PanelView Component HMI Terminals

Catalog Numbers 2711C–F2M, 2711C–K2M, 2711–K3M, 2711C–T3M, 2711C–T4T, 2711C–T6C, 2711C–T6M, 2711C–T6T, 2711C–T10C

Allen-Bradley
by **ROCKWELL AUTOMATION**

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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.

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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.

⚠	**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, and recognize the consequence.

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

These labels may also be on or inside the equipment to provide specific precautions.

⚡	**SHOCK HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.

🔥	**BURN HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

💥	**ARC FLASH HAZARD:** Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

The following icon may appear in the text of this document.

💡	Identifies information that is useful and can help to make a process easier to do or easier to understand.

Notes:

About This Publication

IMPORTANT	The information within this publication is for legacy product, PanelView™ Component Human Machine Interface (HMI) terminals, which are discontinued and no longer available for sale.. Customers are encouraged to migrate to <u>PanelView 800 Graphic Terminals</u>.

Read and refer to this user manual if you are responsible for operating, or troubleshooting the PanelView™ Component Human Machine Interface (HMI) terminals.

This user manual provides information for configuring your PanelView Component HMI terminal on the PanelView Component HMI terminal itself or through a web browser on a computer connected to your PanelView Component HMI terminal.

This user manual does not provide procedures for creating applications that run on the PanelView Component HMI terminal. No special knowledge is required to understand this manual or operate the terminal. Equipment installers must be familiar with standard panel installation techniques.

Download Firmware, AOP, EDS, and Other Files

Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes from the Product Compatibility and Download Center at <u>rok.auto/pcdc</u>.

Summary of Changes

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

Topic	Page
Correct call outs in the Functions section of the Overview	9
Updated product certification link in Certifications table	64
Updated link to the PanelView Component Emulator download site	67
Updated link to the Connected Components Workbench site	78

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at <u>rok.auto/literature</u>.

Resource	Description
PanelView Component Terminal Installation Instructions, publication <u>2711C-IN001</u>	Provides instructions for installing a PanelView Component terminal.
PanelView Component Operator Terminals Quick Start, publication <u>2711C-QS001</u>	Provides instructions on setting up a sample application on a PanelView Component terminal.
Guidelines for Handling Lithium Batteries, publication <u>AG-5.4</u>	Provides information to safely handle, store, transport, install, and dispose of lithium batteries.
EtherNet/IP Network Devices User Manual, publication <u>ENET-UM006</u>	Describes how to configure and use EtherNet/IP devices to communicate on the EtherNet/IP network.
Ethernet Reference Manual, publication <u>ENET-RM002</u>	Describes basic Ethernet concepts, infrastructure components, and infrastructure features.
Product Certifications website, <u>rok.auto/certifications</u>	Provides declarations of conformity, certificates, and other certification details.

Notes:

Overview

PanelView™ Component HMI (Human-machine interface) terminals are operator interface devices for monitoring and controlling devices that are attached to a controller. HMI applications are created using a web application while your computer is connected directly to your PanelView Component HMI terminal. You see the direct result on the display of your PanelView Component HMI terminal without having to download first.

Functions

Your PanelView Component HMI terminal features various functions and I/O ports depending on the model.

Analog touch screens are intended for single presses at a time. If the touch screen is pressed in two locations simultaneously, the presses are averaged as one press in-between the two locations.

C200 and C300 Models
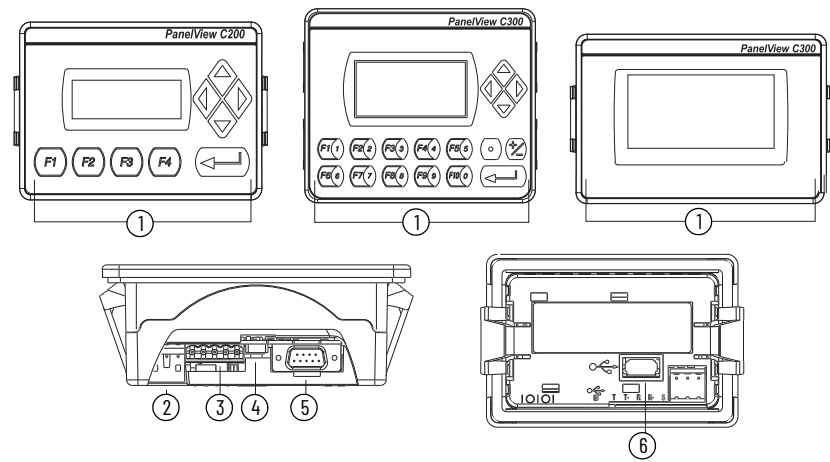
Note No.	Description
1	Function keys, keypad, or touch display
2	24V DC power input
3	RS-422 and RS-485 port
4	USB device port
5	RS-232 serial port
6	USB host port

C400 Model
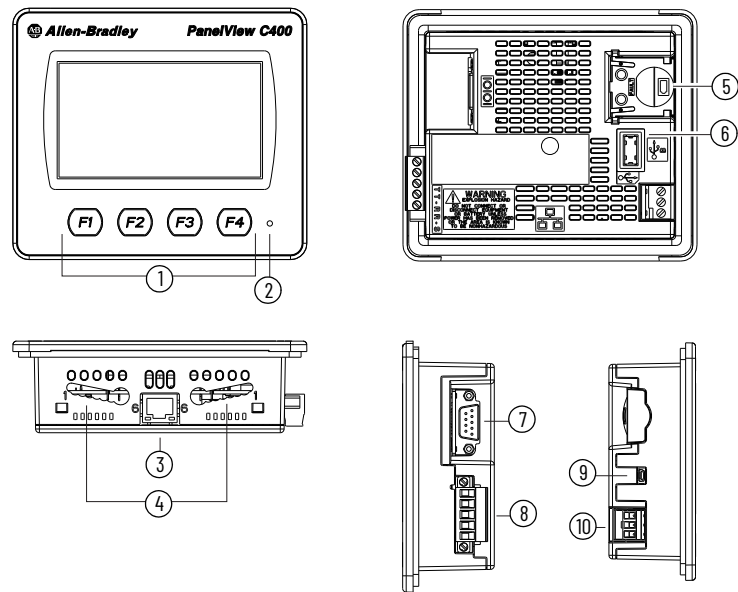
Note No.	Description
1	Touch function keys display
2	Power status indicator
3	10/100 Mbit Ethernet port
4	Mounting holes
5	Replaceable real-time clock (RTC) battery
6	USB host port
7	RS-232 serial port
8	RS-422 or RS-485 port
9	USB host port
10	24V DC power input

C600 and C1000 Model [1]
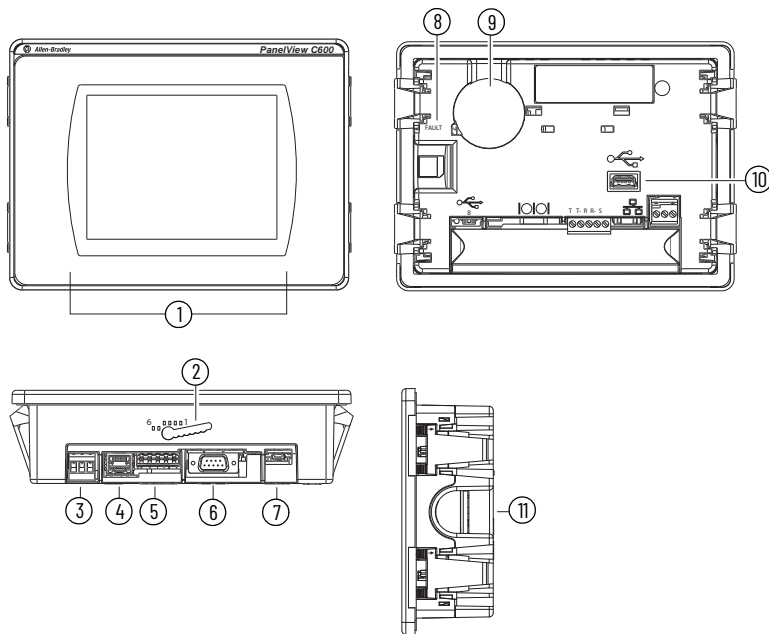
Note No.	Description
1	Touch display
2	Mounting slot [2]
3	24V DC power input
4	10/100 Mbit Ethernet port
5	RS-422 or RS-485 port
6	RS-232 serial port
7	USB device port
8	Diagnostic light emitting diode (LED) status indicator
9	Replaceable RTC battery
10	USB host port
11	Secure Digital™ (SD) card slot

(1) The C600 model is illustrated. All Note Nos. and Descriptions apply to both the C600 and C1000 models.
(2) Mounting slots are for 2711C-T6M and 2711C-T6C Series C or later and 2711C-T6T Series A or later only.

Connect to a Web Browser

Your PanelView Component HMI terminal can be connected to a web browser using either a USB port or an Ethernet network connection. At minimum, your computer must have an Intel® Pentium® M 1400 MHz processor with 512 MB RAM.

You must enter the IP address of your PanelView Component HMI terminal into the address field of your web browser. You can find the IP address on the terminal configuration screen under 'Communications'.

I/O Ports

USB Port

Your PanelView Component HMI terminal features a USB DevicePort to support communication with your computer using TCP/IP.

> The USB DevicePort is for maintenance or programming only, and is not intended for normal run-time operation.

> Before connecting your computer to the USB DevicePort of the PanelView Component HMI terminal, you must first install the Allen-Bradley® PanelView USB remote NDIS Network Device driver on your computer. See Install the USB Driver on page 45.

With the USB DevicePort that is connected to your computer, use the web browser to connect to your PanelView Component HMI. The IP address of the USB DevicePort is always 169.254.254.2.

Ethernet Port

The C400, C600, and C1000 PanelView Component HMI terminals feature an Ethernet port. The Ethernet port supports both static IP addresses and Dynamic Host Configuration Protocol (DHCP) assigned IP addresses. If you use static IP addressing, you must manually set the IP address, subnet mask, and default gateway. If you use DHCP, the server automatically assigns an IP address, subnet mask, default gateway, and the DNS and WINS server.

> If your PanelView Component HMI terminal is set for DHCP and is not on a network or is on a network that does not have a DHCP server (or the server is not available), your PanelView Component HMI terminal automatically assigns itself an Automatic Private IP address (auto IP address). The auto IP address is in the range of 169.254.0.0 through 169.254.255.255.
>
> Your PanelView Component HMI terminal makes sure that the auto IP address is unique from any other auto IP address of other devices on the network. Your PanelView Component HMI terminal can now communicate with other devices on the network that have IP addresses in the 169.254.xxx.xxx range and a subnet mask of 255.255.0.0.

PanelView Explorer Software

PanelView Explorer software is the design environment for PanelView Component HMI terminals. You can access the design environment through your web browser while connected to your PanelView Component HMI terminal. Applications that are created in the design environment are simultaneously viewed on the connected PanelView Component HMI terminal. In addition to graphic objects and drawings, the design environment provides support for communication, tags, alarms, security, recipes, and language support.

Use the Help Feature

PanelView Explorer software provides extensive help for the design environment. Context-sensitive help is available for:

- each navigation tab,
- each object in the object palette, and
- any dialog that has a 'Help' button.

To view the help information, click the '?' on the application toolbar.

If there are no help files available, to view help information in your web browser:

1. Download the help files from the 'PanelView Component' website.
2. Copy the help files to external media (such as a USB drive or SD memory card).

   For Component terminal users: Copy the help files to the 'WebHelp' folder off the root directory of the USB drive or SD memory card into a folder that is named '\WebHelp'.

For emulator users: Copy the help files to the 'WebHelp' folder in the shared directory of the emulator. For example, 'C:\Documents and Settings\All Users\Shared Documents\Allen-Bradley\PanelView Component Emulator\WebHelp'.

3. Insert the external media into the correct port of your Component terminal.

4. To view the help files, close the 'Help' window, then click 'Help ?' again.

> When receiving updated help files, you might have to clear the cache in your browser before the new help files display. View the 'PanelView Explorer online help' for detailed instructions.

Peripheral Connection

Your PanelView Component HMI terminal features a USB host port. You can power USB peripherals directly from your PanelView Component HMI terminal. If the USB peripheral is not powered directly from the USB port either:

- install the USB peripheral in the same enclosure as your PanelView Component HMI terminal and make sure it is connected to the same ground system.

- connect to the USB peripheral through a galvanically isolated hub.

IMPORTANT	If you remove the USB drive or SD memory card from your PanelView Component HMI terminal while a firmware update is in process, the firmware can become corrupt and make your PanelView Component HMI terminal unusable. Take precautions to help prevent the USB drive or SD memory card from being accidentally disconnected. Also, do not power off the PanelView Component HMI terminal while a firmware update is in progress.
	USB hubs can produce unexpected behaviors and as a result are not recommended.

Catalog Number Configuration

Available PanelView Component HMI terminals are listed below.

> For detailed values, see .

Cat. No.	Model	Operator Input	Size	Display Type
2711C-F2M	C200	Function keys	2 in.	Monochrome
2711C-K2M		Numeric and function keys		
2711C-T3M	C300	Touch screen	3 in.	
2711C-K3M		Numeric and function keys		
2711C-T6M	C600	Touch screen	6 in.	Monochrome
2711C-T6C				Color Super Twisted Nematic (STN)
2711C-T6T				Color Thin Film Transistor (TFT)
2711C-T10C	C1000	Touch screen	10 in.	Color STN
2711C-T4T	C400	Touch screen and function keys	4 in.	Color TFT

Use the Configuration Mode

This chapter covers topics that show how to use the configuration mode of your PanelView™ Component HMI terminal.

- Configuration mode
- Configuration interfaces
- Terminal settings
- Manage applications and files
- Transfer applications
- Transfer user-defined objects

Overview

Your PanelView™ Component HMI terminal can be configured from either the Design-time user interface or the runtime user interface. The Design-time user interface requires a computer web browser that is connected to your Component terminal's web service, whereas the runtime user interface uses configuration screens on the terminal. The configuration data for a terminal refers to the collection of all system interface parameters.

Access the Terminal Configuration

Using Internet Explorer or Firefox Browser

On Terminal Configuration

USB or Ethernet Connectivity
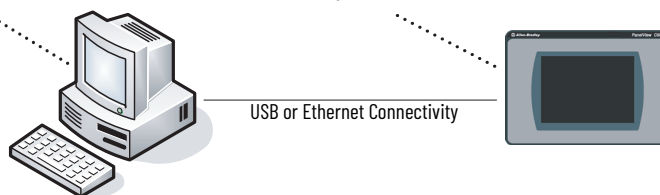
Design-time Configuration

The Design-time configuration is used when the terminal is actually hosting web server content that represents a visualization of the terminal's properties and files. You can only design for the terminal type that you are connected to.

When a new application is created, the design time automatically navigates to the first screen and assigns it as the startup screen.

The design-time environment is compatible with these Microsoft® operating systems (OS):

- Windows® 2000
  - For Cat. No. 2711C-T4T, 2711C-T6M, 2711C-T6C, 2711C-T6T, and 2711C-T10C only using an Ethernet connection to connect to your PanelView Component HMI terminal.
- Windows XP
- Windows Vista
- Windows 7

> A USB connection to your PanelView Component HMI terminal is not compatible with the Windows 2000 OS. The PanelView Component Emulator is not compatible with the Windows 2000 OS.

A user application can be created or edited through a browser that is connected to the terminal, an emulator, or through the PVc DesignStation. Ethernet network and USB connections are supported for connection to a physical terminal. For the emulator, the emulator and browser must be on the same computer.

Supported Browsers and Platforms

OS	Browser	Platform Supported
Windows Vista (32 bit only) Windows XP SP3 (32 bit only)	Internet Explorer 7/8, Firefox 3.0	Terminal and emulator
Windows 7 Windows Vista Windows XP SP3	Internet Explorer 7/8	PVc DesignStation 2.0
	–	PVc DesignStation 3.0

If you use a browser other than a recommended browser, a warning message appears:
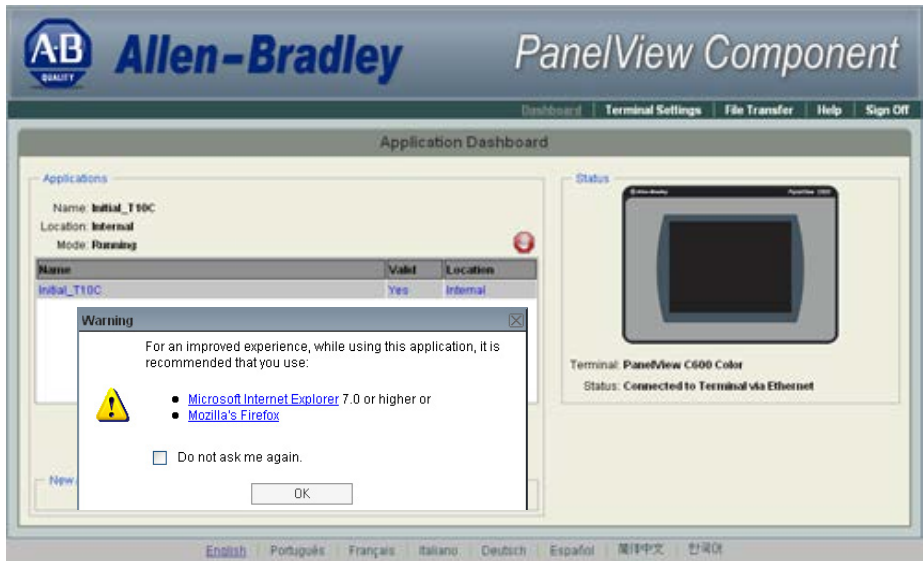
Runtime Configuration

Runtime Configuration is when changes are made on the actual terminal. Changes can be made whether an application is running or not running.

C200

C300

C400, C600, and C1000

Configuration Interfaces

Terminal settings can be configured either on the PanelView Component HMI terminal itself or through a web browser using the 'PanelView Explorer Startup' window.

On-terminal Interface

The On-terminal interface allows you to make changes to the terminal configuration. On the C200 and C300 models, you must use the arrows to scroll through the menu. The C400, C600, and C1000 models have the menu that is displayed on the left side of the terminal screen.

C200 - Function Keys

C200 - Function and Numeric Keys
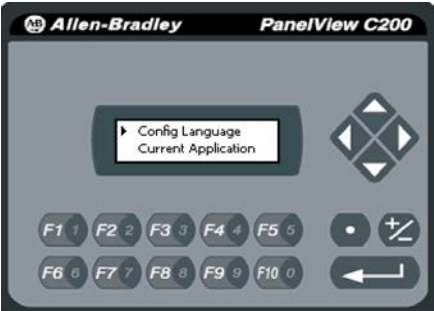
C300 - Touch Screen

C300 - Function and Numeric Keys

C400, C600, C1000 - Touch Screen

PanelView Explorer Startup Window

The 'PanelView Explorer Startup' window lets you access your PanelView Component HMI terminal through a web browser.

PanelView Explorer Startup Window

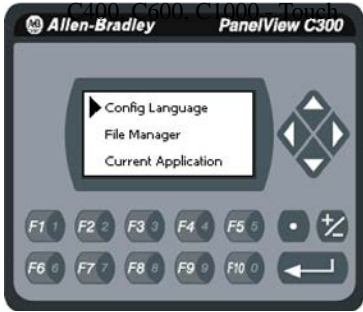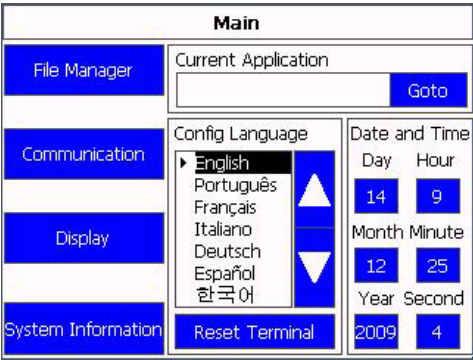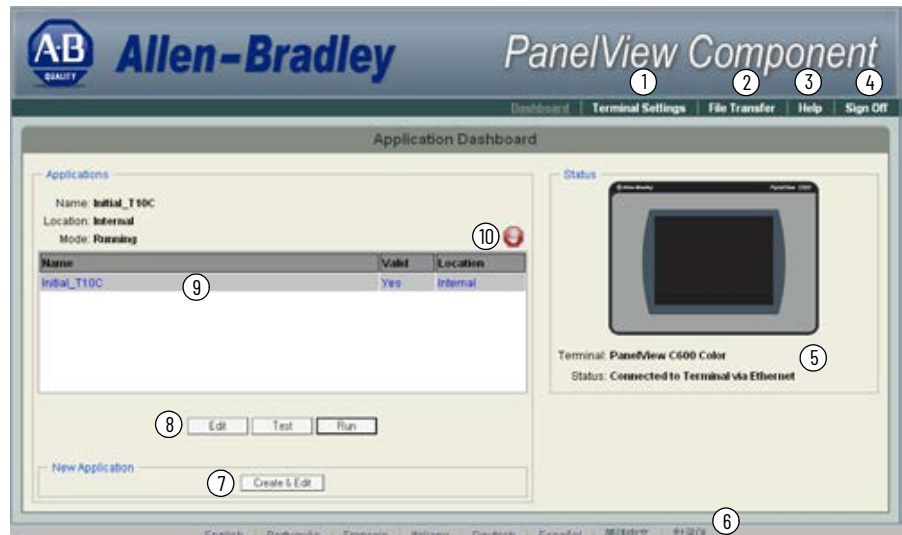| Note No.	Function	Description
1	Terminal Settings	Use this link to view and change terminal display and communication settings, view system information, and enable terminal security while connected to the terminal.
2	File Transfer	Transfers files between the storage media of the terminal and your computer. You can transfer applications, images, fonts, user-defined objects, screen saver bitmaps, and recipes. You can also delete applications from terminal storage and export the alarm history log.
3	Help	Displays help for the PanelView Explorer startup window and the design-time software.
4	Sign off	Logs off of the Startup window leaving your browser open.
5	Terminal Type and Status	Shows the current connection between your PanelView Component HMI terminal and the computer and the type of terminal.
6	Language	Shows the current and available languages for the design-time software.
7	Create New Application	Opens a new application in the design-time environment window.
8	Edit, Test, Run	Use these buttons to edit, test, and run the currently loaded application.
9	Available Applications	Shows a list of applications that are stored on the Component terminal, USB memory, Secure Digital™ (SD) card, or 'PC Storage' on the emulator. The list also shows if the file has been validated for correct operation.
10	Stop	Click the 'Stop' icon (the stop sign that is shown when an app is loaded and in Edit/Test/Run mode) to unload the currently loaded application. If you have not saved changes to the application, you are prompted to do so. Once the application is unloaded, the terminal displays the 'Configuration' screen.

Terminal Settings

Terminal settings can be set on the terminal or through the 'PanelView Explorer Startup' window.

Adjust Settings on the Terminal

From the terminal, you can view and edit the terminal settings. The settings take effect immediately. By clicking the menu items on the screen, you can:

- switch to the currently running application.
- configure the terminal language.
- change the current application.
- adjust the display brightness and contrast.
- configure screen saver settings.
- calibrate the touch screen, if supported.
- restart or reset the terminal.
- view system information.
- change the startup application.
- change the current date and time.
- set Ethernet network communication.

Terminal Main Menu

C200

C400, C600, and C1000
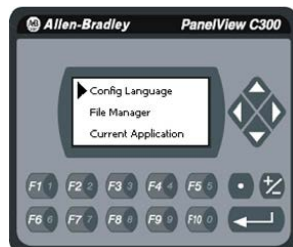
C300
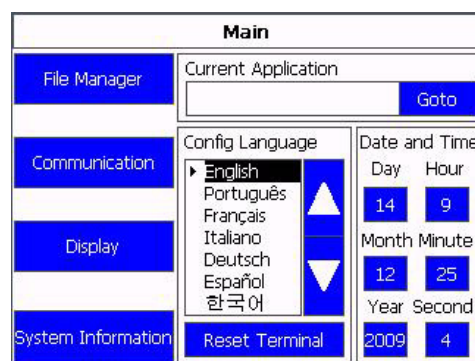
These settings can also be changed using the 'PanelView Explorer Startup' window.

Adjust Settings on the PanelView Explorer Startup Window

From the 'PanelView Explorer Startup' window, you can view and edit settings from the terminal. The settings take effect immediately.

By clicking the 'Terminal Settings' link on the 'PanelView Explorer Startup' window, you can access tabs to:

- adjust the display brightness and contrast.
- configure screen saver settings.
- configure key repeat settings.
- calibrate the touch screen (if supported).
- reset the terminal.
- view system information.
- change the startup application.
- change the terminal language.
- change the current date and time.

- Ethernet communication.
- change the password of the system administrator.

Most of these settings are also adjusted from configuration mode on the terminal.
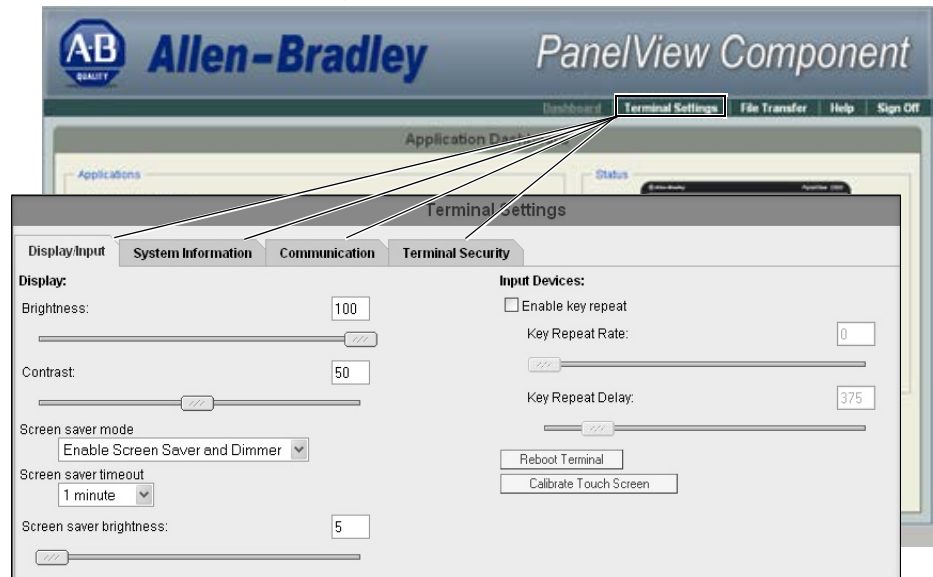
Select a Terminal Language

Your PanelView Component HMI terminal is shipped with the English, Portuguese, French, Italian, German, Spanish, and Chinese fonts installed. Korean is available, but you must first install the Korean font. See <u>Install the Firmware from the Storage Device on page 53</u> for information on how to install the font using firmware.

Follow these steps to change the terminal language using the 'PanelView Explorer Startup' window.
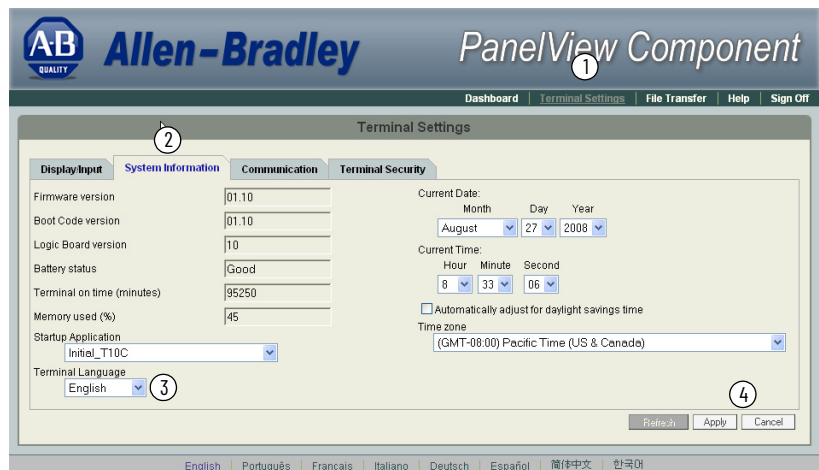
1. Click the 'Terminal Settings' link.
2. Click the 'System Information' tab.
3. Select a language from the 'Terminal Language' drop-down list.
4. Click 'Apply' or click 'Cancel' to restore the current setting.

On the C400, C600 and C1000 models, the default language is set on the 'Main' menu.

1. Select the language by clicking the up and down arrows.
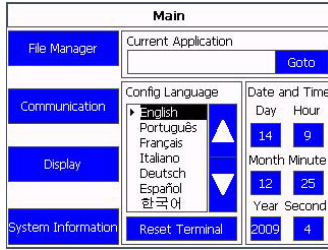
Follow these steps to change the language on the C200 and C300 models.

1. Click 'Config Language'.

2. Press 'F1' to select the language.

    The display changes to the language you select immediately.

At runtime, diagnostic messages appear in the same language as the application if the application language is English, Portuguese, French, Italian, German, Spanish, Chinese, or Korean. For all other languages, the diagnostic messages appear in the configuration language set on the terminal.

Adjust the Display Brightness and Contrast

You can modify the brightness and contrast of the terminal display. You can use the default intensity of 100% for brightness and 50% for contrast or adjust the intensity for runtime operations.

For C400 (2711C-T4T), C600 (2711C-T6T) and C1000 models, only the brightness can be changed.

Follow these steps to change the display brightness and contrast using the 'PanelView Explorer Startup' window.
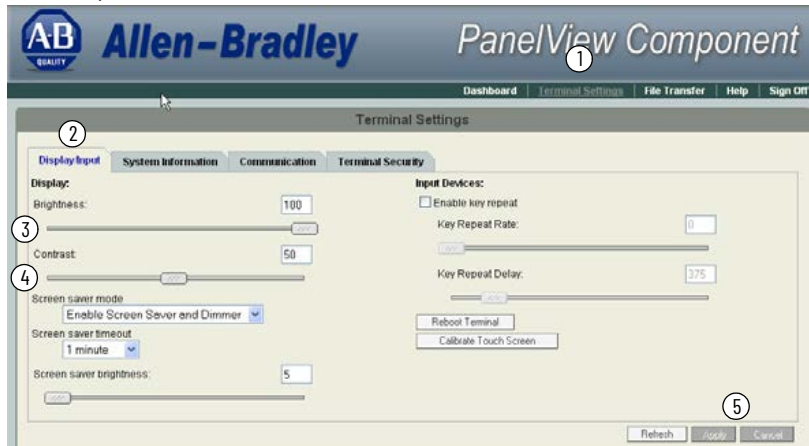
1. Click the 'Terminal Settings' link.
2. Click the 'Display/Input' tab.
3. Drag the slider to adjust the brightness level between 1…100%.
4. Drag the slider to adjust the contrast level between 1…100%.
5. Click 'Apply', or click 'Cancel' to restore the current terminal settings.

Follow these steps to change the display brightness or contrast on your terminal.

1. Click 'Display' on the menu list.

C200, C300   C400, C600, C1000
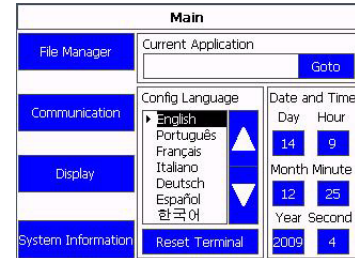
2. Use the arrow keys to adjust the brightness or contrast up or down.

For C200 and C300 models, press 'F3' to go to the contrast adjustment screen. The change takes effect immediately.

The C400 (2711C-T4T), C600 (2711C-T6T) and C1000 have only a brightness control.

C200, C300 Brightness   C400 and C600 Brightness and Contrast

C200, C300 Contrast
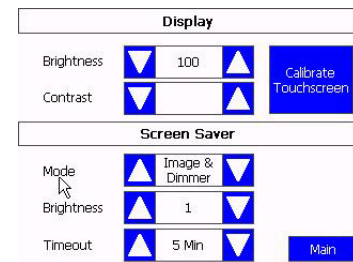
Configure the Screen Saver

You can enable or disable the screen saver on the connected terminal. There are four screen saver modes:

| Mode	Description
Screen Saver	Activates after the idle timeout elapses using a default screen saver image. The screen saver deactivates when you press any key. The screen saver timeout is the amount of idle time that must elapse before the screen saver, dimmer, or screen saver and dimmer activates. The idle time can be adjusted between 1…60 minutes.
Dimmer	Dims the display from full brightness to the brightness level that you set when the idle timeout elapses. The brightness intensity of the screen saver or dimmer can be adjusted between 1…100%. While the display is dimmed, you can still see on-screen activity. When you press a key, the display is restored to full brightness.
Screen Saver and Dimmer	Activates the screen saver and dims the display when the idle timeout elapses.
Disable Screen Saver and Dimmer	Keeps the display on.

Follow these steps to configure the screen saver using the 'PanelView Explorer Startup' window.
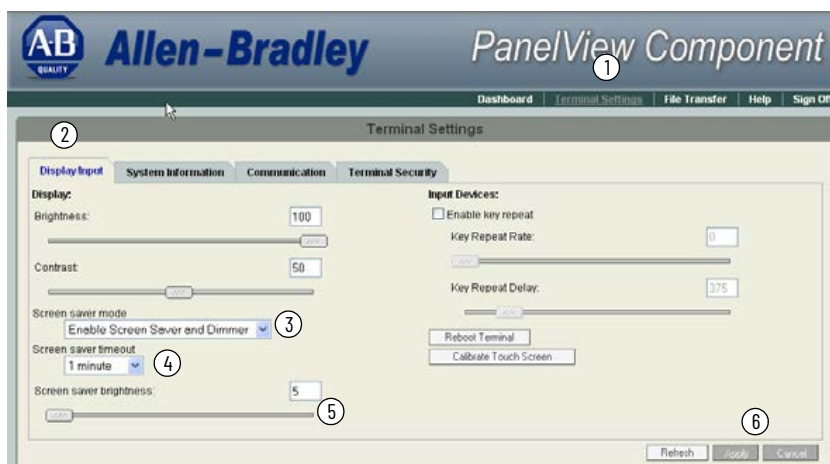
1. Click the 'Terminal Settings' link.
2. Click the 'Display/Input' tab.
3. Select a screen saver mode from the list.
4. Select a time from the dropdown list to adjust the screen saver timeout.
5. Drag the slider to adjust the screen saver brightness.
6. Click 'Apply', or click 'Cancel' to restore the current screen saver settings.
7. To disable the screen saver or dimmers: Select 'Disable Screen Saver and Dimmer' from the screen saver mode list.

Follow these steps to configure the screen saver from the C400, C600, and C1000 models.
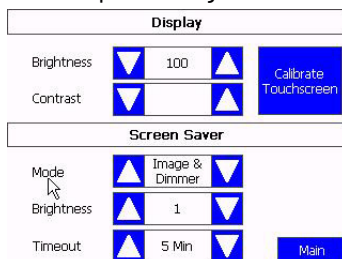
1. Click 'Display' on the menu list.
2. Select the 'Mode'.

   Mode = Image, Disable, Dimmer, Image and Dimmer.
3. Select the brightness from 1...100 in increments of 1.
4. Select the idle time of 1, 2, 5, 10, 15, 20, 30, or 60 minimum

Follow these steps to configure the screen saver for C200 and C300 models.

1. Select 'Screen Saver' on the menu list and press the 'Enter' key.
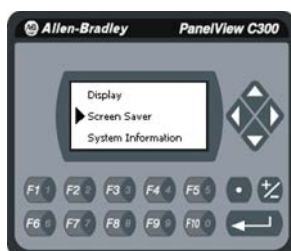
2. Press 'F1' to select the 'Mode' as either: Image, Disable, Dimmer, Image and Dimmer.

3. Press 'F3' and use the arrows to select the brightness from 1…100 in increments of 1.

4. Press 'F3' to get to the 'Timeout' selection.
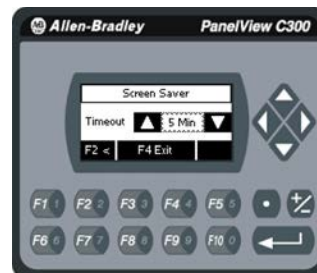
5. Press 'F1' to select the timeout of 1, 2, 5, 10, 15, 20, 30, or 60 minimum.

Replace the Screen Saver Image

The default screen saver image is a floating Allen-Bradley® logo in a bitmap format. The name of the default screen saver is 'Screen Saver' with bitmap (.bmp) file type. You can replace the default screen saver with your own bitmap image, but the file must have the same name as the default screen saver.

To replace the screen saver image:

1. Create a small bitmap image no larger than 128 x 128 pixels.

    Your bitmap file must be small in file size. A large bitmap impacts the performance of terminal operations.

2. Save your bitmap file to your computer, a USB drive, or SD memory card. Rename your file as 'Screen Saver' and make sure that the file type is '.bmp'.

3. Click the 'File Transfer' link in the 'PanelView Explorer Startup' window.

4. Click 'New Transfer'.

5. Select either 'My Computer' or 'USB/SD Storage' as the file source depending on where you saved your file.

6. Click 'Next'.

7. Select 'Screen Saver Image' as the file type.

8. Click 'Next'.

9. Locate where you saved your bitmap file on your computer or external storage device.

10. Select 'Internal Storage' as the file destination.

11. Click 'Transfer'.

The bitmap file is successfully transferred to the PVc terminal.

The new screen saver takes effect the next time the screen saver is activated.

Configure Key Repeat Settings

You can configure key repeat settings for the terminal keys or attached keyboard of the connected terminal.

> You cannot change the key repeat settings from the on-terminal configuration screen. If you want to change this setting, you must connect the terminal through a web browser.

The repeat rate is the speed at which a character repeats per second when you hold down a key. The repeat delay is the amount of time in milliseconds that elapses before a character begins to repeat when you hold down a key.

Follow these steps to change the repeat settings for keys.
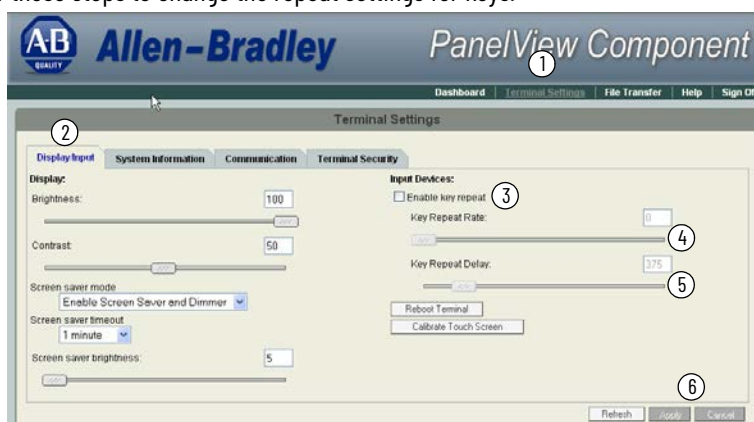
1. Click the 'Terminal Settings' link.
2. Click the 'Display/Input' tab.
3. Select 'Enable key repeat' to enable repeat settings for keys.
4. Drag the slider under 'Key Repeat Rate' to adjust the speed at which a character repeats when a key is held down.
5. Drag the slider under 'Key Repeat Delay' to set the amount of time that elapses before a character begins to repeat when the key is held down.
6. Click 'Apply' or click 'Cancel' to restore the current settings.
7. To disable key repeat settings: Deselect 'Enable key repeat'.

Calibrate the Touch Screen

Over time you may notice that the objects and images on the display screen do not seem to fit the display area as well as they once did. This is normal with a touch screen and can be easily adjusted.

Use a plastic stylus device with a minimum tip radius of 1 mm (0.040 in.) to help prevent damage to the touch screen.

> Touch screen calibration is only supported on touch only terminals, Cat. Nos. 2711C-T3M, 2711C-T4T, 2711C-T6C, 2711C-T6T, 2711-T6M, and 2711-T10C.

Follow these steps to calibrate the touch screen using the 'PanelView Explorer Startup' window.
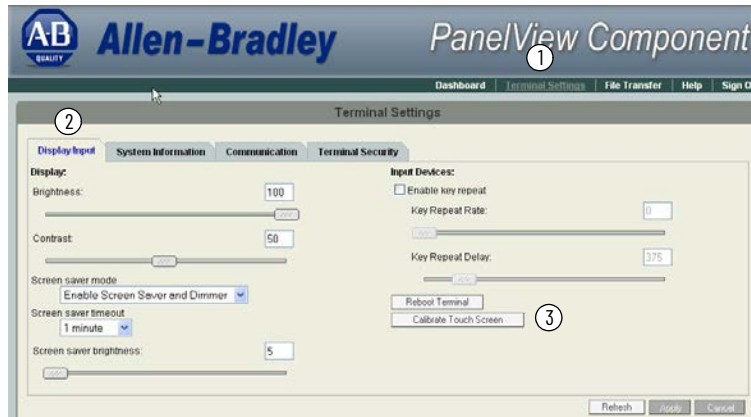
1. Click the 'Terminal Settings' link.
2. Click the 'Display/Input' tab.
3. Click 'Calibrate Touch Screen'.
4. With a stylus, press the center of the target (+) on the screen.
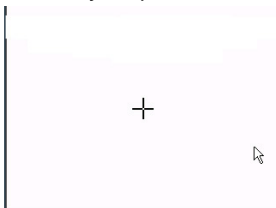
5. Repeat step 5 as the target moves around the screen.
6. Tap the screen when prompted to register saved data.

> If you do not tap the screen within 30 seconds, the calibration data is lost and the current settings are retained.

Follow these steps to calibrate the touch screen from the terminal.

1. Click 'Display' from the menu list.
2. For C400, C600, and C1000 models: Click 'Calibrate Touchscreen'.
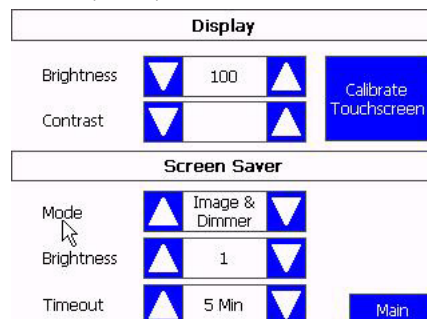
For C300 touch screen models: Go to the calibration screen by pressing the right arrow.

3. Carefully press and briefly hold the stylus on the center of the target.
4. Repeat as the target moves around the screen.
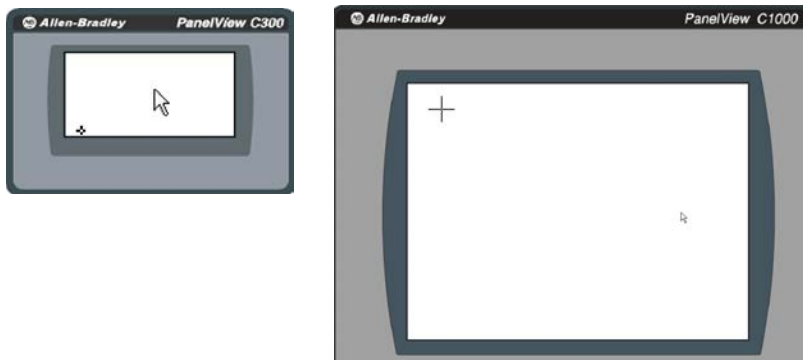
5. Click 'OK' within 30 seconds once the message appears to accept the changes or the old settings are kept.

Restart the Terminal

You can restart the terminal without having to disconnect and reapply power. After a restart, the terminal performs a series of startup tests and then either enters configuration mode or runs the startup application.

Follow these steps to restart the terminal from the 'PanelView Explorer Startup' window.

1. Click the 'Terminal Settings' link.
2. Click the 'Display/Input' tab.
3. Click the 'Reboot Terminal' button.

Follow these steps to restart from C400, C600, and C1000 models.

1. Go to the 'Main' configuration screen.
2. Press 'Reset Terminal'.

3. Confirm reset.

Follow these steps to restart the terminal from C200 and C300 models.

1. Select 'Reset Terminal' from the menu list.
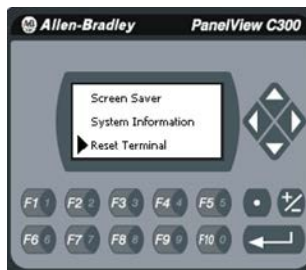
2. Press 'F1' to reset the terminal.
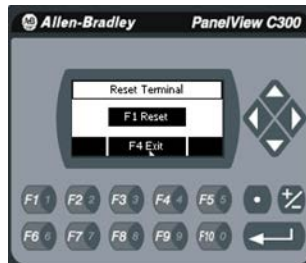
3. Press 'F1' to confirm or 'F2' to cancel the reset.
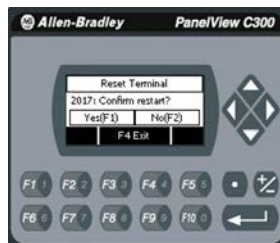
Change the Startup Application

You can select or change the application that runs on your terminal each time the terminal starts up. When doing so, yo must also select the storage location of the application as internal storage of the terminal, USB drive, SD memory card, or PC storage.

> If the application list is empty, the 'Run', 'Copy', 'Delete', and 'Set as startup' functions will not perform any action.

Follow these steps to select or change the startup application using the 'PanelView Explorer Startup' window.
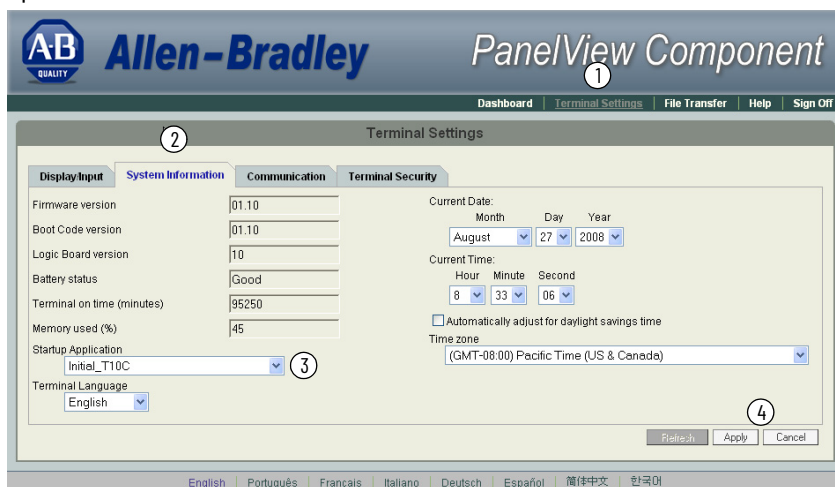
1. Click the 'Terminal Settings' link.
2. Click the 'System Information' tab.
3. Select the name of the startup application from the 'Startup Application' dropdown list.
4. Click 'Apply', or click 'Cancel' to restore the current setting.

Follow these steps to select or change the startup application from the C400, C600, or C1000 models.

1. Click 'File Manager' from the 'Main' menu.
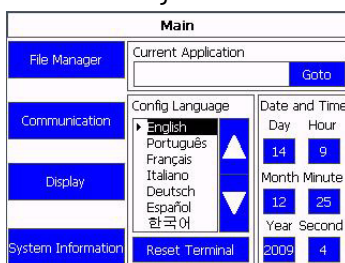
2. Select the location of the application from the 'Source' list as either Internal, USB, or SD (for 2711C-T6C, 2711C-T6M, 2711C-T6T, 2711C-T10C only).
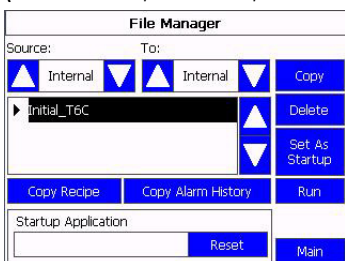
3. Select the name of the startup application from the 'Name' list.
4. Click 'Set As Startup'.

Follow these steps to select or change the startup application from the C200 or C300 models.

1. Click 'Startup Application' from the 'Main' menu.

2. Press 'F1' to reset the startup application.

3. Press 'F4' to exit to the main menu.

4. Click 'File Manager' from the main menu.

5. Press 'F1' to select the source as either internal or USB.

6. Press 'F3' to go to the list of applications and use the arrows to select the startup application.

7. Use the arrow keys to select 'Set Startup'.

8. Press 'F4' to exit to the main menu.

Change the Date and Time

You can adjust the current date and time for terminal operations as well as set the terminal to adjust the time for daylight savings time automatically. The time is set in a 24-hour format.
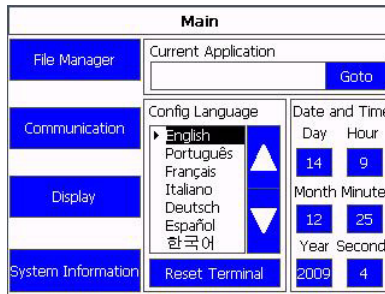
Follow these steps to change these settings using the 'PanelView Explorer Startup' window.
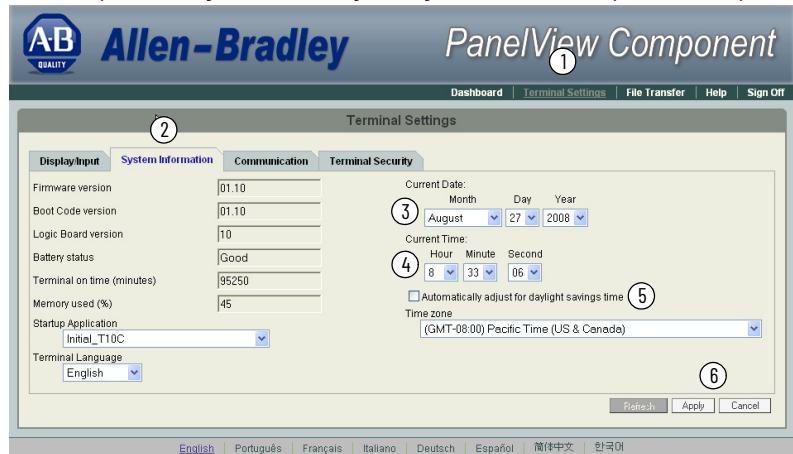
1. Click the 'Terminal Settings' link.
2. Click the 'System Information' tab.
3. Update the 'Current date' fields.
4. Update the 'Current time' fields.
5. To have your terminal automatically adjust for Daylight Saving Time:
    Select 'Automatically adjust for daylight savings time'.
6. Click 'Apply' or click 'Cancel' to restore the current terminal settings.

Follow these steps to change the terminal date and time from the C400, C600, and C1000 models.

1. Go to the 'Main' configuration screen.
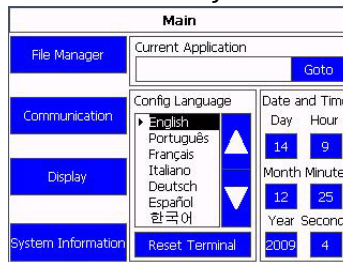
2. Click the number next to what you want to change under the 'Date and Time' section.
    A numeric keypad is displayed.
3. Select the values, then click the 'Enter' key.
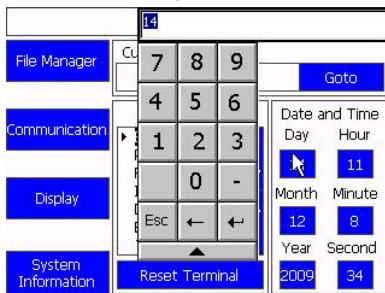
Change Ethernet Settings

You can establish an Ethernet connection between your connected PanelView Component HMI terminal and the computer using the Ethernet port or the host USB port on the terminal.

For the Ethernet port, IP addresses can be set dynamically by the network if the Dynamic Host Configuration Protocol (DHCP) is enabled. If DHCP is disabled, the IP addresses must be entered manually.

> If a terminal is set for DHCP and is not on a network or is on a network that does not have a DHCP server (or the server is not available), it will assign itself an Automatic Private IP address (or Auto IP address) automatically in the range of 169.254.0.0…169.254.255.255.
>
> The terminal makes sure that the Auto IP address is unique from any other auto IP address of other devices on the network. The terminal can now communicate with other devices on the network that have IP addresses in the 169.254.xxx.xxx range (and a subnet mask of 255.255.0.0).

> For the USB port, use the default IP address that is set when the terminal is connected to the computer. This address is 169.254.254.2. It is not recommended to change this setting.

Ethernet Settings

Parameter	Description
MAC ID	Read-only field that defines the MAC ID of the PanelView Component terminal. Each Ethernet device has a unique MAC ID.
Network Device Name	A unique name that identifies the terminal on the network.
IP Address	A unique address that identifies the terminal on the Ethernet network. The format of the IP address is xxx.xxx.xxx.xxx, for example, 10.90.95.30 The 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 if 0…255.
Subnet Mask	Address that must be identical to the server subnet mask. The subnet mask is formatted like the IP address.
Default Gateway	Optional address that is formatted like the IP address.

If DHCP is enabled for the Ethernet port, the current fields show the IP addresses assigned by the network. You can assign IP addresses manually by disabling DHCP and entering addresses in the static fields.

Follow these steps to set a static IP address for the Ethernet port of the connected terminal using the 'PanelView Explorer Startup' window.
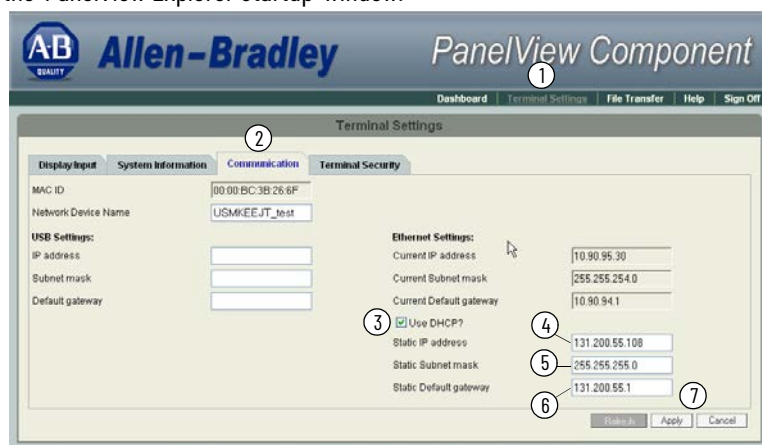
1. Click the 'Terminal Settings' link.
2. Click the 'Communication' tab.
3. Deselect the 'Use DHCP?' option to manually enter IP addresses.

4. Enter an IP address in the 'Static IP address' field.

5. Enter the default mask in the 'Static Subnet mask' field.

6. Enter the default gateway in the 'Static Default gateway' field.

7. Click 'Apply' or click 'Cancel' to restore the current IP address.

Follow these steps to set the IP address for the Ethernet port of the connected terminal from the C400, C600, and C1000 terminals.

1. Click 'Communication' from the menu list.

2. Click 'Set Static IP Address'.

The Static IP Address screen appears.

3. Click the area next to 'IP Address' to enter an 'IP address' in the 'Static IP' address field.

A keypad displays to enter the address.

4. Enter the subnet mask in the 'Static Subnet mask' field.

5. Enter the default gateway in the 'Static Default gateway' field.

Enable Terminal Security

Use terminal security to restrict user access to the terminal configuration screens and the 'PanelView Explorer Startup' window. For example, you can require users to enter a user name and password before accessing or editing an application.

Initially, the terminal and the 'PanelView Explorer Startup' window are unsecured. To enable security, provide a password. The default user name is "Admin". The new password takes effect the next time the terminal is restarted.

As long as security is enabled, any user that tries to access the terminal or the Design-time environment while connected to the terminal must first log in with a valid user name and password.

The terminal also secures itself when idle. If terminal input is not received within the idle timeout period, the user is logged out. The user must sign in again to access the terminal. The default terminal idle timeout is 30 minutes.

> Store your password in a safe place. If you forget the password, you will not be able to connect to the design environment.

Follow these steps to secure the design environment using the 'PanelView Explorer Startup' window.
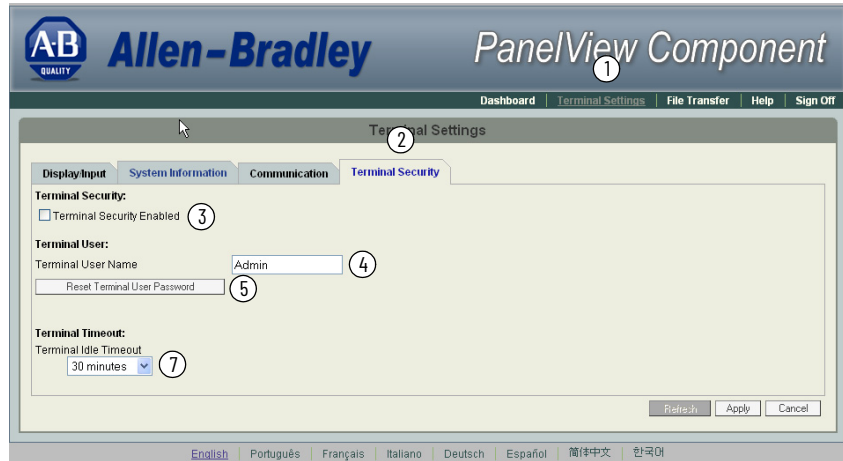
1. Click the 'Terminal Settings' link.
2. Click the 'Terminal Security' tab.
3. Select 'Terminal Security Enabled'.
4. Optional: Enter a new 'Terminal User Name'.

> Terminal user names and passwords are limited to 15 characters.

5. Click 'Reset Terminal User Password'.
6. In the 'Reset Password' dialog box, enter a password in the 'New Password' field and the 'Confirm New Password' field, then click 'OK'.
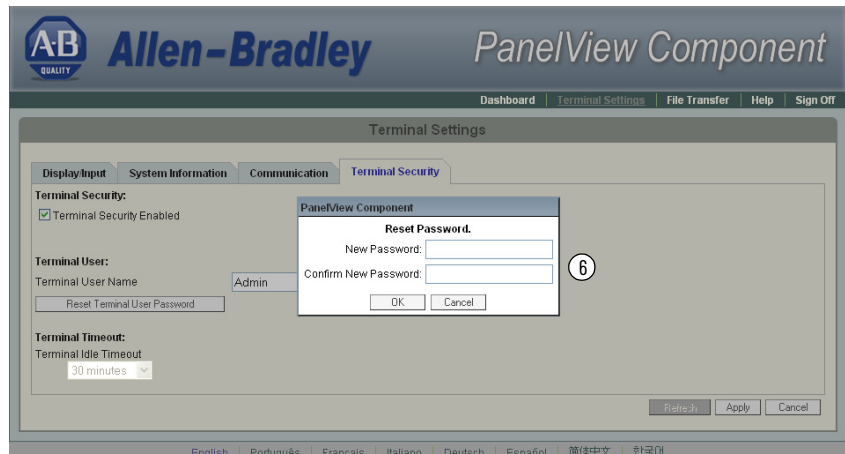
7. Select a new idle timeout from the 'Terminal Idle Timeout' list, if needed, or click 'Cancel' to restore the current idle timeout.

   The new password and idle timeout value take effect when the terminal is restarted.

8. To disable security: Deselect 'Terminal Security Enabled'.

   The next time that the terminal is restarted, the design environment is unsecured.

> The terminal user name and password are stored in a file that is separate from the application. You can transfer this file to other terminals without having to manually reenter the information. Use the 'File Transfer' link on the 'PanelView Explorer Startup' window and transfer the 'Terminal User' file from internal storage to your computer, USB drive, or SD storage.

View System Information

You can view system information about your terminal including information about the firmware, boot code, logic board, battery status (if applicable), terminal on time, and memory used.

Follow these steps to view system information using the 'PanelView Explorer Startup' window.
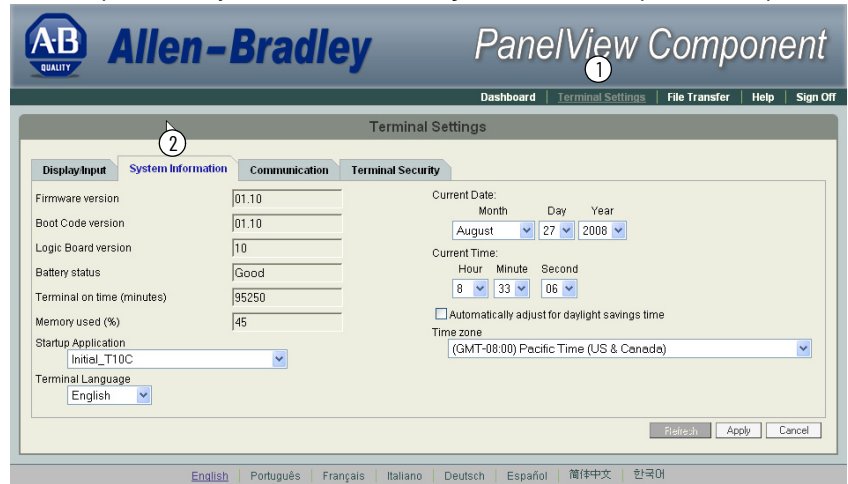
1. Click the 'Terminal Settings' link.
2. Click the 'System Information' tab.

Follow these steps to view system information using C200 or C300 models.

1. Select 'System Information' from the menu list, then press 'Enter'.

The system information appears.

2. Press 'F3' to see more information, press 'F2' to go back, or press 'F4' to exit to the main menu.

Follow these steps to view system information using C400, C600, or C1000 models. .

1. Click 'System Information' from the menu list.

   The system information screen displays: firmware revision, boot code version, logic board version, terminal on time, display on time, and battery status.

System Information	
Firmware Version:	01.30.006
Boot Code Version:	00.00
Logic Board Version:	10
Terminal On Time:	90
Display On Time:	0
Battery Status	Not Available
Memory Usage (bytes)	
Internal Used:	1,804,288
Internal Free:	19,079,168
Application Used:	9,379,840
Application Free:	39,686,144

Manage Applications and Files

The 'PanelView Explorer Startup' window has a 'File Transfer' link to transfer files to and from terminal storage media. File names and tag names must start with an alpha character, not numeric or special characters.

From the 'File Transfer' view, you can:

- export or import applications, user-defined objects, images, the terminal security file, recipes, and fonts.
- import screen saver bitmap files
- export the alarm log from the currently running application.
- delete applications, user-defined objects, images, font files, terminal user files, and recipes from terminal storage.

> For more information to create applications and transfer files, see PanelView Component Operator Terminals Quick Start, publication 2711C-QS001.

A file transfer operation requires you to enter a source location, source file type, and destination location.

Operation	Definition
Source location	The location of the file you want to transfer. You can transfer a file from Internal Storage of the terminal, USB Storage, SD Storage, or My Computer.
Source file type	The type of file you want to transfer. The types of files you can transfer include PanelView Component applications, images, user-defined objects, fonts, recipes, and the terminal security file.
Destination location	The location where you want to transfer the selected file. You can transfer a file to Internal Storage of the terminal, USB Storage, SD Storage, or My Computer

> If you are transferring a file from or to USB storage or SD storage, verify that the USB drive or SD memory card is inserted in the terminal before starting the file transfer.

Transfer Applications

Applications that are created on one PanelView Component HMI terminal can be used on other PanelView Component HMI terminals. For example, you might design an application on one terminal and then distribute the application to other terminals for production.

To transfer an application, a two-step process is required.

- First, export the application from the internal storage of the terminal to your computer, a USB drive, or SD memory card.
- Second, import the application from a computer, USB drive, or SD memory card to the internal storage of another terminal.

If the target terminal is another type and size than the source terminal, some aspects of the application is converted and the remaining properties require updates. If you are trying to run an application, you are warned that the application was not created for the terminal, but you are given an option to continue or cancel unless the differences make it impossible to run the application (for example, an Ethernet application on a terminal without an Ethernet network connection).

PanelView Component applications are saved with a '.cha' file type. You cannot edit the file outside of the PanelView Explorer design environment.

Export an Application

During an export, the application file is transferred from the internal storage of the terminal to a USB drive, SD memory card, or computer. The application is saved with its default name and '.cha' file type.

Follow these steps to export an application.

1. Go to the 'PanelView Explorer Startup' window.
2. Click the 'File Transfer' link.
3. Click the 'New transfer' button.
4. Select 'Internal Storage' as the source location of the application.
5. Click 'Next'.
6. Select 'Application 'as the file type.
7. Click 'Next'.
8. Select the application that you want to export.
9. Click 'Next'.
10. Select the destination for the application.
11. Click 'Transfer'.
12. Click 'Save' in the 'File Download' dialog.
13. In the 'Save As' dialog box, accept the default file name and '.cha' file type.
14. Click 'Save' or enter another path.
15. Click 'Close' when the download is complete.

Import an Application

During an import, the '.cha' application file is transferred from a USB drive, SD memory card, or computer to the internal storage of the terminal. The transfer operation communicates with the terminal to import the file.

You cannot overwrite an application while the application is running. You must unload the current application before overwriting the application. You can import applications while another is running.

Follow these steps to import an application.

1. Go to the 'PanelView Explorer Startup' window.

2. If an application is currently loaded, click the icon above the dashboard to unload the current application.
3. Click the 'File Transfer' link.
4. Click 'New Transfer'.
5. Select the source location of the application.
6. Click 'Next'.
7. Select Application as the file type.
8. Click 'Next'.
9. Click 'Browse...' to locate the '.cha' file that you want to import.
10. Select 'Internal Storage' as the destination.
11. Click 'Transfer'.

    The application is transferred to the internal storage of the terminal.

If an application with the same name exists in internal storage, you are asked if you want to replace the existing application.

If the target terminal is a different type and size than the source terminal, the application is converted when in Edit, Test Run, or Run mode. The application might require updates in design mode before running properly.

Validate the Application

Before you can run an application on PanelView Component, it is recommended that you validate the application for errors and warnings. The application does not need to be error-free to run in the application. However, it is good practice to fix both errors and warnings to achieve expected system behavior.

1. Click the ▣ icon on the application toolbar.

   If the application passes validation, the 'Validation Results' dialog box appears as:

Validation Results	☒
No warning or errors to report.	
Print Report Close	
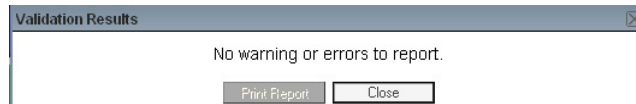
   If the application detects warnings or errors, the 'Validation Results' dialog box lists the warnings or errors.

Validation Results		☒
ID ▲	Type ▲	Message
4026	Warning	Momentary Push Button PushButton_2 does not have a **Write Tag** defined on Screen **MOTOR_STATUS**.

   * Application has been modified. Please remember to save your application.

   Print Report   Close
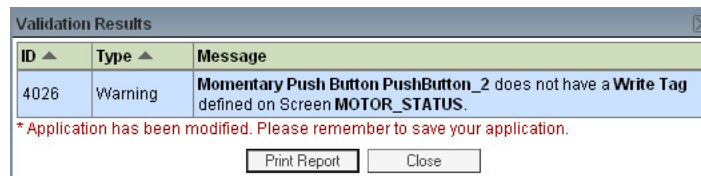
   For each warning or error, the message identifies the problem and its location. Correct the problem and then revalidate the application.

   The status bar shows a 'Validation Reports' link that you can launch. It always shows the results of the last validation.

2. Click 'Close'.

IMPORTANT	If a non-validated application is run, unexpected behavior could occur.

3. To save the application, click the 💾 icon.

4. To close the application, click the 📤 icon.

Transferring User-defined Objects

You can transfer user-defined objects (.chu), also known as library objects, created in one application to another terminal for use with other applications. In your application, the user-defined objects are added to the graphics library of the object palette. They are stored in terminal storage separate from the application and can be accessed from any application on the terminal (or emulator). The names of user-defined objects must begin with an alpha character.

Notes:

Install and Replace Components

This chapter explains how to install, replace, or upgrade various components of your PanelView™ Component HMI terminal.

- Secure Digital™ (SD) memory card
- USB flash drive
- Real-time clock (RTC) battery replacement

SD Memory Card

The SD memory card can be inserted on the side of C600 and C1000 models.

C600 and C1000

SD Memory Card Slot
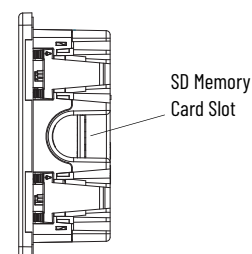
USB Flash Drive

The USB flash drive can be inserted in these locations on backside of your terminal.

C200 and C300 Models　　**C400 Models**　　**C600 and C1000 Models**

USB Connector
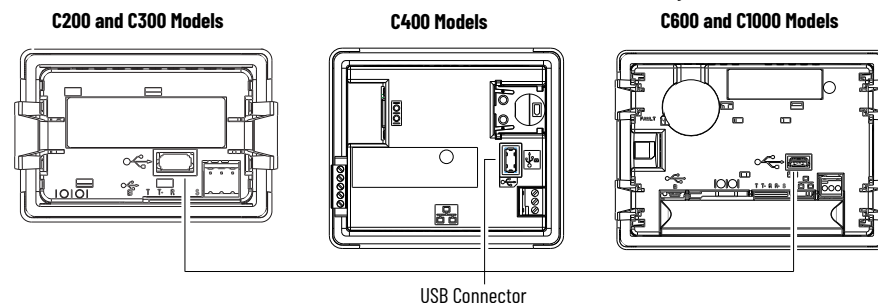
RTC Battery Replacement

The C400, C600 and C1000 models contain a lithium battery that is intended to be replaced during the life of the product. This lithium battery provides battery backup for the real-time clock (RTC). It is not used for application backup or retention.

⚠ **WARNING:** Only Cat. No. 2711C-T4T is UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada.

⚠ **ATTENTION:** This equipment is sensitive to electrostatic discharge (ESD).
- Follow ESD prevention guidelines when handling this equipment.
- Verify that power has been removed from the terminal prior to replacing the battery.
- 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 ESD.

⚠ **ATTENTION:** To avoid the danger of explosion, only replace the existing CR2032 battery with Cat. No. 2711P-RY2032 or a manufacturer's equivalent (such as Duracell® DL2032).
For safety information on the handling of lithium batteries, see the Guidelines for Handling Lithium Batteries, publication AG-5.4.

C400

Battery

Battery Cover

C600 and C1000
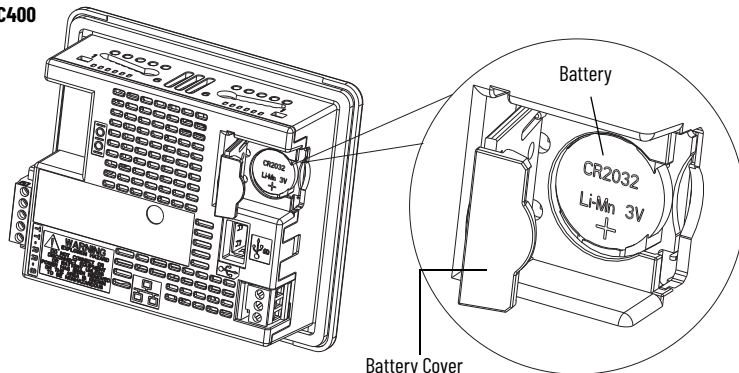
Battery
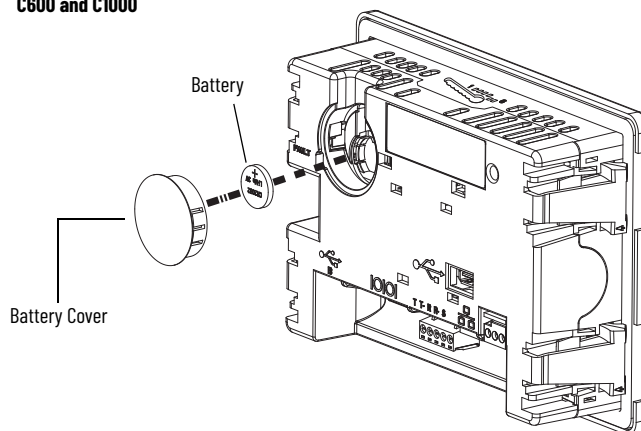
Battery Cover

1. Be sure you have the correct battery to replace the existing CR2032 lithium battery (such as Cat. No. 2711P-RY2032 or Duracell DL2032).

2. Locate the battery cover on the backside of your terminal.

3. For C400 models: Swing the battery cover open.
   For C600 and C1000 models: Remove the battery cover.

4. Following ESD prevention guidelines, remove the existing battery.

5. Properly dispose of the existing (used) battery.

🗑 At the end of its life, the used lithium battery should be collected separately from any unsorted municipal waste and recycled. Do not dispose of battery in a fire or incinerator. Dispose of used batteries in accordance with local regulations.

6. With the positive polarity facing toward you, insert a new CR2032 lithium battery (such as Cat. No. 2711P-RY2032 or Duracell DL2032).

7. For C400 models: Close the battery cover.
   For C600 and C1000 models: Reinstall the battery cover.

Connect Cables and Communication

This chapter provides these network and device connections for your PanelView™ Component Human Machine Interface (HMI) terminal:

- wiring and safety guidelines,
- connecting devices,
- MicroLogix™ controller cable charts,
- Ethernet connection,
- serial connections, and
- USB ports.

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 devices. In addition to the NFPA guidelines:

- Connect the device and other similar electronic equipment to its own branch circuit.
- Protect the input power by a fuse or circuit breaker that is rated at no more than 15 A.
- Route incoming power to the device by a separate path from the communication lines.
- Cross power and communication lines at right angles if they must cross.
  - Communication lines can be installed in the same conduit as low-level DC I/O lines (less that 10V).
- Shield and ground cables appropriately to avoid electromagnetic interference (EMI).
  - Grounding minimizes noise from EMI and is a safety measure in electrical installation.

For more information on grounding recommendations, refer to the National Electrical Code published by the National Fire Protection Association.

Connect Devices

Use these cables to connect devices to PanelView Component terminals:

Cables for PanelView Component Terminals

Cat. No.	Description	For Use With
2711C-CBL-UU02	USB-A host to USB-B device cable, 2 m (6.56 ft)	C200, C300, C400, C600, C1000
2711P-CBL-EX04	Ethernet crossover CAT5 cable 4.3 m (14 ft)	C400, C600, C1000
2711C-RCSD	USB to SD adapter with Secure Digital (SD) card	C200, C300, C400, C600, C1000
1747-CP3	Serial 9-pin D-shell to 9-pin D-shell null modem cable	C200, C300, C400, C600, C1000
1761-CBL-PM02	Serial 9-pin D-shell to 8-pin mini DIN cable, 2 m (6.56 ft)	C200, C300, C400, C600, C1000
2711C-CBL-AB03	RS-485 5-pin to RJ45 cable	C200, C300, C600, C1000

Controller Cable Charts

The chart provides a summary of terminal connections to controllers and network interface modules.

PanelView Component Terminals to MicroLogix Controllers

Protocol	PanelView Component Port	MicroLogix			
		(8-pin Mini DIN) 1000, 1100, 1400, 1200LSP, 1500LSP (Ch 0)	(9-pin D-shell) 1500LRP (Ch 1)	1100/1400 RS-485 (1763-NC01)	1100/1400 Ethernet
DF1	RS-232	1761-CBL-PM02	1747-CP3	N/A	N/A
DH-485	RS-232	1761-CBL-PM02	1747-CP3	Use AIC+ module (1761-NET-AIC) connect to port 3	N/A
	RS-485 [(1)]	N/A	N/A	Belden™ 3106 A or #9842 or equivalent	N/A
Modbus	RS-232	1761-CBL-PM02	1747-CP3	Use AIC+ module (1761-NET-AIC) connect to port 3	N/A
Ethernet (MicroLogix/ENI)2	Ethernet	N/A	N/A	N/A	CAT 5 Ethernet

(1)   RS485 is non-isolated and is recommended for connecting to only one device with an isolated port.

Ethernet Connection

The C400, C600, and C1000 models have an Ethernet port that supports:
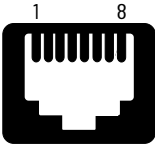
- communication to a controller and
- connection to a computer for application design.

Ethernet Connector

The base-configured unit of the terminal has an RJ45, 10/100 Base-T connector for Ethernet network communication.

Ethernet Port
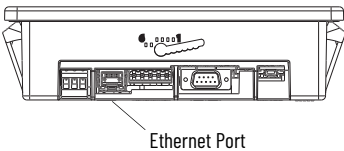
Ethernet Connector Pinout

Looking into RJ45 Connector

1   8

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

Either a standard Ethernet cable or crossover cable such as 2711P-CBL-EX04 can be used when connecting directly to a logic controller or switch.

Cables

The PanelView Component terminals require category 5 twisted-pair cables. The maximum cable length between the terminal's Ethernet port and a 10/100 Base-T port on an Ethernet hub (without repeaters or fiber) is 100 m (328 ft). In industrial applications, keep the cable length to a minimum.

For additional information, see the EtherNet/IP™ Media Planning and Installation Manual, publication ENET-IN001.

Security Considerations

Internet Group Management Protocol (IGMP) is used for IPv4 multicast. A multicast is communication between one 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 subnetwork to another. A subnetwork is a separate part of an organization's network that is identified through IP addressing.

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

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 network basic input/output system (NetBIOS) protocol that is used by Windows® CE.NET similar to other Microsoft® and IBM® network operating systems (OSs).

Serial Connections

The terminals have a multi-purpose serial RS-232 port that supports:

- DH-485 communication through a serial connection,
- DF1 full-duplex communication with controllers using direct connections or modem connections, and
- third-party point-to-point communication.

The serial port on the terminal is a 9-pin, male, RS-232 connector.
An example with the Cat. No. 1761-CBL-PM02 cable is shown below.

1761-CBL-PM02 Series B Cable

9-pin D-shell

8-pin Min DIN

Programming Device			Controller	
9-pin				6-pin
9	RI		24V	1
8	CTS		GND	2
7	RTS		RTS	3
6	DSR		RXD	4
5	GND		DCD	5
4	DTR		CTS	6
3	TXD		TXD	7
2	RXD		GND	8
1	DCD			
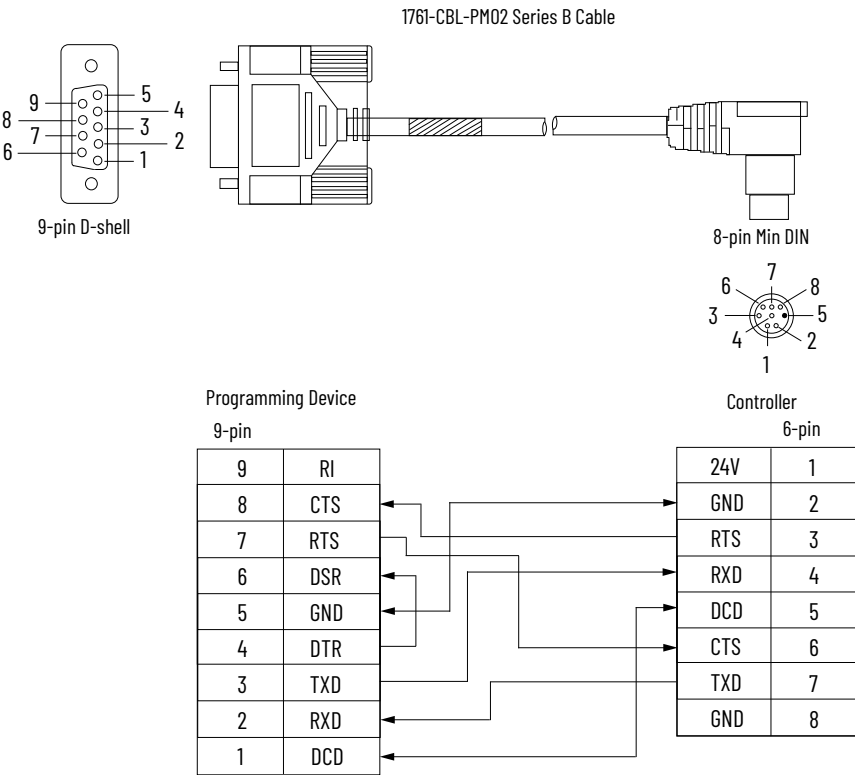
RS-422/RS-485 Port

The RS-422/RS-485 port is a non-isolated port that supports point-to-point communication.

RS-422/RS-485 Connector Pinout

Pin	Signal
1	T
2	T–
3	R
4	R–
5	S (Shield)

The RS422/485 port has integrated 121 Ω termination between the R and R-signal pair. This value is compatible with RS422 and RS-485 electrical specifications. Additional termination on the PanelView Component end of communication cables is not required.

USB Ports

The terminals have a USB device and USB host port.

USB Host Port

You can power USB peripherals directly from the PanelView Component HMI terminal. If the USB peripheral is not powered directly from the PanelView USB port either:

- install the USB peripheral in the same enclosure as the PanelView Component HMI terminal and make sure it is connected to the same ground system.
- connect to the USB peripheral through a galvanically isolated hub.

You can use the USB host port to connect a USB drive to transfer application files, fonts, and images.

> Some USB drives might not be compatible with the PanelView Component terminal and might not support file transfers or firmware updates.
> The 2711C-RCSD memory card is tested with the PanelView Component terminal to achieve compatibility.

IMPORTANT	If the USB drive or SD memory card is removed from your PanelView Component HMI terminal while a firmware update is in process, the firmware could be corrupt and make the terminal unusable. Take precautions to help prevent the USB drive SD memory card from being accidentally disconnected.
	Do not power off your terminal while a firmware update is in progress.
	USB hubs can produce unexpected behaviors and as a result are not recommended.

USB DevicePort

You must connect the PanelView USB DevicePort™ to a USB host that is connected to the same ground system. This port can be used for connecting to a computer to transfer applications, fonts, and images.

IMPORTANT	Before connecting your computer to the USB port of the PanelView Component terminal, you must first install the Allen-Bradley® PanelView USB remote NDIS (Network Driver Interface Specification) Network Device driver on your computer.
	The USB RNDIS (Remote Network Driver Interface Specification) driver is only supported on Windows® XP and Windows Vista OSs. The USB RNDIS driver is not supported by the Windows 2000 OS.

Install the USB Driver

Follow these steps to install the USB driver on your computer.

> You must be registered with the Rockwell Automation PCDC website and accept the User Agreement before you can download files.

1. Navigate to the Rockwell Automation PCDC site, rok.auto/pcdc.
2. Search for "PanelView Component USB Driver".
3. Download the PVc Emulator executable file.
4. Run the installer, 'PanelView Component USB Driver.exe'.
    The installer extracts and runs an 'Install Shield Wizard'.
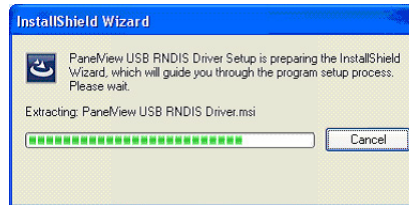
5. Click 'Next' when the 'Welcome' dialog box appears.

6. Click 'Install' to begin the installation of the 'PanelView USB RNDIS Driver'.
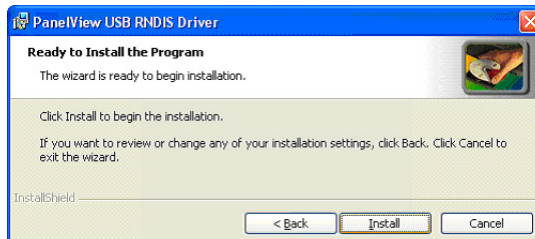
    The progress indicator shows that the driver is installing.
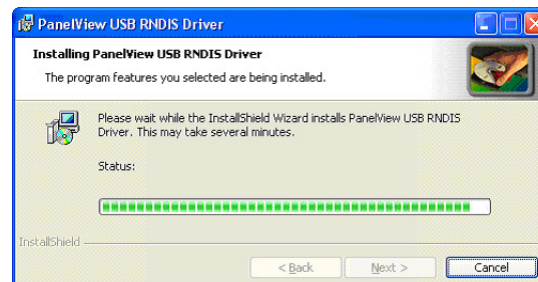
7. Click 'Next' when the 'Device Driver Installation Wizard' dialog box appears.

The drivers install.
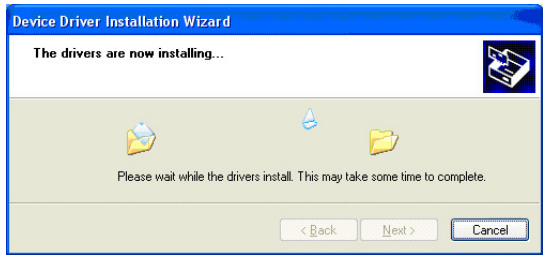
8. If the 'Windows Logo Test' warning dialog box is displayed: Click 'Continue Anyway'.

9. Click 'Finish' in the 'Device Driver Installation Wizard' dialog box.

10. Click 'Finish' in the 'PanelView USB RNDIS Driver' dialog box.

The drivers are now installed.

Configure the Terminal for USB Connection

Follow these steps to configure your terminal to be connected through a USB port to a computer.

1. Connect the USB host port on your computer to the USB DevicePort™ on your terminal.

   The terminal must be directly connected to a USB port on the computer. Do not connect through some other device, such as a USB port on a monitor, keyboard, or laptop computer docking station.

2. Power on your terminal.

   When your terminal connects to the computer for the first time, the new USB device (the PanelView Component HMI terminal) is discovered by the 'Windows Found New Hardware Wizard' that guides you through the installation.

   There are two instances of the driver: one for the 'Boot Loader' and one for the 'Windows CE OS'. The USB IP address is always 169.254.254.2.

3. Select 'Install the software automatically' then click 'next'.
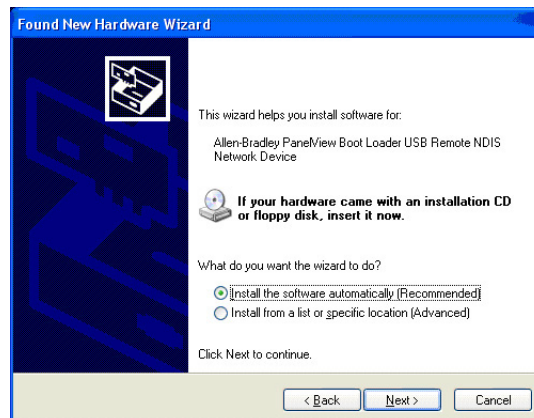
The wizard searches for the files.
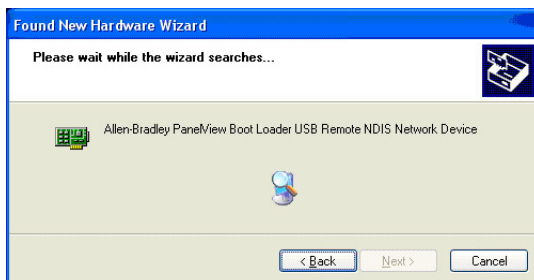
4. If the 'Windows Logo Test' warning dialog box is displayed: Click 'Continue Anyway'.
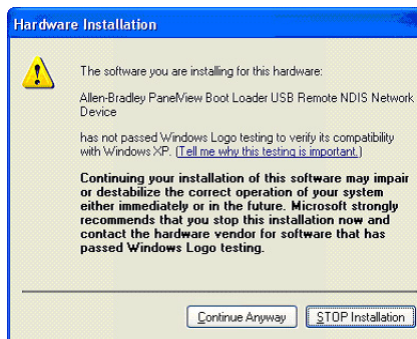
The software installs.
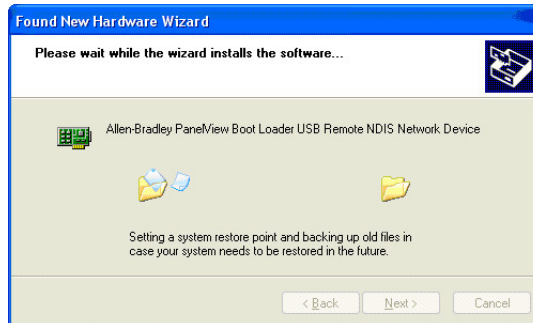
5. Click 'Finish' in the 'Completing the Found New Hardware Wizard' dialog box for the boot loader.

6. Click 'Next' when the 'Found New Hardware Wizard' dialog box for the 'PanelView USB Remote NDIS Network Device' appears.

7. Select 'Install the software automatically', then click 'Next'.
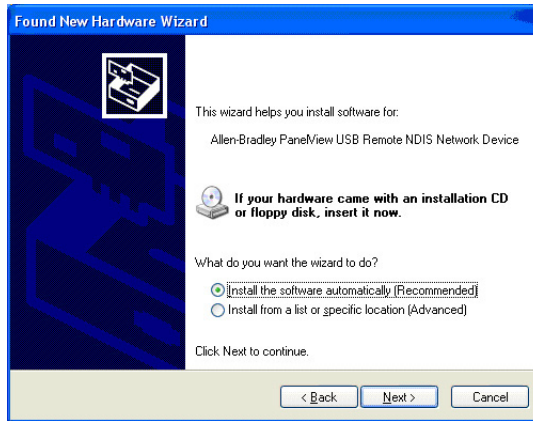
The wizard searches for the files.
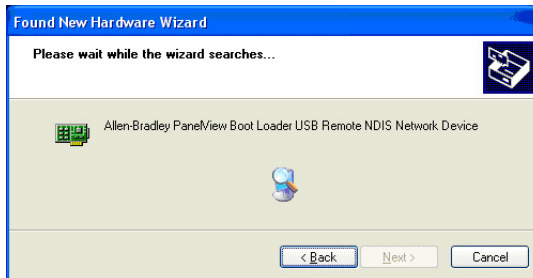
8. If the 'Windows Logo Test' warning dialog box is displayed, click Continue Anyway.
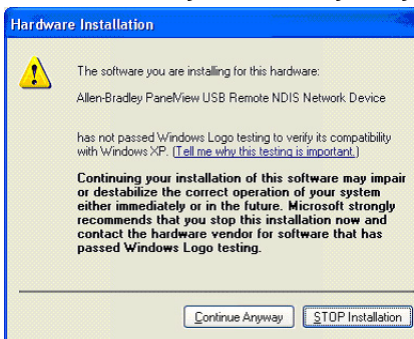
The software installs.
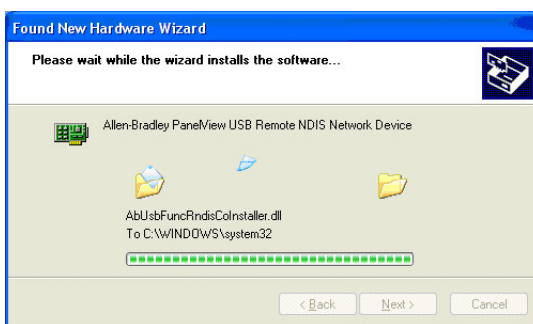
9. Click 'Finish' in the 'Completing the Found New Hardware Wizard' dialog box for the PanelView USB Remote NDIS Network Device.

Driver Installation Note for Windows 7 and Windows Vista

During the initial installation of the USB RNDIS boot loader driver, you may see the dialog box reporting an unsuccessful installation, as shown here.
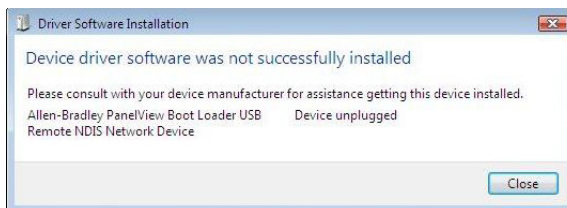
If so, perform the following steps.

1. Ignore this dialog box and click 'Close' to continue installing the driver for Windows.

2. After the driver installation is complete, you may see a dialog box similar to the one shown here.
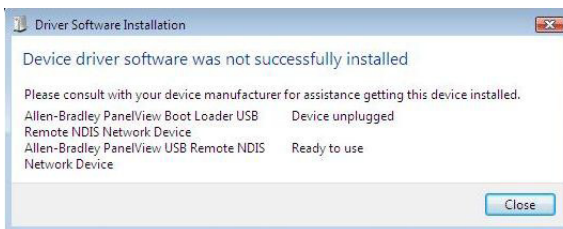

If so, cycle power to the terminal and reconnect the USB cable.

This dialog box appears.
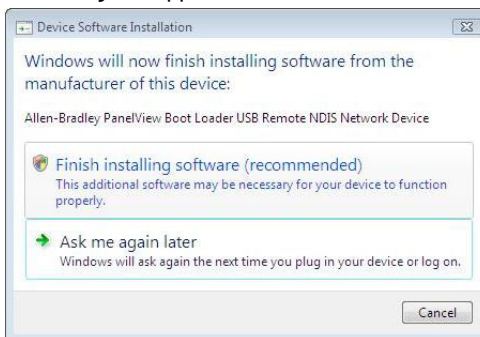
3. Select the 'Finish installing software (recommended)' option to continue installing the boot loader driver.

Installation is complete when this dialog box appears.
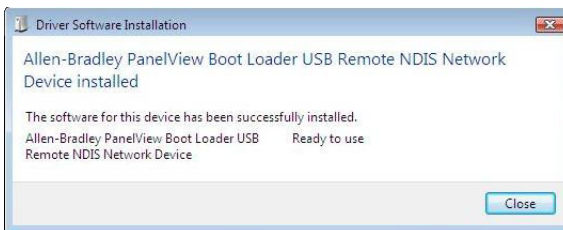
Update Firmware

This chapter provides topics on how to:

- prepare for a firmware update and
- update the firmware using a removable storage device.

The firmware update runs an executable script on a removable storage device such as a USB drive or an SecureDigital™ (SD) card that copies a firmware image into the flash memory of the terminal.

Prepare for Firmware Update

Follow these steps before starting a firmware update.

1. Backup applications and library objects from the terminal.

2. Click the 🛑 icon to unload the currently loaded application.

   💡 The stop icon is shown when an application is loaded and is in Edit/Test/Run mode

   Stop Icon
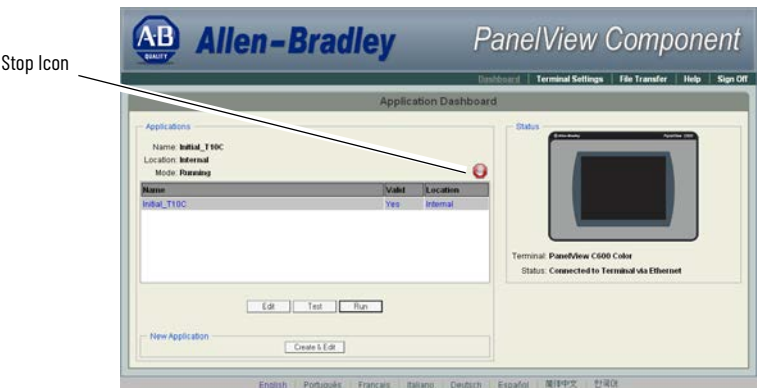
   To stop an application from the terminal: Go to the main configuration screen, reset the terminal, then restart.

   If you have not saved changes to the application, you are prompted to do so. Once the application is unloaded, the terminal displays the Configuration screen.

3. Close the web browser that is connected to the terminal.

4. Compare to the existing firmware version of the terminal to the firmware version of the file to make sure you are performing the desired upgrade.

   See for instructions on how to view the current firmware version.

Install Firmware Update

Your PanelView™ Component HMI terminal can install firmware from a removable storage device. A USB drive can be used for all models; a Secure Digital™ (SD) card (such as Cat. No. 2711C-RCSD) can be used for C600 and C1000 models.

IMPORTANT	If a USB drive will be used for the firmware installation, be aware of the following: • Some USB drives might not be compatible with your PanelView Component HMI terminal and might not support file transfers or firmware updates. • The Cat. No. 2711C-RCSD SD memory card was tested with the PanelView Component HMI terminal to confirm compatibility. • USB hubs can produce unexpected behaviors and as a result are not recommended.

⚠️	**ATTENTION:** Installing the firmware will likely change the behavior of your PanelView Component HMI terminal. Be aware of the: • firmware versions for the terminal versus the new firmware that is on the computer and • expected behavior after the new firmware is installed on the terminal.

The firmware version for the terminal is displayed on the 'System Information' screen. The firmware version consists of a major and minor two-digit number, which is separated by a period. For example, version 01.23.456 the major two-digit number is '01', the minor two-digit number is '23', and the three-digit revision number is '456'. The firmware version information appears in the filename of the firmware file that is downloaded from the PCDC site, rok.auto/pcdc.

The firmware is an autorun executable (.exe); firmware images are downloaded from the PCDC site, rok.auto/pcdc. For example, 2711C.FUP.01.23.EXE.

The firmware installation starts when the storage device is inserted either while the terminal is running, or when the terminal is powered on. During the firmware installation, you can upgrade or downgrade one or more of these firmware images:

- Windows® CE Operating System (OS)
- Application
- Communication
- Asian, Chinese, or Korean font

> 💡 • The terminal has a firmware partition that accommodates one user-installable Asian font. A USB drive Chinese font is factory-installed. Firmware images for the Simsun Chinese font and Gulim Korean font can be downloaded from the PCDC site, rok.auto/pcdc. .
> • The currently installed Asian font firmware image is visible in the list of Configuration Languages on the Main Screen.

Prepare the Storage Device

Follow these steps to prepare the storage device to transfer firmware files.

1. Insert the storage device into a USB host port or an SD memory card slot that is on your computer.
2. Open a web browser.
3. Go to the PCDC site, rok.auto/pcdc.
4. Locate the new firmware file.
5. Observe and confirm the firmware version information that is in the name of the firmware file.
6. Download the firmware file to a folder on your computer.
7. Open the file and unpack the contents of the firmware file to the root directory of your USB drive or SD memory card.

Install the Firmware from the Storage Device

⚠️ **ATTENTION:** If you remove the USB drive or SD memory card from your PanelView Component HMI terminal while a firmware update is in process, the firmware can become corrupt and make the terminal unusable. Take precautions to help prevent the USB drive or SD memory card from being accidentally disconnected.
Do not power off the terminal while a firmware update is in progress or during the subsequent boot-up process that follows the firmware update.

Follow these steps to transfer firmware files from a storage device.

1. Open the system information screen to see the firmware version information for the terminal.

> See View System Information on page 34 for instructions on how to view the current firmware version.

2. Insert the storage device into a USB host port or the SD memory card slot that is on your terminal.

3. When prompted to run the Autorun, press Yes or the F1 key.

   The splash screen appears and the progress bar indicates that a firmware installation is in process.

   > Do not remove the SD memory card or USB drive until upgrade - OK is displayed.

   When the firmware installation is complete and successful, the progress bar stops with the success code OK.

4. Remove the storage device and restart the terminal.

5. Open the 'System Information' screen to see the firmware version that is expected after the installation.

> See View System Information on page 34 for instructions on how to view the current firmware version.

6. Clear the browser cache.

   If a Firefox® browser is used:

   a. Select 'Tools' >' Clear Private Data'.

   b. Verify that the 'Cache' checkbox is selected.

   c. Click 'Clear Private data'.

   If Microsoft® Internet Explorer® is used:

   a. Select 'Tools' > 'Internet Options'.

   b. On the 'General' tab, click 'Delete' under 'Temporary Internet Files' which deletes all temporary internet files, including offline content.

Notes:

Troubleshoot

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

- view system information,
- alerts, and
- troubleshooting.

View System Information

You can view current system information for the connected terminal. Provide this information when contacting technical support:

- operating system (OS) version
- firmware version
- hardware version number
- status of the battery
- total power on time
- memory used in kilobytes

Follow these steps to view the system information on your terminal.

1. Go to the 'PanelView Explorer Startup' window.
2. Click the 'Terminal Settings' link.
3. Click the 'System Information' tab.
4. View the information.
5. Click 'Apply'.

Alerts

The terminal displays alerts during operation. The alert consists of an identification (ID) number and a description. Follow the corrective action to resolve the alert.

Alert Category: Communication

ID	Description	Corrective Action
2	Data Access Error for Alias /*S:0 Param2*/, Controller /*S:0 Param3*/, Address is /*S:0 Param4*/, Communication Flag is /*S:0 Param1*/ The terminal is having trouble reading the external tag at this controller and address.	• Check that the communication network cable is connected. • If new ladder logic is downloading to the controller, you could see this message. After the download, communication should run normally. • Verify you have good communication to the controller. If a 'remote device is not responding' alert was present, then all external tags being actively scanned will generate this alert. • Is the address configured in the controller? If so, make sure all addresses of external tags to this controller are configured at the controller. If one address is outside of the range, a block of addresses might show this condition. If the address is configured as write-only at the controller, this address cannot be read. Set this external tag as write-only and remove panel devices from your application that want to display data from this external tag.
3	Communication Server Error	• Contact technical support providing this data: ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/ • Restart the terminal.
4	Communication Server Error	• Contact technical support providing this data: ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/ • Restart the terminal.
5	Communication Server Error	• Contact technical support providing this data: ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/, P3-/*S:0 Param5*/ • Restart the terminal.
6	Communication Server Error	• Contact technical support providing this data: ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/, P3-/*S:0 Param5*/, P4-/*S:0 Param6*/ • Restart the terminal.

Alert Category: Communication (Continued)

ID	Description	Corrective Action
7	Communication Server Error	• Contact technical support providing this data: ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/, P3-/*S:0 Param5*/, P4-/*S:0 Param6*/, P5-/*S:0 Param7*/ • Restart the terminal.
8	Communication Server Error	• Contact technical support providing this data: ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/, P3-/*S:0 Param5*/, P4-/*S:0 Param6*/, P5-/*S:0 Param7*/, P6-/*S:0 Param8*/ • Restart the terminal.
9	Communication Server Error	• Contact technical support providing this data: ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/ • Restart the terminal.
10	Write Error for Alias /*S:0 Param2*/, Controller /*S:0 Param3*/, Address is /*S:0 Param4*/, Communication Flag is /*S:0 Param1*/ The terminal is having trouble writing the external tag at this controller and address.	• Verify you have good communication to the controller. • Verify that the communication network cable is connected. • If new ladder logic is downloading to the controller, you could see this message. After the download, communication should run normally. • If a remote device is not responding alert is present, then all external tags being written to will generate this alert. • Is the address configured in the controller? If the address is configured as read-only at the controller, this address cannot be written to. Set this external tag as read and remove panel devices from your application that can write data to this external tag.
11	Read Error for Alias /*S:0 Param2*/, Controller /*S:0 Param3*/, Address is /*S:0 Param4*/, Communication Flag is /*S:0 Param1*/ The terminal is having trouble reading the external tag at this controller and address.	• Verify you have good communication to the controller. • Verify that the communication network cable is connected. • If new ladder logic is downloading to the controller, you could see this message. After the download, communication should run normally. • If a remote device is not responding alert was present, then all external tags being read from will generate this alert. • Is the address configured in the controller? If the address is configured as write-only at the controller, this address cannot be read from. Set this external tag as write and remove panel devices from your application that can read data from this external tag.
27	Remote Device /*S:0 Param1*/ is Not Responding	• Verify that all network connections are correct. • Verify that the communication network cable is connected. • If new ladder logic is downloading to the controller, you could see this message. After the download is complete, communication should run normally. • Verify that the network address of the controller matches the terminal controller address that is configured in the 'Communication' tab. • In the 'Communication' tab, verify that the protocol specifications are correct, such as communication rate, data bits, stop bits. These are all protocol specific.
28	Invalid Data Address /*S:0 Param1*/	This is not syntactically a valid address.
30	Bad address in block /*S:0 Param1*/ to / *S:0 Param2*/ on device /*S:0 Param3*/	This can occur when a write-only address for a controller has been set for read/write in the external tag of the terminal. Param1 to Param2 specifies the address block having the issue. Somewhere within the range is where the write-only address is defined in a PanelView external tag. Set the external tag to 'Write'.
2000	Loading.	This message is for informational purposes. No corrective action is needed.
2001	Unloading.	This message is for informational purposes. No corrective action is needed.
2002	Terminal is starting up...	This message is for informational purposes. No corrective action is needed.
2003	Application is being edited, user input is disabled.	Put the application into Test or Run mode to enable user input.
2004	Copying file...	This message is for informational purposes. No corrective action is needed.
2005	Deleting file...	This message is for informational purposes. No corrective action is needed.
2006	Operation failed.	This message is for informational purposes. No corrective action is needed.
2007	Operation succeeded.	This message is for informational purposes. No corrective action is needed.
2008	Cannot run application. Application version incompatible.	Edit, validate, and then save the application with this version and try again.
2009	Cannot run application. Communication connection not supported.	Terminal does not support the communication connection that is configured in this application. Edit the application and configure communication for the supported connection type.
2010	This application is not validated. Are you sure you want to run a non-validated application?	If you do not want to run the invalid application, cancel the operation, then edit and validate the application. Correct all validation errors, save the application, and try again.
2011	Cannot run a modified application.	Save the application and try again.
2012	Application has been modified. Continue without saving?	Edit the application and save before performing this operation, otherwise changes to the application may be lost.
2013	Currently loaded application has been modified. All changes will be lost by running this application. Continue?	Edit the application and save before performing this operation, otherwise changes to the application may be lost.

Alert Category: Communication (Continued)

ID	Description	Corrective Action
2014	Application was designed for a different terminal type and may not appear or operate as intended. Continue?	Edit the application on the terminal type that it is intended for.
2015	Application will be unloaded and deleted. Continue?	Click 'Yes' to continue with the operation.
2016	Confirm deletion?	Click 'Yes' to delete the file.
2017	Confirm restart?	Click 'Yes' to restart the terminal.
2018	File already exists. Overwrite?	If you do not want to overwrite the file, cancel the operation and rename the file before performing this operation.
2019	Cannot copy over loaded application. Unload application and continue with overwrite?	Click 'OK' to unload and overwrite the application.
2020	Cannot copy over loaded application.	Unload the application and try again.
2021	Insufficient space to complete file copy.	Remove files to free space from the destination and try again.
2022	Source and destination cannot be the same.	Verify the source and destination are not the same and retry.
2023	Application has been left in edit or test mode.	Reconnect the designer or click 'OK' to proceed to the configuration screens.
2024	File not found.	—
2025	Copy failed. Only existing recipe files can be updated.	Create the recipe through the designer or rename this recipe to the existing recipe name and try again.
2026	Copy failed. Invalid recipe file.	The imported recipe must have the same number of ingredients and data sets as the existing recipe it is replacing.
2027	Alarm logs can only be copied from a loaded application.	Load the application into Edit, Test, or Run mode and retry.
2028	Files can only be copied to a secured application while editing the application.	The application has been secured with design rights. Load the application into 'Edit' mode and retry.
2029	Files can only be copied from a secured application while editing the application.	The application has been secured with design rights. Load the application into 'Edit' mode and retry.
2030	Cannot delete a loaded application.	Unload the application and try again.
2031	Files can only be deleted from a secured application while editing the application.	The application has been secured with design rights. Load the application into 'Edit' mode and retry.
2032	Return to out of box condition?	Click 'Yes' to restart the terminal and return to the out of box condition.
2033	Source file does not exist.	Make sure that the source file exists and retry.
2034	Destination folder does not exist.	Make sure that the destination location exists and retry.
2035	Insufficient disk space. Please free disk space and try again.	Remove files to free space by clicking 'Delete File' on the 'File Transfer' tab.
2036	This application is not validated. Are you sure you want to run a non-validated application?	Press 'Yes' to continue running the invalid application, or 'No' to proceed to the configuration screens. Edit and validate the application. Correct all validation errors. Save the application, then try again.
2038	Cannot change password because password has been marked as unmodifiable.	Edit the application and go to the 'Security' tab. Select the 'Modifiable?' box that is associated with the username and password.
2039	Cannot change password because no user is logged onto the terminal.	Sign in as one of the users who are defined in the application and retry.
2040	Old password does not match the password for the current user.	Enter the current user password for the old password.
2041	Cannot reset password, this is an unknown user.	Sign in as one of the users who are defined in the application and retry.
2042	Cannot change password, new and confirm passwords do not match.	Verify that the new password matches the confirmed password and retry.
2043	Access Denied	The username/password is either incorrect or the user does not have the right access for the associated screen.
2044	Cannot run application while in Safe mode.	Restart the terminal to exit 'Safe mode' and retry.
2045	Cannot run applications from external storage.	Copy or save to internal storage and try again.
2046	Passwords cannot be modified while in test mode.	The change password and reset password devices are only enabled while in 'Run' mode.
2047	File is read-only. Continue?	Choosing to continue will overwrite the read-only file.
2048	Application has been modified. Continue?	Edit the application and save before performing this operation, otherwise changes to the application may be lost.
2050	The value is not within the minimum and maximum range.	Enter a value within the allowable range. If you do not know the range, edit the application to determine the allowable range for the device.
2051	Allow Autorun?	Press 'No' to disallow Autorun.

Alert Category: Communication (Continued)

ID	Description	Corrective Action
2052	Application has been modified. Allow Autorun?	Click 'No' to disallow Autorun. Edit the application and save before performing this operation, otherwise changes to the application may be lost.
2053	Screen switching controlled by external source.	Screen navigation devices are disabled if the screen has been changed to via a controller.
2054	Cannot reset the terminal in Safe mode.	Terminal restart is disabled on the emulator. Select Flash > Save and then select File > Reset > Hard to restart the emulator.
2055	Image exceeds maximum resolution of 800x800.	Open a file in the image editor and reduce the resolution.
2056	Cannot copy recipe to a loaded application.	Unload the application and try again.
2057	Terminal is running low on application memory (<Available_Virtual_Memory>bytes).	Reset the terminal or this may lead to a fatal error.
2058	Failed setting property: /*S:0 Param1*/::/*S:0 Param2*/, value = /*S:0 Param3*/	• Verify the range of the numeric display that uses the external tag as its write tag is within the range of a tag (validation should provide a warning if the range of the tag is greater than the range of a numeric entry). • Make sure that the values of the state-based objects that write to an external tag are within the range of the tag. • Make sure that the value that written to an external tag matches the tag type (for example, do not write a non-numeric string into a numeric tag).
2059	Failed setting property (/*S:0 Param1*/): /*S:0 Param2*/::/*S:0 Param3*/, value = /*S:0 Param4*/	• Verify the range of the numeric display that uses the external tag as its write tag is within the range of a tag (validation should provide a warning if the range of the tag is greater than the range of a numeric entry). • Make sure that the values of the state-based objects that write to an external tag are within the range of the tag. • Make sure that the value that written to an external tag matches the tag type (for example, do not write a non-numeric string into a numeric tag).
2060	Terminal is running low on RAM (<Available_RAM>bytes).	Reset the terminal or this may lead to a fatal error.
2061	Out of memory: Terminal cannot continue to run and will be reset.	This is a out of memory critical message. Dismissing this dialog causes the terminal to reset. After the terminal resets, try to edit an application and reduce its size by removing some objects, for example, user controls, screens, tags, or alarms.
2055*	Cannot copy recipe to a loaded application.	Unload the application and try again.
3001	Available memory is too low to run the application.	Try to release some memory to avoid a fatal error.

Alert Category: Recipe

ID	Description	Corrective Action
1001	Recipe upload started.	This message is for informational purposes. No corrective action is needed.
1002	Recipe save failed. Cause: Recipe in Table has not been modified.	Make sure that the recipe table is modified before the save operation is done.
1003	Recipe save had errors.	This message is for informational purposes. No corrective action is needed.
1004	Recipe save completed successfully.	
1005	Recipe download failed. Cause: Operation canceled.	
1006	Recipe download started.	
1007	Recipe download completed with errors.	
1008	Recipe download completed successfully.	
1009	Recipe Download failed. Cause: Unable to write to /*S:0 Param1*/	Check for: • Communication errors. • Bad data point specification. • The ingredient value that is written is outside the Low EU and High EU limits of the numeric data point assigned. (These are optional OPC defined properties representing data point minimum and maximum values). • The ingredient value could not be converted to the type of the data point assigned.
1010	Recipe upload completed with errors.	This message is for informational purposes. No corrective action is needed.
1011	Recipe upload completed successfully.	
1012	Recipe restore failed. Cause: Operation canceled.	
1013	The status data point for Recipe /*S:0 Param1*/ operation could not be written to Data Point= /*S:0 Param2*/	Check for: • Communication errors • Bad status data point specification • The status value that is written is outside the Low EU and High EU limits of the numeric data point assigned. (These are optional OPC defined properties representing data point minimum and maximum values). • The status value could not be converted to the type of the data point assigned

Alert Category: Recipe (Continued)

ID	Description	Corrective Action
1014	Recipe download failed. Cause: The value /*S:0 Param1*/ is less than the minimum value /*S:0 Param2*/ allowed for ingredient /*S:0 Param3*/	Correct the dataset value.
1015	Recipe /*S:0 Param1*/ failed. Cause: No Selector on display.	Add a recipe selector device to the screen.
1016	Recipe /*S:0 Param1*/ failed. Cause: No DataSet Selector on display.	Add a dataset selector device to the screen.
1017	Recipe /*S:0 Param1*/ failed. Cause: No Table on display.	Add a 'Recipe Table Panel' device to the screen.
1018	Recipe /*S:0 Param1*/ operation was not started because the system is currently busy performing another Recipe operation.	Wait for a recipe operation to complete before starting the next recipe operation.
1019	Recipe /*S:0 Param1*/ failed. Cause: No recipe selected in Selector.	Select a recipe and try again.
1020	Recipe /*S:0 Param1*/ failed. Cause: Data type of data point /*S:0 Param2*/ is incompatible with ingredient type of ingredient /*S:0 Param3*/.	Change the type of the ingredient to match the type of the data point, or select another data point that matches the type of the ingredient.
1021	Recipe /*S:0 Param1*/ failed. Cause: Unable to read from /*S:0 Param2*/	Check the communication settings and data point specification.
1022	Recipe /*S:0 Param1*/ failed. Cause: Unable to read from Tag.	Check the communication settings and data point specification.
1023	Recipe download failed. Cause: The value /*S:0 Param1*/ is greater than the maximum value /*S:0 Param2*/ allowed for ingredient /*S:0 Param3*/	Correct the dataset value.
1024	Recipe /*S:0 Param1*/ failed. Cause: Table does not contain a recipe.	Restore the recipe in the table before doing a save operation.
1025	Recipe /*S:0 Param1*/ of recipe /*S:0 Param2*/failed. Cause: Recipe file not accessible.	Try to reload the application to see if the recipe is still there, or restore from a '.cha' file from your computer or SD memory card.
1026	Recipe upload failed.	This message is for informational purposes. No corrective action is needed.
1027	Recipe operation in progress.	

Alert Category: Multi-language

ID	Description	Corrective Action
8193	Language switch ignored. Application was not configured with new language. An attempt was made to switch to a language that is not configured for this application.	Either add the specified language and associated strings or remove the unconfigured language selection.

Troubleshooting

If your terminal does not start up correctly:

- Check for adequate power, observe the splash screen state message and status code, indicator states, or an application that is not running during powerup.
- Determine what changed since the last time the terminal ran normally and decide if the change can be reversed.

Check for Adequate Power

A terminal that does not receive adequate power could cause unpredictable behavior. Verify the power requirements in the Specifications table.

Observe the Splash Screen

Various actions and status conditions of the terminal are reported on the splash screen, including version information about the hardware and firmware.
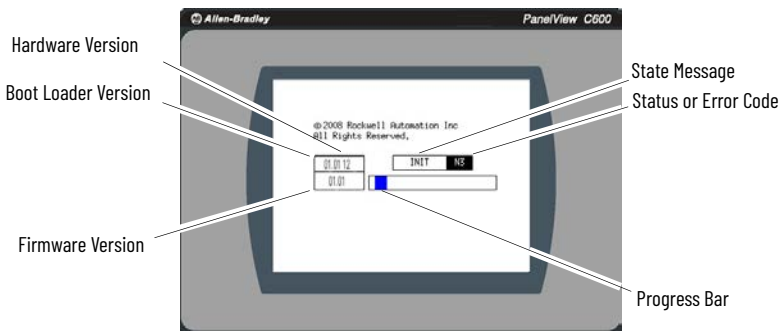
These tables describe the state messages and the status or error codes that appear on the splash screen.

Power on Self Test (POST) Failures

Message	State Message	Error Code
POST Failed RAM	Fatal	6C
POST Stuck Key	Fatal	31
POST Stuck Touch	Fatal	3A

Firmware Installation and Loading

Message	State Message	Error Code
Load Firmware Image into RAM	Update	1E
Write Firmware Image into Flash	Update	A5
Complete and Successful Firmware Installation	Update	OK
Firmware Image Validation (CRC/Format) Failure	Fatal	1E
Firmware Image Compatibility Failure	Fatal	1F
Firmware Write to Flash error	Fatal	A5
Firmware Read-After-Write Verify	Fatal	D2
Invalid or missing Firmware Image	Fatal	0A

Other Commonly Observed Status Codes

Message	State Message	Error Code
Boot Loader connects to PC via USB Device	AutoTest	0A
Boot Loader loads Firmware Image into RAM	AutoTest	E6
Boot Loader jumps to Operating System	AutoTest	FF
Operating System start up	Boot	G0
Operating System Initialize	Init	I1...J0
Application Registration and Initialize	Init	N1...N3
Application Load and Execute	Load	N4...N6

POST errors are fatal and most likely due to failed hardware. A fatal error during firmware installation and loading is most likely recoverable by installing the appropriate firmware.

Interpret the Status Indicators at Startup

The C400 terminal has a light-emitting diode (LED) power status indicator on the front of the unit to identify the system status. The table shows system indicator status.

System Status LED Indicator

LED Indicator	Description
Green	System is running and the display is switched on.
Red	System is running and the display is in screen saver mode.

The C400, C600, and C1000 terminals have two indicators on the back of the unit to isolate operating problems:

- comm indicator for communication and
- fault indicator for hardware faults

At startup, the fault indicator is off, except for a few brief flashes, and the Comm indicator is on. If the LED indicators remain off, check the power cable. After a successful startup, both indicators are off and controlled by the application running on the terminal.

The table below shows the indicator states if the terminal stops during startup.

Fault Indicator States During Startup

Fault (Red) Indicator State	Comm (Green) Indicator State	Description	Recommended Action
Potentially recoverable errors			
Blinking	Off	Last firmware download failed.	Reload the firmware.
	Blinking	EBC boot loader firmware failed or is not present	
	On	Windows® CE OS firmware failed or is not present.	
Nonrecoverable or fatal errors			
On	Off	Fatal hardware error.	Replace the terminal.
	Blinking	Fatal display hardware error.	

Restore to the Out-of-box Condition

If your terminal needs to be refreshed or to be recovered from severe application behavior, you can restore your terminal to the out-of-box condition with a special maintenance action.

Restoring your terminal to an out-of-box condition does not:

- effect the terminal firmware version or the installed font image or
- change the current firmware on your terminal.
  - If you upgraded the firmware on your terminal, the upgraded firmware version remains unaffected. See Install the Firmware from the Storage Device on page 53 for details on what is included in a firmware update.

> If you set the terminal security and forgot your password, use the procedure below to restore your terminal. Remember, it removes all applications, logs, recipes, user-installed font files, objects, and graphics.

Follow these steps to restore your terminal to the out-of-box condition.

1. Connect an external USB keyboard to the terminal.
2. Press and hold the 'Ctrl' and 'Shift' key simultaneously while starting up the terminal.

   A dialog box appears with the prompt, 'Return to Out of Box Condition?'.

> Keyboards initialize at different times. If the terminal boots normally to the configuration screen or the selected startup application, the keyboard press was not recognized.
>
> Restart the terminal and wait until the boot screen displays the INIT code N1, then press and hold the Ctrl and Shift keys until the dialog box appears.

3. Press 'Yes' or 'F1' to restore to the out-of-box condition.

> Alternatively, press 'No' or 'F2' to cancel

The terminal restores to the out-of-the-box condition. On the subsequent boot, the file system is formatted and removes the contents including applications, logs, recipes, user-installed fonts, objects, and graphics. Most terminal configuration parameters are returned to their default values.

Specifications

The specifications listed in this appendix apply to these catalog numbers: 2711C-F2M, 2711C-K2M, 2711C-K3M, 2711C-T3M, 2711C-T4T, 2711C-T6C, 2711C-T6M, 2711C-T6T, and 2711C-T10C.

Technical Specifications

Attribute			C200	C300	C400	C600	C1000
Display	Type	Monochrome transflective super-twisted nematic (STN) passive matrix	✓	–	–	–	–
		Monochrome transflective film compensated super-twisted Nematic (FSTN) passive matrix	–	✓	–	✓	
		Color transmissive color super-twist nematic (CSTN) passive matrix	–	✓	–	✓	
		Color transmissive thin film transistor (TFT) active matrix liquid crystal display (LCD)	–	–	–	✓	✓
	Size (in)		2	3	4	5.7	10.4
	Area [mm (in)]		49 x 14 (1.93 x 0.55)	67 x 33 (2.64 x 1.30)	95.04 x 53.856 (3.742 x 2.12)	115 x 86 (4.53 x 3.39)	211 x 158 (8.31 x 6.22)
	Resolution (pixels)		122 x 32	128 x 64	480 x 272	320 x 240	640 x 480
	Backlight [1] Light Emitting Diode (LED) Status Indicator	50,000 hours life, minimum	Yellow/Green	White	–	Cold Cathode Fluorescent Lamp (CCFL)	CCFL
		40,000 hours life, minimum	–	–	White	White	–
Operator Input Options	Analog Touch Keys		–	✓	✓	✓	✓
	Function Keys		✓	–	✓	–	–
	Combination Function Keys and Numeric Keypad		✓	✓	–	–	–
Ports	USB Port		✓	✓	✓	✓	✓
	Secure Digital™ (SD) card		–	–	–	✓	✓
	USB DevicePort™ (programming port)		✓	✓	✓	✓	✓
Battery	Battery Life: 5 years minimum at 25 °C (77 °F)		✓	✓	✓	✓	✓
	Real-time Clock (RTC)	No Battery Backup	✓	✓	–	–	–
		Battery Backup	–	–	✓	✓	✓
Input Voltage Range	18...30V DC (24V DC nom)		✓	✓	✓	✓	✓
Power Consumption, Maximum	5 W (0.21 A at 24V DC)		✓	✓	–	–	–
	7 W (0.28 A at 24V DC)		–	–	✓	–	–
	10 W (0.42 A at 24V DC)		–	–	–	✓	–
	18 W (0.75 A at 24V DC)		–	–	–	–	✓
Approximate Weight [kg (lb)]	Analog Touch Keys		–	0.20 (0.43)	0.347 (0.76)	0.68 (1.48)	1.57 (3.41)
	Function Keys		0.19 (0.40)	–	–	–	–
	Numeric Keypad		0.30 (0.65)	0.30 (0.65)	–	–	–

(1) The backlight is not replaceable.

Approximate Dimensions

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Attribute	C200	C300	C400	C600	C1000
Analog Touch Keys	–	80 x 116 x 57 (3.15 x 4.54 x 2.23)	113 x 138 x 43 (4.45 x 5.43 x 1.69)	154 x 209 x 57 (6.0 x 8.23 x 2.25)	250 x 308 x 54 (9.84 x 12.13 x 2.13)
Function Keys	80 x 116 x 54 (3.15 x 4.54 x 2.13)	–	–	–	–
Numeric Keypad	119 x 139 x 55 (4.69 x 5.47 x 2.15)	119 x 139 x 55 (4.69 x 5.47 x 2.15)	–	–	–

Environment Specifications

Attribute		C200	C300	C400	C600	C1000
Temperature	**Operating**	0...50 °C (32...122 °F)				
	Non-operating	-25...+70 °C (-13...+158 °F)				
Heat Dissipation		16 BTU/hr				
Relative Humidity		24 BTU/hr				
Shock	**Operating**	32 BTU/hr				
	Non-operating	58 BTU/hr				
Vibration		0...95% noncondensing				
Enclosure Type Ratings		15 g at 11 ms				

Certifications

Certifications are applicable with product is marked.

Certifications	Value
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E113724. **For 2711C-T4T only**: UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E10314.
CE	European Union 2004/108/EC EMC Directive, compliant with: EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions
EAC	Russian Customs Union TR CU 020/2011 EMC Technical Regulation
RCM	Australian Radio Communications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of the Radio Waves Act, Clause 3

Add Font Files

This appendix provides information to set up and import fonts as well as remove font files. Available fonts, which reside on the terminal in the firmware image, include:

- Arial
- Courier New
- Tahoma
- Asian Font (Simsun - Simplified Chinese)

Overview

You can change the Asian Font firmware image from Chinese to Korean, or Korean to Chinese, by using the firmware upgrade method described in . The Arial, Courier, and Tahoma fonts cannot be altered.

Additional Microsoft Windows® CE licensed fonts can be added to the terminal. Windows CE licensed fonts can be downloaded from the PCDC site, rok.auto/pcdc.
No other fonts are licensed for use on the terminal.

Set Up Fonts

Follow this procedure to set up fonts for PanelView™ Component DesignStation 2.0.

1. Verify the .NET Framework is installed before you set up the fonts.
2. Copy the fonts files to this folder:
   c:\Program Files\Allen-Bradley\PanelView Component DesignStation\Fonts.
3. Launch 'PVcDesignStation 2.0' to finish setting up the fonts.

   Additional fonts cannot be imported into PanelView Component DesignStation 3.0. Only the existing system fonts can be used.

Import a Font File

You can import a Microsoft® Windows® CE font to your terminal. Other font files are not supported.

During the import, the font file is transferred from a USB drive or SD memory card to the internal storage of the terminal. The transfer operation communicates with the terminal to transfer the file.

You can use the imported font in any application on the terminal.

   Fonts cannot be exported for copyright reasons.

Follow these steps to add a font to the terminal.

1. Open the 'PanelView Explorer Startup' window.
2. Click 'File Transfer'.
3. Click 'New Transfer'.
4. Select the source location of the font file, typically My Computer.
5. Click 'Next'.
6. Select 'Font 'as the file type.
7. Click 'Next'.
8. Click 'Browse …' to locate and select the Font file.
9. Click 'Open'.
10. Select 'Internal Storage' as the destination for the font file.

11. Click 'Transfer'.

12. Observe the informational message for 'Transferring File'.

    The terminal should be rebooted to load the added font and make it available to the design environment.

IMPORTANT	If you import a font from the emulator internal storage, you must perform a flash save for the font to be permanently stored in the emulator. Otherwise, the font will be lost once you shut down. To save to internal storage, select 'Flash', then click 'Save' from the emulator main window menu.

Remove a Font File

A font that was added to the terminal and is no longer used can be removed. Follow these steps to remove a font from the terminal.

1. Open the 'PanelView Explorer Startup' window.

2. Click 'File Transfer'.

3. Click 'Delete File'.

4. Select the source location of the Font file, typically Internal Storage.

5. Click 'Next'.

6. Select Font as the file type.

7. Click 'Next'.

8. Observe the list of all font files that have been added to the terminal.

9. Select the font file that you want to delete.

10. Click 'Delete'.

11. Observe the 'Confirmation' message for the selected font file.

12. Click 'OK'.

13. Observe the informational message 'Deleting File'.

14. Observe the deleted font file no longer appears in the list of all font files.

15. Restart the terminal to remove the file from the design environment.

IMPORTANT	If you delete a font from the emulator internal storage, you must perform a flash save for the font to be permanently stored in the emulator. Otherwise, it will be lost once you shut down. To save to internal storage, select 'Flash', then click 'Save' from the emulator main window menu.

Font files, especially East Asian Fonts, are large in size and consume significant space on internal storage. Remove all unused fonts from the terminal.

PanelView Component Emulator

This appendix shows how to install, uninstall, launch, and use the PanelView™ Component (PVc) Emulator.

Overview

The PVc Emulator is treated as a terminal and runs almost the exact same firmware. The PVc Emulator has its own file system. One folder of the file system, PC Storage, can be mapped to a folder in your computer's file system. Anything that is stored in the mapped folder can be accessed by both the PVc Emulator and your computer.

By default, applications are saved to the mapped folder, 'PC Storage', on the PVc terminal emulator.

Install the Emulator

The PVc Emulator can be installed on computers running Microsoft® Windows® XP (SP2) or Microsoft® Windows® Vista. For better emulator performance, your computer should have at least an Intel® Pentium® M 1400 MHz processor with 512 MB RAM.

> To locate your computer information, right-click on 'My Computer' then select 'Properties'.

The PVc Emulator Installer offers these five components to install:
- Microsoft® Device Emulator
- Microsoft Virtual PC
- Microsoft Loopback adapter
- PVc Emulator
- Extended support files - fonts, demos, graphics, help

If you select 'Full Install', all five of these components are installed. If you select 'Custom Install', you have the option of selecting which of these components are installed.

Follow these steps to install the PVc Emulator components.

> You must be registered with the Rockwell Automation PCDC website and accept the User Agreement before you can download files.

1. Navigate to the Rockwell Automation PCDC site, rok.auto/pcdc.
2. Search for "PVc Emulator".
3. Download the PVc Emulator executable file.
4. Run the 'PVc Emulator' executable file.

   The 'InstallShield Wizard' appears.
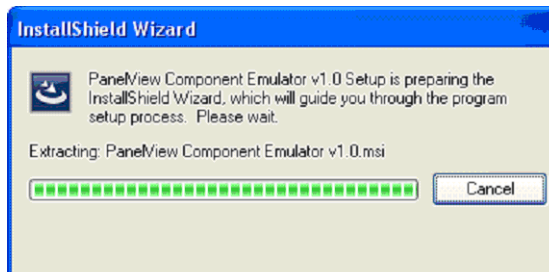
   The initial splash screen announces that the installer is running. It identifies the product being installed.

5. Click 'Next' to continue the installation or 'Cancel' to cancel installation.

6. Accept the license agreement.

7. Click 'Next' to continue with the emulator installation.

8. Select the installation type.

> You can select between Complete, Express, or Custom installation.
> - Complete: installs all components at the default installation locations and with all default user options.
> - Custom: causes the installer to bring up a dialog that allows you to customize the installation process.
> - Express: only installs the PVc Emulator. Use 'Express' install for upgrading the firmware of the emulator.
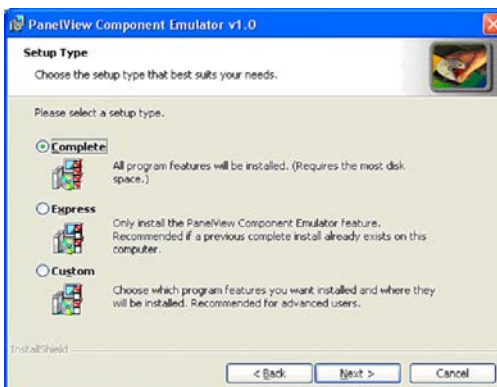
If you selected 'Custom' setup: select individual components to install, select install paths (where appropriate), and select install options (where appropriate).
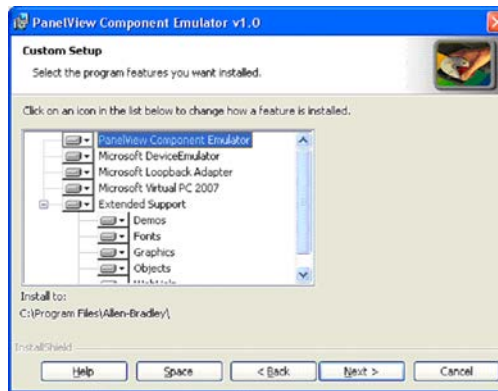
9. Click 'Install' to continue with the installation, 'Cancel' to cancel the process, or 'Back' to make changes to your installation.

> The verification screen gives you a chance to cancel the installation process before any permanent changes occur.
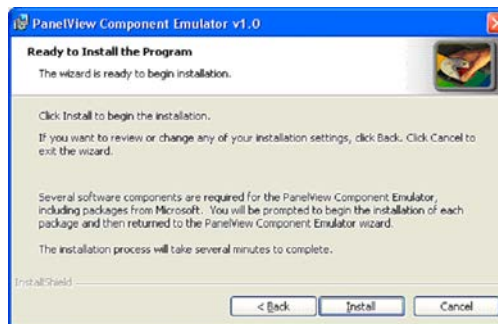
The progress screen gives you a visual indication of the installation progress.

> Microsoft Device Emulator and Microsoft Virtual PC have their own installation procedures and agreements. Once installed (if you selected complete install or selected them for custom install), you will be brought back to the finish dialog.
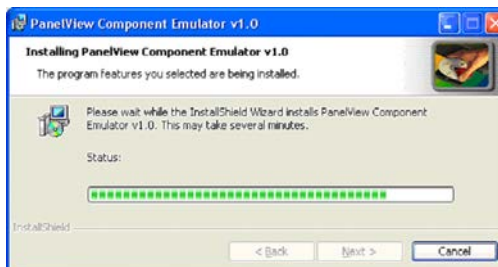
10. Click 'Finish' to complete the installation.

The 'Install Complete' screen is the final confirmation that the install has been completed successfully after all selected components have completed installation.

PanelView Component Extended Support

PVc Extended Support is a Rockwell Automation provided accessory for the PVc emulator that consists of extended help files, sample applications, libraries, and font files. These files are originally installed in the 'Mapped Share' folder.

Multiple versions of the PVc Emulator could be using the same 'Mapped Share' folder. If PVc Emulator is uninstalled, a check is made to see if the 'Mapped Share' folder is being used by any other versions of the emulator.

If other versions are using the same 'Mapped Share' folder, this step is skipped entirely.

If only one version exists, you will have the option to remove or retain the extended support files. If you select 'Yes', the files are deleted and the 'Mapped Share' folder is removed. If you select 'No', this step is skipped and the files and directory remain.

Errors During Installation

If an error is reported while configuring the Loopback Adapter, make sure that the 'Loopback Adapter' settings are correct.

Follow these steps to configure the 'Loopback Adapter' settings.

1. Open the 'Windows Network Connections' folder.
2. Right-click the connection with device name 'Microsoft Loopback Adapter'.

3. Select 'Properties'.
4. Make sure the 'Internet Protocol (TCP/IP)' box is checked.
5. Highlight 'Internet Protocol (TCP/IP)'.
6. Select 'Properties'.
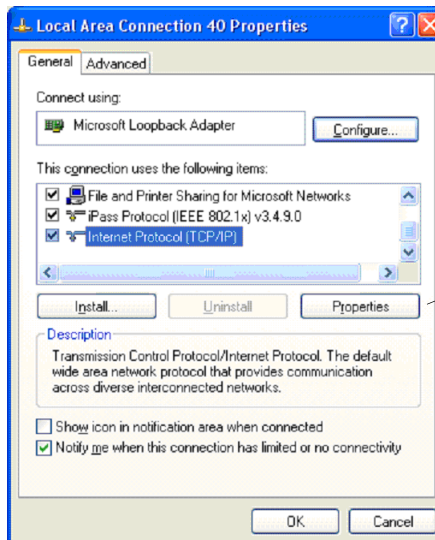
7. Verify that this IP address and Subnet Mask are set:
    IP address: 169.254.253.15
    subnet mask: 255.255.255.0
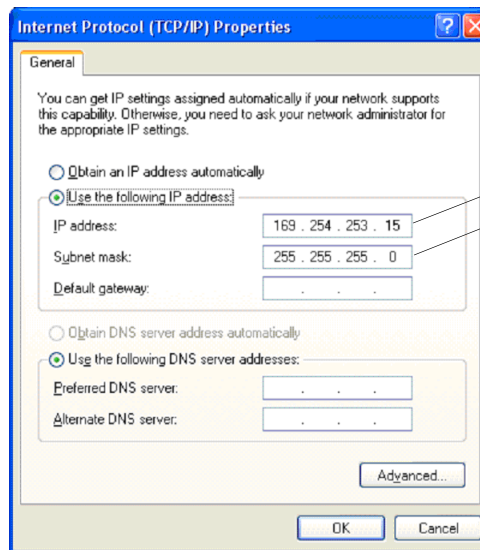
Uninstall the PVc Emulator

The PVc Emulator, Microsoft Device Emulator, and Virtual PC programs are listed as separate items in the Windows Add or Remove Programs list. If you have multiple versions of the PVc Emulator, you can remove whichever version you want. The Microsoft Device Emulator and Virtual PC programs are still needed by the PVc Emulators that remain installed. The PVc Uninstaller will not uninstall those components because they may be used by other software packages. You are required to uninstall them separately, if desired.

The PVc Uninstaller removes all registry settings, files, directories, and Windows Start menu items that were originally installed with this component. For more information, see <u>PanelView Component Extended Support on page 70</u>.

Follow these steps to uninstall the emulator components.

1. Go to the 'Control Panel' under the 'Windows Start Menu'.

2. Select 'Add or Remove Programs' and highlight 'PanelView Component Emulator v1.*x*'.

> Multiple versions of the PVc Emulator can reside on the same computer.
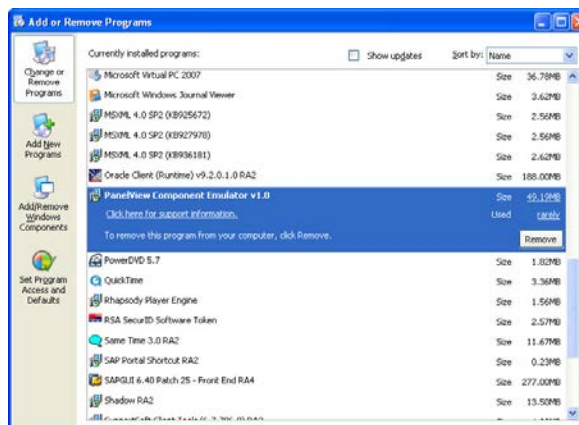
3. Click 'Remove'.

4. Click 'Yes' to confirm that you want to remove the PVc Emulator.

The computer goes through the removal process and shows a progress screen.
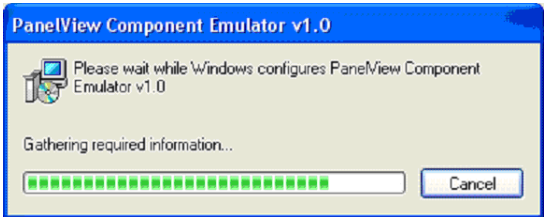
After the last version of PVc Emulator is uninstalled, you are asked if you want the mapped share folder removed.

5. Click 'Yes' or 'No' on the 'Remove Share' folder dialog.
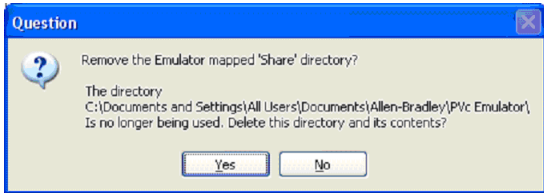
> Make note of this directory location if you plan to reinstall the emulator later. If you choose this same 'Share' directory when reinstalling the emulator all your current files are automatically available.
>
> By default, the application files you create are stored in the folder of this directory location. If you wish to preserve the applications that you created, select 'No' for the folder to remain on the computer. If you select 'Yes', the folder and all its contents are deleted

6. Follow the uninstall process for the Microsoft Device Emulator, Microsoft Loopback Adapter, and Virtual PC files from your computer if necessary.

IMPORTANT	The Microsoft Device Emulator, Microsoft Loopback Adapter, and Virtual PC could be used by other software packages.

Directory Layout and Content

This section describes how to locate the files that the installer loaded on your computer.

Device Emulator Component

The directory layout for the Device Emulator is defined by the Microsoft installer for this component. No additional actions are required by the PVc Emulator Installer.

The only emulator main menu item that you may need to use is 'Flash Save'. Select 'Flash Save' to preserve settings for the next time the emulator is started such as after copying fonts or User-Defined Objects into the emulator. The other menu items on the main menu do not apply to the PVc Emulator.

Flash - Save
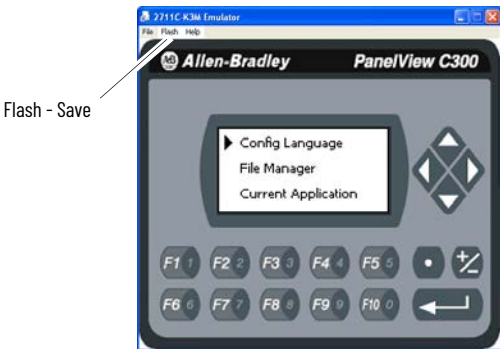
Virtual PC Component

The directory layout for the Virtual PC is defined by the Microsoft installer for this component. No additional actions are required by the PVc Emulator Installer.

PanelView Component Emulator Component

The root install location for the PVc Emulator component is:
C:\Program Files\Allen-Bradley.

The directory structure under the root location is shown.

Root Location Directory Structure
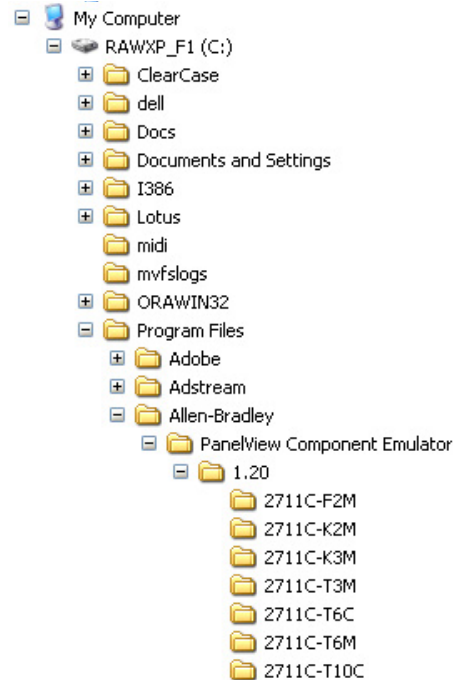
The install directory under the root is named PVc Emulator. This folder contains the script files that are required for launching the emulator.

Under the PVc Emulator directory is the directory that is named #.## (where #.## is the major and minor version number of the emulator). This format allows later versions of the emulator to be installed without disrupting previous installations.

Emulator Versions
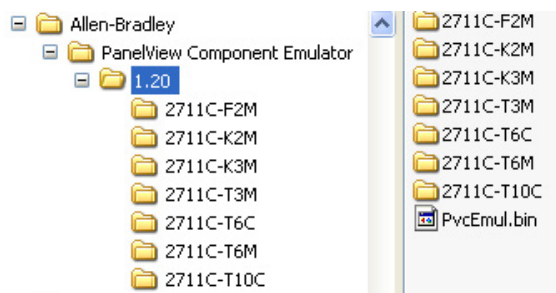
There is a subdirectory for each terminal type. The subdirectory name is the catalog number for the respective terminal type. These subdirectories contain the files that define each emulated terminal image and behavior. The files that comprise the emulator contain the base name of the terminal catalog.

Terminal Subdirectory
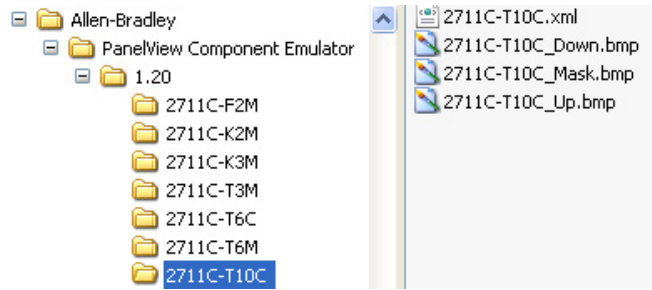
Mapped Share Folder

The emulator is launched with the command line option that maps a PC folder into the emulator's file system. The given computer folder is referred to as the Mapped Share folder. The default location for this mapped share folder is shown.
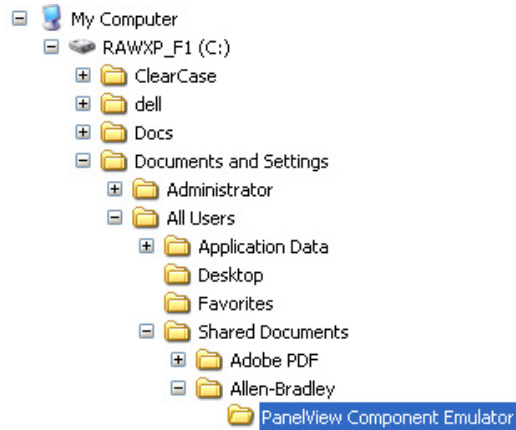
However, the installer allows the user to select another location for this shared folder.

Launch the Emulator

There are two primary ways to launch the PVc emulator. The first is via entries in the Windows Start Menu. The second is via double-clicking a PVc user application file (*.cha).

Windows Start Menu

The PVc Emulator installer creates entries in the Windows Start Menu that can be used to launch a specific emulated terminal type. There is also a shortcut that is named 'Applications' that is simply a shortcut to the mapped 'Share' folder. The shortcuts are installed for all users.
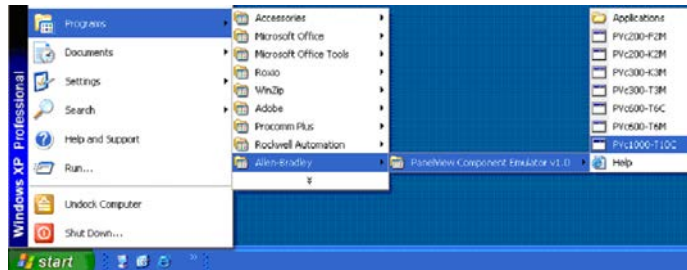
Use the Emulator

The emulator lets you create applications without being connected to a terminal.

By default, anytime you create/save an application on the emulator, it goes to the mapped 'Share' folder.

IMPORTANT	When using the emulator to create or change applications, make sure that your pop-up blocker is off.

Anything that you pull into internal storage on the emulator (fonts, graphics) has to be Flash Saved for it to be permanently stored in the emulator. Otherwise, it's lost once you shut down. To save to internal storage, select 'Flash' and then 'Save' from the main menu window in the emulator.

On the emulator, do not change the terminal communication settings. If these settings are changed, you must uninstall and install the emulator where the data is lost.

Accept all defaults when installing the emulator which builds the file structure.

> For more information on working with the emulator, see the context-sensitive help.

IP Addresses for your Emulator

The following is a list of IP addresses to use with your emulator.

IP Addresses for Emulators

Cat. No.	IP Address
2711C-T10C	169.254.253.9
2711C-T6T	169.254.253.10
2711C-T4T	169.254.253.11
2711C-T6M	169.254.253.8
2711C-T6C	169.254.253.7
2711C-T3M	169.254.253.6
2711C-K3M	169.254.253.5
2711C-K2M	169.254.253.4
2711C-F2M	169.254.253.3

Error Codes

There are various failure conditions that can occur in the emulator/browser launch process. The launch mechanism contains a pop-up dialog to report errors to the user. To avoid multi-language issues, the error reporting dialog contains a title bar and up to three pieces of error detail information. The first piece of this error detail information is required. This is the error code. The remaining two pieces are optional and their content varies according to the error code.

PVcEmClick Error Codes

Code	Parameter 1	Parameter 2	Description
0x10001	0	<cmd args>	Invalid command line
0x10002	0		Missing CHA file name/path command argument
	1	<name/path>	CHA file name/path argument ends in a \
	2	<name/path>	CHA file name/path does not contain path info
0x10003	0	<keyname>	Emulator info not found in registry
0x10005	0	<err code>	Error reading CHA file header
	1	<cha param>	Invalid CHA file header content
0x1000A			Failed calling launch script

PVcEmLaunch Error Codes

Code	Parameter 1	Parameter 2	Description
0x20001	0	<cmd args>	Invalid command line
0x20003	0	<keyname>	Emulator root not found registry
	1	<keyname>	No matching emulator version found in the registry
0x20004	0	<version>	Best fit, invalid version number format
	1	<err code>	Best fit, failed enumerating installed versions
	2		Best fit, no best fit found
0x20006	0	<xml name>	No Title Bar found in emulator skin XML file
0x20007			The emulator is already running
0x20008	0	<err code>	Unable to enumerate emulator registry parameters
0x20009	0	<keyname>	Base emulator command string not found in registry
	1		Error constructing emulator command string
	2	<keyname>	Base web browser command string not found in registry
	3		Error constructing web browser command string
0x2000B			Failed launching the emulator
0x2000C			Emulator failed to start (timeout)
0x2000D			Failed launching web browser

PanelView Component DesignStation

This appendix shows how to use the PanelView™ Component (PVc) DesignStation.

Overview

PVc DesignStation lets you create applications without being connected to a terminal. There are two versions available:

- version 2.0, an offline programming software for PanelView Component HMI applications
- version 3.0, an offline Windows® application for designing and managing PanelView Component HMI applications

PVc DesignStation v2.0

PVc DesignStation v2.0 provides a faster design experience compared to developing applications online with a terminal or an emulator. Applications developed using PVc DesignStation v2.0 can only run on terminals with firmware version 1.50 or later.
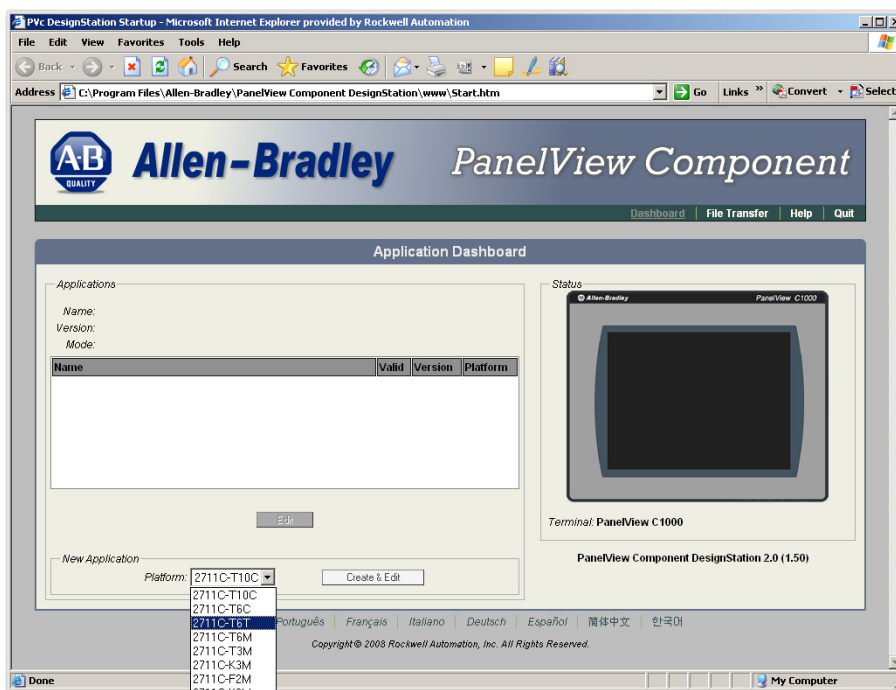
In PVc DesignStation v2.0, the following features are not yet implemented:

- validation
- test mode
- run mode.

PVc DesignStation v2.0 only supports Microsoft® Internet Explorer® 7 and 8. No other internet browsers are currently supported.

PVc DesignStation v3.0

Applications created using the PVc DesignStation v3.0 can be transferred to the target PanelView Component terminals using a USB drive or Secure Digital™ (SD) storage card. You can develop applications using the PVc DesignStation v3.0. However, you can only actively run applications on a physical terminal with firmware version 1.70 or later.

In PVc DesignStation v3.0, the following features are not yet implemented:
- validation
- test mode
- run mode.
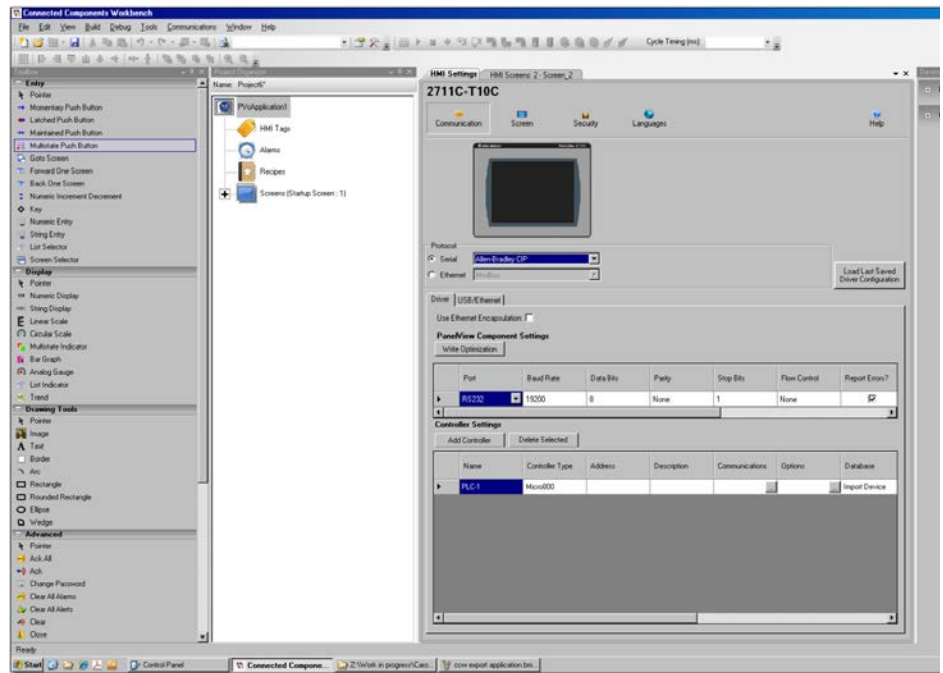
PVc DesignStation in Connected Components Workbench

PVc DesignStation can be launched from within the Connected Components Workbench™ software. PVc DesignStation runs as a tab window.

You can develop PVc applications from within Connected Components Workbench software, but you can only run the application on a physical terminal. PVc applications that are created from within Connected Components Workbench can be transferred to the target PanelView Component terminals using a USB drive or SD storage card.

We strongly recommend that you validate the transferred application using the terminal software before running the application. Non-validated applications, when started on the terminal, display a reminder pop-up message that the application is not validated.

PVc DesignStation can only have one instance running on the computer at any one time.

You can download the latest version of the 'Connected Components Workbench' software for your Micro800™ programmable controller from the <u>Design and Configuration Software Site</u>.

Install PVc DesignStation

The PVc DesignStation can be installed on computers running the following operating systems (OSs):

System Requirements

PVc DesignStation v2.0	PVc DesignStation v3.0
Windows XP (SP3 only)	Windows XP 32 bit (SP3 only)
Windows Vista	Windows Vista 32 bit or 64 bit
Windows 7	Windows 7 32 bit or 64 bit

For better performance, your computer should have at least an Intel® Pentium® M 1400 MHz processor, with 512 MB RAM.

> To find your computer information, right-click 'My Computer', then select 'Properties'.

Follow these steps to install the software components.

> The following installation is for the PVc DesignStation v3.0. However, the steps that are involved are the same for both PVc DesignStation v2.0 and v3.0.

1. Verify .NET framework 3.5 is installed before installing PVc DesignStation.
2. Run the executable file.

   The initial splash screen announces that the installer is running. It identifies the product being installed.

3. Click 'Next' to continue the installation or 'Cancel' to cancel the installation.
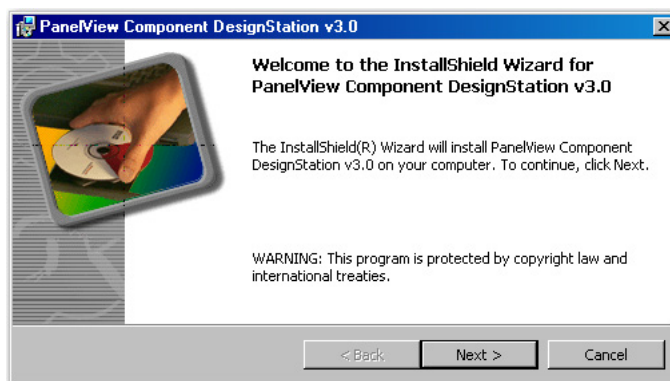
4. Accept the license agreement, then click 'Next' to continue with the installation.
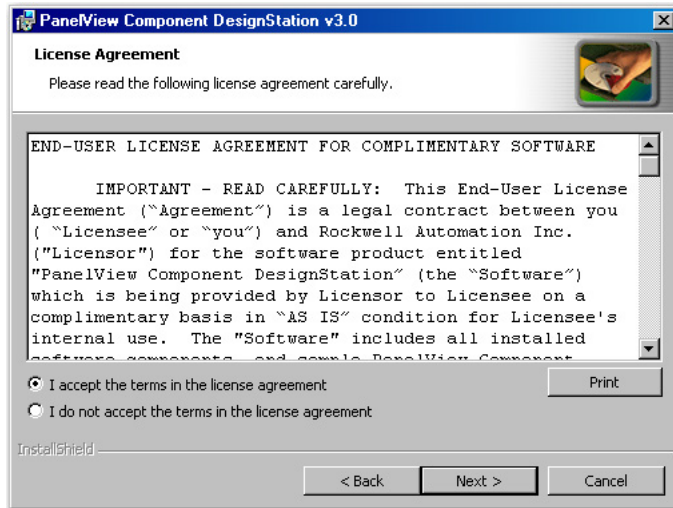
5. Click 'Install' to continue with the installation, 'Cancel' to cancel the installation, or 'Back' to return to the previous dialog.

> The verification screen gives you a chance to cancel the installation process before any permanent changes occur.
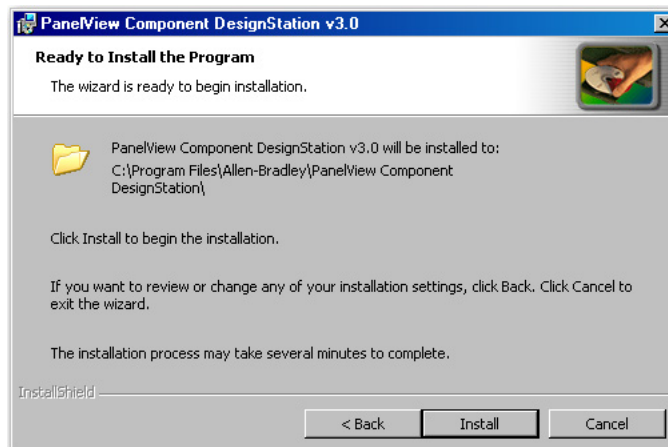
The progress screen gives you a visual indication of the installation progress.
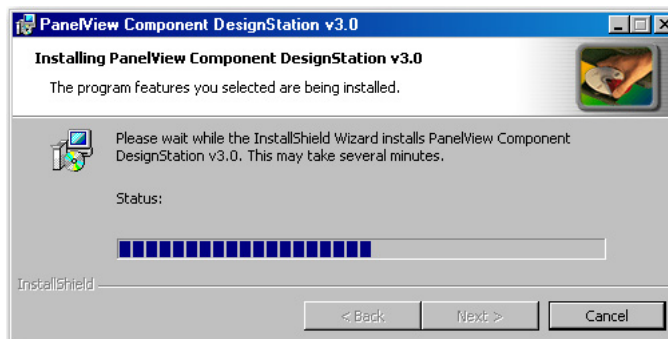
6. Click 'Finish' to complete the installation.
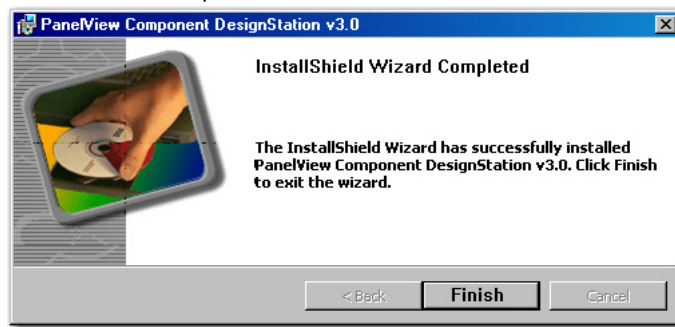
The install complete screen is the final confirmation that the install has been completed successfully.

Uninstall PVc DesignStation

When PVc DesignStation software is uninstalled, all registry settings, files, directories, and Windows Start menu items are removed.

Follow these steps to uninstall the components.

1. Go to 'Control Panel' from the Windows Start Menu.
2. Select 'Add or Remove Programs'.
3. Highlight 'PanelView Component DesignStation'/
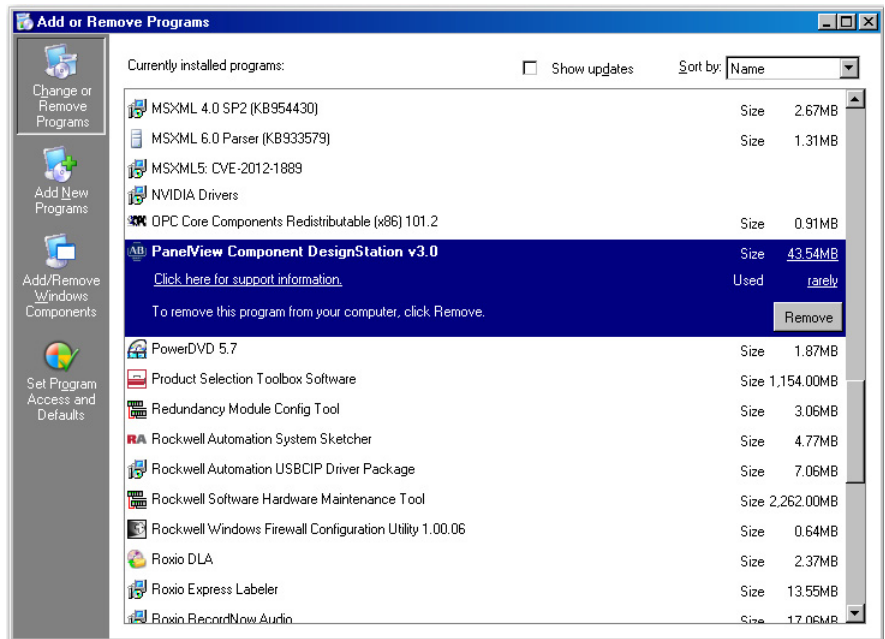
4. Click 'Remove'.
5. Click 'Yes' to confirm that you want to remove the software
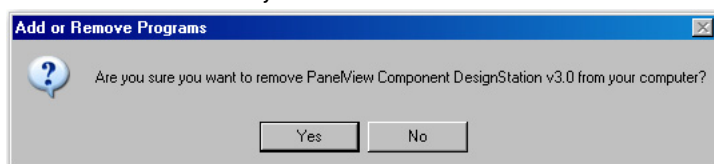
6. The computer goes through the removal process and shows a progress screen.
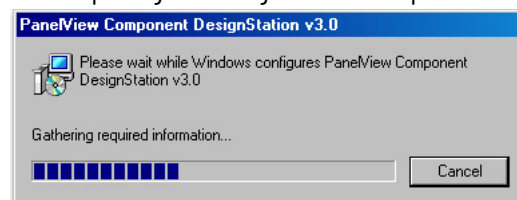
Directory Layout and Content

This section describes where you can find the files that the installer loaded on your computer.

PVc DesignStation Component

The root install location for the PVc DesignStation component is:
C:\Program Files\Allen-Bradley.

The directory structure under the root location is shown below.

Root Location Directory Structure
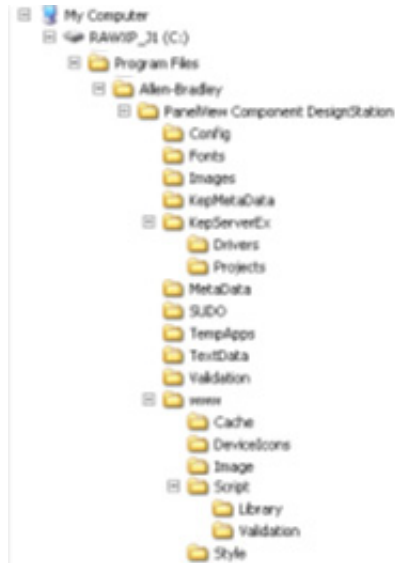
The install directory under the root is named 'PanelView Component DesignStation'. This folder contains the files that are required for launching the software.

Launch the PVc DesignStation

Launch the PVc DesignStation via the 'Launch PVc DesignStation' entry in your 'Windows Start Menu' or double-click the 'Launch PVc DesignStation' shortcut on your desktop.

Windows Start Menu

The PVc DesignStation installer creates an entry in the 'Windows Start Menu' that can be used to launch the software. The shortcut is installed for all users.

Use PVc DesignStation

When using PVc DesignStation v2.0 to create or change applications, make sure that your pop-up blocker is off.

For more information on working with PVc DesignStation v2.0, refer to the context-sensitive help.

PanelView Component Firmware Update Utility

> If your terminal is not operable, use the PanelView™ Component Firmware Update Utility that is described in this appendix.
>
> If your terminal is operable and has a functioning operating system (OS), follow the firmware upgrade steps in .

This appendix shows how to use the PanelView Component Firmware Update Utility to perform recovery and maintenance operations on a PanelView Component terminal that is in a non-operating state.

Overview

The PanelView Component Firmware Update Utility is a PC application that interacts with the boot loader on the terminal via a USB connection to perform maintenance actions on the terminal firmware. The utility supports a firmware maintenance capability that is independent of the OS and/or the other firmware elements on the terminal.

Use this firmware update utility only to recover from fatal conditions such as a:

- non-functioning OS that resulted from a failed or interrupted firmware upgrade,
- corrupted file system that blocks the OS, or
- corrupted Microsoft® Windows® registry that blocks the OS.

The firmware update utility always requires a companion firmware image, SC XX-XX.IMG, even if you are only performing a 'Clean File System or Clean Registry' operation. Download the utility and the firmware image from the Rockwell Automation PCDC site, rok.auto/pcdc.

> You must be registered with the Rockwell Automation PCDC website and accept the User Agreement before you can download files.

The firmware update utility lets you perform these operations separately or together:

Operation	Description
Update Firmware	This operation installs a new or changed firmware image.
Clean File System	This operation formats the entire file system. All user-added content and user applications in the file system are erased including all changes to the Windows registry. The system reverts to a default registry. This operation also performs a clean registry operation since the registry is a file
Clean Registry	This operation erases all changes to the Windows registry and reverts to a default registry. This operation removes registry settings, such as the user's selected startup application, but does not remove user applications from the terminal.

From the main dialog box of the firmware update utility, you can perform maintenance operations separately or together by selecting the corresponding checkboxes.
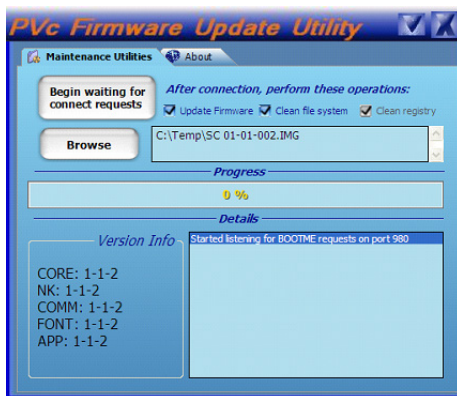
The firmware update utility always requires:

- a companion firmware image, SC XX-XX.IMG, even if you are only performing a clean file system or clean registry operation. The firmware update utility and the firmware image can be downloaded from the Rockwell Automation PCDC site, rok.auto/pcdc.

- a connection from the USB host port of your computer to the USB Allen-Bradley® on the terminal.

  Before connecting your computer to the USB port of the PanelView Component terminal, you must first install the 'Allen-Bradley PanelView USB remote NDIS Network Device' driver on your computer. See Install the USB Driver on page 45.

Install the Utility

Follow the procedure below to install the firmware update utility.

1. Run the 'Firmware Update Utility' executable file.

2. Click 'Next'.
   The 'Select Installation Folder' dialog box appears.
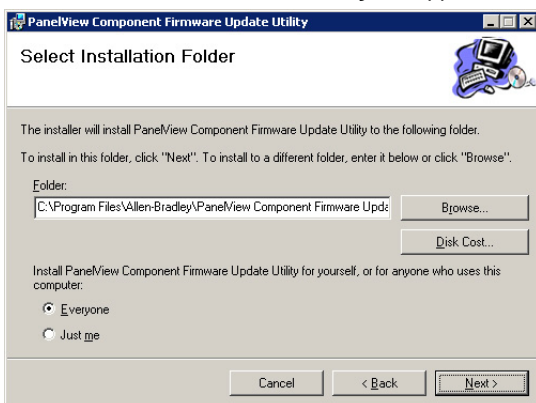
3. Optional: Click 'Browse' to change the folder location and to install the utility for anyone who uses this computer or the person currently logged on.

4. Click 'Next' to install the utility to the folder location.
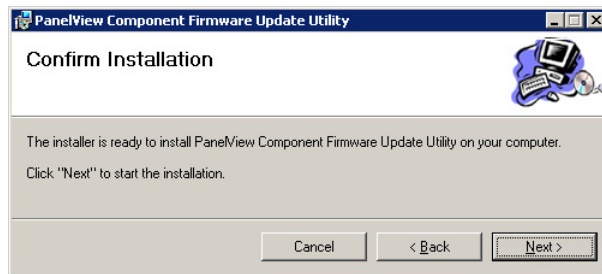
5. Click 'Next' to start the installation.
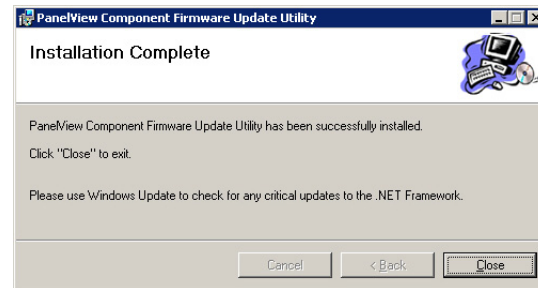
6. Click 'Close' when the installation is complete.

Update Firmware

This section shows how to update the firmware image on a non-operating terminal.

Follow these steps to update the firmware image on the terminal.

1. Connect the USB host port of your computer to the USB DevicePort™ on the terminal.

2. From the Start Menu, select 'Programs>Allen-Bradley>PanelView Component Firmware Update Utility'.

3. When the utility is running, make sure 'Update Firmware' is checked.

'Update Firmware' must be checked.
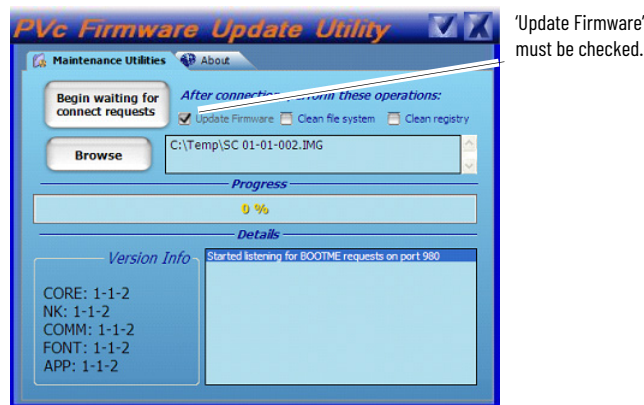
4. Click 'Browse' to select the SC XX-XX.IMG. For example, SC 01-01-002.IMG.

> The SC XX-XX.IMG image file is typically obtained from the PanelView Component technical support website.
> When a valid SC XX-XX.IMG image file is opened, the version information is extracted and displayed.

5. Click 'Begin Waiting for Connect Requests' to start the firmware update.

The utility is waiting for an update request from the terminal.
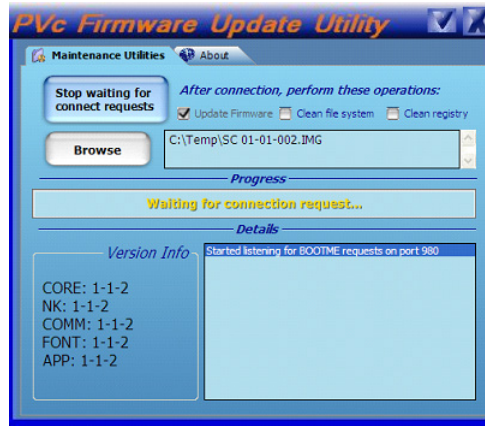
6. Reset the terminal.

    Momentarily open the USB connection at the same time power is cycled. Otherwise, the power from the USB connection may help prevent the terminal from resetting.

7. Observe the progress bar and the 'Details' window for status information as the images are downloaded to the terminal.
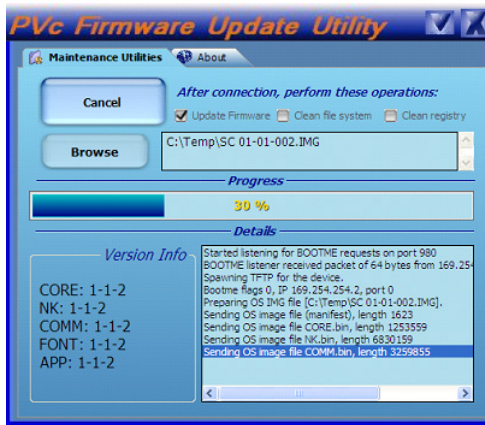
While the image is downloading, the terminal displays 'UPDATE 1E' on its splash screen.

8. Wait until you see the message on the progress bar that reads 'Image sent'.

9. Check 'Terminal' for restart completion.
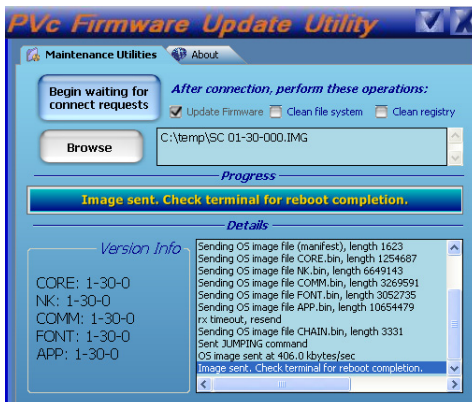
10. Wait for the terminal to write the new image to flash memory.

    During this operation, the terminal displays 'UPDATE A5' on the splash screen. After about one minute, the terminal displays 'Update Complete'.

    The terminal reboots itself when the new image is successfully written to flash memory.

    IMPORTANT   The terminal must remain powered on until the boot cycle is complete.

11. Observe the firmware version information of the new image.

The firmware version is displayed on the startup screen and will also appear on the 'System Information' screen when the terminal is in configuration mode.

Clean File System and Clean Registry

You can perform the clean file system and the clean registry operation separately or at the same time.

Operation	Result
Clean file system	Removes all files, including user application.
Clean registry	Removes registry settings (such as the user's selected startup application) only; this action will not remove user applications from the terminal.

Perform the following procedure to clean the file system and/or clean the registry.

1. Connect the USB host port of your computer to the USB DevicePort on the terminal.
2. From the 'Start' menu, select 'Programs>Allen-Bradley>PanelView Component Firmware Update Utility'.
3. When the utility is running, make sure 'Clean File System', 'Clean Registry', or both are checked.
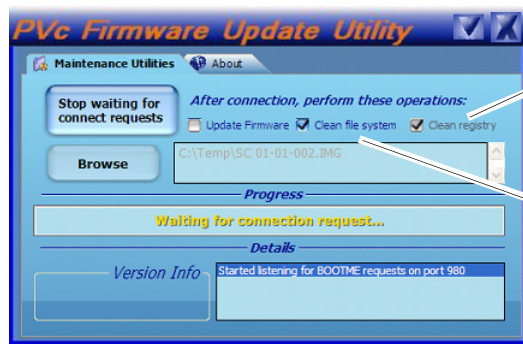
When 'Clean file system' is selected, 'Clean registry' is automatically selected because the registry is a file.

4. Click 'Browse' to select the SC XX-XX.IMG image file. For example, SC 01-01-002.IMG.

The SC XX-XX.IMG image file is typically obtained from the PanelView Component technical support website. When a valid SC XX-XX.IMG image file is opened, the version information is extracted and displayed.

5. Click 'Begin Waiting for Connect Requests' to send the selected operations to the terminal when requested.

The utility is waiting for an update request from the terminal.

6. Restart the terminal.

Momentarily open the USB connection at the same time power is cycled. Otherwise, the power from the USB connection may help prevent the terminal from resetting.

7. Wait until the message on the progress bar that reads 'Image sent'.
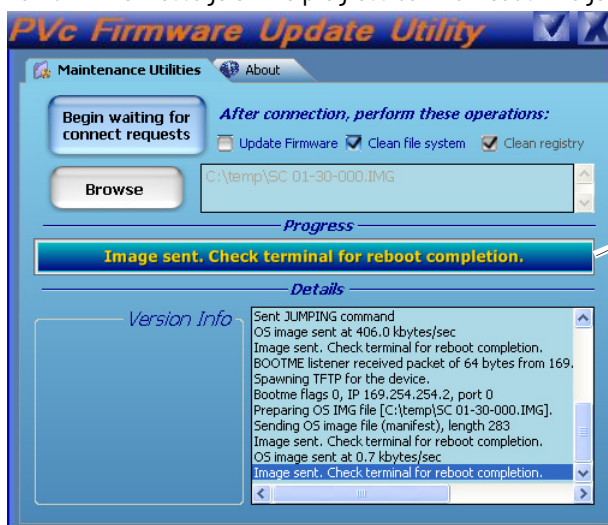
8. Check that the terminal for restart completion.

    The terminal restarts and automatically performs the requested operations during startup.

9. Check that the terminal reverts to the startup application.

Resolve Firmware Upgrade Issues

If you experience problems with the firmware update utility, check that your USB RNDIS adapter settings are correct.

1. Open the 'Windows Network Connections' folder.

2. Reset the terminal.

    Momentarily open the USB connection at the same time power is cycled. Otherwise, the power from the USB connection may help prevent the terminal from resetting.

3. Right-click the connection with the name 'Allen-Bradley PanelView Boot Loader USB Remote RNDIS Network Device' when it appears.

4. Select 'Properties'.

    This connection will disappear after a few seconds).
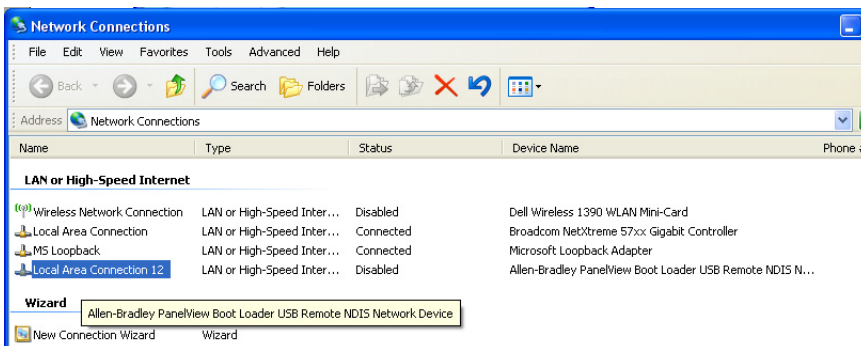
5. Click the 'Advanced' tab, then click 'Settings'.
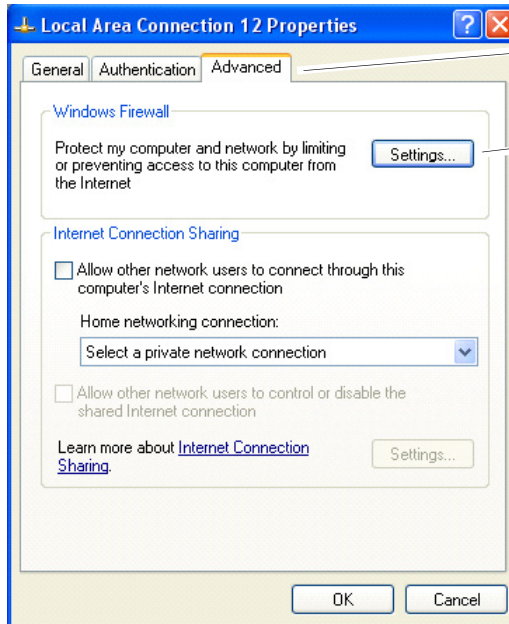
6. Check that the 'Windows Firewall' is set to 'Off' in the 'General' tab.
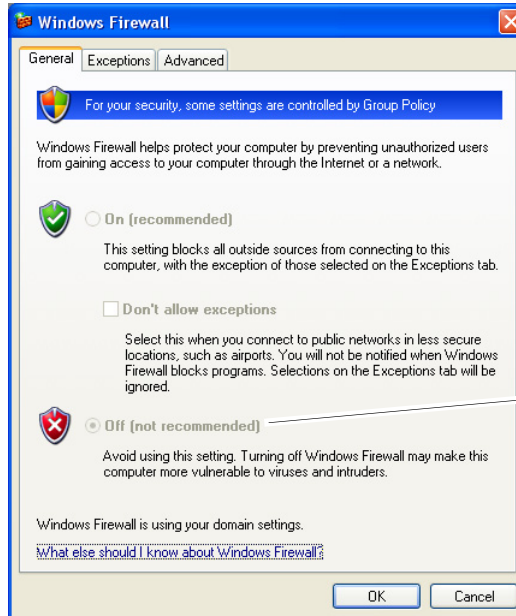
7. Click 'OK'.

8. Click the 'General' tab for connection properties.

9. Check that the Internet Protocol (TCP/IP) box is selected and no other protocols are selected.
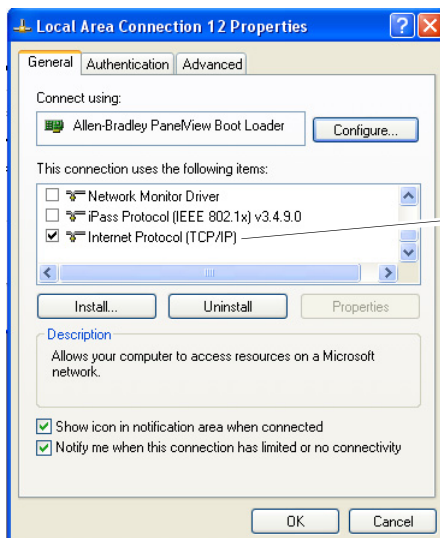
10. Select 'Internet Protocol (TCP/IP)'

11. Click 'Properties'.

12. Verify that the following IP address and subnet mask are set to the following values:

    IP address: 169.254.254.1

    Subnet mask: 255.255.0.0
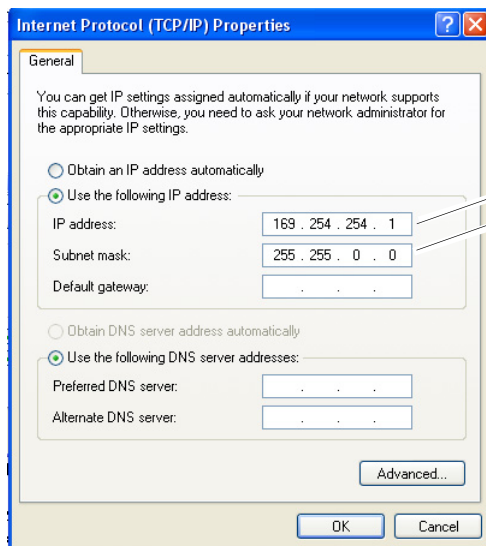
13. Click 'OK'.

Software Maintenance

You can display the version information of the 'PanelView Component Firmware Update' utility by clicking the 'About' tab.

Use the 'Add or Remove Programs' tool in the 'Control Panel' from the OS of your computer to install a newer version or repair an existing installation of the 'PanelView Component Firmware Update' utility.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc

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Waste Electrical and Electronic Equipment (WEEE)

At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

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