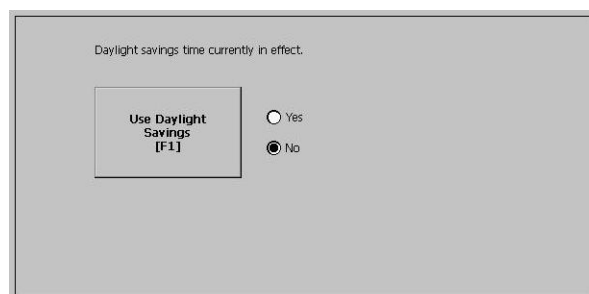


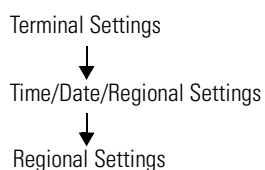
Language	Default Time Zone
English	(GMT -05:00) Eastern Time (US & Canada)
French	(GMT +01:00) Brussels, Copenhagen, Madrid, Paris
German	(GMT +01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
Japanese	(GMT +09:00) Osaka, Sapporo, Tokyo

If the selected time zone supports Daylight Savings, you can select the **Daylight Savings** button.

### Daylight Savings

The Daylight Savings screen configures whether daylight savings time is in effect for the current time zone. Daylight Savings is set to Yes for all time zones except for Japanese, which does support daylight savings. Daylight savings changes are not permanently applied until you close the Time Zone screen.



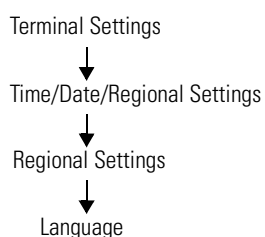


## Regional Settings

The Regional Settings screen allows you to access these screens:

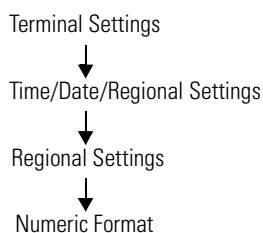
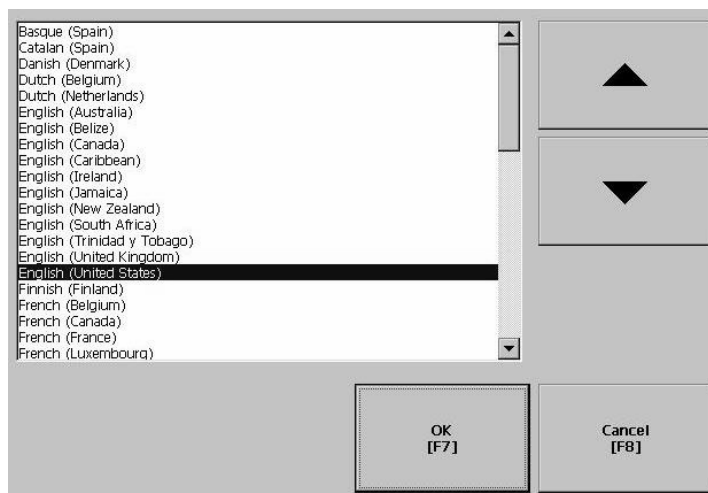
- Language
- Numeric Format
- Long Date Format
- Short Date Format
- Time Format

The current language is shown at the bottom of the Regional Settings screen.



### Language

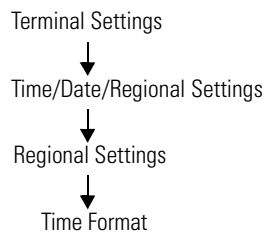
The Language screen allows you to select a language that is installed on the PanelView Plus. Languages are installed as a part of the operating system.



### Numeric Format screen

The Numeric Format Screen allows you to modify the decimal separator used by the current language. The default decimal separator is ".". The field will accept a separator up to 3 characters.





## Time Format

The Time Format screen configures the time format for the current language. A sample of the current time is shown using the currently selected format.

Sample: 8:18:15

<b>AM Symbol</b> [F1]	AM
<b>PM Symbol</b> [F2]	PM
<b>Separator</b> [F3]	:

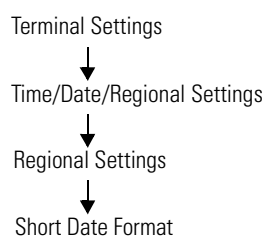
**Time Format**  
[F4]

☐ h:mm:ss tt  
☐ hh:mm:ss tt  
☒ H:mm:ss  
☐ HH:mm:ss

**OK**  
[F7]

**Cancel**  
[F8]

Field	Description	Example
Time Format	h:mm:ss tt (default) h = hour, no leading zero tt = AM or PM symbol	7:23:02 AM or 1:13:31 PM 11:43:59 AM
	hh:mm:ss tt hh = hour with leading zero tt = AM or PM symbol	07:23:02 AM or 01:13:31 PM 11:43:59 PM
	H:mm:ss H = hour in 24 hour format, no leading zero	7:03:42 or 1:13:32 23:43:59
	HH:mm:ss HH = hour in 24-hour format with leading zero	07:03:42 or 01:13:22 23:43:59
AM Symbol	Characters to indicate AM. If the time format is set to h:mm:ss tt or hh:mm:ss tt, you can modify the AM symbol.	AM (default) 12 character maximum
PM Symbol	Characters to indicate PM. If the time format is set to h:mm:ss tt or hh:mm:ss tt, you can modify the PM symbol.	PM (default) 12 character maximum
Separator	Character(s) that separate fields in time format.	: (default) 3 character maximum



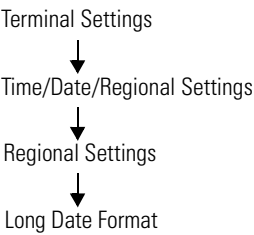
### Short Date Format

The Short Date Format screen configures the short date format used by the current language. A sample of the current date is shown using the currently selected short date format.

**Sample:** 1/15/03

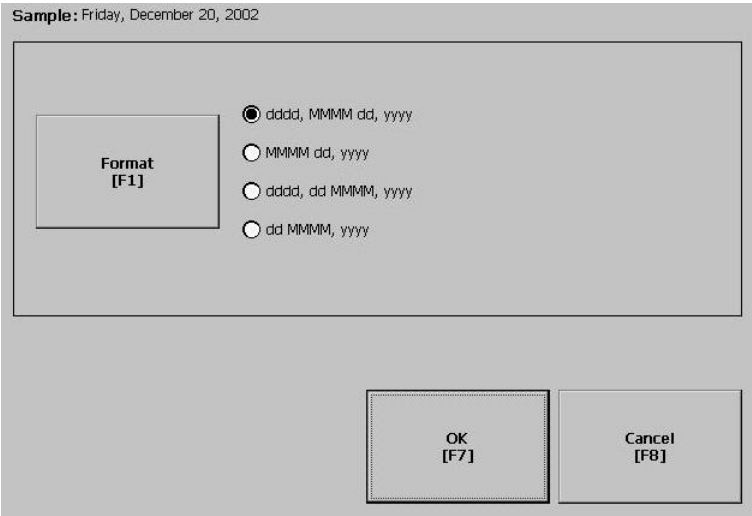
<b>Format</b> <b>[F1]</b>	<input type="radio"/> M/d/yyyy	<b>Separator</b> <b>[F2]</b>
	<input checked="" type="radio"/> M/d/yy	
	<input type="radio"/> MM/dd/yy	
	<input type="radio"/> MM/dd/yyyy	
	<input type="radio"/> yy/MM/dd	
	<input type="radio"/> yyyy-MM-dd	
	<input type="radio"/> dd-MMM-yy	
<div> <b>OK</b>  <b>[F7]</b> </div> <div> <b>Cancel</b>  <b>[F8]</b> </div>		

Field	Short Date Formats	Example
Format	M/d/yyyy (default) M/d/yy MM/dd/yy MM/dd/yyyy yy/MM/dd yyyy-MM-dd dd-MMM-yy	1/2/2003 1/2/03 01/02/03 01/02/2003 03/01/02 2003-01-02 02-Jan-03
Separator	Character(s) separator for fields in time format. The default separator is either - or / depending on short date format.	- or / (default) 3 character maximum



*Long Date Format*

The Long Date Format screen configures the long date format used by the current language. A sample of the current date is shown using the currently selected long date format.



Field	Short Date Formats	Example
Format	dddd, MMMM, dd, yyyy (default) dddd is name of week day MMMM is name of month dd is 2-digit day of month with leading zero yyyy is 4-digit year	Monday, January 01, 2003
	MMMM dd, yyyy MMMM is name of month dd is 2-digit day of month with leading zero yyyy is 4-digit year	January 01, 2003
	dddd, dd MMMM, yyyy dddd is name of week day dd is 2-digit day of month with leading zero MMMM is name of month yyyy is 4-digit year	Monday, 01 January, 2003
	dd MMMM, yyyy dd is 2-digit day of month with leading zero MMMM is name of month yyyy is 4-digit year	01 January, 2003

---

## Installing and Replacing Components

### Chapter Objectives

This chapter shows how to install, replace or upgrade various components of the PanelView Plus terminals. Most sections (except for Communication Module, Product ID labels, Keypad Legend Inserts, and the External Compact Flash Card) apply only to the 700 - 1500 terminals.

- Logic Module
- RAM and Internal Compact Flash
- Communication Module
- Display Module
- Battery
- Display Module Bezel
- Backlight
- AC Power Supply
- Product ID Label
- Keypad Legend Inserts
- External Compact Flash Card

### Required Tools

Tools required to install or replace the various components of the PanelView Plus terminal are:

- #1 and #2 Phillips screwdriver
- Electrostatic (ESD) wristband

### Precautions

Before installing or replacing any components, disconnect power from the PanelView Plus terminal. During installation, take care not to touch any of the exposed electronic components.

---

**ATTENTION**

Disconnect all power from the PanelView Plus terminal before installing or replacing any components. Failure to disconnect power may result in electrical shock and/or damage to the terminal.

---

**ATTENTION**

Work in a static free environment and wear a properly grounded ESD wristband.

Be careful when touching any of the exposed electronic components to prevent damage from electrostatic discharge (ESD).

---

## Compatibility of Terminal Components

### 700 - 1500 Terminals Only

When assembling components of a terminal or replacing the Internal Compact Flash in a Logic Module, the components must be compatible.

To verify compatibility of the Internal Compact Flash with the Logic Module of PanelView Plus terminals, you must know what version of RSVIEW ME is running on the terminal.

1. Locate green label on back of unit to determine revision level of your PanelView Plus terminal.
  - Rev B: Contains RSVIEW ME 3.0
  - Rev C: Contains RSVIEW ME 3.10
  - Rev D: Contains RSVIEW ME 3.20
2. Determine series of the Internal Compact Flash and Logic Module.

For Revision D terminals running RSVIEW ME 3.20, you cannot use a Series C (or lower) Compact Flash Card running an earlier version of RSVIEW ME (3.10 or lower).

Once a terminal is upgraded to RSVIEW ME 3.20, the Logic Module and all contents within are compatible with RSVIEW 3.20 devices. RSVIEW ME 3.0/3.10 .mer applications are compatible with RSVIEW ME 3.20 terminals.

### PanelView Plus Compatibility

The table below matches the correct series of the Internal Compact Flash Card with the correct series of the Logic Module for the PanelView Plus terminals. The Logic Module for PanelView Plus terminals is available with or without memory pre-installed.

Terminal Revision	Logic Module 2711P-RP (without memory) is compatible with:	Internal Compact Flash 2711P-RW1, 2, 3, 4	RSVIEW ME Version <sup>(1)</sup>
Rev B	<b>Series A:</b> 2711P-RP/A	<b>Series B:</b> 2711P-RWx/B	RSVIEW ME 3.0
Rev C	<b>Series B:</b> 2711P-RP/B	<b>Series C:</b> 2711P-RWx/C	RSVIEW ME 3.10
		<b>Series D:</b> 2711P-RWx/D	RSVIEW ME 3.20
Rev D	<b>Series C:</b> 2711P-RP/C	<b>Series D:</b> 2711P-RWx/D	RSVIEW ME 3.20

<sup>(1)</sup> When upgrading RSVIEW ME 3.0 to 3.10 or higher, the Firmware Upgrade Kit is required.



## Installing RAM and Internal Compact Flash

### 700 - 1500 Terminals Only

The Logic Module (2711P-RP, -RP1, -RP2, -RP3) of the PanelView Plus is available with or without RAM/Internal Compact Flash pre-installed. If RAM (2711P-RRxxx) and Internal Compact Flash (2711P-RWx) are ordered as separate components, you must install the memory before attaching the Logic Module to the Display Module.

#### To install/replace RAM and/or Internal Compact Flash:

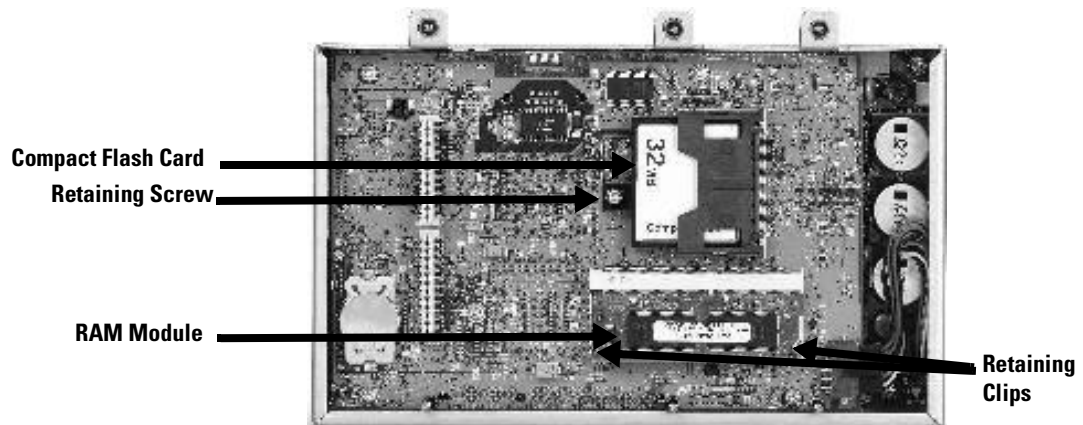
1. Remove power from the terminal.
2. Place the terminal, display side down, on a flat stable surface.
3. Loosen the 6 captive screws that secure the Logic Module.
4. Carefully lift the Logic Module away from the terminal and turn over to expose the circuit board.

#### IMPORTANT

Wear a properly grounded ESD wristband before touching any of the electronic components in the Logic Module.

*Skip Steps 5 - 6 if not replacing RAM.*

5. Locate the RAM module on the circuit board. Pull the metal retaining clips away from the module and slide out the RAM module (if present).



*Skip Steps 7 - 11 if not replacing Internal Compact Flash.*

6. Insert the new RAM module at a 45° angle and snap down.
7. Locate the Internal Compact Flash card. Unscrew and remove the retaining clip that secures the card.
8. Pull out the Compact Flash card (if present).
9. Insert the new Compact Flash card.
10. Re-attach retaining clip.
11. Attach the Logic Module by aligning the 2 connectors on the bottom of the module with the connectors on the Display Module.
12. Push down on the Logic Module until firmly seated.
13. Tighten the 6 captive screws that secure the Logic Module to a torque of .68 N•m (6-8 in-lb).

## Installing and Replacing the Logic Module

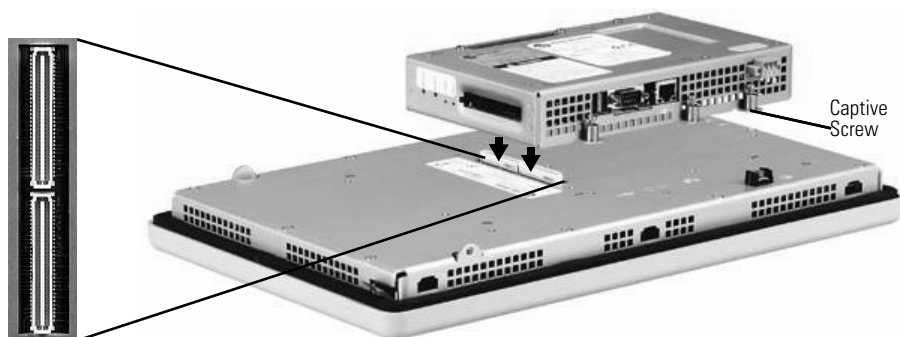
### 700 - 1500 Terminals Only

This section shows how to install and replace the Logic Module (2711P-RP, RP1, -RP2, -RP3) of the PanelView Plus terminal. If the Display Module and Logic Module are ordered as separate components, attach the Logic Module to the Display Module before panel installation.

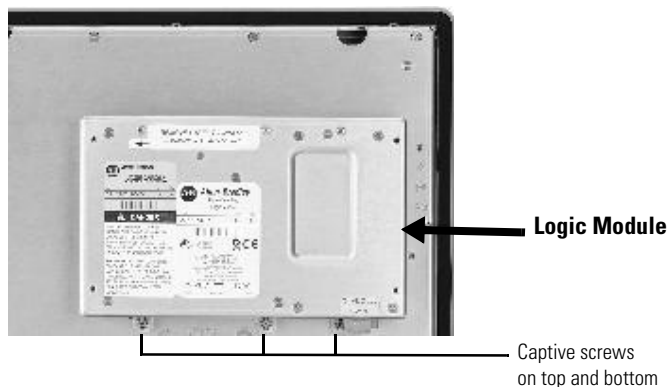
The Logic Module is available with or without RAM (2711P-RRxxx) and Internal Compact Flash (2711P-RWx ) pre-installed. If ordered as separate components, you must install the memory before attaching the Logic Module to the Display Module.

#### To install a Logic Module:

1. Disconnect power from the terminal.
2. If the Display Module is removed from panel, set the module, display side down, on a clean, flat, stable surface to prevent scratches.
3. Position the Logic Module over the back of the Display Module until the 2 connectors on the bottom of the Logic Module align with the connectors on the Display Module.



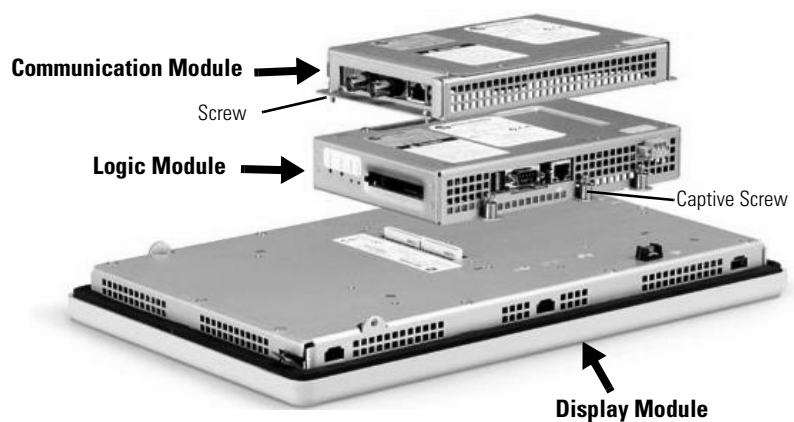
4. Push down on the Logic Module until firmly seated.
5. Tighten the 6 captive screws that secure the Logic Module to the Display Module to a torque of .68 N•m (6-8 in-lb).



**To replace the Logic Module:**

Before replacing the Logic Module, you must remove the Communication Module (if attached). You will also need to remove the Internal RAM and Compact Flash from the Logic Module to reuse in the new Logic Module.

1. Disconnect power from the terminal.
2. Disconnect all power and communication cables.
3. If Display Module is removed from panel, set the module, display side down, on a clean, flat, stable surface to prevent scratches.
4. Remove the 4 screws that attach the Communication Module (if attached) to the Logic Module. Carefully lift the Communication Module away from the Logic Module.



5. Loosen the 6 captive screws that secure the Logic Module to the Display Module.
6. Carefully lift the Logic Module away from the back of the Display Module.
7. Remove the internal RAM and Compact Flash from the Logic Module if you want to reuse them in the future. Refer to page 5-3.

**IMPORTANT**

Wear a properly grounded ESD wristband before touching any of the electronic components in the Logic Module.

8. Install the new Logic Module as described on page 5-4.
9. Attach the Communication Module (if necessary).

## Installing/Replacing a Communication Module

This section shows how to install and replace a Communication Module on the PanelView Plus terminal. The Communication Module installs over the Logic Module. The Communication Modules are available as separate catalog numbers for specific communication protocols. The installation is the same for all modules regardless of the communication type.

### WARNING



If you connect or disconnect any communication cable with power applied to this module or any device on the network, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

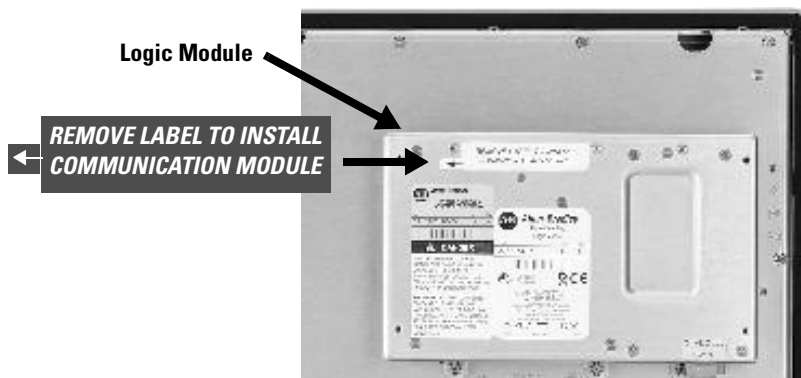
## Installation for 700 - 1500 Terminals

### TIP

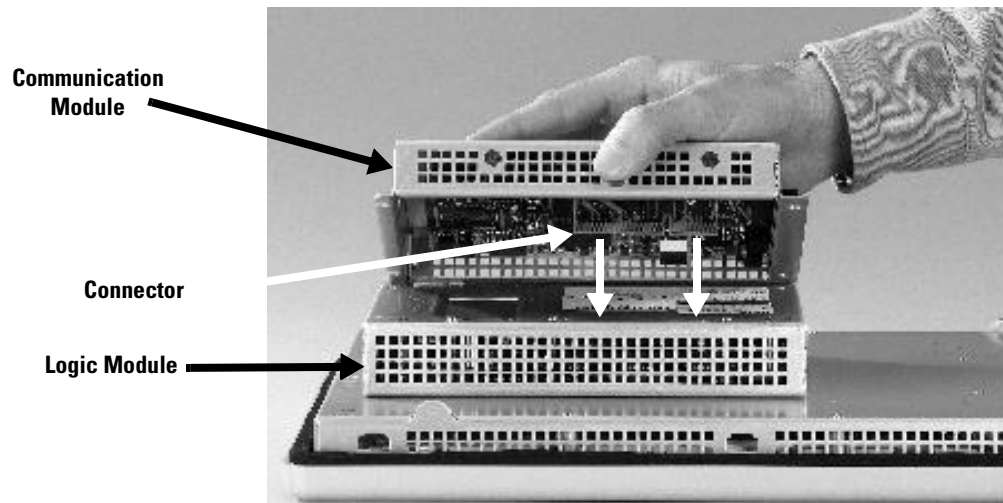
The Logic Module must be attached to the Display Module before you attach the Communication Module.

### To install a Communication Module:

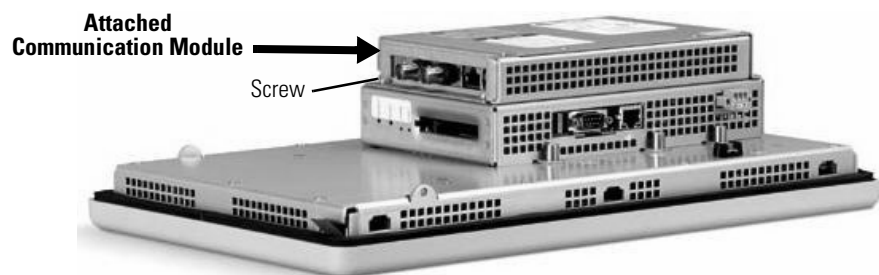
1. Disconnect power from the terminal.
2. If Display Module is removed from panel, set the module, display side down, on a clean, flat, stable surface to prevent scratches.
3. Remove the label covering the Communication Module connector on the Logic Module.



4. Position the Communication Module over the Logic Module so that the connectors on bottom of module align with connectors on Logic Module.
5. To prevent Electrostatic Discharge (ESD) between the modules, allow the Communication Module to touch the Logic Module before making connection.



6. Push down on Communication Module until connectors are firmly seated.
7. Tighten the 4 screws that secure the Communication Module to the Logic Module. Tighten screws to a torque of .68 N•m (6-8 in-lb).



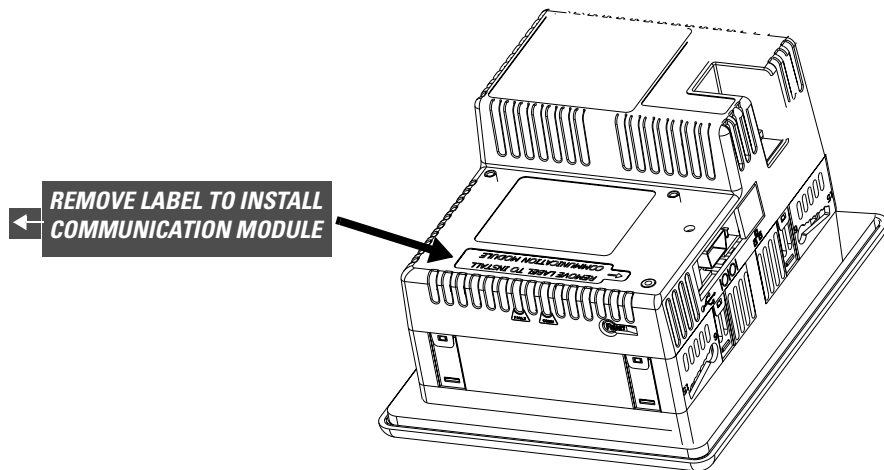
#### **To replace a Communication Module:**

1. Disconnect power from the terminal.
2. Disconnect communication cables from the Communication Module.
3. Remove the 4 screws that secure the Communication Module to the Logic Module.
4. Carefully lift the Communication Module away from the Logic Module and set aside.
5. Follow steps 4 - 7 above.

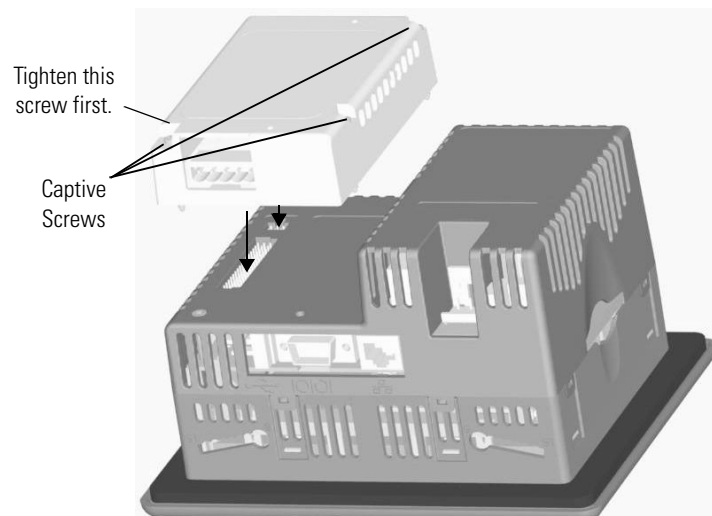
## Installation for 400 -600 Terminals

### To install a communication module:

1. Disconnect power from the terminal.
2. Set the terminal, display side down, on a clean, flat, stable surface.
3. Remove the label covering the connectors on the base unit of the terminal.



4. Position the Communication Module over back of the terminal so that the connector on bottom of Communication Module align with the connector on the base unit.



5. Push down on the Communication Module until connector is firmly seated.
6. Tighten the three captive screws that secure the module to the terminal, starting with the bottom, left screw on the module. Tighten screws to a torque of .34 - .45 N•m (3 - 4 in-lb).

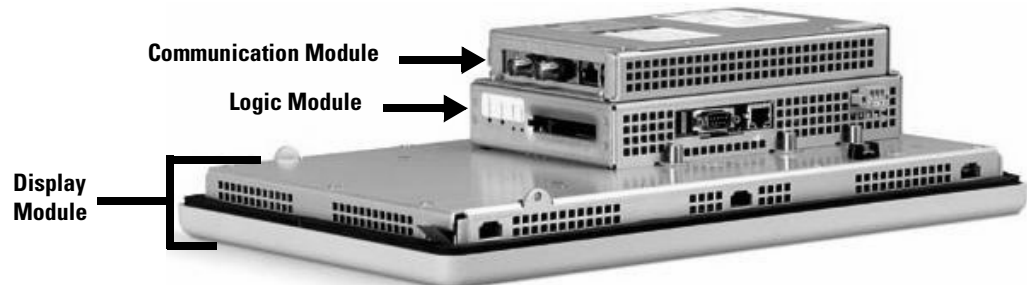
**To replace a Communication module:**

1. Disconnect power from the terminal.
2. Disconnect communication cables from the Communication Module.
3. Loosen the 3 screws that secure the Communication Module to the terminal.
4. Carefully lift the Communication Module away from the terminal and set aside.
5. Follow installation steps 4 - 6 on previous page.

## Replacing the Display Module

### 700 - 1500 Terminals Only

This section shows how to replace the Display Module (2711P-RDxxxx). It is necessary to remove the Communication Module from the Logic Module to perform this operation.



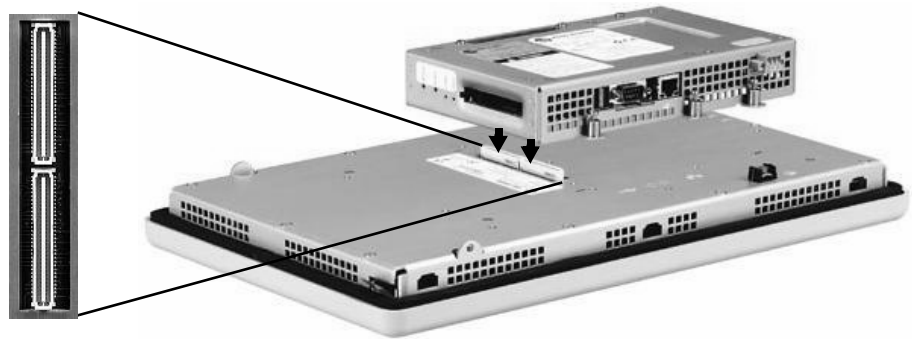
1. Disconnect power from the terminal.
2. Remove terminal from panel.
3. Detach the Communication Module (if attached) from the Logic Module by removing the 4 screws.
4. Loosen the 6 captive screws that attach the Logic Module to the Display Module.



5. Carefully lift the Logic Module from the terminal.
6. Set the Display Module aside.



7. Position the new Logic Module over the new Display Module so that the connectors align.



8. Push down on the Logic Module until firmly seated.
9. Tighten the 6 captive screws that secure the Logic Module to the Display Module to a torque of .68 N•m (6-8 in-lb).
10. Attach the Communication Module (if necessary) and tighten the 4 screws to a torque of .68 N•m (6-8 in-lb).

## Replacing the Battery

### 700 - 1500 Terminals Only

The lithium battery (2711P-RY2032) is used by the real-time clock and static RAM; it is not used for application backup or retention. The clock module has a life expectancy of 2 years without power.

#### WARNING



When you connect or disconnect the battery an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed and the area is nonhazardous before proceeding. Replace the battery only with the indicated catalog number.

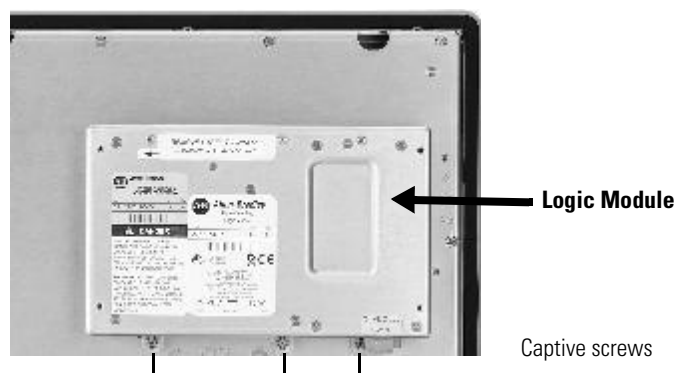
For Safety information on the handling of lithium batteries, including handling and disposal of leaking batteries, see Guidelines for Handling Lithium Batteries, publication AG 5-4.

Do not dispose of battery in a fire or incinerator. Dispose of used batteries in accordance with local regulations.

Store batteries in a cool, dry environment. We recommend 25 °C with 40...60% relative humidity. You may store batteries for up to 30 days between -45...85 °C, such as during transportation. To avoid possible leakage, do not store batteries above 60 °C for more than 30 days.

#### To replace the battery:

1. Disconnect power from the terminal.
2. Place the terminal, display side down, on a flat stable surface.
3. Detach Communication Module (if attached) from the Logic Module by removing the 4 screws.
4. Loosen the 6 captive screws that attach the Logic Module to the Display Module.

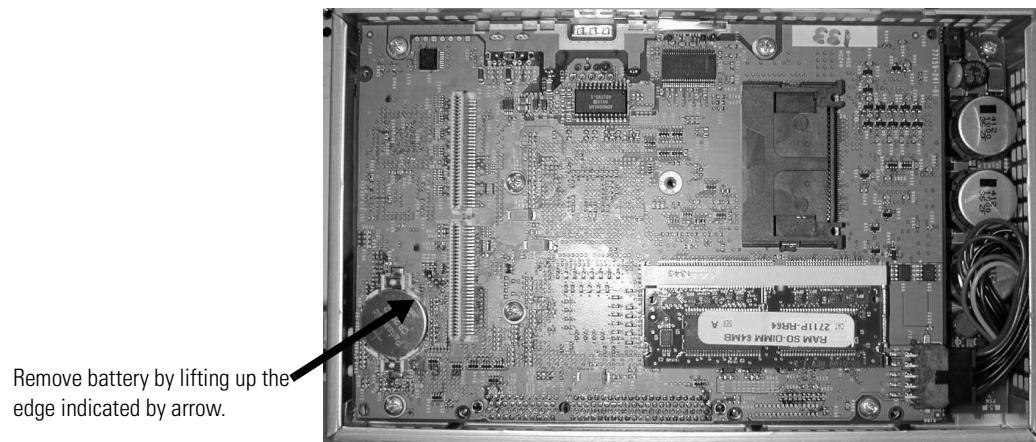


5. Carefully lift the Logic Module away from the terminal and flip over to expose the circuit board.

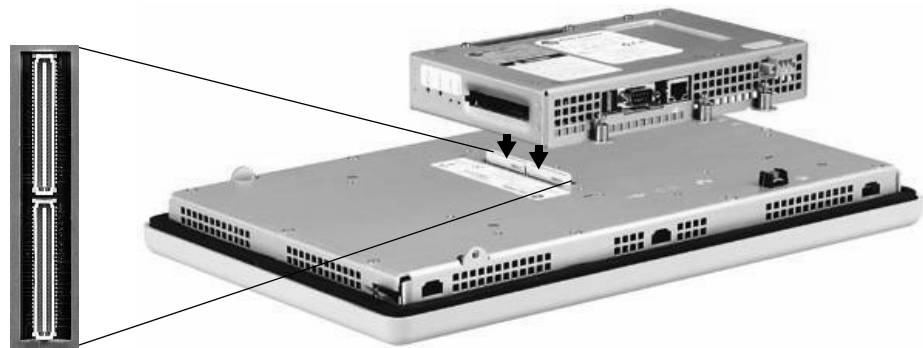
**IMPORTANT**

Wear a properly grounded ESD wristband before touching any of the electronic components in the Logic Module.

6. Locate the battery on the circuit board.



7. Remove the battery by lifting up the side of the battery.
8. Insert the new battery.
9. Attach the Logic Module by aligning the 2 connectors on the bottom of the module align with the connectors on the terminal.



10. Push down on the Logic Module until firmly seated.
11. Tighten the 6 captive screws that secure the Logic Module to a torque of .68 N•m (6-8 in-lb).
12. Attach the Communication Module (if necessary) and tighten the 4 screws to a torque of .68 N•m (6-8 in-lb).

## Replacing Bezel

### 700 - 1500 Terminals Only

## Removing Display Module Bezel

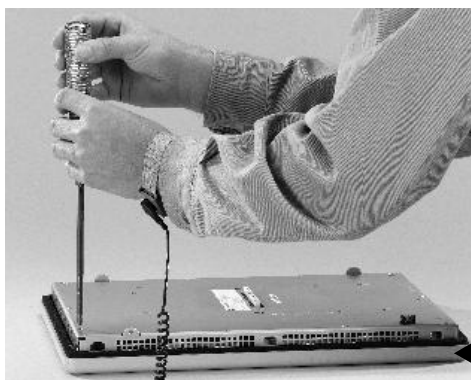
It is not necessary to remove the Logic Module or Communication Module before removing the bezel, except for the PanelView Plus 700.

1. Disconnect power from the terminal.
2. Set the terminal, display side down, on a flat stable surface.

### IMPORTANT

Wear a properly grounded ESD wristband before touching any of the electronic components in the Logic Module.

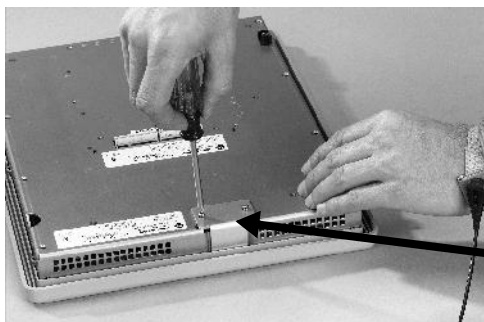
3. Remove the screws from the back of the Display Module. The number of screws varies for each terminal type.



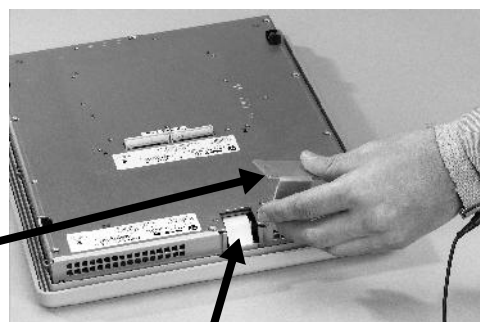
Display Module Bezel

*This step applies to Touch Screen only terminals.*

4. On touch screen terminals, remove the 2 screws that secure the small metal plate to the back of the Display Module.
5. Disconnect the (touch screen) connector by pulling the tab attached to the connector.

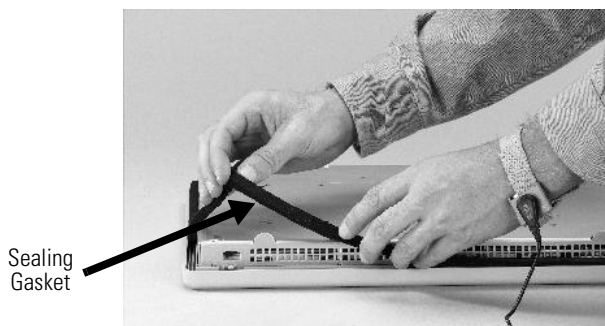


Plate



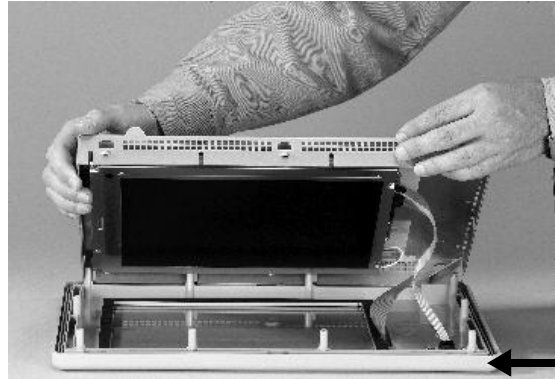
Touch Screen Connector

6. Remove the sealing gasket.



Sealing Gasket

7. Lift the back of the Display Module away from the bezel.  
Work on a clean, flat, stable surface to protect the display from debris, scratches and damage.



Display Module Bezel

8. Detach all connectors (maximum of 3). The number of connectors varies by model.
  - IrDa connector (if present)
  - Function Key connector
  - Touch Screen connector
9. Set bezel aside.

## Replacing Display Module Bezel

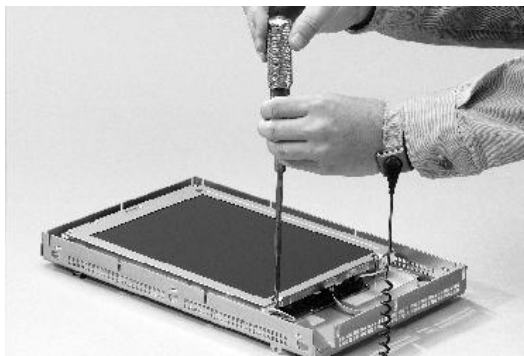
1. Make sure new bezel is free of lint and marks before attaching.
2. Attach the following connectors. The number of connectors varies by model.
  - IrDa connector (if present)
  - Function Key connector
3. Place the back of the Display Module over the new bezel. Be careful not to pinch any of the cables.  
Allow the Touch Screen connector to extend out of the access opening.
4. Attach Touch Screen connector.
5. Replace the sealing gasket (shown in step 6 on page 5-14).
6. Attach screws that secure Display Module to bezel and tighten to a torque of 1.35 - 1.58 N•m (12-14 in-lb).
7. On touch screen terminals, re-attach the small metal plate to the back of the Display Module using 2 screws (shown in step 4 on page 5-14).

## Replacing Backlight

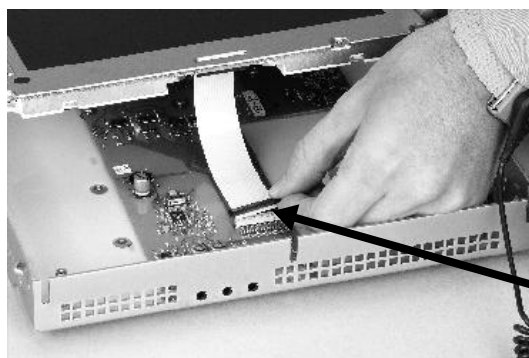
### 700 - 1500 Terminals Only

This section shows how to replace the backlight for the 700, 1000, and 1250 models. The 1250 High-Bright and 1500 displays do not have a replaceable backlight.

1. Disconnect power from the terminal.
2. Remove Display Module bezel as described on page 5-14.
3. Remove the 4 screws that secure the LCD Display.

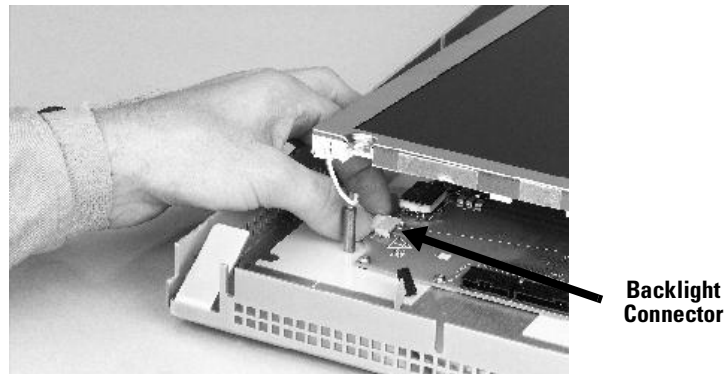


4. Lift the LCD Display and detach the Display Connector from the circuit board. The location of the connector varies by model.



**Display  
Connector**

5. Detach the Backlight Connector from the circuit board.  
The 1250 has one or two Backlight Connectors.

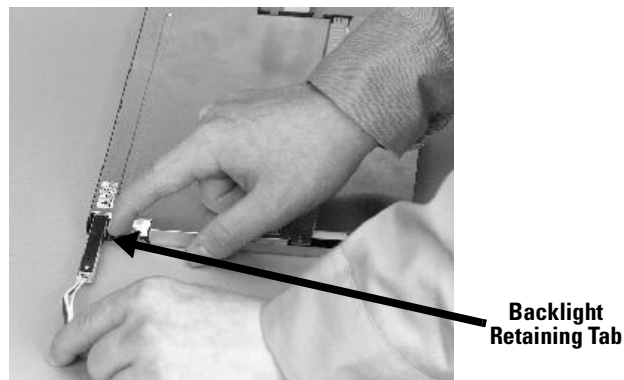


---

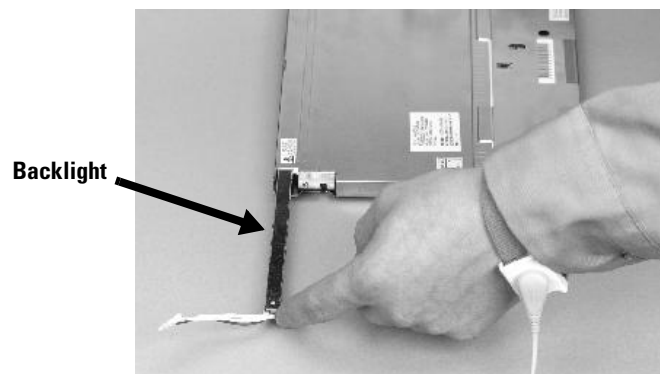
### ***For PanelView Plus 700/1000***

Work on a clean, flat, stable surface to protect the display from debris, scratches and damage.

6. Press the retaining tab that secures the backlight and then pull out the backlight.



7. Insert the new backlight.

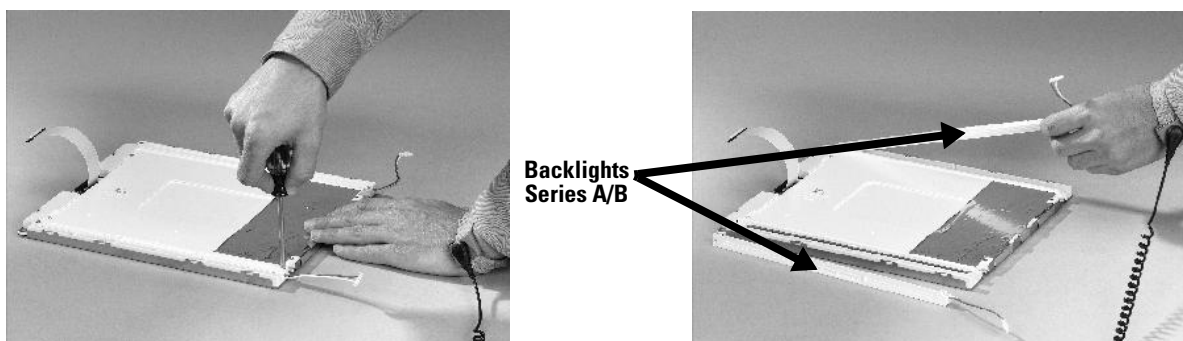


**For PanelView Plus 1250**

- The 1250 Series A and B displays have two backlights and use Cat. No. 2711P-RL12C backlight replacement.
- The 1250 Series C displays have only one backlight and use Cat. No. 2711P-RL12C2 backlight replacement.

Work on a clean, flat, stable surface to protect the display from debris, scratches and damage.

8. Remove the screw(s) that secure the backlight(s) and then remove the backlight(s). The two backlights for Series A and B displays are each secured with 2 screws. The single backlight for Series C displays are secured with 1 screw.



9. Insert the new backlight(s) and then secure each with the same screws from step 8.

10. Attach the LCD Display Connector to the circuit board (shown in step 4 on page 5-16).
11. Attach the Backlight Connector to the circuit board (shown in step 5 on page 5-17).
12. Secure the LCD Display by attaching the 4 screws. The terminals use different size screws. Use the following chart to tighten the screws.

PanelView Plus	Screw Size	Torque
700	2.5 mm	.68 N•m (6-8 in-lb)
1000/1250	#4	.68 N•m (6-8 in-lb)
1500	#6	.90 - 1.1 N•m (8-10 in-lb)

13. Replace the Display Module bezel as described on 5-15.



## Installing the Remote AC Power Supply

### 700 - 1500 Terminals Only

Connecting to AC power requires a separate Power Supply (2711P-RSACDIN) that mounts to a DIN Rail. This power supply converts AC power to DC power and has the following electrical input ratings:

- 85...264 V AC (47...63 Hz)

For details on installation, refer to the installation instructions shipped with the power supply.

## Removing the Product ID Label

If you ordered a PanelView Plus terminal with a label, you can remove it and attach your own label.

1. Remove the Allen-Bradley label using your fingers or a tweezers.



2. Clean area with damp cloth and isopropyl alcohol.
3. Remove adhesive backing of OEM label and affix over area where Allen-Bradley label was located.

## Installing Keypad Legend Inserts

This section shows how to replace the legend inserts in the PanelView Plus keypad terminals. The legend strips are available as separate catalog numbers (2711P-RFKxx) for each keypad terminal, except for the PanelView Plus 400 terminals (which does not support replaceable legend strips). One side of the legend strips have the default key legends and the other side is blank for creating custom legends.

### PanelView Plus 600 Terminals

The legend inserts for function keys F1 - F10 are accessible from the back on the unit and can be replaced with the terminal mounted in the enclosure.

#### To replace the F1-F10 function key legends:

1. From the rear of the unit, pull the legend strips out from the slots on the lower side of the terminal.
2. Slide the new insert into the same slot until only the end tab is visible.

#### 600 Terminals

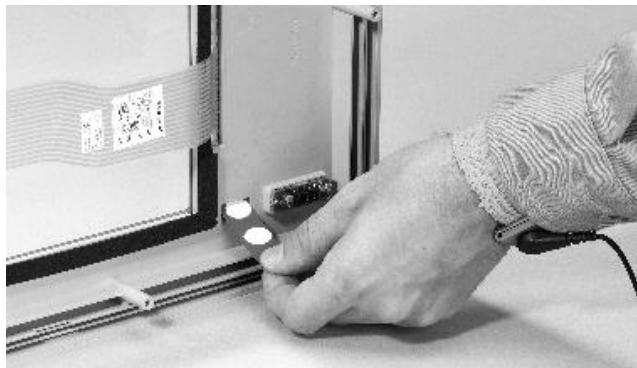


## PanelView Plus 700-1500 Terminals

The F1-Fxx and K1-Kxx legend inserts on the PanelView Plus 700 - 1500 terminals are accessible when the Display Module bezel is removed.

### To replace the F1-Fxx or K1-Kxx function key legends:

1. Remove power from the terminal.
2. Remove the Display Module bezel as described on page 5-14.
3. Pull the legend inserts out from the slots on the bezel.

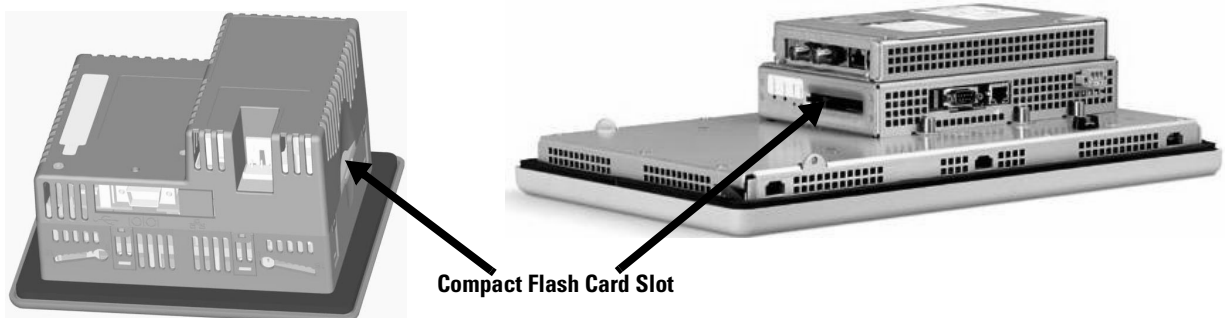


4. Insert the new legend strips into the same slots until only the end tab is visible.
5. Replace the Display Module bezel as described page 5-15.

## Using an External Compact Flash Card

All of the PanelView Plus terminals have a Compact Flash Card slot which supports Type I Compact Flash cards. These cards (2711P-RCx) are available in different memory sizes.

The orientation of the card slot on the 700-1500 terminals varies depending on the series of the Logic Module.



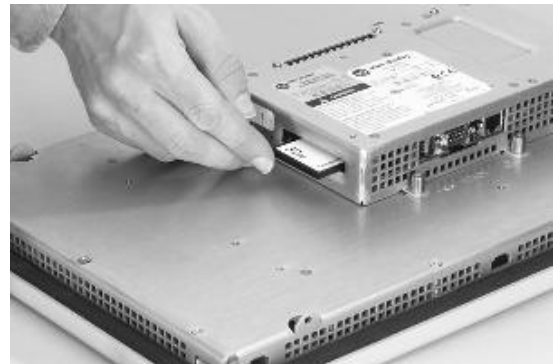
## Inserting a Compact Flash Card

1. Insert the card in the Compact Flash Card slot of the terminal until firmly seated.

**400 - 600 Terminals**



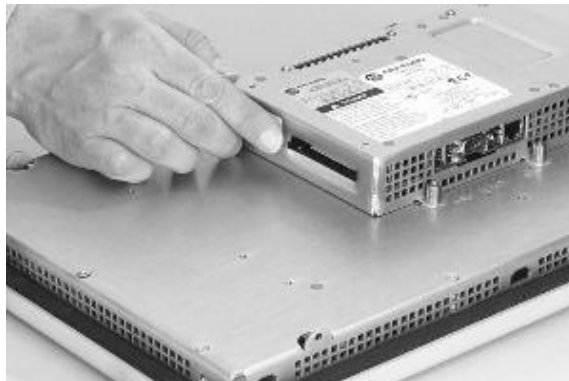
**700 - 1500 Terminals**



## Removing a Compact Flash Card

1. Press the Eject button on the Logic Module. When the button pops out, press it again to release the card. The location of the button varies depending on the series of the Logic Module.

The PanelView Plus 400 and 600 terminals do not have an eject button. Simply secure edge of card with fingers and pull card away from slot.



## Terminal Connections

### Chapter Objectives

This chapter provides network and device connections for the PanelView Plus terminals, including:

- wiring and safety guidelines
- Logic controller cable charts
- USB port(s)
- Serial connections on base unit
- Ethernet (onboard communications)
- DH485/DH+/RIO Communications Module  
(one module for 700-1500 terminals; separate module with each communication protocol for 400-600 terminals)
- ControlNet Communications Module (700 - 1500 only)

### Wiring and Safety Guidelines

Use publication NFPA 70E, "Electrical Safety Requirements for Employee Workplaces", IEC 60364 "Electrical Installations in Buildings" or other applicable wiring safety requirements for the country of installation when wiring the VersaView CE terminals. In addition to the NFPA guidelines:

- route communication cables to terminal by a separate path from incoming power:

---

**IMPORTANT**

Do not run signal wiring and power wiring in the same conduit.

---

- where power and communication lines must cross, they should cross at right angles. Communication lines can be installed in the same conduit as low level DC I/O lines (less than 10 volts).
- shield and ground cables appropriately to avoid Electromagnetic Interference (EMI). Grounding minimizes noise from EMI and is a safety measure in electrical installations.

A source for grounding recommendations is the National Electric Code published by the National Fire Protection Association.

## Logic Controller Cable Charts

Refer to the following charts for a summary of PanelView Plus terminal connections to controllers and network interface modules.

### Runtime Communication Cables - To Controllers

		Cables: PanelView Plus to SLC Controllers				
Protocol	PanelView Plus Comm Port	SLC-500, 5/01, 5/02 CH1 RJ45 (DH-485)	SLC-5/03, 5/04, 5/05 CH0 (9-pin RS-232) (DF1 or DH-485)	SLC 5/03 CH1 (RJ45) (DH-485)	SLC 5/04 CH1 (DH+)	SLC 5/05 CH1 (ENET)
DF1 (any)	RS-232 (DF1) Comm Port (9-pin) PanelView Plus 400 -1500 2711P-RN22C	N/A	2711-NC13 (16ft/5m) 2711-NC14 (32ft/10m) 2706-NC13 (10ft/3m)	N/A	N/A	N/A
DH-485 (any)	RS-232 (DH-485) Comm Port (9-pin) PanelView Plus 400 -1500 2711P-RN22C	use AIC+ Module (1761-NET-AIC) Connect to Port 1 or 2	2711-NC13 (16ft/5m) 2711-NC14 (32ft/10m) 2706-NC13 (10ft/3m)	use AIC+ Module (1761-NET-AIC) Connect to Port 1 or 2	N/A	N/A
	DH-485 Communication Port PanelView Plus 400 -600 2711P-xxx3xx, 2711P-RN3	1747-C10 (6ft/2m) 1747-C11 (0.3m/1ft) 1747-C20 (20ft/6m)	use AIC+ Module (1761-NET-AIC) Connect to Port 3	1747-C10 (6ft/2m) 1747-C11 (0.3m/1ft) 1747-C20 (20ft/6m)	N/A	N/A
	DH-485 Communication Port PanelView Plus 700 -1500 2711P-xxx6xx, 2711P-RN6	1761-CBL-AS03 (10ft/3m) 1761-CBL-AS09 (30ft/9m)	use AIC+ Module (1761-NET-AIC) Connect to Port 3	1761-CBL-AS03 (10ft/3m) 1761-CBL-AS09 (30ft/9m)	N/A	N/A
ControlNet xxx15xx	ControlNet Communication Port PanelView Plus 700-1500 2711P-xxx15xx, 2711P-RN15S		1747-KFC15A or 1747-SCRNR/A Module with ControlNet cable			
EtherNet/IP (any except xxx5xx)	EtherNet/IP Comm Port PanelView Plus 400 -1500 (except 2711P-xxx5xx)	N/A	Use 1761-NET-ENI Module with Ethernet Cable	N/A	N/A	2711P- CBL-EX04 Ethernet Crossover Cable <sup>(1)</sup>
Remote I/O xxx1xx xxx6xx	Remote I/O Communication Port PanelView Plus 400 -1500 2711P-xxx1xx, -xxx6xx, 2711P-RN1, 2711P-RN6	SLC 5/02 only use 1747-SN with shielded twinaxial cable (1770-CD)	use 1747-SN Module with shielded twinaxial cable (1770-CD)			
DHPlus xxx6xx xxx8xx	DH+ Communication Port PanelView Plus 400 -1500 2711P-xxx6xx, -xxx8xx, 2711P-RN6, 2711P-RN8	N/A	N/A	N/A	shielded twin axial cable (1770-CD)	N/A

<sup>(1)</sup> PanelView Plus EtherNet/IP direction connection to SLC 5/05 requires hub or crossover cable listed

Cables: PanelView Plus to PLC-5 and MicroLogix Controllers				
Protocol	PanelView Plus Comm Port	PLC-5, PLC-5C, PLC-5E CH0 (25-pin RS-232) (DF1)	MicroLogix 1500LRP CH1 (9-pin RS-232) (DF1 or DH-485)	MicroLogix 1000, 1200, 1500LSP CH0 (8-pin Mini DIN) (DF1 or DH-485)
DF1 (any)	RS-232 (DF1) Comm Port (9-pin) PanelView Plus 400 -1500 2711P-RN22C	2711-NC13 (16ft/5m) 2711-NC14 (32ft/10m) 2706-NC13 (10ft/3m) (9-to-25 pin adapter required)	2711-NC13 (16ft/5m) 2711-NC14 (32ft/10m) 2706-NC13 (10ft/3m)	2711-NC21 (16ft/5m) 2711-NC22 (49ft/15m) (null modem not required) <sup>(1)</sup>
DH-485 (any)	RS-232 (DH-485) Comm Port (9-pin) PanelView Plus 400 -1500 2711P-RN22C	N/A	2711-NC13 (16ft/5m) 2711-NC14 (32ft/10m) 2706-NC13 (10ft/3m)	2711-NC21 (16ft/5m) 2711-NC22 (49ft/15m) (null modem not required) <sup>(1)</sup>
	DH-485 Communication Port PanelView Plus 400 -1500 2711P-xxx3xx, -xxx6xx, 2711P-RN3, 2711P-RN6	N/A	N/A	use AIC+ Module (1761-NET-AIC) Connect to Port 3
ControlNet xxx15xx	ControlNet Communication Port PanelView Plus 700-1500 2711P-xxx15xx, 2711P-RN15S	to PLC-5C with ControlNet cable	N/A	N/A
EtherNet/IP (any except xx5xx)	EtherNet/IP Comm Port PanelView Plus 400 -1500 (except 2711P-xxx5xx)	to PLC-5E with Ethernet cable	use 1761-NET-ENI Module with Ethernet cable	
Remote I/O xxx1xx xxx6xx	Remote I/O Communication Port PanelView Plus 400 -1500 2711P-xxx1xx, -xxx6xx, 2711P-RN1, 2711P-RN6	shielded twinaxial cable (1770-CD)	N/A	N/A
DHPlus xxx6xx xxx8xx	DH+ Communication Port PanelView Plus 400 -1500 2711P-xxx6xx, -xxx8xx, 2711P-RN6, 2711P-RN8	shielded twinaxial cable (1770-CD)	N/A	N/A

<sup>(1)</sup> AIC+ Module recommended for isolation purposes when PanelView and controller are not on same power supply

Cables: PanelView Plus to Logix Controllers				
Protocol	PanelView Plus Comm Port	ControlLogix CH0 (9-pin RS-232) (DF1)	CompactLogix CH0 (9-pin RS-232) (DF1 or DH-485)	FlexLogix CH0 (9-pin RS-232) (DF1)
DF1 (any)	RS-232 (DF1) Comm Port (9-pin) PanelView Plus 400 -1500 2711P-RN22C	2711-NC13 (16ft/5m) 2711-NC14 (32ft/10m) 2706-NC13 (10ft/3m)		
DH-485 (any)	RS-232 (DH-485) Comm Port (9-pin) PanelView Plus 400 -1500 2711P-RN22C	N/A	2711-NC13 (16ft/5m) 2711-NC14 (32ft/10m) 2706-NC13 (10ft/3m)	
	DH-485 Communication Port PanelView Plus 400 -1500 2711P-xxx3xx, -xxx6xx, 2711P-RN3, 2711P-RN6	N/A	use AIC+ Module (1761-NET-AIC) Connect to Port 3	N/A
ControlNet xxx15xx	ControlNet Communication Port PanelView Plus 700-1500 2711P-xxx15xx, 2711P-RN15S	use 1756-CNB Module with ControlNet cable	1769-L35C with ControlNet cable	use 1788-CNC or 1788-CNF Module with ControlNet cable
EtherNet/IP (any except xx5xx)	EtherNet/IP Comm Port PanelView Plus 400 -1500 (except 2711P-xxx5xx)	use 1756-ENET or 1756-ENBT Module with Ethernet cable	to 1769-L35E with Ethernet cable	use 1788-ENBT Module with EtherNet cable
Remote I/O xxx1xx xxx6xx	Remote I/O Communication Port PanelView Plus 400 -1500 2711P-xxx1xx, -xxx6xx, 2711P-RN1, 2711P-RN6	use 1756-DHRIO Module with shielded twinaxial cable (1770-CD)	N/A	N/A
DHPlus xxx6xx xxx8xx	DH+ Communication Port PanelView Plus 400 -1500 2711P-xxx6xx, -xxx8xx, 2711P-RN6, 2711P-RN8	use 1756-DHRIO Module with shielded twinaxial cable (1770-CD)	N/A	N/A

Cables: PanelView Plus to Communication Adapters						
Protocol	PanelView Plus Comm Port	1747-AIC	1761-NET-AIC			
			Port 1 (9-pin)	Port 2 8-pin Mini DIN()	Port 3 (DH485)	1761-NETDNI or 1771-NET-ENI
DF1 (any)	RS-232 Comm Port (9-pin) PanelView Plus 400 -1500 2711P-RN22C	N/A	2711-NC13 (16ft/5m) 2711-NC14 (32ft/10m) 2706-NC13 (10ft/3m)	2711-NC21 (16ft/5m) 2711-NC22 (49ft/15m)	N/A	1761-CBL-AP00 (5m) 1761-CBL-PM02 (2m) 2711-CBL-PM05 (5m) 2711-CBL-PM10 (10m)
DH-485 (any)	RS-232 Comm Port (9-pin) PanelView Plus 400 -1500 2711P-RN22C	N/A	2711-NC13 (16ft/5m) 2711-NC14 (32ft/10m) 2706-NC13 (10ft/3m)	2711-NC21 (16ft/5m) 2711-NC22 (49ft/15m)	N/A	
	DH-485 Communication Port PanelView Plus 400 -600 2711P-xxx3xx, 2711P-RN3	1747-C10 (6ft/2m) 1747-C11 (0.3m/1ft) 1747-C20 (20ft/6m)	N/A		1761-CBL-AS03 (10ft/3m) 1761-CBL-AS09 (30ft/9m) to single AIC+	N/A
	DH-485 Communication Port PanelView Plus 700 -1500 2711P-xxx6xx, 2711P-RN6	Direct connection to single AIC with Belden 9842 cable <sup>(1)</sup>	N/A		Direct connection to single AIC+ with Belden 9842 cable <sup>(1)</sup>	N/A

<sup>(1)</sup> Use serial port on terminal with an AIC+ module for a DH-485 network solution.



# USB Ports

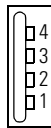
The 700 - 1500 terminals have two USB ports. The 400 - 600 terminals have one USB port. The terminals currently support standard USB keyboard and mouse devices (that is, HID devices) with native device drivers. They also support some USB printers that have Printer Control Language (PCL) capabilities. A vendor specific Windows CE driver is required for all other USB devices.

See Appendix B for a list of compatible USB devices.

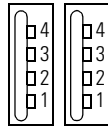
The USB device can plug into either one of the two USB ports on the PanelView Plus 700 - 1500 terminals.

## USB Connector Pinout

400-600 USB Port



700-1500 USB Ports



Pin	Signal
1	USBVCC
2	USB-
3	USB+
4	USB-GND

### WARNING



If you connect or disconnect the USB cable with power applied to the PanelView Plus or the serial device on the other end of the cable, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

### WARNING



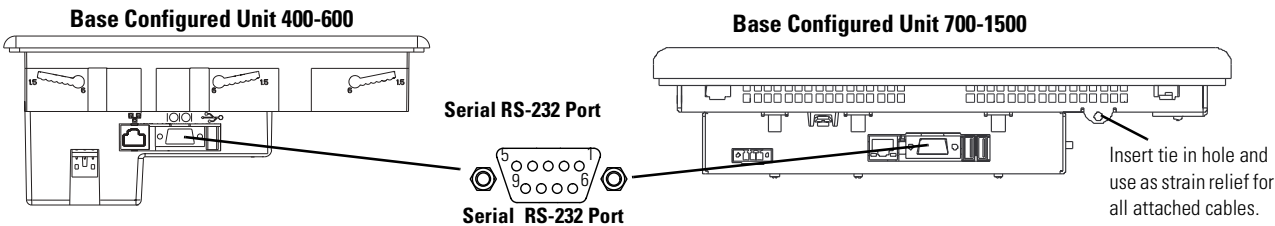
USB devices not powered by the USB port must be within the same enclosure and connected to a ground system common with the terminal, or the USB devices must be used with a USB hub that provides galvanic isolation.

# Serial Connections

The base configured unit of all PanelView Plus terminals have a multi-purpose serial RS-232 port that supports:

- DH-485 communications through a serial connection
- DF1 full duplex communications with controllers using direct connections or modem connections
- third party point-to-point communications
- application uploads/downloads
- printing

The serial port on the base configured unit of the PanelView Plus terminal is a 9-pin, male, RS-232 connector. The table below shows the pinout descriptions for this port and how these pins map to the serial ports on the controllers.



PanelView Plus RS-232 Port 9-pin DCE		SLC 9-pin	PLC 25-pin	MicroLogix/ DNI 8-pin DIN
1				
2	RXD →	2	3	4
3	← TXD	3	2	7
4	← DTR	4	20	
5	← COM	5	7	2
6	→ DSR	6	6	
7	← RTS	7	4	
8	→ CTS	8	5	
9				
Connector Shell	Chassis Gnd			

Pins 1 - 9 are electrically isolated.

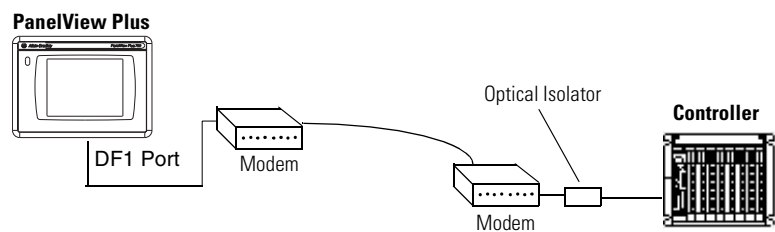
The maximum cable length for serial communications is 15.24 meters (50 feet).

**WARNING**

If you connect or disconnect the serial cable with power applied to the PanelView Plus or the serial device on the other end of the cable, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

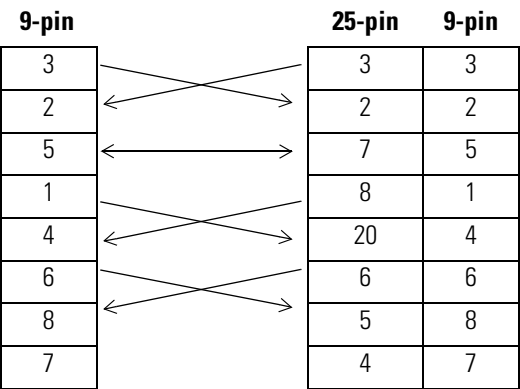
## Modem Connection

Wire or radio modem communications is possible between the PanelView Plus and controller. Each modem must support full duplex communications. Refer to your modem user manual for details on settings and configuration.



## Constructing a Null Modem Cable

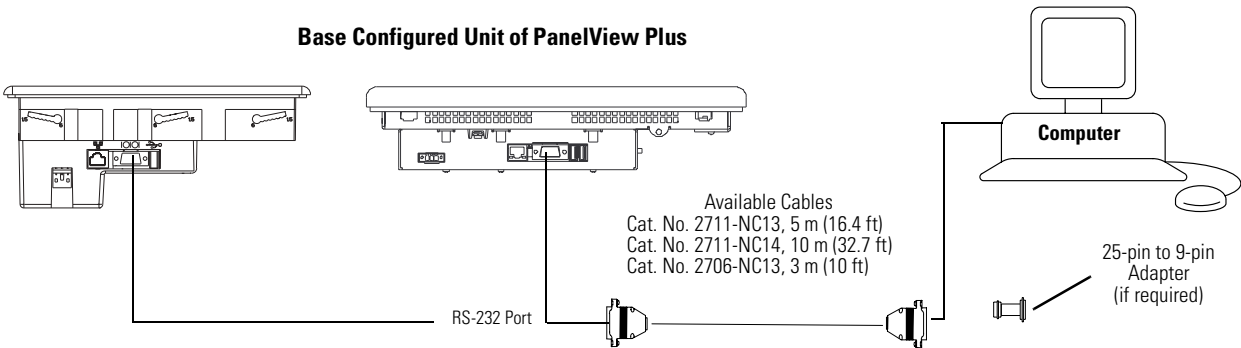
To construct a null modem cable, refer to the following pinout:



### Computer Connections

The RS-232 serial port on the base configured units of the PanelView Plus terminals supports:

- application uploads/downloads using a direct connection
- or printing



PanelView Plus Port (DCE)		Computer Port (DTE) with Handshaking	
9-pin male		9-pin male	
1 NC		1 DCD	
2	RXD	2 RXD (Data Receive)	
3	TXD	3 TXD (Data Transmit)	
4 NC		4 DTR	
5	COM	5 COM	
6 (pulled high to +12V)	RTS	6 DSR	
7	CTS	7 RTS	
8		8 CTS	
9 NC		9 NC	

Upload/Download Cable without Hardware Handshaking			
PanelView Plus Printer Port (DCE)		Computer Port (DTE)	
9-pin male		9-pin	25-pin
2	RXD	2	3
3	TXD	3	2
5	COM	5	7

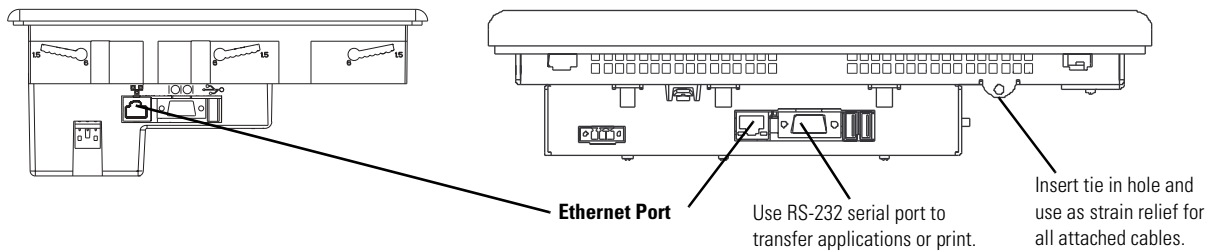
## Ethernet Connections

The base configured unit of the PanelView Plus 700 - 1500 terminals and the network based unit of the 400 - 600 terminals have an Ethernet port that supports:


- EtherNet/IP communications
- third party Ethernet communications
- network connections
- application uploads/downloads
- printing

### Ethernet Connector

The base configured units of the PanelView Plus terminals have an RJ45, 10/100Base-T connector for EtherNet/IP or Ethernet TCP/IP network communications.



The connector pinout is shown below.

Pin	Pin	Pin Name
RJ45 Connector 	1	TD+
	2	TD-
	3	RD+
	4	NC
	5	NC
	6	RD-
	7	NC
	8	NC
	Shield Connection	Chassis Gnd

Use point-to-point, 10/100Base-T cables with cross over pin-outs (such as 2711P-CBL-EX04) when connecting the Ethernet port on the PanelView Plus directly to a logic controller's Ethernet port or a computer 10/100Base-T port. Use standard Ethernet cables when connecting to a switch or hub.

## Cables

Category 5 shielded and unshielded twisted-pair cables with RJ45 connectors are supported. If 100 Mbit/second data rates are used, we recommend that you use a shielded cable. The shielded cable will help insure that industrial noise immunity levels are maintained. The maximum cable length between the terminal's Ethernet port and a 10/100Base-T port on an Ethernet hub (without repeaters or fiber) is 100 meters (328 feet). In industrial applications, keep the cable length to a minimum.

---

**WARNING**

If you connect or disconnect the Ethernet cable with power applied to the PanelView Plus or any device on the network, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

---

## Security Considerations

IGMP (Internet Group Management Protocol) is used for IPv4 multicast. A multicast is communication between a single sender and multiple receivers on a network. IGMP is used to exchange membership status data between IPv4 routers that support multicasting and members of multicast groups. A router is an intermediary device on a communication network that expedites message delivery by finding the most efficient route for a message packet within a network, or by routing packets from one sub-network to another. A sub-network is a separate part of an organization's network identified through IP addressing.

PanelView Plus terminals provide level 2 (full) support for IPv4 multicasting (IGMP version 2) as described in RFC 1112 and RFC 2236.

**Note:** SNMP (Simple Network Management Protocol) is used for internal network management and is not supported.

Ports 137 and 138 are normally open to support the NetBIOS protocol used by Windows CE.NET similar to other Microsoft and IBM network operating systems.

## DH-485/DH+/Remote I/O Module

PanelView Plus terminals with a DH-485/DH+/Remote I/O Communication Module supports communication with the following networks:

- DH+ networks
- DH-485 networks
- Remote I/O networks

You can communicate with only one network at one time.

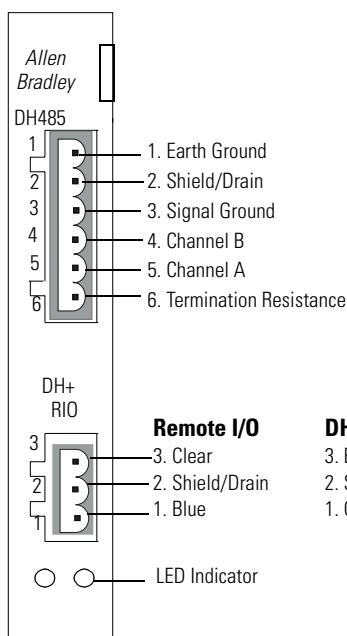
The PanelView Plus 700-1500 terminals support all protocols on one module. The PanelView Plus 400 and 600 terminals require a separate module for each protocol. The DH+, DH-485 and Remote I/O connections are different between the modules for the PanelView Plus 400-600 and 700-1500 terminals.

## Module Connections

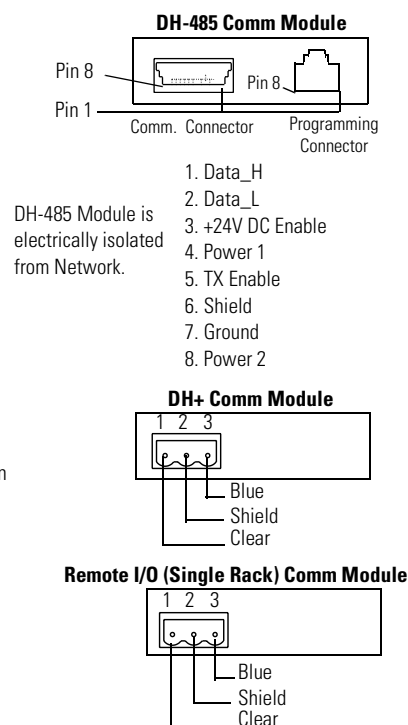
### IMPORTANT

See your controller documentation for appropriate controller connections.

### 700 - 1500 Terminals



### 400 - 600 Terminals



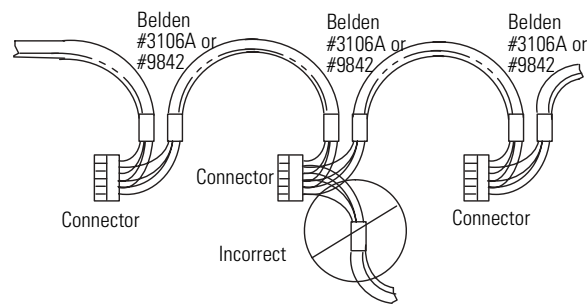
### DH-485 Network Port Wiring (700 - 1500 only)

Use these instructions for wiring Belden cable. If you are using standard Allen-Bradley cables, see the Cable section on page 6-2.

#### Attaching RS-485 Connector to the Communication Cable

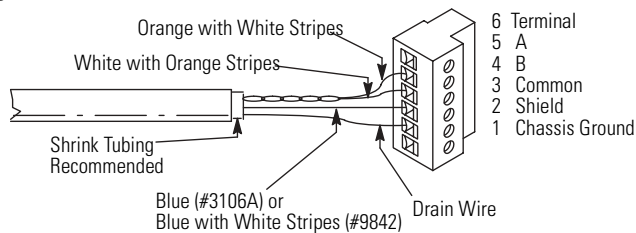
**IMPORTANT**

A daisy-chained network is recommended. We do not recommend hybrid star/daisy chain networks as shown below.

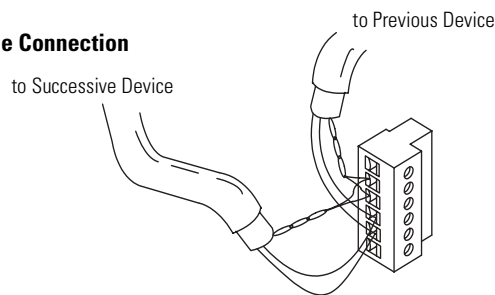


Attach the connector to the Belden #3106A or #9842 Cable as shown below.

##### Single Cable Connection



##### Multiple Cable Connection



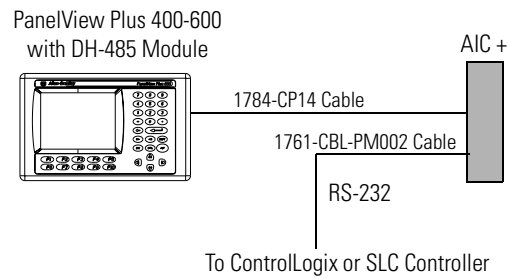
The table below shows connections for Belden #3106A.

For this Wire/Pair	Connect this Wire	To this Terminal
Shield/Drain	Non-jacketed	Terminal 2 - Shield
Blue	Blue	Terminal 3 - (Common)
White/Orange	White with Orange Stripe	Terminal 4 - (Data B)
	Orange with White Stripe	Terminal 5 - (Data A)



## DH-485 Connections (400 - 600 only)

This section shows connections between a PanelView 400-600 terminal with a DH-485 Communication Module and an SLC or ControlLogix controller through the AIC+ module.



## DHPlus Network Connections

Use the Belden 9463 twin axial cable (1770-CD) to connect a PanelView Plus terminal to the DH+ link.

You can connect a DH+ link in 2 ways:

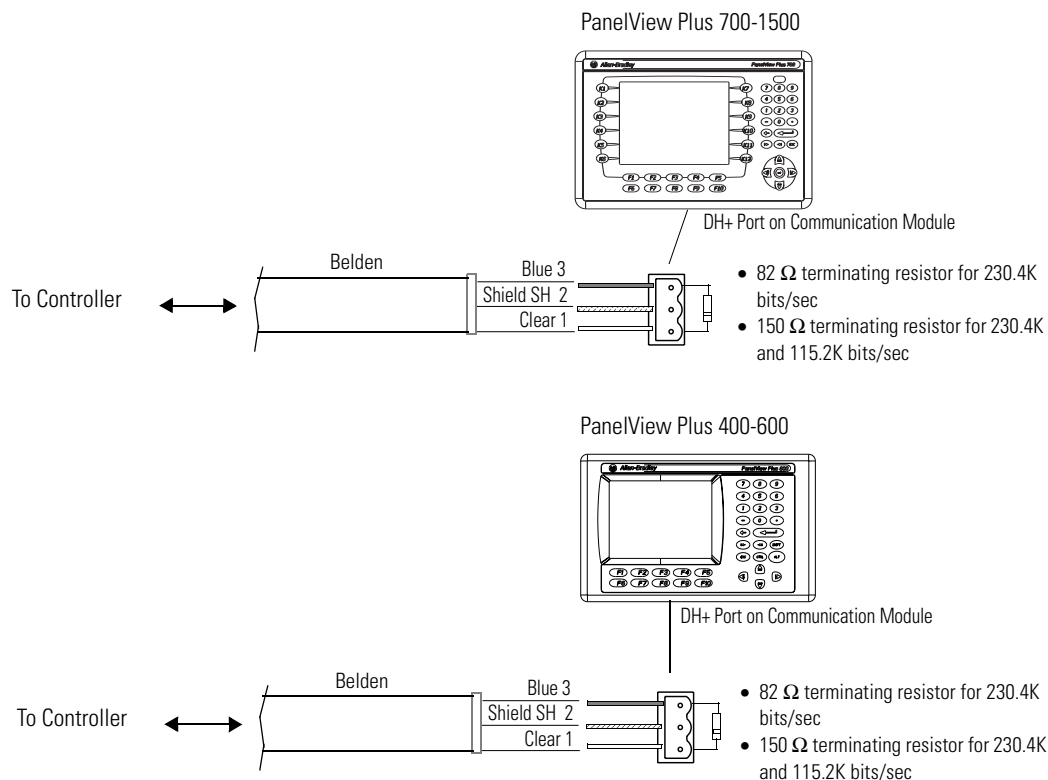
- trunk line/drop line - from the drop line to the connector screw terminals on the DH+ connectors of the processor
- daisy chain - to the connector screw terminals on the DH+ connectors on the processor

Follow these guidelines when installing DH+ communication links:

- do not exceed these cable lengths:
  - trunk line-cable length: 3,048 m (10,000 ft)
  - drop-cable length: 30.4 m (100 ft)

The maximum cable length is determined by baud rate.

- do not connect more than 64 stations on a single DH+ link

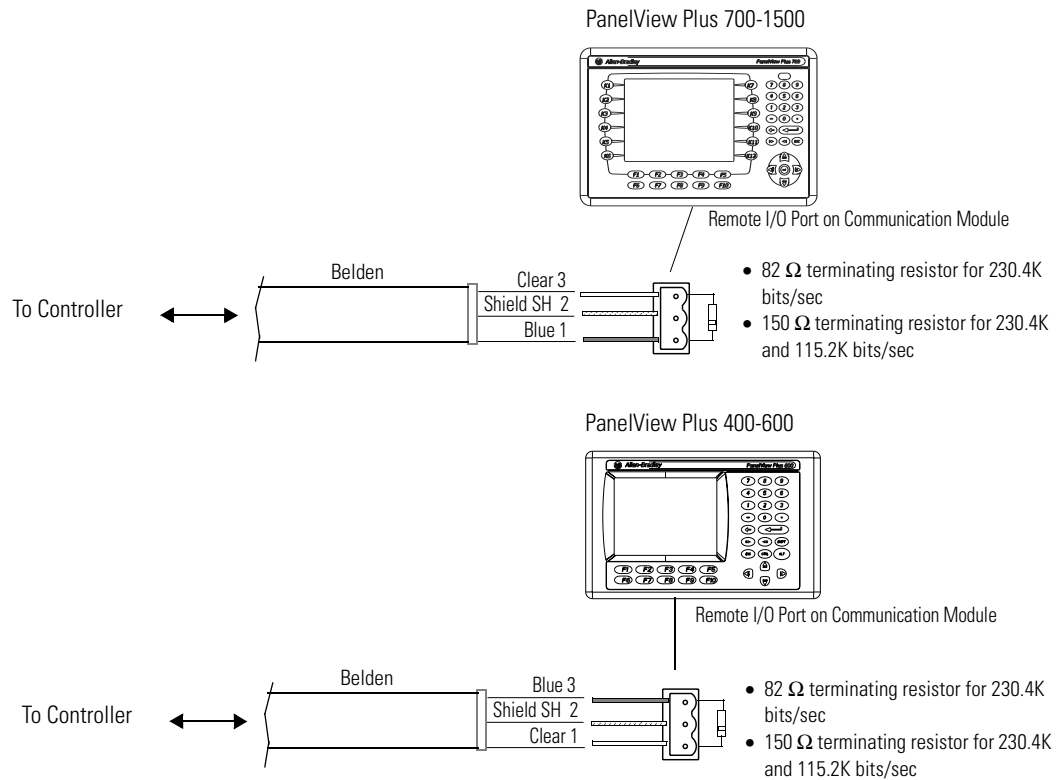


## Remote I/O Connections

To connect a PanelView Plus terminal to a Remote I/O scanner, use cable Catalog No. 1770-CD (equivalent to Belden 9463). The maximum cable length (link distance) is determined by the baud rate.

- 2,800 meters (10,000 feet) for 57.6K baud
- 1,400 meters (5,000 feet) for 115.2K baud
- 700 meters (2,500 feet) for 230.4K

See Programmable Controller Wiring and Grounding Guidelines, Publication 1770-4.1. The user manual for the I/O scanner module also provides cabling information.



## ControlNet Module

PanelView Plus 700-1500 terminals with a ControlNet Communication Module support communications and the transfer of applications between devices on a ControlNet network.

### Related Information

For more information on ControlNet products, refer to the following publications.

- ControlNet System Overview (Publication 1786-2.9)
- ControlNet System Planning and Installation Manual (1786-6.2.1)
- ControlNet Cable System Component List (AG-2.2)

The Allen-Bradley website ([www.rockwellautomation.com](http://www.rockwellautomation.com)) provides information and product descriptions of ControlNet products. Under the Products and Services heading, select Communications.

### ControlNet Protocol

The PanelView Plus terminals support release 1.5 of ControlNet. Unscheduled PLC-5C and ControlLogix messaging and redundant cabling is supported.

ControlNet allows a flexible control architecture that can work with multiple processors and up to 99 nodes (via taps) anywhere along the trunk cable of the network. There is no minimum tap separation and you can access the ControlNet network from every node (including adapters).

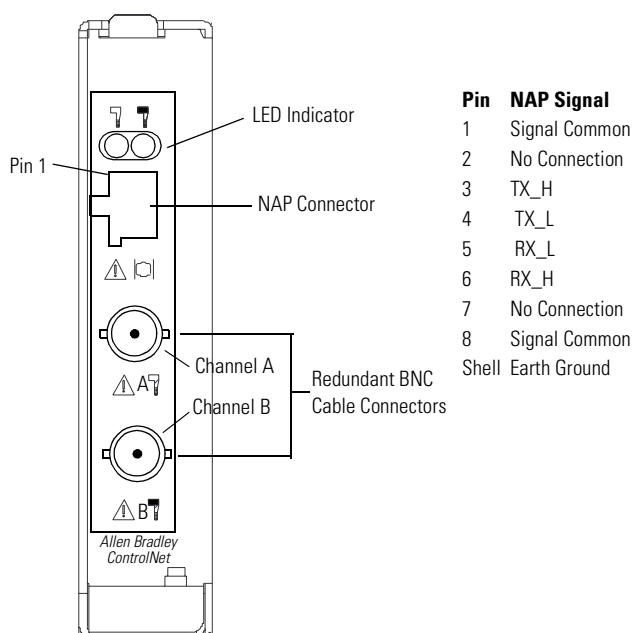
## Compatible ControlNet Controllers

A PanelView Plus terminal with a ControlNet Module communicates with a PLC-5C (using PCCC commands) or a ControlLogix processor (using CIP protocol) using unscheduled messaging. The following controllers are supported:

- ControlLogix using 1756-CNB module
- PLC-5/20C, -5/40C, -5/60C, -5/80C

## ControlNet Connections (700 - 1500 only)

Use the pinout information below to connect the PanelView Plus to a ControlNet network.



## NAP and Redundant Cables

ControlNet cables, taps, connectors. Refer to the ControlNet Cable System Planning and Installation manual (Publication 1786-6.2.1) for descriptions of these components. For information on purchasing these items, refer to the Allen-Bradley ControlNet Cable System Component List (Publication AG-2.2).

Item	Catalog Number
RG-6 quad-shield	1786-RG6
Coax repeater	1786-RPT, -RPTD
Coax taps	1786-TPR, -TPS, -TPYR, -TPYS
Network access cable	1786-CP
Coax tool kit	1786-CTK
Segment terminators	1786-XT
BNC connectors	1786-BNC, -BNCJ, -BNCP, -BNCJ1

---

**IMPORTANT**

Do not connect to a network using both the redundant cable BNC connector and the Network Access Port (NAP).

---

---

## Transferring files and Upgrading Firmware

### Chapter Objectives

This chapter covers information on how to:

- transfer applications using a Compact Flash Card or from a computer.
- upgrade terminal firmware

### Transferring Files Using a Compact Flash Card

The PanelView Plus terminal allows you to copy or load files using a compact flash card from RSVIEW ME. To copy files in RSVIEW ME using a compact flash card, see page 4-17.

### Transferring Files from a Computer

---

**IMPORTANT**

For details on transferring .MER applications from a computer to the PanelView Plus terminal, refer to RSVIEW Studio help or documentation.

---

### Upgrading Firmware

The Firmware Upgrade Wizard (FUW) allows you to upgrade firmware in the PanelView Plus terminal. Using the FUW, you can:

- create a firmware upgrade card (compact flash card) which you then load in the card slot of terminal to upgrade firmware.
- upgrade firmware in a terminal that is connected to your desktop computer using a Serial, Ethernet, or Network connection via RSLinx Enterprise (for supported protocols).

The Firmware Upgrade Wizard is available in RSVIEW Studio or with the Firmware Upgrade Kit.

### Preparing Terminal for Firmware Upgrade

Before starting the Firmware Upgrade Wizard, follow the steps below to prepare the terminal for a successful upgrade.

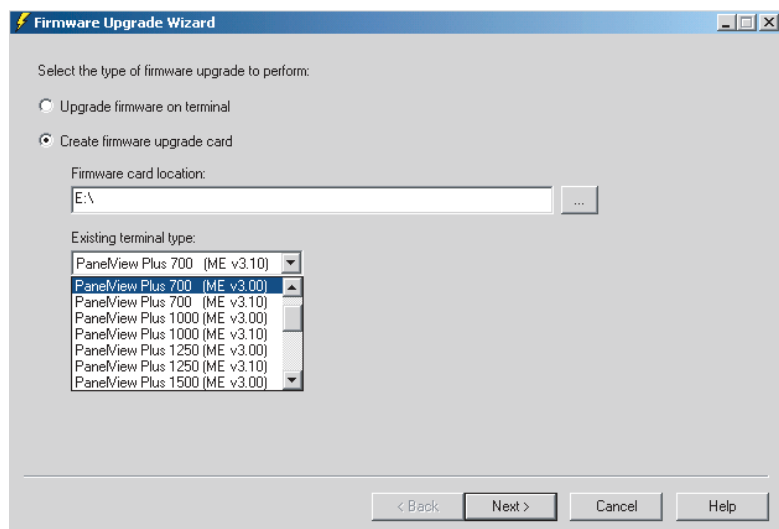
1. Backup all .MER files on the terminal to an external storage card or network.
2. Delete all applications on the terminal.
3. Record any Ethernet communication settings, such as IP address, subnet masks, and gateways by selecting **Terminal Settings>Network and Communications>Network Connections>Network Adapters>IP Address**.
4. Disable the Auto-start feature on the terminal by selecting **Startup Options>RSVIEW ME Station Startup** and select **Go to Configuration Mode**.
5. Reset the terminal.

## Upgrading Firmware using a Compact Flash Card

This section shows how to upgrade the firmware in a PanelView Plus terminal using a Compact Flash Card. This is a two step-process. First, you create a firmware upgrade card with the necessary firmware files. Second, you load this card in the target terminal to upgrade the firmware.

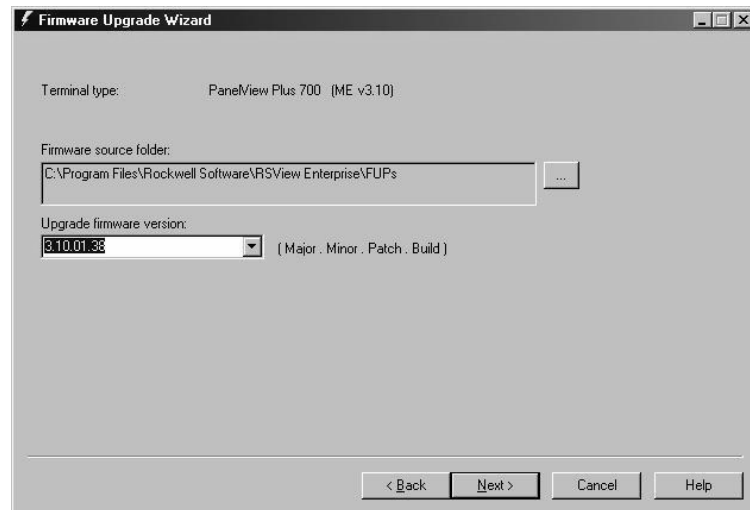
### 1. Creating Firmware Upgrade Card

1. Start the Firmware Upgrade Wizard. Select **Start>Rockwell Software>RSView Enterprise>Firmware Upgrade Wizard**.
2. Select **Create firmware upgrade card**.
  - In the **Firmware card location** text box, select the destination for the compact flash files (folder on the hard drive or physical location of the compact flash card, e.g., E:\).
  - From the **Existing terminal type** list, select the type of PanelView Plus terminal you are upgrading, then press **Next**.

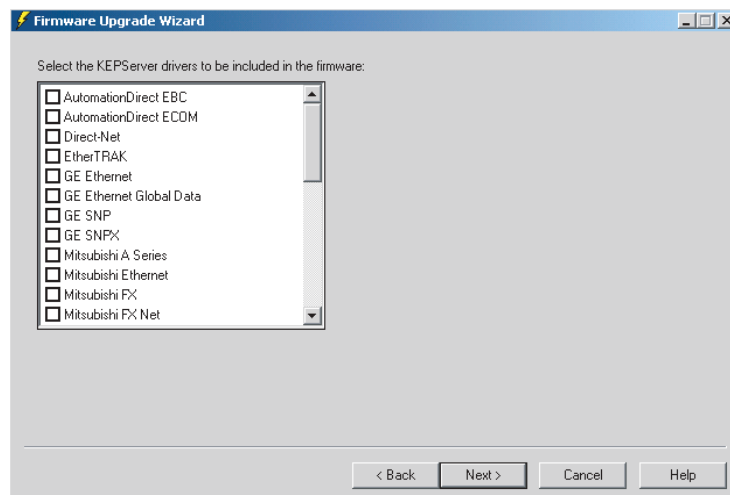




3. From the **Firmware source folder** list, select the location of the firmware files. The default location is C:\Program Files\Rockwell Software\RSView Enterprise\FUPs.  
From the **Upgrade firmware version** list, select the version of the firmware you want to upgrade to, then press **Next**.



4. Select the appropriate KEPServer drivers and press **Next**. If no KEPServer drivers are needed, just press **Next**.

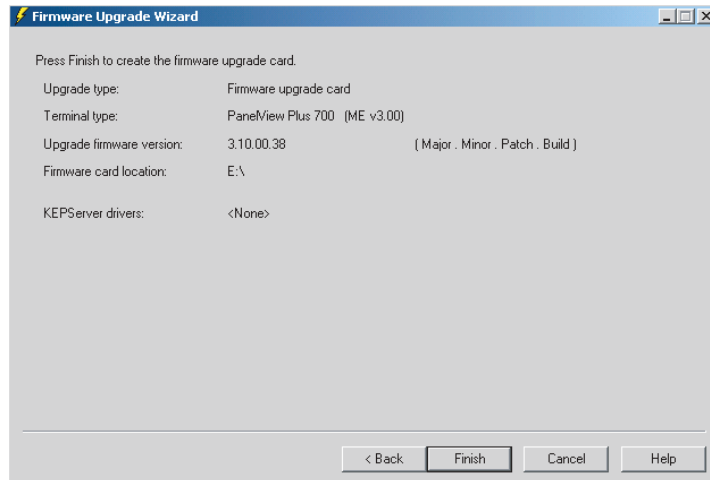
**TIP**

If the selected FUP file does not support the KEPServer drivers, this dialog will not appear.

5. Select Finish to copy the firmware source files to the location specified in step 2.

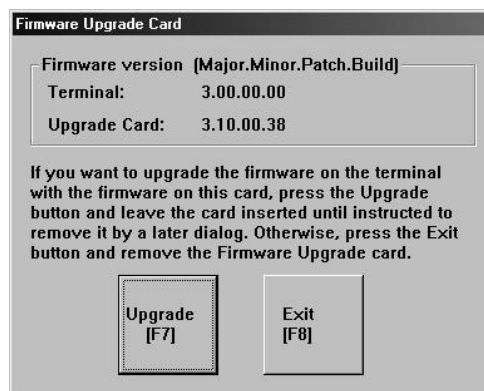
**TIP**

If the files were created in a separate folder on a local hard drive, copy the files to the root directory of the compact flash card.



## 2. Upgrade Firmware in Terminal using Firmware Upgrade Card

1. Insert the compact flash card into the card slot of a powered PanelView Plus terminal. A dialog appears indicating the firmware upgrade is about to occur.



2. Press **Upgrade** to begin the firmware upgrade.

**IMPORTANT**

Do NOT remove the compact flash card while the upgrade is in process.

3. If other PanelView Plus terminals exist on the same Ethernet network, the following error may display:

"Error registering name on network (may be duplicate). Change in system Control Panel and try again."

Ignore this error. It will be corrected during the upgrade. Press **OK** to acknowledge error and wait for terminal to reset.

**TIP**

If a USB mouse is available you can acknowledge this error by selecting **OK**.

4. On touch or touch/screen terminals, you must calibrate the touch screen by selecting pointers in all four corners of the screen and pressing the middle of the screen when prompted.
5. Ignore the following message if it appears. It means RSVIEW ME is being installed. Do not touch the two buttons that appear with this message.

"Machine edition may be corrupted. Do you want to download firmware?"

6. When the upgrade is complete, a dialog appears requesting you to remove the compact flash card from the card slot. Remove the card and press **F8** or **Exit** to reset the terminal.



7. Communication settings are cleared when the terminal is upgraded. If Ethernet communications is used, reconfigure the Ethernet communication settings using the values recorded when preparing the terminal.
8. Replace the .MER files that you backed up before starting the upgrade or download a new .MER file to the terminal.
9. Load the .MER file and run the project.

**TIP**

You can configure your application to start automatically on power cycle under Startup Options.

## Upgrading Firmware using a Network (Ethernet) Connection

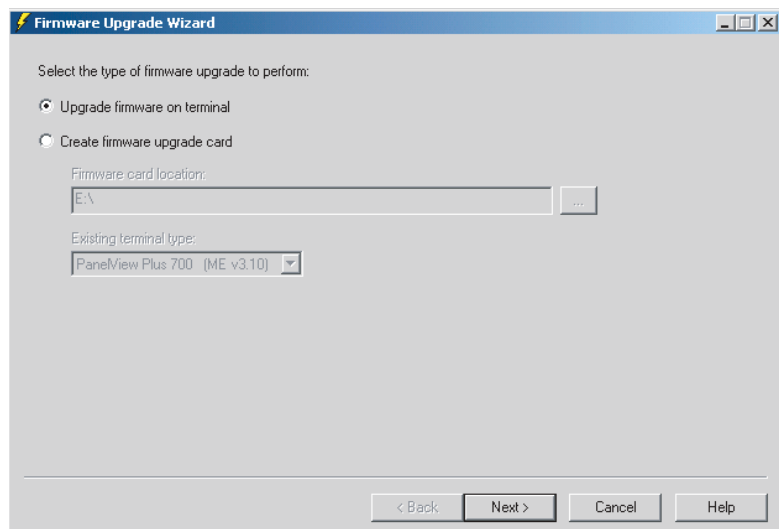
You can upgrade the firmware in a terminal that is connected to a desktop computer using a Serial, Ethernet or Network (using RSLinx Enterprise) connection.

- **Serial connection** requires a RAS connection to be set up on computer. During the RAS setup, you select the COM port.
- **Ethernet connection** requires that you enter the terminal's IP Address.
- **Network connection** requires RSLinx Enterprise where you select the terminal on an existing network.

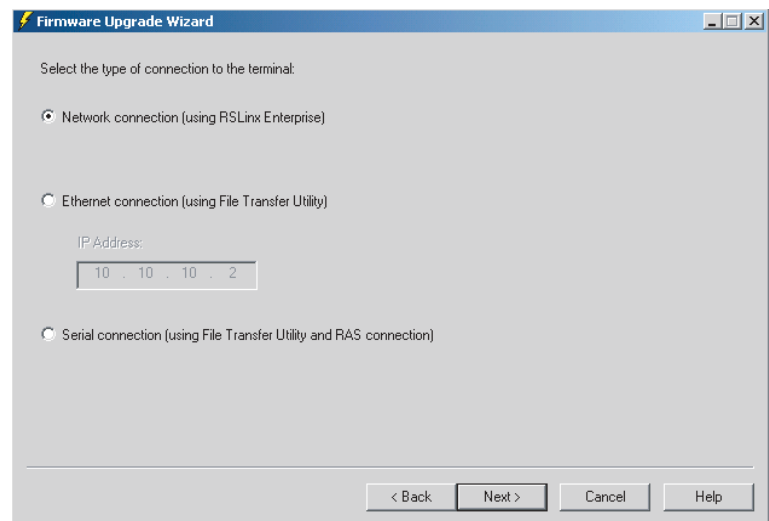
Both the Serial and Ethernet connection requires the PanelView Plus File Transfer Utility running on the terminal.

This section shows how to upgrade firmware in a PanelView Plus terminal using a Network connection via Ethernet communications.

1. Start the Firmware Upgrade Wizard. Select **Start>Rockwell Software>RSView Enterprise>Firmware Upgrade Wizard**.



2. Select **Upgrade firmware on terminal** and press **OK**.

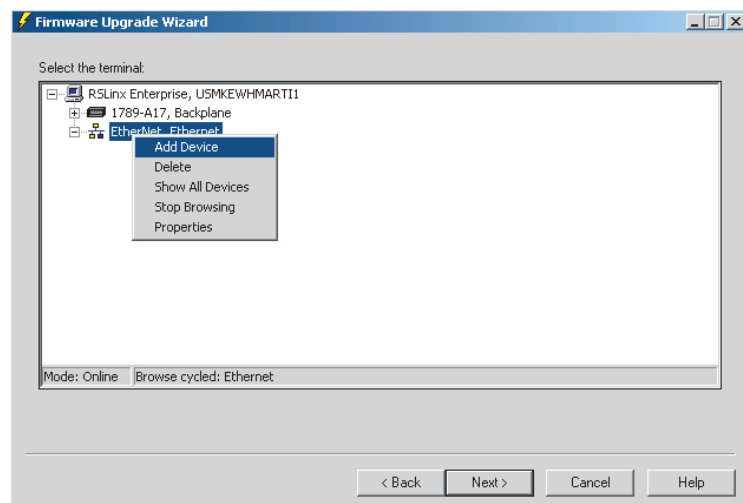


3. Select **Network connection** and press **Next**.

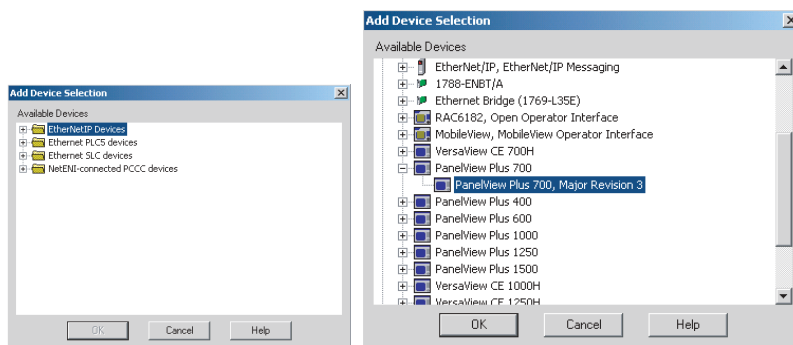
Use the Ethernet and Serial connections only if the firmware upgrade is unsuccessful.

4. Locate the PanelView Plus terminal on your Ethernet network via its IP address.

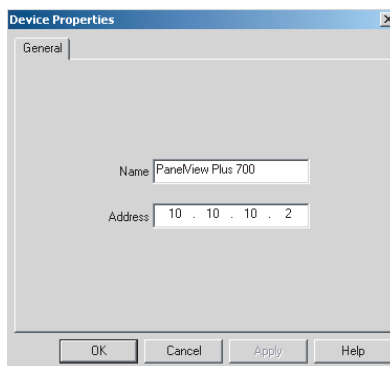
Skip to Step 6 if you found the terminal. If you do not see the terminal, right click on the Ethernet driver and add the device to the browse tree.



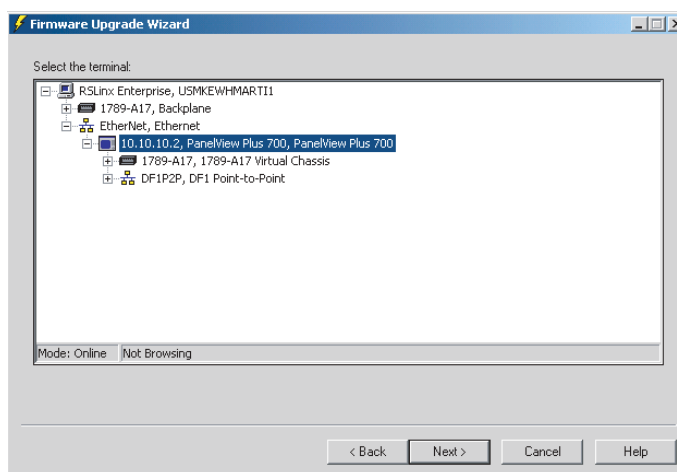
5. Double-click on EthernetIP Devices. Select the appropriate terminal and press **OK**.



6. Enter the IP address for the terminal and press **OK**.

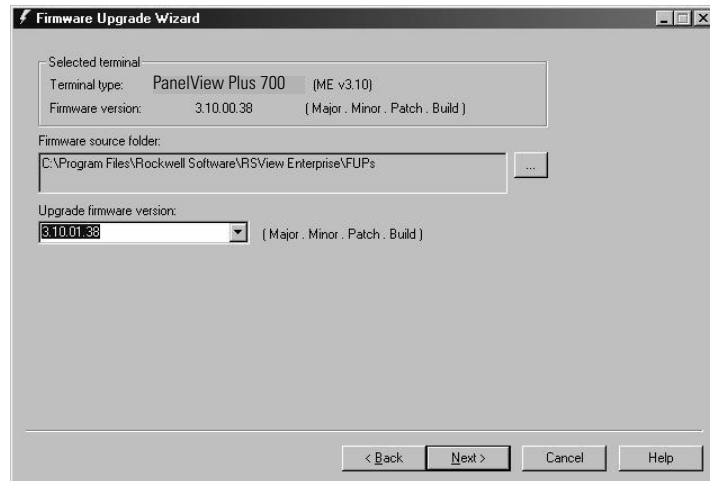


7. Select the terminal to be upgraded and press **OK**.

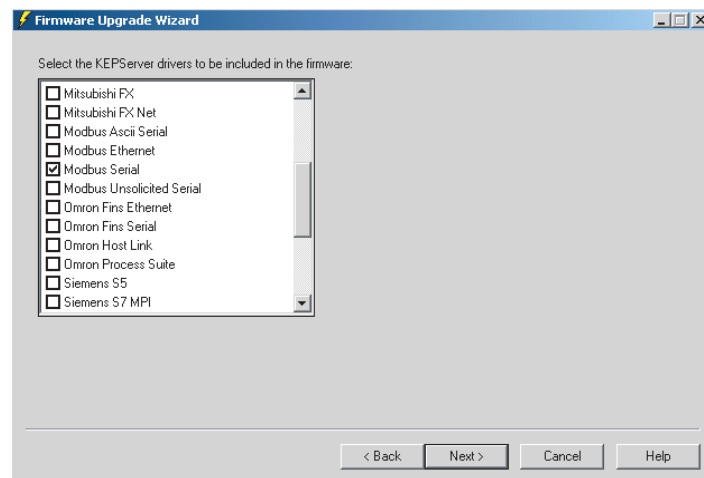


8. From the **Firmware source folder** text box, select the location of the firmware files. The default location is C:\Program Files\Rockwell Software\RSView Enterprise\FUPs.

From the **Upgrade firmware version** list, select the version of the firmware you want to upgrade to, then select **Next**.



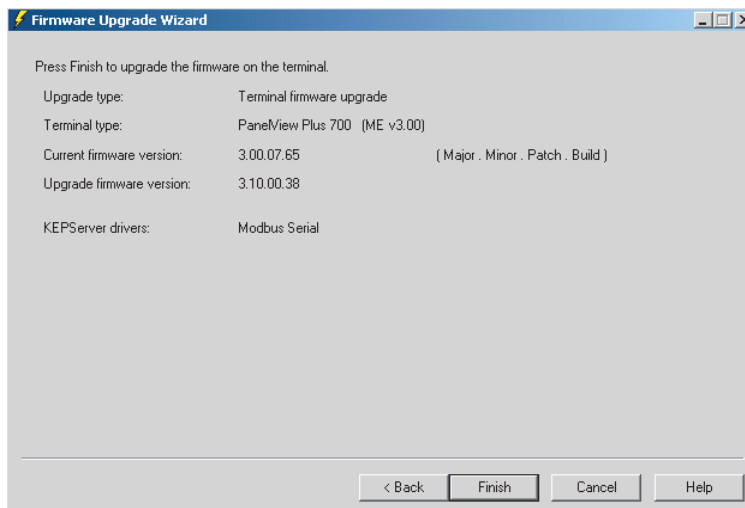
9. Select the appropriate KEPServer drivers and select **Next**. If no KEPServer drivers are needed, just select **Next**.



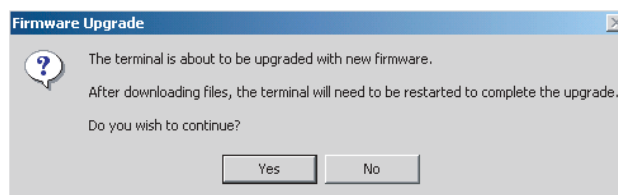
#### TIP

If the selected FUP file does not support the KEPServer drivers, this dialog will not appear.

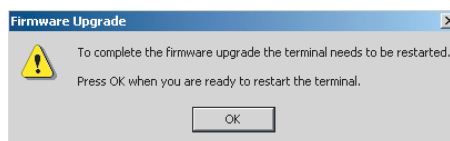
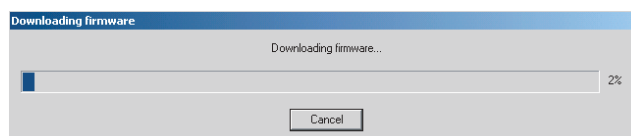
10. Press **Finish** to start the upgrade.



11. Press **Yes** to continue the upgrade process. If the terminal was properly prepared for the upgrade, no applications should be running.



12. Firmware files are downloaded to the terminal. This may take several minutes to 15 minutes. When the download is complete, press **OK** to reset the terminal.



If other PanelView Plus terminals exist on the same Ethernet network, the following error may display:

"Error registering name on network (may be duplicate). Change in system Control Panel and try again."

Ignore this error. It will be corrected during the upgrade. Press **OK** to acknowledge error and wait for terminal to reset.

#### TIP

If a USB mouse is available you can acknowledge the error by selecting **OK**.



13. On touch or touch/screen terminals, you must calibrate the touch screen by selecting pointers in all four corners of the screen and pressing the middle of the screen when prompted.
14. Ignore the following message if it appears. It means RSView ME is being installed. Do not touch the two buttons that appear with the message.  
"Machine edition may be corrupted. Do you want to download firmware?"
15. Communication settings are cleared when the terminal is upgraded. If Ethernet communications is used, reconfigure the Ethernet communication settings using the values recorded when preparing the terminal.
16. Replace the .MER files that you backed up before starting the upgrade or download the new .MER files to the terminal.
17. Load the .MER file and run the project.

**TIP**

You can configure your application to start automatically on power cycle under Startup Options.



## Troubleshooting and Maintenance

### Chapter Objectives

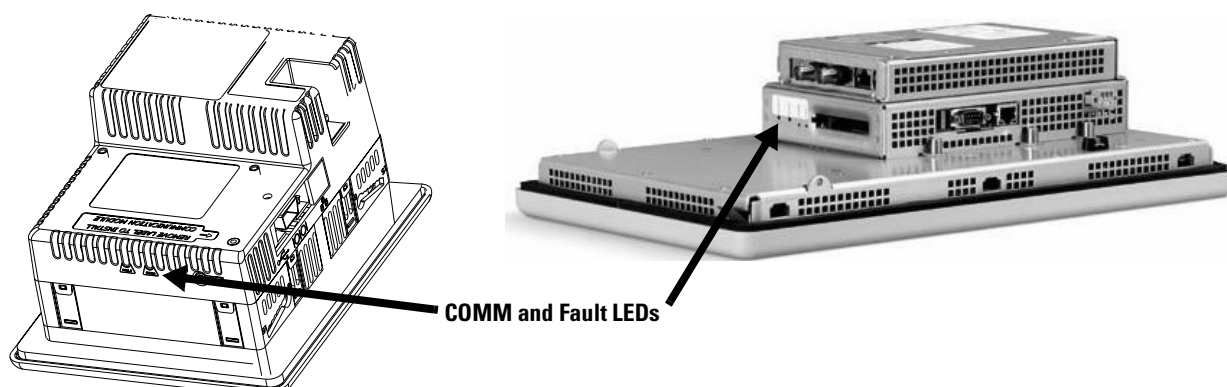
This chapter provides information on how to isolate and correct common operating problems with system components.

- LED indicators
- general troubleshooting
- troubleshooting components (display, touch screen, keypad, attached keyboard or mouse)
- Ethernet
- advanced troubleshooting
- startup error messages
- startup status messages
- system identification errors
- startup problems
- entering configuration mode
- restarting in safe mode
- cleaning the display window

### LED Indicators

The PanelView Plus terminals have two LED indicators on the side of unit to isolate operating problems:

- COMM indicator (green) for communications
- FAULT indicator (red) for hardware faults



## General Troubleshooting

*After a successful startup, both LEDs are off and controlled by the application running on the terminal.*

This section provides a list of general troubleshooting steps to follow when trying to isolate problems.

- **Check for adequate power.** An under-powered unit could result in unpredictable behavior.
  - The 400-600 DC powered terminals require 24V dc at 1.0 A
  - The 400-600 AC powered terminals require 85...264V ac.
  - The 700-1500 DC powered terminals require 24V dc at 1.5 A
  - The AC Power Supply (2711P-RSACDIN) for 700-1500 terminals meets Class 2/SELV requirements.
- **Check LED indicators on the terminal at startup.** Is power on? Is the unit attempting to start? The red LED should be Off, except for a few brief flashes, and the green LED should be On.
  - If the LEDs remain Off on the 700-1500 terminals, the power supply or Logic Module has failed. Check the power cable. Replace the Logic Module if the power is within range; if not, replace the power supply.
  - If the LEDs remain off on the 400-600 terminals, check the power cable.

If the terminal powers up and stops during startup, the state of the LEDs indicate the following:

***Blinking red LED indicates a recoverable error.***

Red LED	Green LED	Description
Blinking	Off	Last firmware download failed. Repeat firmware download.
Blinking	Blinking	EBC boot loader firmware failed or is missing. Load new EBC firmware
Blinking	ON	Windows CE OS firmware failed or is missing. Load new CE OS firmware.

***Solid red LED indicates a non-recoverable and fatal error.***

Red LED	Green LED	Description
On	Off	Fatal hardware error occurred. Replace Logic Module (700-1500) or the terminal (400-600).
On	Blinking	Fatal hardware error occurred in Display. Replace the Display Module (700-1500) or the terminal (400-600).

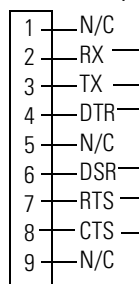
- **Check messages at startup for errors.** Record any error message and refer to the System Error Message table on page 8-10 for troubleshooting.
- **Check voltages and temperatures (700-1500 only).** From Configuration Mode, open Terminal Settings>System Information>Terminal Information.
  - Battery Voltage for 700-1500 terminals should be at least 2.75 V. Replace the battery if less than 2.75 V.
  - Display Temperatures should be less than 55 °C. The CPU temperature should be less than 95 °C.

If the temperatures are higher, check for obstructed airflow through the chassis and attempt to moderate the ambient temperatures within the enclosure and surroundings.
- **Check System Event Log for errors or unexpected reboots.** From Configuration Mode, open Terminal Settings>System Event Log.
- **Use Extended Diagnostics on 700-1500 terminals only to perform more extensive hardware testing at startup.** From Configuration Mode, open Terminal Settings>Startup Tests>Select Tests.

Select one or more of the tests you want to run. Enable extended diagnostics and set the iteration or repeat count.

Restart the PanelView Plus terminal. The Serial Port test requires a loopback connector with the following connections.

**DB9 Connector (female)**



Extended Diagnostics are performed at every startup until disabled. A failure will momentarily halt startup and display an error message.

## Troubleshooting Components

This section provides tips on how to isolate problems with individual components of the PanelView Plus terminal, including the display, touch screen, keypad, attached keyboard or mouse.

### Display Problems

This section provides tips on how to isolate problems with the Display.

- ***Check the brightness setting of the Display.*** Is the display brightness dim or unreadable?  
From Configuration Mode, open Terminal Settings>Display Intensity.
- ***Check the contrast setting of Display for 400-600 grayscale displays.*** From Configuration Mode, open Terminal Settings>Display Contrast.
- ***Check the Screen Saver settings.*** Is the backlight turning off or dimming the display unexpectedly.  
From Configuration Mode, open Terminal Settings>Display>Screen Saver.
- ***Check the LED indicators.*** Do they flash during startup? Is power on and is the unit attempting to start?
- ***Check the Display temperature (700-1500 only).*** The display intensity will decrease to 40% if its temperature (or the temperature within the enclosure) is too high to reduce damage to the display. This can be checked using the RSView ME Events log.
- ***Check the startup messages.*** Is the Display operating at all and do the startup messages appear? Record any error message and use the System Error Message table on page 8-10 for troubleshooting.
- ***Replace the Display Module if all other attempts do not resolve problem (700-1500 only).*** If replacing the Display Module corrects the problem, then the Display was not functioning properly.

## Touch Screen Problems

This section provides tips on how to isolate problems with the Touch Screen.

- **Check the catalog number of the unit.** Verify that your terminal has a touch screen by looking at the label on the terminal.
- **Perform a calibration of the touch screen.** From Configuration Mode, open Terminal Settings>Input Devices>Touch Screen>Calibration. Follow the directions. The calibration requires 5 user screen touches. When the touches do not converge to a satisfactory calibration, you are asked repeatedly for additional screen touches and the calibration process never terminates. A touch screen that does not calibrate is not present or not functioning properly. Replace the Display Module (700-1500) or the terminal (400-600).
- **Check the Cursor Enable setting for the touch screen.** Is the cursor visible? From Configuration Mode, open Terminal Settings>Input Devices>Touch Screen>Cursor.
- **Check the pointer input by attaching a USB mouse.** If the mouse works, but the touch screen does not, then the touch driver or touch screen is not functioning properly. If both the mouse and the touch screen are not working, then it is an application problem.
- **Does touching or dragging on the screen appear to work?** If yes, even if incorrectly, the touch screen is present and working but requires calibration.
- **Replace Bezel or Display Module if all other attempts do not resolve the problem (700-1500 only).** If replacing the Display Module or bezel corrects the problem, then the touch screen was not functioning properly.

## Keypad Problems

This section provides tips on how to isolate problems with the Keypad:

- **Check Multi-Key/Hold-Off settings.** From Configuration Mode, open Terminal Settings>Keypad>Keypad Settings. Is the Hold-Off Delay longer than expected, or are multiple key presses inhibited by Multi-Key Lockout? Check all configurable settings. Home, End, Page Up or Page Down are not supported when Multi-Key Lockout is enabled.
- **Check key input by attaching a USB keyboard.** If the keyboard works, but the keypad does not, then the keypad driver or keypad is not working. If both the keypad and keyboard are not working, then the problem may be the application.
- **Replace the Display Module if all other attempts do not resolve problem.** If replacing the Display Module corrects the problem, then the keypad was not functioning properly.

## Problems with Attached Mouse

This section provides tips on how to isolate problems with an attached Mouse.

- **Check the Cursor Enable setting.** Is the cursor visible? From Configuration Mode, open Terminal Settings>Input Devices>Touch Screen>Cursor. Also check mouse settings.
- **Check the USB cable and connection.** Detach and then re-attach the mouse. Cycle power to the terminal.
- **Is the mouse a USB composite device?** If the mouse is a keyboard/mouse composite device, then try a stand-alone USB mouse.
- **Replace the USB mouse.** Try a different model or manufacturer. See Appendix B for a list of compatible mouse devices. You can also check the Knowledgebase at the <http://support.rockwellautomation.com> site for a list of USB devices that are compatible with the PanelView Plus terminal. If attaching a new mouse resolves the problem, then the old mouse was not working or non-compliant.



## Problems with Attached Keyboard

This section provides tips on how to isolate problems with the Keyboard.

- **Check for enabled Alt-Ctrl keys.** From Configuration Mode, open Terminal Settings>Input Devices>Keyboard>Keyboard Settings.  
Are the keys enabled as expected? Check all configurable settings in Keyboard Properties.
- **If keypad is present, check input using the keypad.** If the keypad works, but the keyboard does not, then the keyboard driver or keyboard is probably not working. If both the keypad and the keyboard are not working, then it is probably an application problem.
- **Check the USB cable and connector.** Detach and re-attach the keyboard. Insure a good connection. Cycle power to the terminal.
- **Is the keyboard a USB composite device?** If the keyboard is a keyboard/mouse composite device, then try a stand-alone USB keyboard.
- **Replace the USB keyboard.** Try a different model or manufacturer. See Appendix B for a list of compatible keyboards. You can also check the Knowledgebase at the <http://support.rockwellautomation.com> site for a list of USB devices that are compatible with the PanelView Plus terminal. If a new keyboard resolves the problem, then the old keyboard was probably non-compliant.

## Ethernet Problems

- **Check LED indicators at the Ethernet connector.** The green LED indicates a communications link and should be ON. The amber LED indicates data activity and should be flashing. Verify that there is a connection to the hub?
- **Check cable connections and quality of cable.** Check for good connections and things such as quality, crimping, hub connection, and uplink ports.
- **Check IP Address of the Built-In Ethernet Controller.** From Configuration Mode, select Terminal Settings>Networks and Communications>Network Connections>Network Adaptors. If DHCP is enabled, the device expects a valid IP address to be acquired within a several seconds after startup. The TCP/IP protocol automatically assigns 169.254.nnn.nnn when it fails to acquire an IP address from the server. In general, an IP address that begins with 169 will not support a network connection.

A bad Ethernet connection and the absence of a valid IP address are typically reported in a Communications error message box with the Winsock critical error 10065 - "No route to host".

- **Check for conflicting IP addresses.** If DHCP is not enabled, make sure the IP address you specify is not in conflict with the address of another device on the network.
- **Check the Device Name of the PanelView Plus terminal.** Do not allow devices on the network with same (host) name. From Configuration Mode, open Terminal Settings>Communications and Networks>Network Connections>Device Name.
- **Contact your Network Administrator to check peer or server settings.** The "other side" of the Ethernet connection may also be a problem.

## Advanced Troubleshooting

1. Take advantage of alternate connectivity - mouse versus touch screen, keyboard versus keypad, serial communications, and alternate Ethernet connections.
2. Know useful keyboard shortcuts so that you can navigate around the system without a mouse or touch screen.
3. From Configuration Mode, select Terminal Settings>System Event Log to check the event log. Look for error conditions or reasons for unexpected reboots.
4. Check the configuration settings in Configuration Mode for incorrect settings.
5. Most importantly, general troubleshooting thoroughness means getting answers to questions such as:
  - Does the failure always happen? Is it repeatable?
  - Does the failure happen at bootup or some other time? Is there a set of actions that reveal the problem?
  - Does the failure occur on just one terminal or on multiple machines? If more than one machine, what do they have in common? If not all machines, then what is different between machines that fail and those that don't?
  - What appears on the screen, the LED indicators?
  - Lastly, and most important; did everything work until recently? If so, what changed?

## Startup Error Messages

The following table provides a list of system error messages that may display on startup. The messages apply to all PanelView Plus terminals except where indicated.

### IMPORTANT

The 400-600 terminals display only the error number. The 700-1500 terminals display both the error number and the message.

Error Number	Displayed Message	Description	Recommended Action
1	RAM Test	POST RAM Test failure	Reset terminal. If error occurs again, replace the terminal.
23	Internal CF	400-600: Firmware download failure 700 - 1500: Internal Compact Flash Card access failure	Reset terminal. If error occurs again, replace the terminal.
24		400-600: General error	Call technical support.
25	EXE Valid	System firmware is incompatible with the boot loader	Upgrade terminal with proper version of firmware. See Chapter 7.
30	Watchdog Test	POST Watchdog Test failure	Reset terminal. If error occurs again, replace the terminal.
31	Stuck Key	POST Stuck Key Test failure	Reset terminal. If error occurs again, replace the terminal.
31.5	Stuck Touch	POST Stuck Touch Test failure	Reset terminal. If error occurs again, replace the terminal.
32	Battery Test	POST dead battery failure	400-600: Replace terminal. 700-1500: Replace battery.
33.5 <sup>(1)</sup>	NVRAM Access	Non-volatile memory access failure	Replace Logic Module.
34 <sup>(1)</sup>	Display EEPROM	Display Module EEPROM data is corrupted	Replace Display Module.
34.5 <sup>(1)</sup>	Display Temp	Display Module over-temperature failure	Reduce ambient temperature.
35.5 <sup>(1)</sup>	CPU Temp	Processor over-temperature failure	Reduce ambient temperature.
40	EXE Check	System firmware is missing or corrupt	Reload firmware using Firmware Upgrade Wizard. See Chapter 8.
50	External CF	External Compact Flash card access failure	Replace Compact Flash card. If replacing the card does not correct the problem, replace the terminal.
71	Eboot HW Test	Eboot failure	Reset terminal. If error occurs again, replace the terminal.

<sup>(1)</sup> The error number does not display on the PanelView Plus 400 - 600 terminals.

## Startup Status Messages

The following table provides a list of system status messages that display at startup.

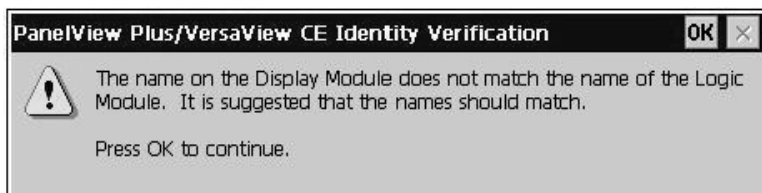
Status Number	Description	Typical Operation
1	Validating RAM	Message displays for a few seconds.
2	Locating new OS image to download	Message displays for about 30 seconds.
11	Downloading OS image to RAM	Message displays for several minutes.
20	Erasing and programming Flash space for OS image	Message displays for several minutes.
70	Retrieving image from Ethernet	Message displays for several minutes.
24	Performing CRC of OS image in Flash	Message displays for a few seconds.
27	Decompressing from Flash to RAM	Message displays for about a minute.
28	Jumping to OS image	Message displays for just a second.

## System Identification Errors

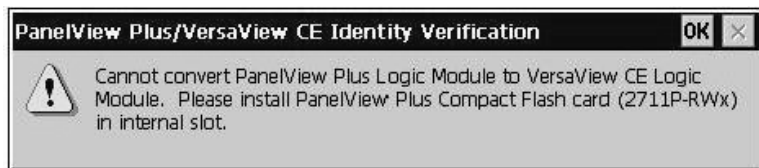
### 700-1500 only

The error messages in this section appear on startup if incorrect or invalid components are used with the PanelView Plus 700-1500 terminals.

- The following dialog appears if a VersaView CE Logic Module is attached to a PanelView Display Module or a PanelView Plus Logic Module is attached to a VersaView CE Display Module. It is recommended that you use a VersaView CE Display Module with a VersaView CE Logic Module and a PanelView Plus Display Module with a PanelView Plus Logic Module. This is a warning allowing you to continue to operate.

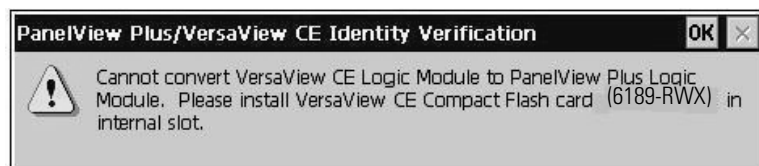


- The following dialog appears if the PanelView Plus Logic Module contains a 6189-RWx Internal Compact Flash card for the VersaView CE terminal.



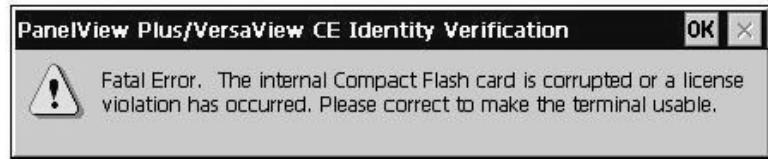
After pressing OK, you will be asked to power off the terminal and insert a valid 2711P-RWx Internal Compact Flash card for the PanelView Plus terminal.

- The following dialog appears if the VersaView CE Logic Module contains a 2711P-RWx Internal Compact Flash card for the PanelView Plus terminal



After pressing OK, you will be asked to power of the terminal and insert a valid 6189-RWx Internal Compact Flash card for the VersaView CE terminal.

- The following dialog appears if the Internal Compact Flash in the PanelView Plus Logic Module is corrupt or invalid. This is a fatal error



After pressing OK, you will be asked to power of the terminal and insert a valid 6189-RWx Internal Compact Flash card.

## Startup Problems

If the PanelView Plus terminal is configured to enter Configuration Mode at startup and does not, then reload the firmware. See page 7-1 for details.

If the application does not start, there may be a problem with the .mer RSVIEW Machine Edition file. Check for a startup screen and compatible version.

## Entering Configuration Mode

To access configuration mode, your RSVIEW .mer application must contain a screen with a Goto Configure Mode button. When the terminal is running the application, you can press this button to access configuration mode.

## Restarting in Safe Mode 700-1500 only

Safe Mode is a diagnostics mode where the terminal is reduced to a known state that permits recovery from a configuration or application problem. Safe Mode ignores all user changes to the system and avoids any problems that are due to interactions with end-user software or changes. Once the system is running in Safe Mode, you can repair the offending applications or changes that caused the problem.

When the PanelView Plus terminal is restarted in Safe Mode, the following occurs:

- The last configuration or the default configuration is used. The last configuration is restored at the next reboot unless the default configuration is saved (flushed), in which case it becomes the new Persistent Registry.
- Depending on the state of the system, the touch screen may be calibrated at startup.

**To restart in Safe Mode:**

The switches that control Safe Mode are located on the right side of the Logic Module above the Compact Flash card slot.

- Insert a thin probe into the hole marked DEFAULT and press the switch, then;
- Insert the probe into the hole marked RESET and press the switch. The system will restart immediately into the Safe Mode

## Cleaning the Display Window

---

**ATTENTION**

Use of abrasive cleaners or solvents may damage the display. Do not scrub or use brushes.

---

**To clean the display window:**

1. Disconnect power from the terminal at the power source.
2. Use a clean sponge or soft cloth with a mild soap or detergent to clean the display.
3. Dry the display with a chamois or moist cellulose sponge to avoid water spots.

*Removing Paint and Grease*

Remove fresh paint splashes and grease before drying by rubbing lightly with isopropyl alcohol (70% concentration). Afterward, wash using a mild soap or detergent. Rinse with clean water.

Use a protective antiglare overlay for easier cleaning of display window.



## Specifications

### Electrical

DC Power 400 - 600 Input Voltage DC Power Consumption DC	24V dc nominal (18...32V dc) 25 Watts maximum (1.0 A at 24V dc)
DC Power 700 - 1500 Input Voltage DC Power Consumption DC	24V dc nominal (18...30V dc) 70 Watts maximum (2.9 A at 24V dc)
AC Power 400 - 600 Input Voltage AC Power Consumption AC	85...264V ac, 47...63 Hz 60 VA maximum
AC Power 700 - 1500 (2711P-RSAC) Input Voltage AC Power Consumption AC	85...264V ac, 47...63 Hz 120 VA maximum

### Environmental

Operating Temperature	0...55 °C (32...131 °F)
Storage Temperature	-25...70 °C (-13 to 158 °F)
Heat Dissipation 400-600 700-1500	85 BTU/h 240 BTU/h
Relative Humidity	5...95% without condensation
Altitude Operating	2000 m (6561 ft)
Shock Operating	15 g at 11 ms
Shock Non-Operating	30 g at 11 ms
Vibration	10...57 Hz, 0.012 pk-pk displacement 57...500 Hz, 2 g pk acceleration
Enclosure Ratings	NEMA Type 12, 13, 4X (Indoor use only), IP54, IP65

## Display

Display Type 400 & 600 Monochrome  600 - 1500 Color	Monochrome Passive Matrix, Film Compensated Super-Twist Nematic (FSTN) Color Active Matrix TFT Thin-Film Transistor with LCD Liquid Crystal Display
Display Size, Diagonal 400 600 700 1000 1250 and 1250 High-Bright 1500	3.8 in 5.5 in 6.5 in 10.4 in 12.1 in 15.0 in
Display Area (W x H) 400 600 700 1000 1250 and 1250 High-Bright 1500	78 x 59 mm (3.07 x 2.32 in) 111 x 84 mm (4.37 x 3.30 in) 132 x 99 mm (5.20 x 3.90 in) 211 x 158 mm (8.31 x 6.22) 246 x 184 mm (9.69 x 7.25 in) 304 x 228 mm (11.98 x 8.98)
Resolution 400 600 700 1000 1250 and 1250 High-Bright 1500	320 x 240 320 x 240 640 x 480 640 x 480 800 x 600 1024 x 768
Backlight 400 600	LED CCFL 50,000 hours life, minimum
Touch Screen Touch Technology Actuation Rating Operating Force	Analog Resistive 1 million presses 10...110 g
Keypad Function Keys <sup>(1)</sup> Actuation Rating Operating Force	Function keys, numeric and navigation 1 million presses 340 g

<sup>(1)</sup> number of function keys varies by terminal size

## Mechanical




Weight (for base unit without modules)	
400 Keypad <sup>(1)</sup>	562 g (1.24 lb)
600 Keypad or Keypad & Touch <sup>(1)</sup>	930 g (2.05 lb)
600 Touch <sup>(1)</sup>	789 g (1.74 lb)
700 Keypad or Keypad & Touch	1.9 kg (4.2 lb)
700 Touch	1.7 kg (3.8 lb)
1000 Keypad or Keypad & Touch	2.9 kg (6.3 lb)
1000 Touch	2.6 kg (5.7 lb)
1250 Keypad or Keypad & Touch	3.4 kg (7.6 lb)
1250 Touch and 1250 High-Bright Touch	3.2 kg (7.1 lb)
1500 Keypad or Keypad & Touch	4.6 kg (10.0 lb)
1500 Touch	4.2 kg (9.3 lb)
Dimensions H x W x D (for base unit without communication module)	
400 Keypad	152 x 185 x 90 mm (6.0 x 7.28 x 3.54 in)
600 Keypad or Keypad & Touch	167 x 266 x 98 mm (6.58 x 10.47 x 3.86 in)
600 Touch	152 x 185 x 98 mm (6.0 x 7.28 x 3.86 in)
700 Keypad or Keypad & Touch	193 x 290 x 55 mm (7.58 x 11.40 x 2.18 in)
700 Touch	179 x 246 x 55 mm (7.04 x 9.68 x 2.18 in)
1000 Keypad or Keypad & Touch	248 x 399 x 55 mm (9.77 x 15.72 x 2.18 in)
1000 Touch	248 x 329 x 55 mm (9.77 x 12.97 x 2.18 in)
1250 Keypad or Keypad & Touch	282 x 416 x 55 mm (11.12 x 16.36 x 2.18 in)
1250 Touch	282 x 363 x 55 mm (11.12 x 14.30 x 2.18 in)
1250 Touch High Bright	282 x 363 x 74 mm (11.12 x 14.30 x 2.90 in)
1500 Keypad or Keypad & Touch	330 x 469 x 65 mm (12.97 x 18.46 x 2.55 in)
1500 Touch	330 x 416 x 65 mm (12.97 x 16.37 x 2.55 in)

<sup>(1)</sup> Add approximately 95 g (0.21 lb) for communication module

## General

Battery	
400-600	5 years minimum at 25 °C
700-1500	2 years minimum at 25 °C
Clock	Battery-backed, +/-2 minutes per month
LED Indicators	COMM (Green), Fault (Red)
Application Flash Memory	5 MB
External Compact Flash Storage	512 MB maximum

## Agency Certifications

Agency Certifications	
When product is marked:	<div><div>Marked for all applicable directives</div><div>UL Listed Industrial Control Equipment UL Listed Industrial Control Equipment for use in Canada UL Listed Industrial Control Equipment for use in:<ul style="list-style-type: none"><li>• Class I, Div 2 Group A, B, C, D</li><li>• Class I, Zone 2, Group IIC</li><li>• Class II, Div 2 Group F, G</li><li>• Class III, Hazardous Locations</li></ul></div><div>Marked for all applicable acts N223</div></div>

## Compatible USB Devices

The following table provides a list of compatible USB devices which can be used on the USB ports of the PanelView Plus terminals.

Device	Vendor	Model	PanelView Plus 700-1500	PanelView Plus 400-600
USB Keyboard	Rockwell Automation	Cat. No. 6189-KBDEPU1U	Yes	Yes
	Ortek	MCK-600USB	Yes	Yes
	Dell	RT7D10	Yes	Yes
USB Keyboard/Mouse	Rockwell Automation	Cat. No. 6189-KBDEPC1U	Yes	
USB Mouse	Logitech	Optical Mouse - M-BJ58	Yes	Yes
	Microsoft	Intellimouse D58-00026	Yes	Yes
	Atek	USB Mouse		
	VersaView (Rockwell Automation)	USB Mouse	Yes	Yes
USB Hub	Belkin	USB 4-Port Hub - ESU021	Yes	Yes



## Available Fonts for Terminal Applications

The following fonts are pre-installed on PanelViewPlus/VersaView CE terminals:

- True Type fonts (scalable)
  - Tahoma.ttf (proportional)
  - Courier.ttf (fixed width)
  - Arial.ttf (proportional)
- (23) fonts of various sizes migrated from PanelView Standard and PanelView "e" terminals (various sizes)

To simplify the creation and downloading of .mer application files on these devices, use the above list of fonts when developing screens in RSVIEW Studio.

Additional fonts are available in RSVIEW Studio when developing application screens.

- If the font used to develop screens is not available on the target device, the closest font is selected.
- If bolding or italics is used, and a separate bold or italics font is unavailable, then the target operating system will use an algorithm to produce these affects.

In either case, the device screens will look different than they do in RSVIEW Studio.

### Downloading Fonts to Terminal

To use additional fonts on a PanelView Plus/VersaView CE device, copy any of the font files on the VersaView CE Accessories CD or the RSVIEW Machine Edition Fonts CD to the following directory on the computer where RSVIEW Studio is installed:

c:\Documents and Settings\All Users\Documents\RSVIEW Enterprise\ME\Runtime

You can now use the File Transfer Utility in RSVIEW Studio to download the font file(s) to the target device:

1. Select **Tools>Transfer Utility**.
2. Select **Source File>True Type Fonts**.
3. Select a font file to download to the device and press the **Download** button.

### VersaView CE Accessories CD

The following True Type fonts are included on the VersaView CE Accessories CD:

- Times New Roman.ttf
- Symbol.ttf
- Wingdings.ttf

This CD is not supplied with PanelView Plus terminals.

## RSView Machine Edition Fonts CD

Additional fonts are available on a CD, titled "RSView Machine Edition Fonts". This CD is available from the Automation Bookstore ([www.theautomationbookstore.com](http://www.theautomationbookstore.com)) at no charge.

To download fonts that can be used on the PanelView Plus/VersaView CE terminals via the network, see the Rockwell Automation Knowledgebase (<http://support.rockwellautomation.com>). Select Knowledgebase under Self-Service Support (or Online Tools) and then enter Tech Note ID A66647102.

Fonts	File Name	Size (Bytes)
Arial		
Arial (Subset 1_30)	arial_1_30.ttf	153,720
Arial Black	arialk.ttf	117,028
Arial Bold	arialbd.ttf	288,496
Arial Bold Italic	arialbi.ttf	226,748
Arial Italic	ariali.ttf	207,808
Comic Sans MS		
Comic Sans MS	comic.ttf	126,364
Comic Sans MS Bold	comicbd.ttf	111,476
Courier New		
Courier New (Subset 1_30)	cour_1_30.ttf	162,460
Courier New Bold	courbd.ttf	312,920
Courier New Bold Italic	courbi.ttf	236,148
Courier New Italic	couri.ttf	245,032
Georgia		
Georgia	georgia.ttf	149,628
Georgia Bold	georgiab.ttf	141,032
Georgia Bold Italic	georgiaz.ttf	159,736
Georgia Italic	georgiai.ttf	157,388
Impact	impact.ttf	136,076
Kino	kino.ttf	28,872
MSLogo	mslogo.ttf	2,500
Symbol	symbol.ttf	69,464
Tahoma		
Tahoma (Subset 1_07)	tahoma_1_07.ttf	123,980
Tahoma Bold	tahomabd.ttf	295,432
Times New Roman		
Times New Roman (Subset 1_30)	times_1_30.ttf	184,976
Times New Roman Bold	timesbd.ttf	334,944
Times New Roman Bold Italic	timesbi.ttf	239,692
Times New Roman Italic	timesi.ttf	248,368



Fonts	File Name	Size (Bytes)
Trebuchet MS		
Trebuchet MS	trebuc.ttf	69,688
Trebuchet MS Bold	trebucbd.ttf	66,444
Trebuchet MS Bold Italic	trebucbi.ttf	66,348
Trebuchet MS Italic	trebucit.ttf	72,560
Verdana		
Verdana	verdana.ttf	149,752
Verdana Bold	verdanab.ttf	137,616
Verdana Bold Italic	verdanaz.ttf	154,800
Verdana Italic	verdanai.ttf	155,076
Webdings	webdings.ttf	118,752
Wingding	wingding.ttf	81,000
Chinese (Simplified) Locale Specific Support		
Simsun & NSimSun		
Simsun & NSimSun	simsun.ttc	10,500,400
Simsun & NSimSun (Subset 2_50)	simsun_2_50.ttc	3,051,024
Simsun & NSimSun (Subset 2_60)	simsun_2_60.ttc	3,578,692
Simsun & NSimSun (Subset 2_70)	simsun_2_70.ttc	6,975,948
Simsun & NSimSun (Subset 2_80)	simsun_2_80.ttc	8,116,188
Simsun & NSimSun (Subset 2_90)	simsun_2_90.ttc	9,066,640
SC_Song	sunfon.ttf	4,686,044
Chinese (Traditional) Locale Specific Support		
<i>MingLiU &amp; PMingLiU (Choose 1)</i>		
MingLiU & PMingLiU	mingliu.ttc	8,822,400
MingLiU & PMingLiU (Subset 2_70)	mingliu_2_70.ttc	4,786,488
MingLiU & PMingLiU (Subset 2_80)	mingliu_2_80.ttc	5,772,700
MingLiU & PMingLiU (Subset 2_90)	mingliu_2_90.ttc	7,354,808
MSMing	msming.ttf	3,172,552
Japanese Locale Specific Support		
MS Gothic		
MS Gothic & P Gothic & UI Gothic	msgothic.ttc	8,272,028
MS Gothic & P Gothic & UI Gothic (Subset 1_50)	msgothic_1_50.ttc	4,456,536
MS Gothic & P Gothic & UI Gothic (Subset 1_60)	msgothic_1_60.ttc	6,057,400
MS Gothic & P Gothic & UI Gothic (Subset 1_70)	msgothic_1_70.ttc	3,795,500
MS Gothic & P Gothic & UI Gothic (Subset 1_80)	msgothic_1_80.ttc	5,438,776
MS Gothic & P Gothic & UI Gothic (Subset 1_90)	msgothic_1_90.ttc	6,408,352
MS Gothic & P Gothic (Subset 30)	msgothic30.ttc	4,197,524
MS Gothic & P Gothic (Subset 30_1_19)	msgothic30_1_19.ttc	3,304,056

Fonts	File Name	Size (Bytes)
Korean Locale Specific Support		
GL_CE	gl_ce.ttf	4,130,084
Gulim & GulimChe (Choose 1)		
Gulim & GulimChe (Subset 1_30)	gulim_1_30.ttc	3,010,268
Gulim & GulimChe (Subset 1_40)	gulim_1_40.ttc	4,683,896
Gulim & GulimChe (Subset 1_50)	gulim_1_50.ttc	7,128,756
Gulim & GulimChe (Subset 1_60)	gulim_1_60.ttc	9,360,100

**A****AC power**

- 400-600 3-5
- 700-1500 1-9, 3-5

**AC power supply 700-1500 1-16**

- installation 5-19

**accessories 1-12****adapter plates 1-15****application**

- loading .mer 4-4
- running .mer 4-5

**B****backlight**

- brightness 4-19
- replacement 1-14, 5-16

**base unit**

- 400-600 1-3
- 700-1500 1-8

**battery replacement 1-17, 5-12****bezel replacement 1-14, 5-14****C****cables 1-16**

- runtime communication cables 6-2

**catalog number configuration 1-12****cleaning display 8-14****communication adapters 1-16****communication modules 1-13**

- 400-600 1-4
- 700-1500 1-9
- installing and replacing 5-6, 5-8

**communications**

- cables 6-2
- ControlNet 6-16
- DH+/DH485/RIO module 6-11, 6-16
- DH485 4-9, 6-12
- DHPlus 4-9, 6-14
- Ethernet 4-12, 6-9
- Remote I/O 6-15
- serial 4-10, 6-6
- USB ports 6-5

**compatibility of components 5-2****configuration mode**

- loading application 4-4
- running application 4-5
- terminal settings 4-5

**ControlNet**

- cables 6-18
- compatible controllers 6-17
- configuration 4-10
- ControlNet protocol 6-16
- overview 6-16

**copying files**

- applications 4-17
- font files 4-17

**cutout dimensions for each terminal 2-5****D****date 4-36****date format 4-41****DC power 3-3, A-1**

- SELV power supply 3-4

**deleting files**

- applications 4-16
- font files 4-16
- log files 4-16

**DH485**

- cables 6-2
- configuration 4-9
- network wiring 6-12
- port connectors 6-11, 1-1
- settings in configuration mode 4-9

**DHPlus**

- cables 6-2
- configuration 4-9
- network connections 6-14
- port connectors 6-11
- settings in configuration mode 4-9

**diagnostics**

- in Configuration Mode 4-15

**display**

- 400-600
- troubleshooting 8-4

**display 400-600**

- keypad 1-6
- keypad/touch 1-6
- touch screen 1-5

**display modules**

- high-bright display 1-10, 1-12, 2-4

**display modules 700-1500 1-12**

- keypad 1-11
- keypad/touch 1-11
- replacing 5-10
- touch screen 1-10
- troubleshooting 8-4

**display settings**

- in configuration mode 4-19

## E

### **Ethernet**

- cables 6-2, 6-10
- configuration 4-12
- connector pinout 6-9
- troubleshooting 8-8

### **European Communities Directive**

- Compliance** Preface-iii

- external compact flash cards** 1-14, 5-21

## F

### **firmware upgrade**

- creating a firmware upgrade card 7-2
- firmware upgrade wizard 7-1
- upgrading from a computer 7-6
- using a firmware upgrade card 7-4

- firmware upgrade kits** 1-17

- font linking** 4-21

### **fonts**

- additional fonts C-1
- pre-installed C-1

### **function keys**

- keypad terminals 1-6, 1-11

## H

- hardware monitor** 4-33

- hazardous locations** 2-1

- USB port 2-2

- high-bright display** 1-10, 2-4

## I

- IGMP Protocol** 6-10

### **input devices**

- keyboard 4-22
- keypad 4-22
- mouse 4-25
- touch screen 4-24

- input panel** 4-3

### **installation** 2-1

- 1000 mounting dimensions 2-9
- 1250 mounting dimensions 2-10
- 1500 mounting dimensions 2-11
- 400 mounting dimensions 2-6
- 600 mounting dimensions 2-7
- 700 mounting dimensions 2-8
- ambient temperature 2-4

- backlight 5-16

- battery 5-12

- bezel 5-14

- clearances 2-4

- communication module 5-6, 5-8

- display module 700-1500 5-10

- enclosures 2-3

- environment 2-3

- hazardous locations 2-1

- high-bright display 2-4

- legend inserts 5-20

- mounting clips 700-1500 2-15

- mounting levers 400-600 2-13

- panel cutout dimensions 2-5

- panel installation 400-600 2-12

- panel installation 700-1500 2-14

- product label 5-19

- required tools 2-5

- intended audience** Preface-ii

### **internal compact flash**

- compatibility 5-2

- installing and replacing 5-3

- Internet Group Management Protocol (IGMP)** 6-10

- IP address** 4-13

## K

### **keyboard**

- troubleshooting 8-7

- keyboard settings** 4-22

### **keyboard/mouse**

- compatible A-1

- keyboards, compatible** A-1

- keypad legend inserts** 1-14, 5-20

- keypad settings** 4-22

- troubleshooting 8-6

## L

- languages** 4-39

- LED indicators** 8-1

### **legend inserts**

- installation 5-20

- loading application** 4-4

- logic module** 1-13

### **logic module 700-1500**

- compatibility 5-2

- features 1-8

- installing and replacing 5-4

**M****memory**

- allocations 4-34
- installing and replacing 5-3

**messages**

- startup error 8-10
- startup status 8-11

**modular components 700-1500** 1-8**mounting clips 700-1500** 1-17, 2-15**mounting dimensions**

- 1000 2-9
- 1250 2-10
- 1500 2-11
- 400 2-6
- 600 2-7
- 700 2-8

**mounting levers 400-600** 1-17, 2-12**mouse** 4-25, 6-5

- troubleshooting 8-6

**mouse, compatible** A-1**multikey lockout** 4-23**N****network connections** 4-11**O****outdoor installation**

- high-bright displays 2-4

**P****packing list** Preface-i**power terminal block** 3-2**print setup**

- for alarms 4-26
- for diagnostic messages 4-26
- for displays 4-26

**product components** 1-12**R****RAM** 1-13

- compatibility 5-2
- installing and replacing 5-3

**Remote I/O**

- cables 6-2, 6-15
- connection 6-15
- port connectors 6-11
- settings 4-9, 4-10

**reset switch**

- 400-600 3-6
- 700-1500 3-7

**resetting terminal** 4-2

- 400-600 3-6
- 700-1500 3-7

**RSView ME**

- firmware number 4-35

**S****safe mode** 3-7, 8-13**screen saver** 4-20**serial communications**

- computer connection 6-8
- DF1 6-6
- DH485 6-6
- null modem cable 6-7
- ports 6-6, 6-9
- printing 6-6, 6-8
- transferring applications 6-6
- using a modem 6-7

**serial connections** 6-6**serial settings** 4-10**Simple Network Management Protocol (SNMP)** 6-10**SNMP Protocol** 6-10**software** 1-1**specifications**

- agency certifications A-4
- electrical A-1
- environmental A-1
- mechanical A-3

**startup error messages** 8-10**startup problems** 8-13**startup settings** 4-28**startup status messages** 8-11**startup tests** 4-30**support** 4-35**system event log** 4-32**system identification errors** 8-12

**T**

- terminal block, power** 3-2
- terminal information** 4-33
- terminal settings** 4-5
  - copying files 4-17
  - date 4-36
  - deleting files 4-16
  - DH485 4-9
  - DHPlus 4-9
  - diagnostics 4-15
  - display 4-19
  - file management 4-16
  - input devices 4-22
  - long date format 4-42
  - memory allocation 4-34
  - network connections 4-11
  - numeric format 4-39
  - print setup 4-26
  - regional settings 4-39
  - Remote I/O 4-9, 4-10
  - RSView ME info 4-35
  - screen saver 4-20
  - serial 4-10
  - short date format 4-41
  - startup options 4-28
  - startup tests 4-30
  - system event log 4-32
  - system information 4-33
  - terminal info 4-33
  - time 4-37
  - time format 4-40
  - time zone 4-38
  - time/date/regional settings 4-36

- time** 4-37

- time format** 4-40

**touch screen**

- calibration 4-24
- cursor enable 4-24
- double-tap sensitivity 4-25
- troubleshooting 8-5

**troubleshooting** 8-1

- display module 8-4
- Ethernet 8-8
- general 8-2
- keyboard 8-7
- keypad 8-6
- LED indicators 8-1
- starting in safe mode 3-7, 8-13
- startup error messages 8-10
- startup problems 8-13
- startup status messages 8-11
- system identification errors 8-12
- touch screen 8-5

**U**

- USB devices** A-1

**USB ports** 6-5

- compatible A-1
- connector pinouts 6-5
- terminals 2-2
- USB Hub A-1

**W**

- wiring and safety guidelines** 3-1, 6-1



Allen-Bradley, ControlLogix, DH+, PLC-2, PLC-3, PLC-5, RSView, SLC and VersaView are registered trademarks of Rockwell Automation.

CompactLogix, FlexLogix, InView, Logix, MicroLogix, PanelView, PanelView Plus, RSLogix, RSView32 and SoftLogix are trademarks of Rockwell Automation.

ControlNet is a trademark of ControlNet International, Ltd.

DeviceNet is a trademark of the Open DeviceNet Vendor Association.

Ethernet is a trademark of Digital Equipment Corporation, Intel and Xerox Corporation.

Microsoft, Windows, Windows CE, Windows NT, Windows 2000 and Windows XP are registered trademarks of Microsoft in the U.S. and other countries.

**[www.rockwellautomation.com](http://www.rockwellautomation.com)**

**Corporate Headquarters**

Rockwell Automation, 777 East Wisconsin Avenue, Suite 1400, Milwaukee, WI, 53202-5302 USA, Tel: (1) 414.212.5200, Fax: (1) 414.212.5201

**Headquarters for Allen-Bradley Products, Rockwell Software Products and Global Manufacturing Solutions**

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe: Rockwell Automation SA/NV, Vorstlaan/Boulevard du Souverain 36-BP 3A/B, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

**Headquarters for Dodge and Reliance Electric Products**

Americas: Rockwell Automation, 6040 Ponders Court, Greenville, SC 29615-4617 USA, Tel: (1) 864.297.4800, Fax: (1) 864.281.2433

Europe: Rockwell Automation, Brühlstraße 22, D-74834 Elztal-Dallau, Germany, Tel: (49) 6261 9410, Fax: (49) 6261 17741

Asia Pacific: Rockwell Automation, 55 Newton Road, #11-01/02 Revenue House, Singapore 307987, Tel: (65) 351 6723, Fax: (65) 355 1733

Publication 2711P-UM001C-EN-P - October 2004

Supersedes Publication 2711P-UM001B-EN-P - August 2003

Copyright © 2004 Rockwell Automation, Inc. All rights reserved. Printed in the U.S.A.