

Allen-Bradley

ControlNet Communications

For PanelView Plus and
VersaView CE Terminals

User Manual

**Rockwell
Automation**

Important User Information

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

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

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

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

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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.

IMPORTANT

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

ATTENTION



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

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

SHOCK HAZARD



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

BURN HAZARD



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

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The PanelView Plus and VersaView CE devices support ControlNet Communications with RSVIEW ME v3.10 or higher. These devices support Unscheduled and Scheduled messaging. Use this guide to:

- Configure ControlNet Unscheduled Communications
- Configure ControlNet Scheduled Communications
- Upgrade a 2711P-RN15S Series A Revision A ControlNet communication module

Topics Covered

Chapter 1 Install a ControlNet Communication Module -

Shows how to install and replace a ControlNet communication module on a PanelView Plus or VersaView CE terminal. Also shows how to connect module to a ControlNet network.

Chapter 2 Configure Unscheduled Communications - Shows how to configure ControlNet for Unscheduled messaging between a PanelView Plus or VersaView CE terminal and an Allen-Bradley controller.

Chapter 3 Configure Scheduled Communications - Shows how to configure ControlNet for Scheduled messaging between a PanelView Plus or VersaView CE terminal and an Allen-Bradley controller.

Chapter 4 Upgrade 2711P-RN15S Firmware - Shows how to upgrade a 2711P-RN15S Series A, Rev. A ControlNet Communications Module to Rev. C for Scheduled messaging.

Software Requirements

The following software/firmware must be installed on the development computer and the PanelView Plus or VersaView CE terminal to configure and communicate with an Allen-Bradley controller on a ControlNet network.

ControlNet Unscheduled Communications

Software/Firmware	PanelView Plus 700-1500 VersaView CE 700H-1500H	PanelView Plus 400 or 600
RSView Studio	v3.10 or later	v4.0 or later
RSView Machine Edition Runtime	v3.10 or later	v4.0 or later
ControlNet Module Firmware	2711P-RN15S, Series A, Rev A (firmware v2.07 or later) ⁽¹⁾	2711P-RN15C, Series A, Rev A or later

⁽¹⁾ This applies to terminals that are ordered as pre-configured units with the ControlNet module.

ControlNet Scheduled Communications

Requirements	PanelView Plus 700-1500 VersaView CE 700H-1500H	PanelView Plus 400 or 600
RSView Studio	v3.20 or later	v4.0 or later
RSView Machine Edition Runtime	v3.20.04.43 or later	v4.0 or later
RSNetWorx for ControlNet	v5.11 or later	v6.0 or later
RSLogix 5000	v13.0 or later	v15.0 or later
ControlNet Module Firmware	2711P-RN15S, Series A, Rev C (firmware v3.08 or later) ⁽¹⁾	2711P-RN15C, Series A, Rev A or later

⁽¹⁾ This applies to terminals that are ordered as pre-configured units with the ControlNet module.

WARNING

The ControlNet Communications Module (2711P-RN15S) will not run with RSView ME firmware 3.20.03.43 or earlier. All ControlNet Modules with v3.07 firmware must be upgraded to v3.08 or later; otherwise, outputs may turn on an indeterminate state.

For Additional Information

For more information consult the RSView Enterprise or RSView Studio online help.

Electronic versions of the following publications are available at:

<http://www.rockwellautomation.com/literature>

- PanelView Plus User Manual (2711P-UM001)
- VersaView CE User Manual (6182H-UM001)
- RSView Machine Edition User Guide (ViewME-UM003)
- ControlNet Coax Tap Installation Instructions (1786-IN007)
- ControlNet Coax Media Planning and Installation Manual (CNET-IN002)

Install a ControlNet Communication Module

Objectives

This chapter shows how to:

- Install and replace a communication module on the PanelView Plus or VersaView CE terminal.
- Connect the communication module to a ControlNet network.

The communication modules are available as separate catalog numbers for specific communication protocols.

Install Module on 700-1500 Terminals

This section shows how to install a communication module on a PanelView Plus 700-1500 or VersaView CE 700H-1500H devices. The module installs over the logic module.

TIP

The logic module must be attached to the display module before you attach the communication module.

To install a communication module:

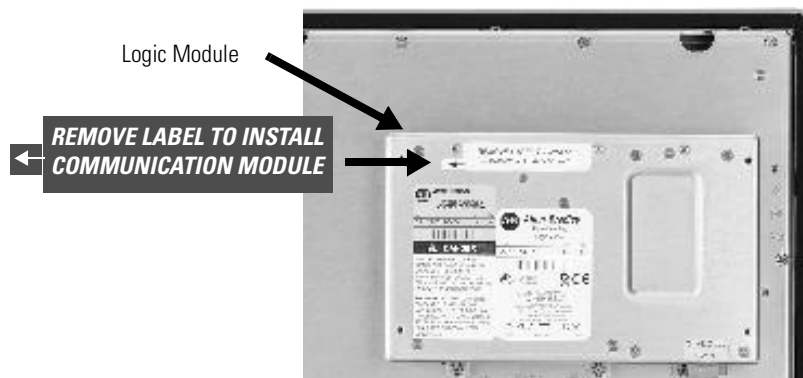
1. Disconnect power from the terminal.

WARNING

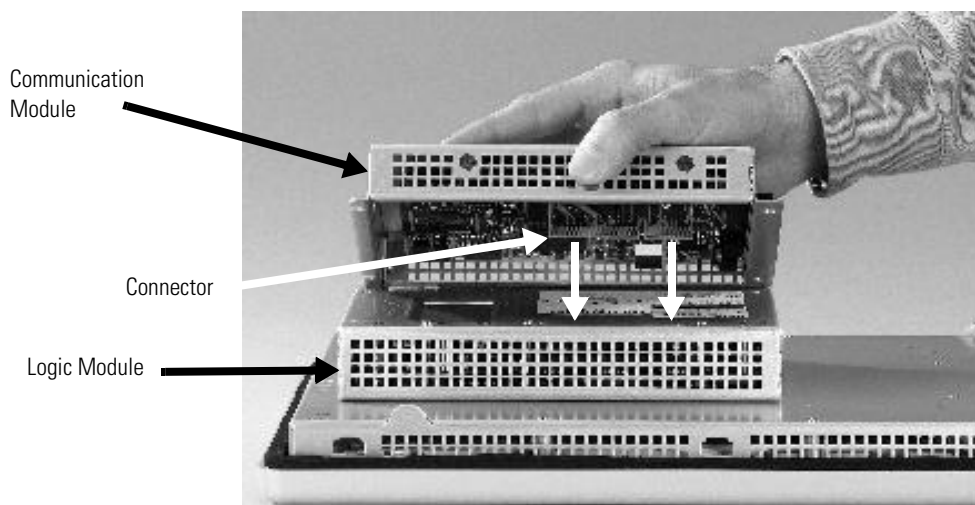
Do not connect or disconnect any communication cable with power applied to this device or any device on the network. An electrical arc could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

2. If the display module is removed from panel, set the module, display side down, on a clean, flat, stable surface to prevent scratches.

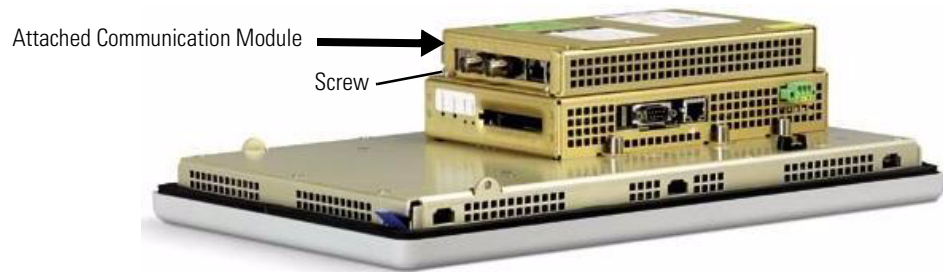
3. Remove the label covering the communication module connector on the logic module.



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



6. Push down on communication module until connectors are firmly seated.
7. Tighten the four screws that secure the communication module to the logic module. Tighten screws to a torque of 0.68 Nm (6 to 8 in-lb).



To replace a communication module:

1. Disconnect power from the terminal.
2. Disconnect communication cables from the communication module.
3. Remove the four screws that secure the communication module to the logic module.
4. Carefully lift the communication module away from the logic module and set aside.
5. Follow steps 4 to 7 in the Install a communication module procedure.

Install Module on 400-600 Terminals

To install a communication module:

1. Disconnect power from the terminal.

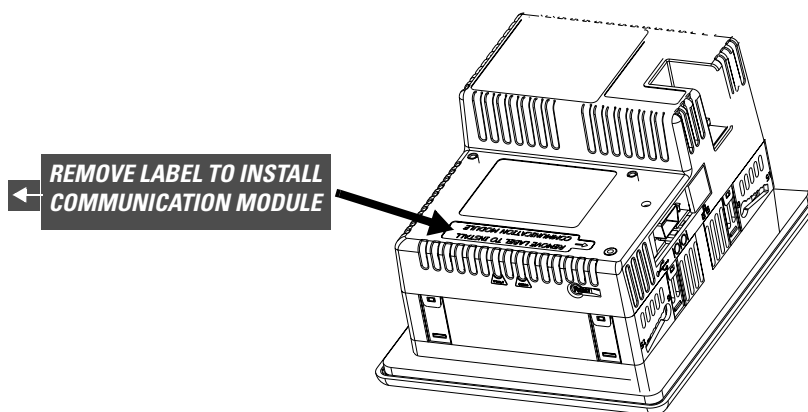
WARNING



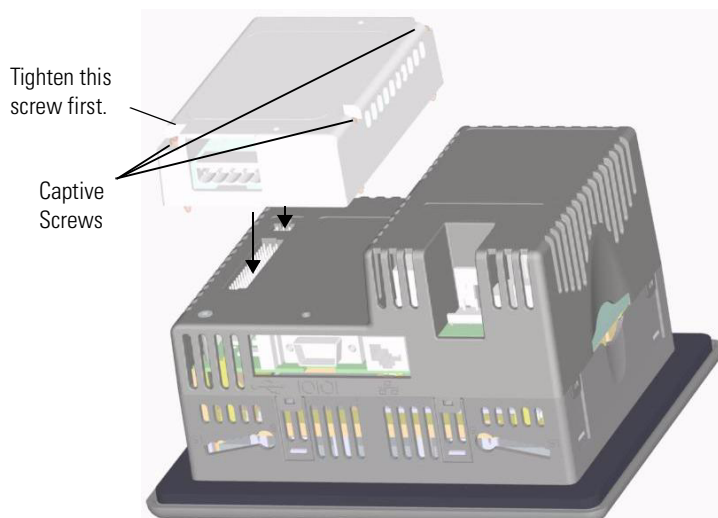
If you connect or disconnect any communication cable with power applied to this module or any device on the network, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

2. Set the terminal, display side down, on a clean, flat, stable surface.

3. Remove the label covering the connectors on the base unit of the terminal.



4. Position the communication module over back of the terminal so that the connectors on the bottom of communication module align with the connector on the base unit.



5. Push down on the communication module until connector is firmly seated.
6. Tighten the three captive screws that secure the module to the terminal, starting with the bottom, left screw on the module. Tighten screws to a torque of 0.34 to 0.45 Nm (3 to 4 in-lb).

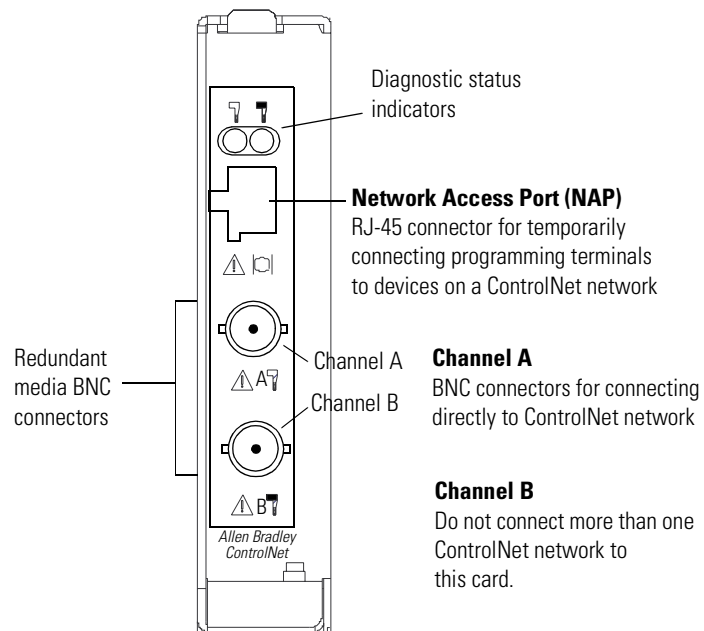
To replace a communication module:

1. Disconnect power from the terminal.
2. Disconnect communication cables from the communication module.
3. Loosen the three screws that secure the communication module to the terminal.
4. Carefully lift the communication module away from the terminal and set aside.
5. Install another communication module by following steps 4 to 6 in the Install a communication module procedure.

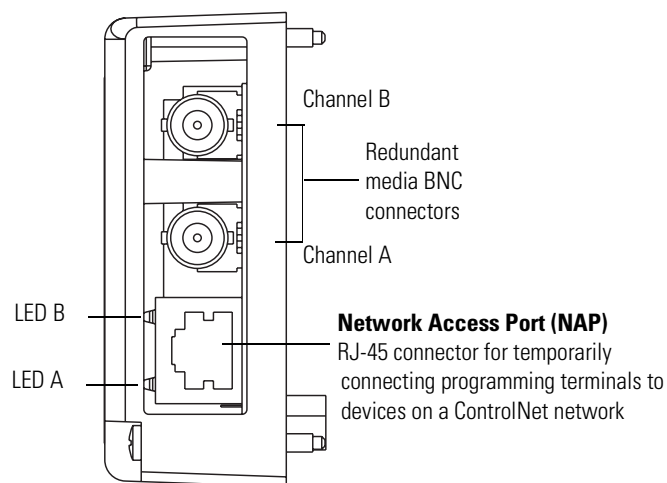
ControlNet Module Connectors

This section shows the connectors on the ControlNet communication modules.

2711P-RN15S Communication Module for PanelView Plus/VersaView CE 700-1500



2711P-RN15C Communication Module for PanelView Plus 400/600 Terminals



ATTENTION



Do not connect more than one ControlNet network to the communication module. If you attempt to connect a second network to the module, your communication system will operate erratically.

Connect the Module to a ControlNet Network

After installing the ControlNet communication module on the terminal, you can connect the module:

- Directly to a ControlNet network, which requires a tap
- To a device already connected to the ControlNet network

WARNING



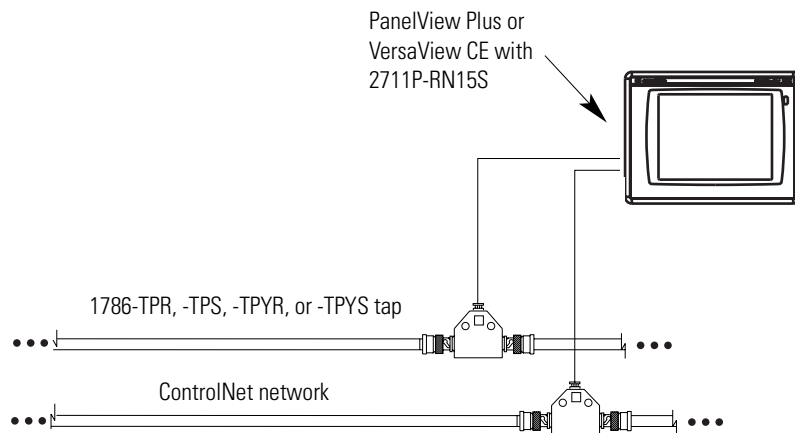
When used in a Class I, Division 2, hazardous location, this equipment must be mounted in a suitable enclosure with proper wiring that complies with the governing electrical codes.

Do not connect or disconnect any communication cable with power applied to this device or any device on the network. An electrical arc could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

To connect the PanelView Plus or VersaView CE ControlNet communication module directly to a ControlNet network as shown in the illustration follow the instructions in these publications:

- ControlNet Coax Tap Installation Instructions, publication 1786-IN007.
- ControlNet Coax Media Planning and Installation Manual, publication CNET-IN002.

Connect the Module Directly to a ControlNet Network



IMPORTANT

If you connect the product to a cable system that does not support redundant media, connect the tap dropline to the BNC connector labeled Channel A. Channel B is left unconnected.

If the cable system is redundant, connect the product so that all devices on the network use the same cable for the same channel. That is, all Channel A connectors connect to one cable; all Channel B connectors connect to the other cable.

TIP

If you use a non-redundant cable system, all ControlNet devices must be on the same channel, Channel A.

Configure Unscheduled Communications

Objectives

This chapter shows how to configure a sample ControlNet network using Unscheduled messaging between a PanelView Plus or VersaView CE terminal and an Allen-Bradley controller.

Configuring Unscheduled messaging is similar to setting up Ethernet communications. You do not need to configure settings in the ControlNet scanner module or use RSNetWorx to configure the network. Unscheduled communications uses the left over bandwidth of the ControlNet network to establish its communications.

Software Requirements

Verify that the correct software/firmware is installed on the development computer and the PanelView Plus or VersaView CE terminal.

ControlNet Unscheduled Communications

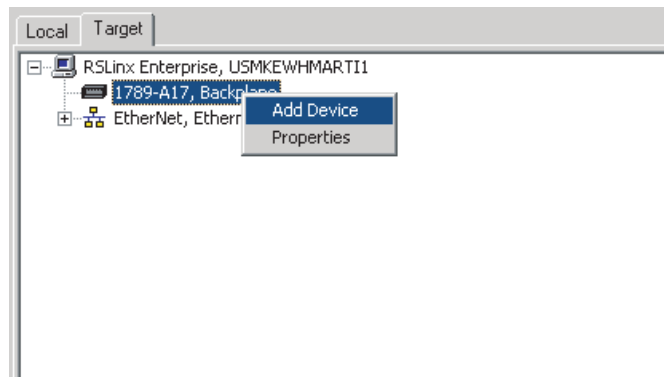
Software/Firmware	PanelView Plus 700-1500 VersaView CE 700H-1500H	PanelView Plus 400 or 600
RSView Studio	v3.10 or later	v4.0 or later
RSView Machine Edition Runtime	v3.10 or later	v4.0 or later
ControlNet Module Firmware	2711P-RN15S, Series A, Rev A (firmware v2.07 or later) ⁽¹⁾	2711P-RN15C, Series A, Rev A or later

⁽¹⁾ This applies to terminals that are ordered as pre-configured units with the ControlNet module.

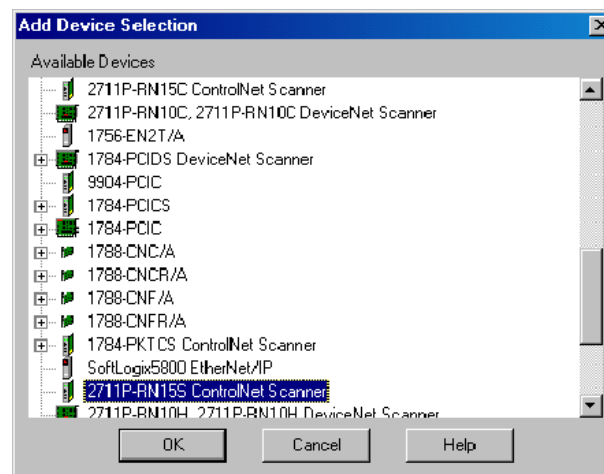
Configure Communications

The procedure in this section shows how to configure a sample ControlNet network using Unscheduled messaging between a PanelView Plus/VersaView CE terminal and a ControlLogix processor. The ControlLogix processor is in Slot 0 and the 1756-CNBR/D ControlNet Scanner Module is in Slot 2 of the chassis.

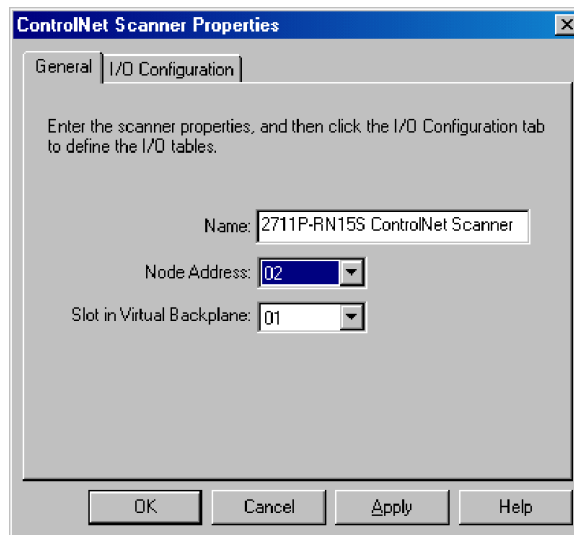
1. Open RSView Studio and create a new project.
2. In the Application Explorer window, double-click on RSLinx Enterprise to expand the tree. Then double-click on Communication Setup.
3. Select the Target tab of the communication window. To set the path for the target, you must add the devices and drivers manually because the development computer is not connected by ControlNet to the ControlLogix processor.
4. Right-click on 1789-A17, Backplane and select Add Device. This is the virtual backplane of the PanelView Plus/VersaView CE.



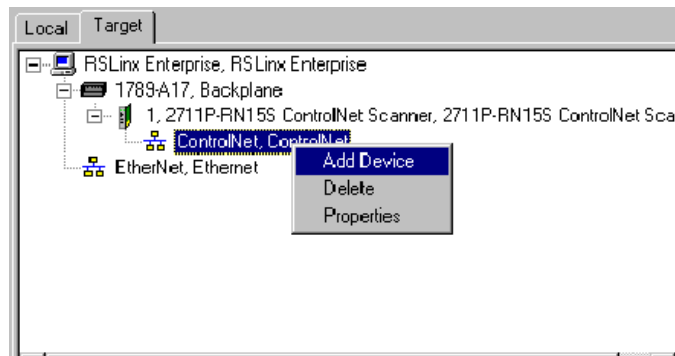
5. In the Add Device Selection dialog, select 2711P-RN15S ControlNet Scanner Card (or 2711P-RN15C) and click OK.



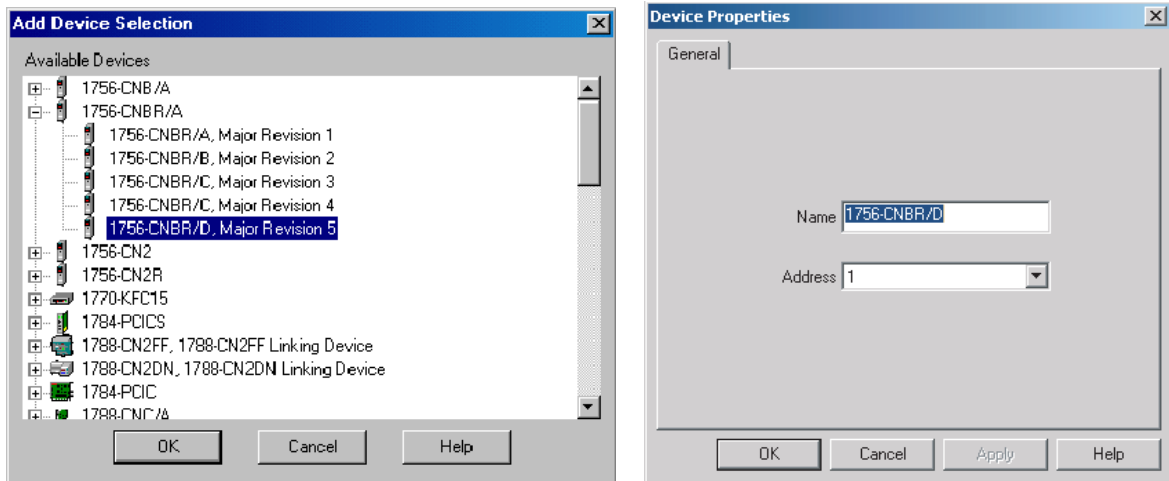
6. In the ControlNet Scanner Properties dialog, set the Node Address to 2 and click OK.
 - The node represents the unique node address (1-99) of the ControlNet communication module.
 - The slot corresponds to the position of the ControlNet communication module in the virtual backplane of the PanelView Plus / VersaView CE, which is always 01.



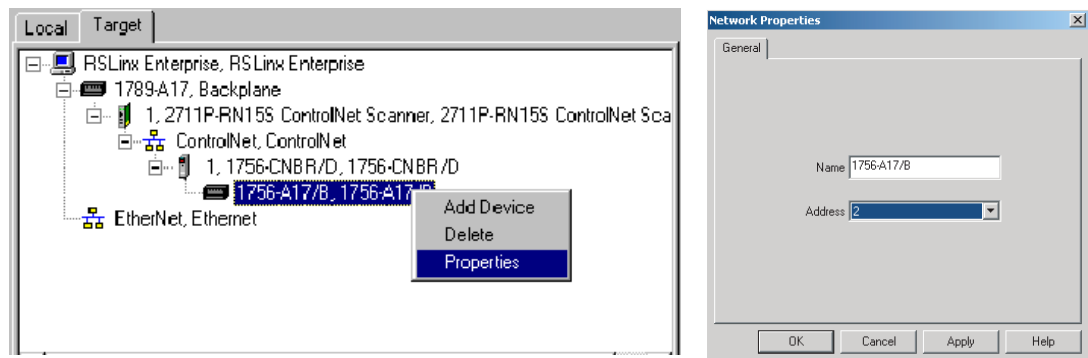
7. Right-click on the ControlNet network type and click Add Device.



8. Right-click on 1756-CNBR/D and select Add Device.
9. In the Device Properties dialog, set the address (or ControlNet node address) to 1. This is the physical address of the 1756-CNBR/D scanner card.

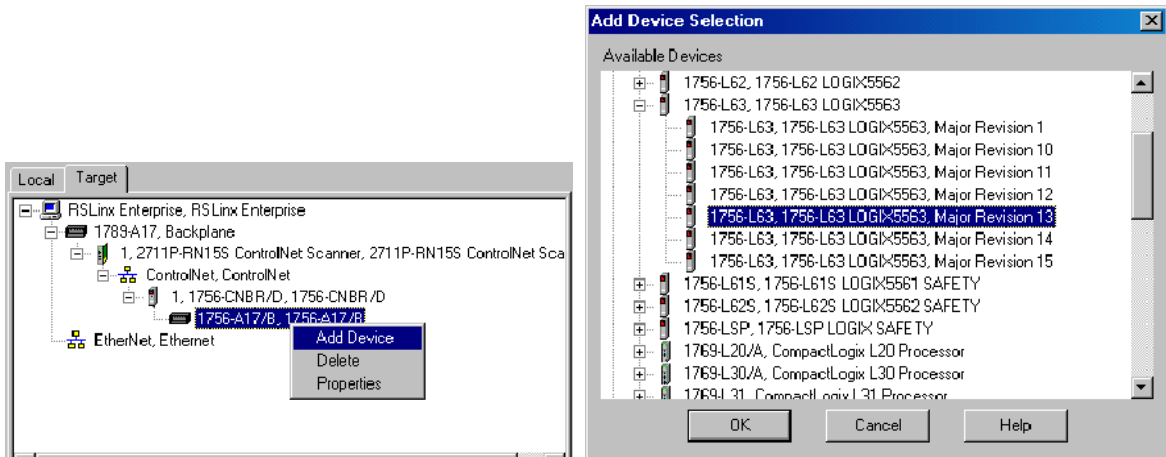


10. Right-click on the ControlLogix chassis labeled 1756-A17/B and select Properties.
11. In the Network Properties dialog, set the address of the 1756-A17/B to 2 and click OK. This is the slot in which 1756-CNBR/D is physically located.

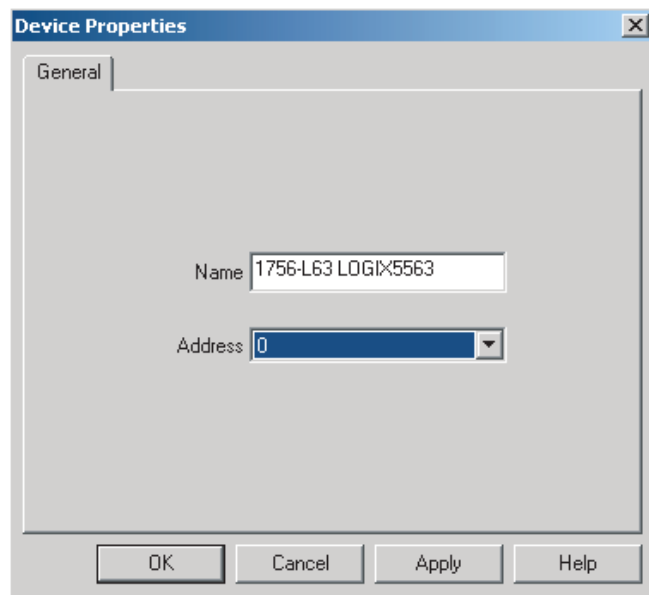


12. Right-click on the ControlLogix chassis 1756-A17/B and select Add Device.

13. Select the ControlLogix processor type that the PanelView Plus / VersaView CE will communicate with and click OK. For this example, select 1756-L63.

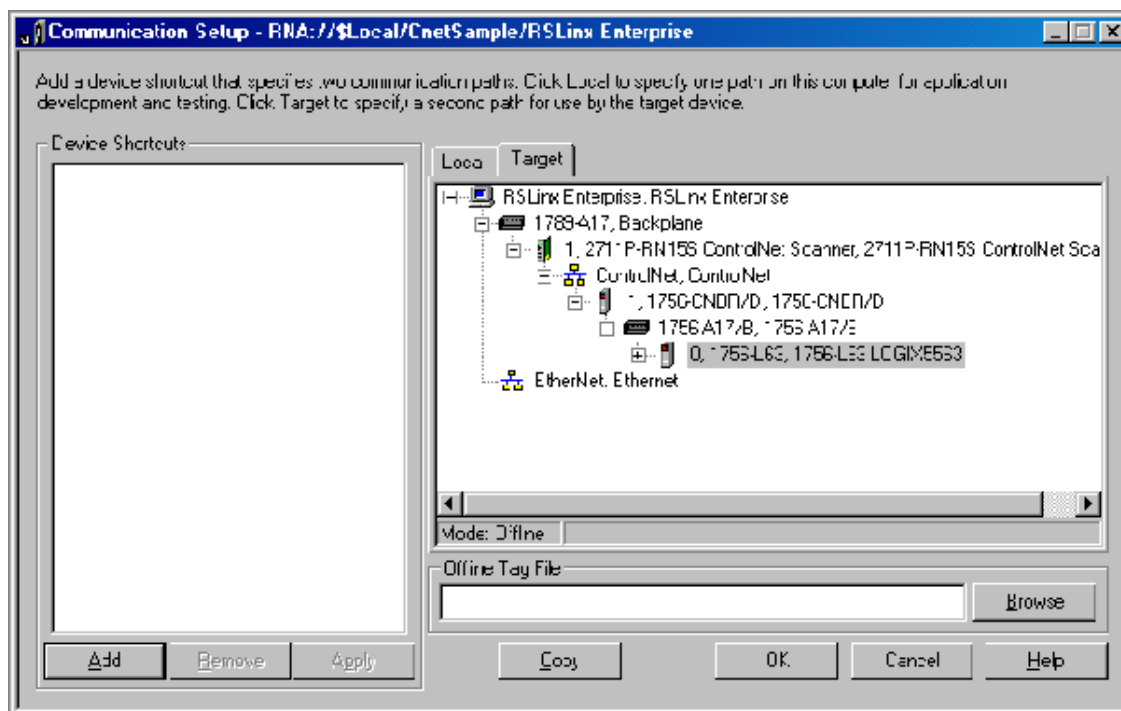


14. In the Device Properties dialog, set the Address of the processor to 0, click Apply, and then OK. The address is the slot in which the processor is physically located.



15. Associate a shortcut with the communication path to the 1756-L63 ControlLogix processor.
 - a. Select 1756-L63 and then click Add.
 - b. Type the name CNET_UNSCHEDULED and then click Apply.

When finished, the configuration screen looks similar to this.



16. Click OK.

The configuration for ControlNet Unscheduled communications is complete. You can begin to develop your HMI displays.

Configure Scheduled Communications

Objectives

This chapter shows how to configure a sample ControlNet network using Scheduled messaging between a PanelView Plus/VersaView CE terminal and an Allen-Bradley controller. It shows how to:

- Configure the PLC ladder logic file
- Configure the ControlNet network using RSNetWorx for ControlNet
- Configure the RStudio Machine Edition application file

Software Requirements

Verify that the correct software/firmware is installed on the development desktop and PanelView Plus or VersaView CE terminal.

ControlNet Scheduled Communications

Requirements	PanelView Plus 700-1500 VersaView CE 700H-1500H	PanelView Plus 400 or 600
RStudio Studio	v3.20 or later	v4.0 or later
RStudio Machine Edition Runtime	v3.20.04.43 or later	v4.0 or later
RSNetWorx for ControlNet	v5.11 or later	v6.0 or later
RSLogix 5000	v13.0 or later	v15.0 or later
ControlNet Module Firmware	2711P-RN15S, Series A, Rev C (firmware v3.08 or later) ⁽¹⁾	2711P-RN15C, Series A, Rev A or later

⁽¹⁾ This applies to terminals that are ordered as pre-configured units with the ControlNet module.

ATTENTION

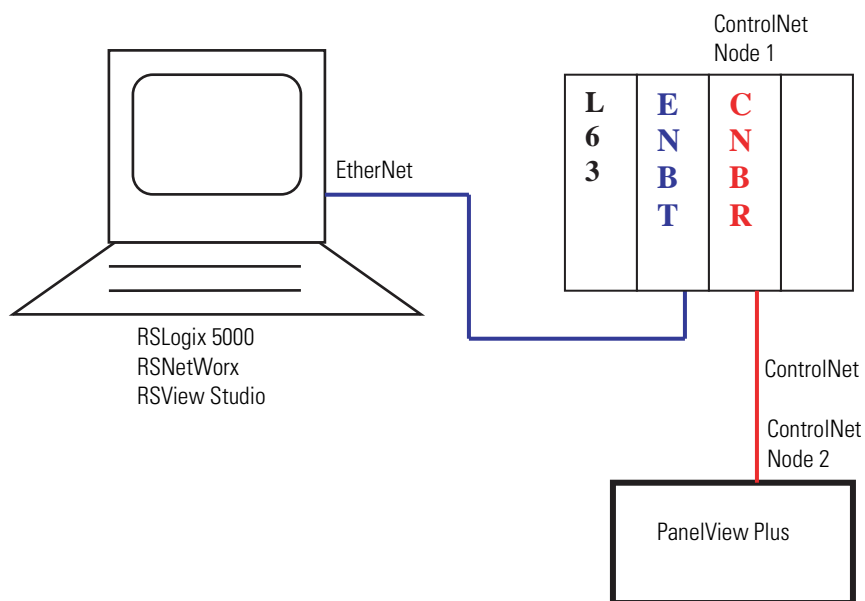


The ControlNet Communications Module (2711P-RN15S) will not run with RStudio ME firmware 3.20.03.43 or earlier. All ControlNet Modules with v3.07 firmware must be upgraded to v3.08 or later; otherwise, outputs may turn on an indeterminate state.

Example Configuration

The example configuration describes how to configure ControlNet Scheduled communications for a numeric input and numeric output

- from a PanelView Plus with a node address of 2
- to a 1756-L63 v13.0 ControlLogix processor in Slot 0 via 1756-CNB/D ControlNet Scanner Module with a node address of 1 in Slot 2).

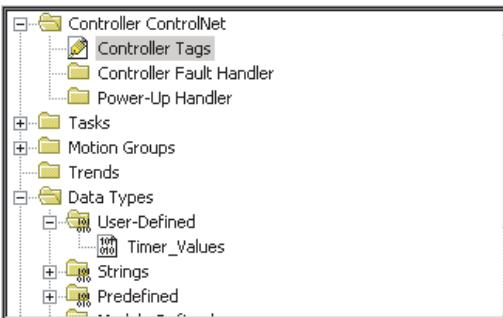


Configure PLC Ladder Logic File

To take advantage of ControlNet Scheduled messaging, you need to configure the PLC ladder logic file so that it knows which tags are producers and consumers of data from the PanelView Plus / VersaView CE. These tags are typically configured as Controller Tags, because a Program Tag cannot be configured as a consumer.

Procedures in this chapter will show how to configure existing DINT type Controller Tags in a 1756-L63 ControlLogix Processor to be producers and consumers:

- Output_to_PVP (Producer)
- Input_from_PVP (Consumer)

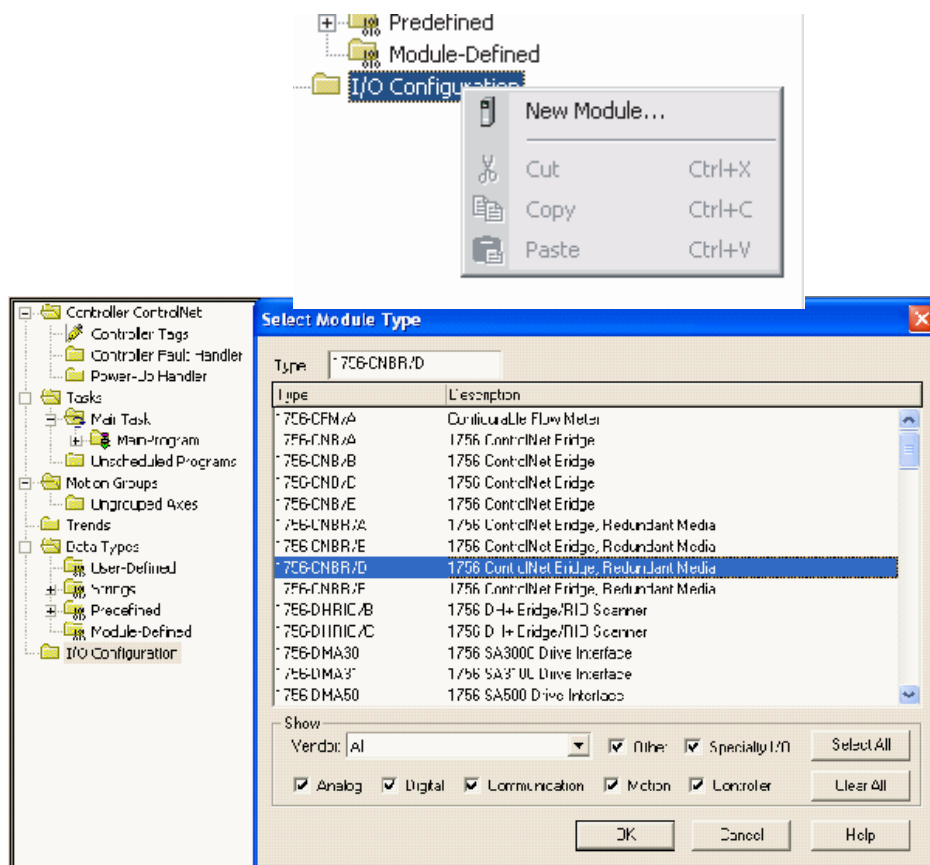


Scope: ControlNet(controller)		Show: Show All	Sort: Tag Name			
	P	Tag Name	Alias For	Base Tag	Type	Style
▶	<input type="checkbox"/>	+Timer			TIMER	
	<input type="checkbox"/>	+Input_from_PVP			DINT	Decimal
	<input type="checkbox"/>	+Output_to_PVP			DINT	Decimal
	<input type="checkbox"/>	+Timer_to_PVP			Timer_Values	

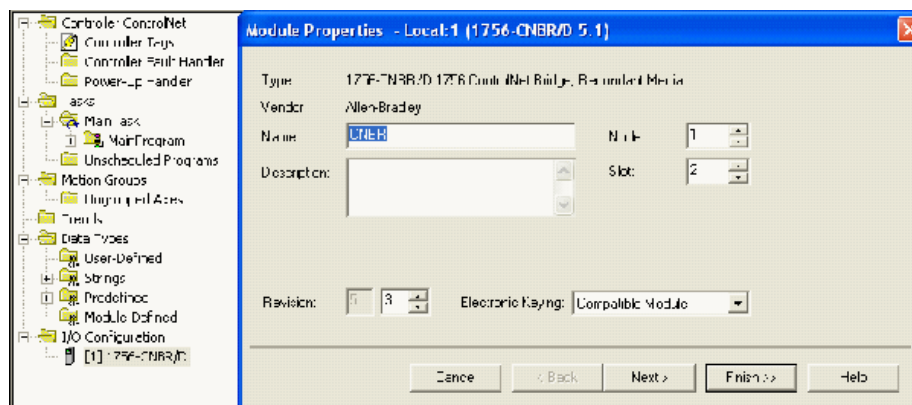
Configure the ControlNet Scanner Module

Configure the 1756-CNB/D module.

1. Right-click on I/O Configuration and select New Module.
2. Select 1756-CNB/D and click OK.



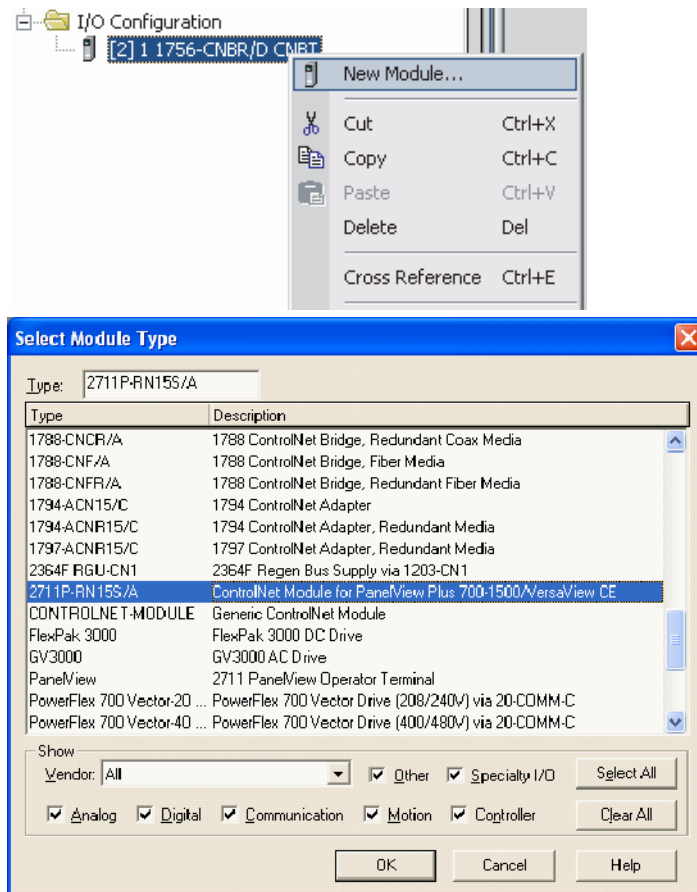
3. In the Module Properties dialog, configure the 1756-CNB/D ControlNet Scanner Module. Enter the name CNBR, select Node 1, select Slot 2, and then click Finish.



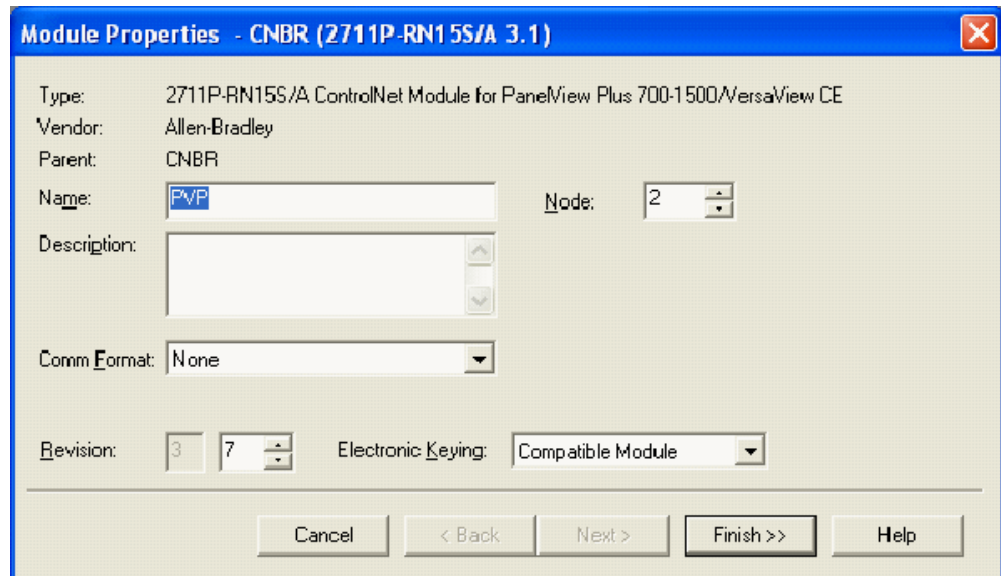
Configure the PanelView Plus ControlNet Module

Configure the 1756-CNB/D module to add a ControlNet PanelView Plus. This establishes a logical connection between the ControlLogix processor and the PanelView Plus.

1. Right-click on 1756-CNB/D and select New Module.
2. Select 2711P-RN15S (or 2711P-RN15C) and then click OK.



3. In the Module Properties dialog, configure the 2711P-RN15S (or 2711P-RN15C) PanelView Plus module. Enter the name PVP, select Node 2, Revision 7, and then click Finish.



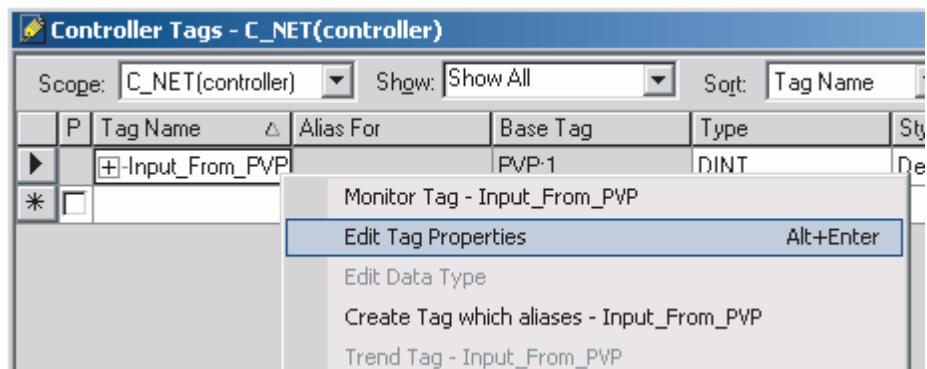
Configure the Controller Tags

Configure these Controller tags as consumer and producer:

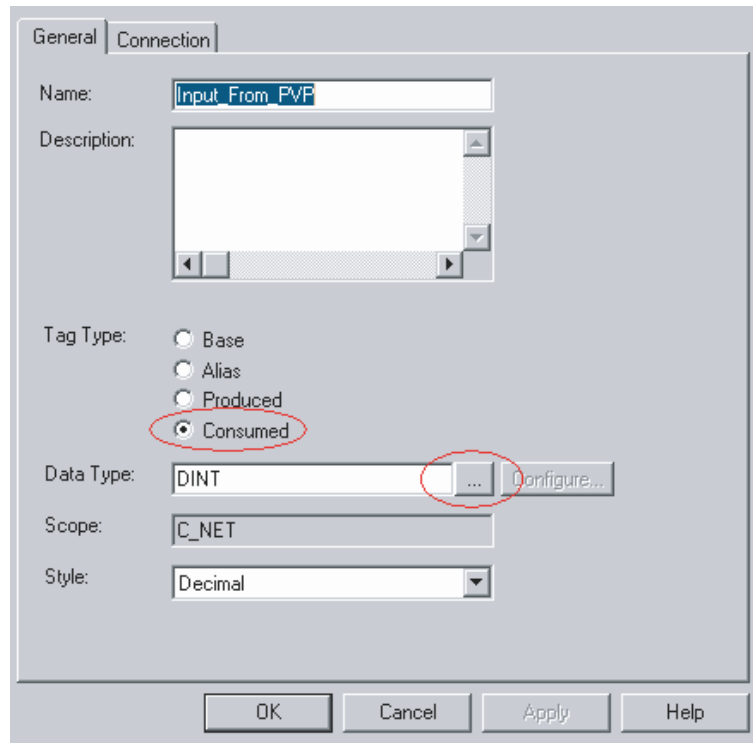
- Input_From_PVP = consumed tag type
- Output_From_PVP = produced tag type

Configure the Consumer Tag

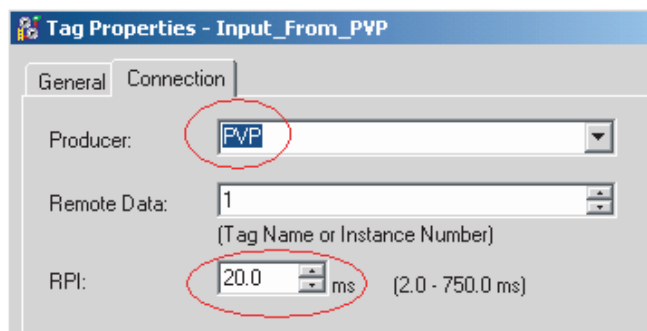
1. Right-click on the Input_From_PVP tag and select Edit Tag Properties.



2. In the Tag Properties dialog, configure the Input_From_PVP tag with the Tag Type=Consumed and Data Type=DINT. The processor will be a consumer of data from the PanelView Plus.



3. On the Connections tab, configure the connection properties of this consumed tag so that the device producing the data is PVP, the Remote Data value is 1, and the Request Packet Interval (RPI) is 20 ms. When finished, click OK.

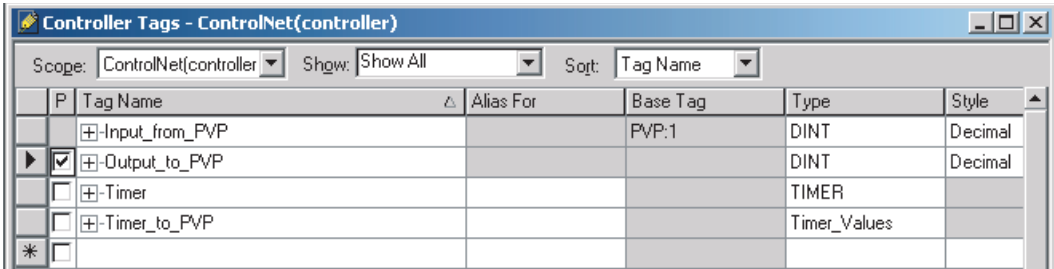


- The Remote Data value is a connection ID that must correspond to the PVP producer connections configured in RSNetWorx.
- The Requested Packet Interval (RPI) value is determined by how often you want a particular piece of I/O or Scheduled peer-to-peer data to be transmitted within the Scheduled bandwidth of the Network Update Interval.

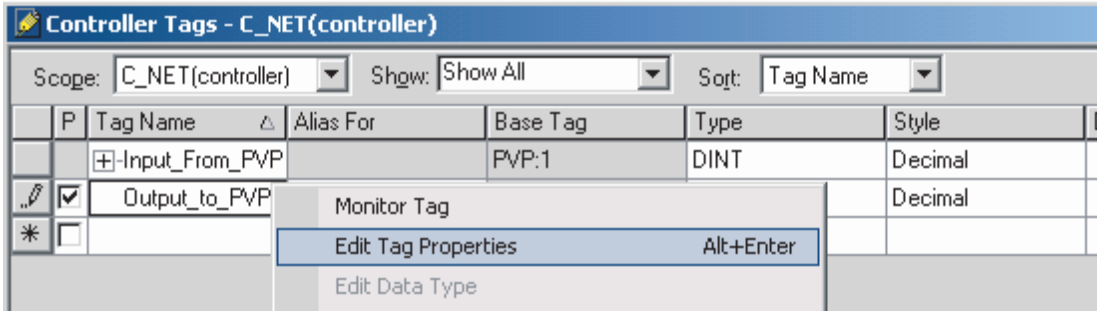
Configure the Producer Tag

Configure the Output_to_PVP tag to be a producer of data to the PanelView Plus.

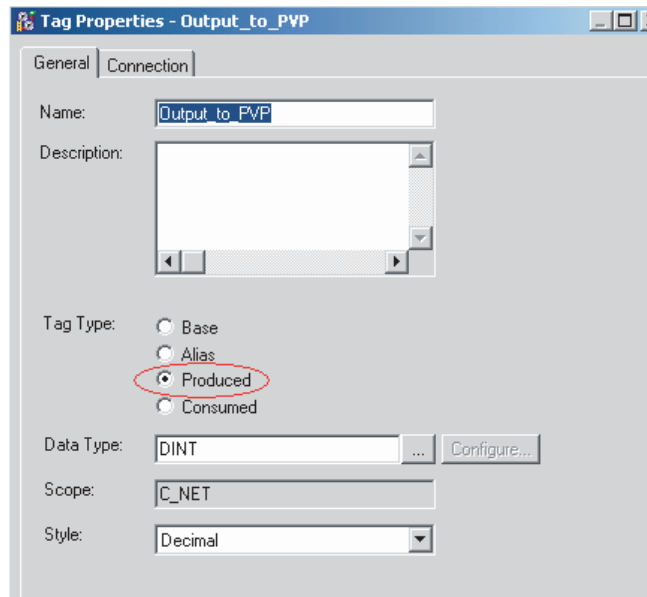
- 1. Select the check box in the P column next to the tag name Output_to_PVP.



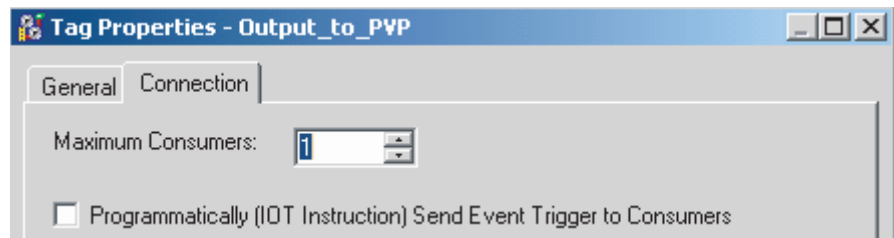
- 2. Right-click on the checked Output_to_PVP tag and select Edit Tag Properties.



3. In the Tag Properties dialog, configure the Output_To_PVP tag with the Tag Type=Produced and Data Type=DINT.



4. On the Connection tab, set the number of Maximum Consumers to 1 and click OK.



If this specific data is going to be consumed by many PanelView Plus terminals, enter the number of terminals that would be receiving this data.

5. Save the ladder logic program, download the ladder to the ControlLogix processor, and put the processor in Run mode.

The ControlLogix processor is configured and ready to produce and consume data from the PanelView Plus. Next, configure the ControlNet network using RSNetWorx for ControlNet.

Configure ControlNet With RSNetWorx

Use the RSNetWorx software to configure the ControlNet Scanner Module to read and write Scheduled data from the PanelView Plus to the Allen-Bradley controller. This is accomplished in two steps:

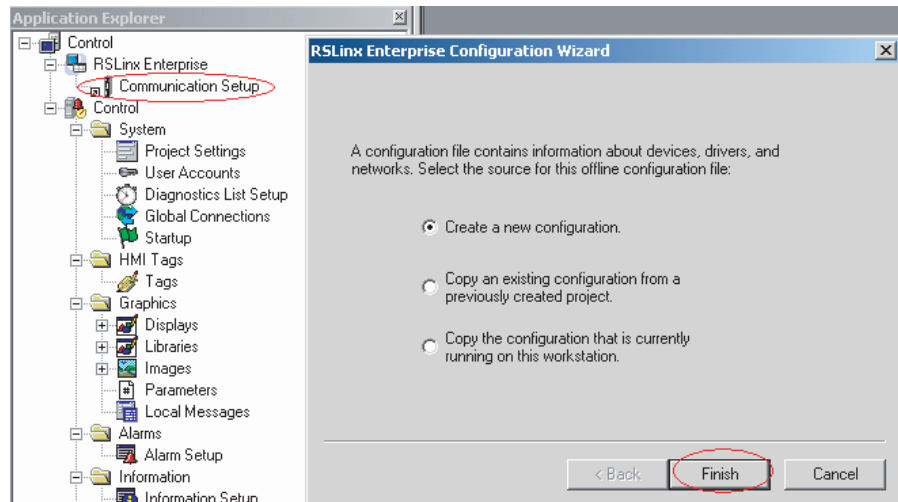
- Configure the communication module
- Configure RSNetWorx for ControlNet

Chapter 4 describes how to upgrade a 2711P-RN15S Series A, Rev. A communication module to Rev. C for Scheduled messaging.

Configure the Communication Module

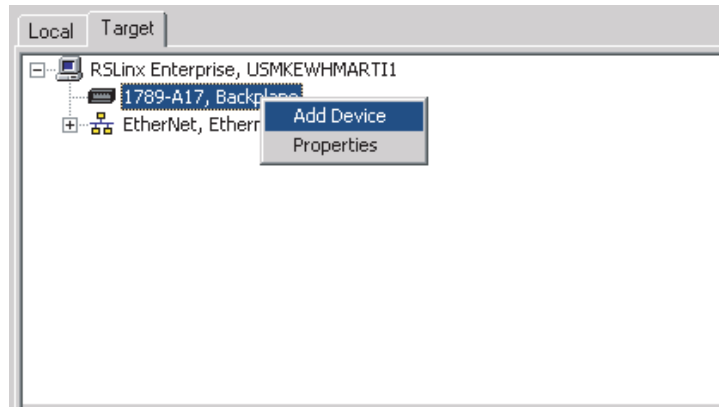
When a new 2711P-RN15S (or 2711P-RN15C) ControlNet communication module is installed in a PanelView Plus or VersaView CE, the terminal requires some basic settings to establish communications with the ControlNet communication card.

1. Create a new RSLinx Enterprise communication configuration by double-clicking on Communication Setup, select Create a new configuration, and click Finish.

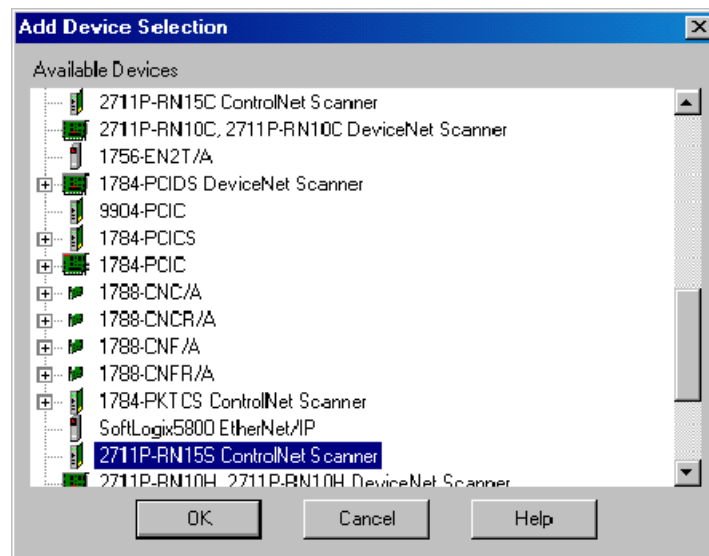


2. Click on the Target tab of the communication window. To set the path for the target, the devices and drivers must be added manually because the development computer is not connected by ControlNet to the ControlLogix processor.

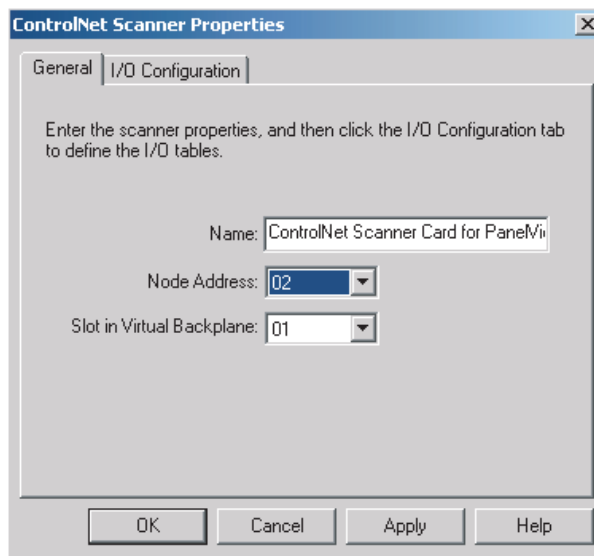
3. Right-click on 1789-A17, Backplane and select Add Device. This is the virtual backplane of the PanelView Plus/VersaView CE.



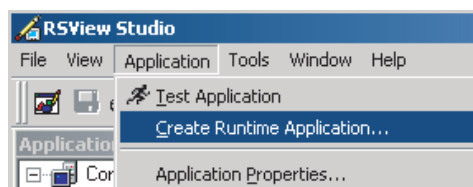
4. In the Add Device Selection window, select 2711P-RN15S ControlNet Scanner Card (or 2711P-RN15C) and click OK.



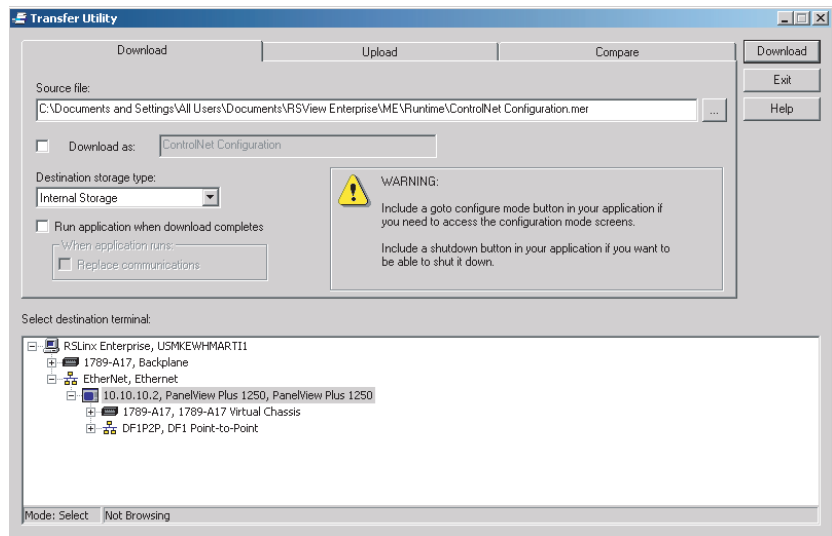
5. In the ControlNet Scanner Properties dialog, set the Node Address to 2 and click OK.
 - The node represents the unique node address (1-99) of the ControlNet communication module.
 - The slot corresponds to the position of the ControlNet communication module in the virtual backplane of the PanelView Plus / VersaView CE, which is always 01.



6. Create a RSView Machine Edition .MER runtime file.

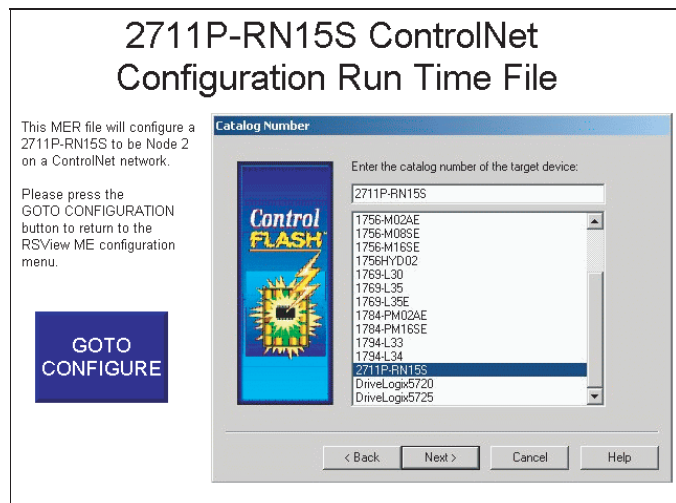


- Download the .MER file to the terminal, and run the project. If successful, the communication status LEDs will light on the 2711P-RN15x module.



- A sample .MER has been created to configure the 2711P-RN15x as Node 2 on a ControlNet network.

This application is located in Technote A103053983 on the Rockwell Automation Technical Support Knowledgebase at <http://support.rockwellautomation.com>. Download and run the ControlNet Configuration.mer runtime file on the PanelView Plus or VersaView CE.



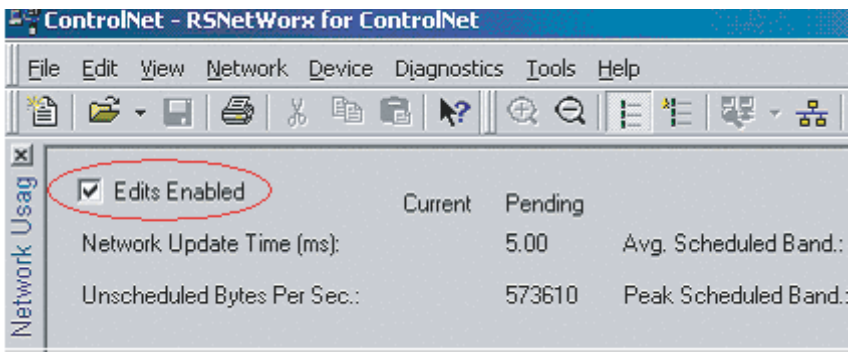
- Press the Goto Configure button to return to the RSView ME configuration menu.

You are now ready to configure RSNetWorx for ControlNet for communications with the 2711P-RN15x ControlNet Module.

Configure RSNetworx for ControlNet

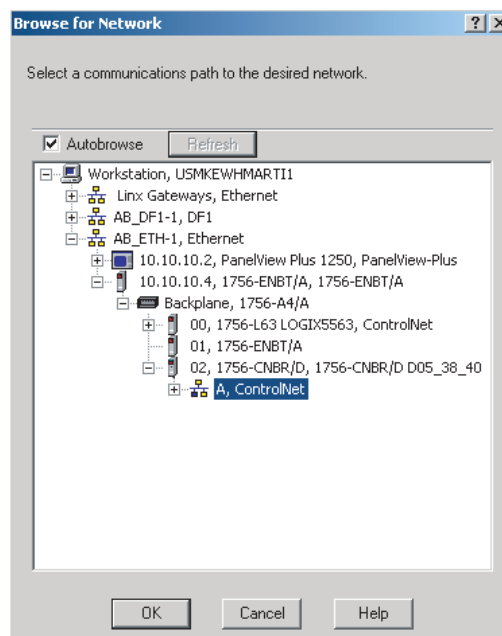
1. Open RSNetWorx for ControlNet by selecting Start Menu > Programs > Rockwell Software > RSNetWorx > RSNetWorx for ControlNet
2. Select the Enable Edits box.

If you are using RSNetWorx for ControlNet with RSLogix 5000, select enable edits to import the external connection information from RSLogix 5000.

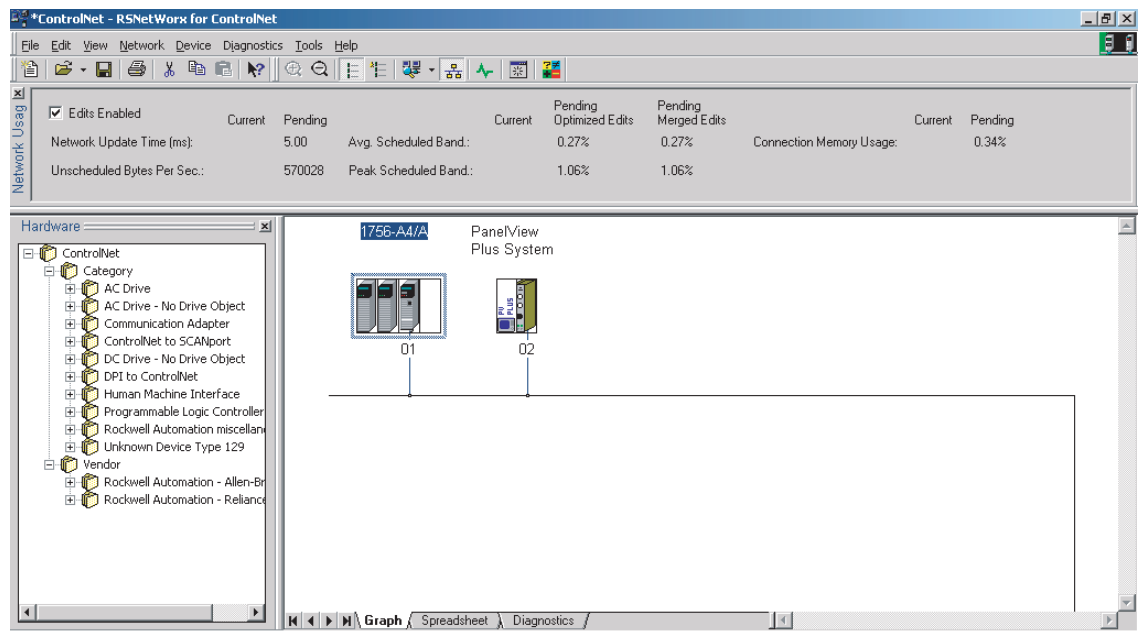


3. Browse the ControlNet network to find the devices that need to be configured. Select the icon or Network > Online.

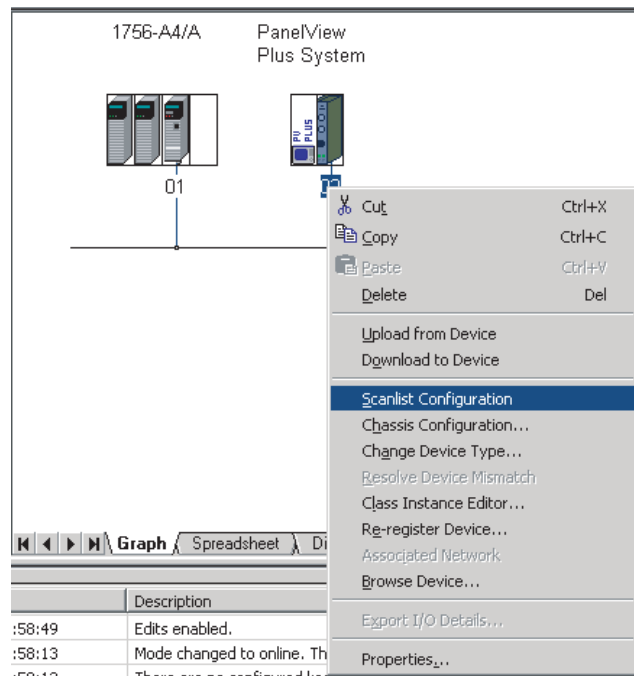
If the configuration computer is not connected directly to the ControlNet network, you can gain access to the network via Ethernet to a 1756-ENBT module as shown.



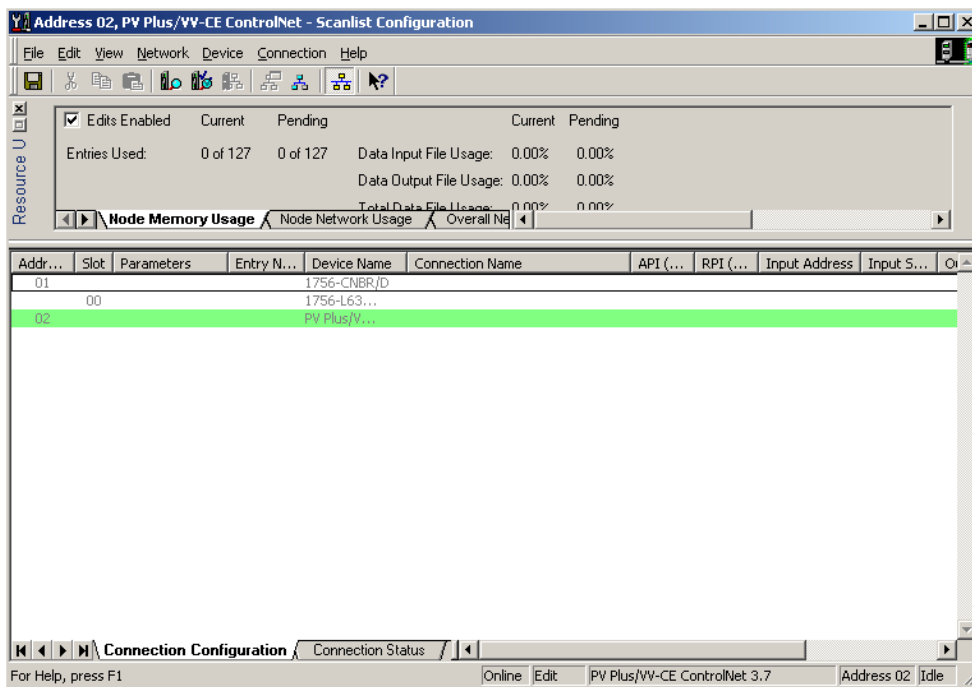
4. After RSNetWorx identifies all of the available devices, the display looks similar to this:



5. Right-click on the PanelView Plus System and select Scanlist Configuration.



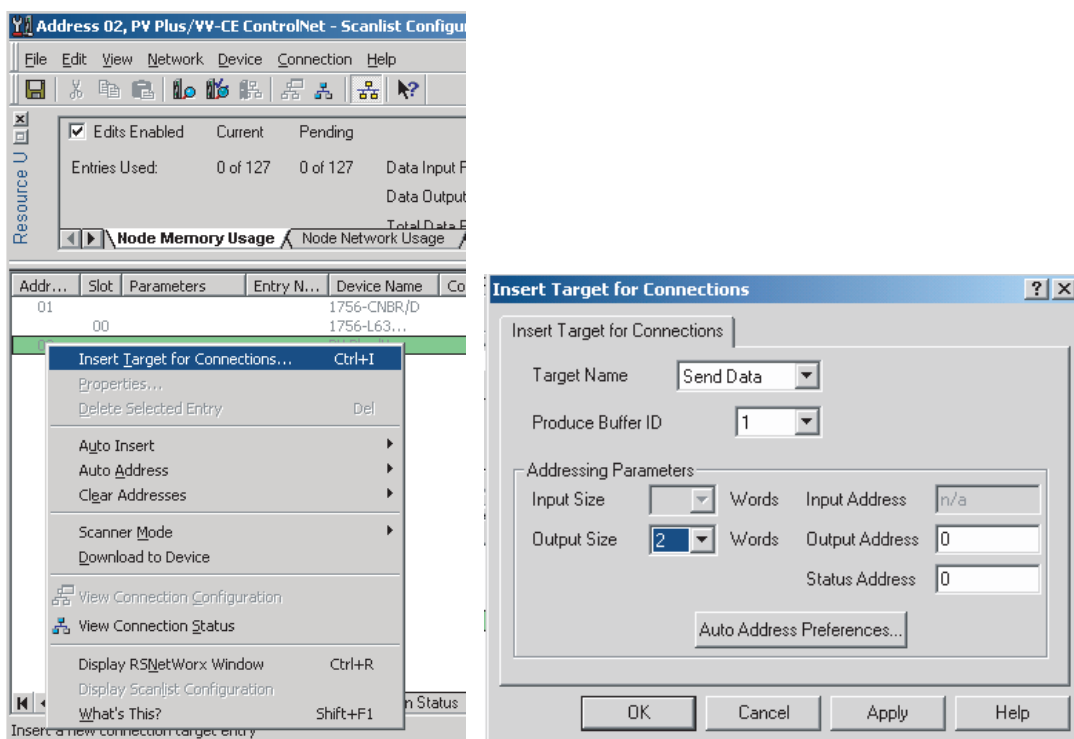
The Scanlist Configuration dialog opens and looks similar to screen below. This screen is used to set up the network Scheduling. This involves creating producer connections relative to each network device.



Configure the Producer Connection for the PanelView Plus/VersaView CE

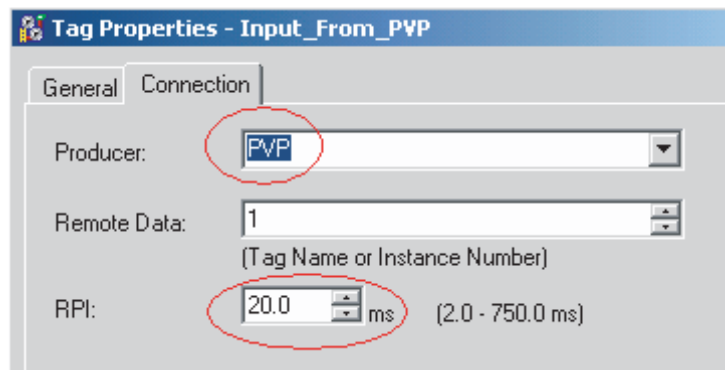
Configure the PanelView Plus producer connection for the Input_From_PVP tag to be consumed by the ControlLogix processor.

1. In the Scanlist Configuration dialog, right-click on the PanelView Plus (address 2) and select Insert Target for Connections.
2. In the Insert Target for Connections dialog, configure the producer connection for the Input_From_PVP tag and click OK.
 - a. Set the Output Size to 2.
 - b. Set the Output Address and Status Address to 0.
 - c. Set the Producer Buffer ID to 1.



- The Output Size parameter (in words) must match the Input_From_PVP tag size configured in RSLogix5000 which is defined as type DINT. Two words (a word or integer is equivalent to a 16-bit value) equal one DINT (double integer or one 32-bit value).
- The Output Address and Status Address fields are used in the RSView Machine Edition application.
- The Produce Buffer ID of this connection corresponds to the Input_From_PVP tag's Remote Data number that was configured in the RSLogix 5000 Tag Properties \ Connection dialog.

For reference, here is a copy of RSLogix 5000 tag configuration property.



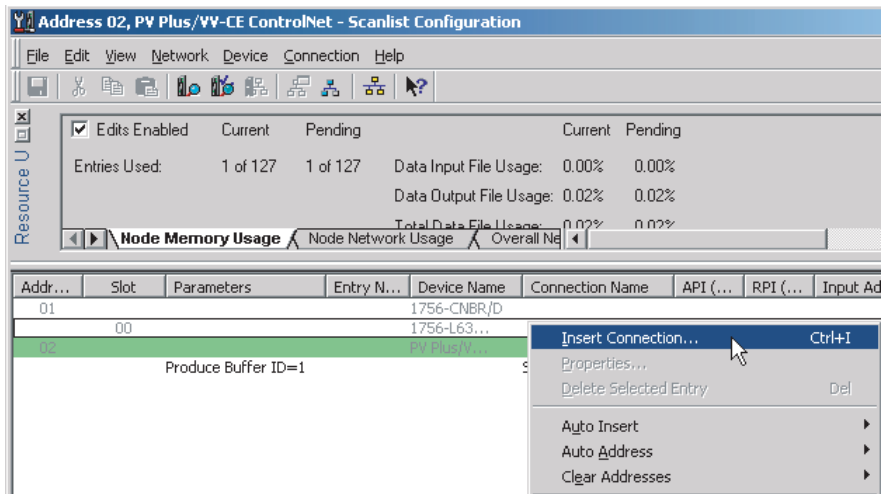
When finished, the resulting scanlist looks similar to this:

Addr...	Slot	Parameters	Entry N...	Device Name	Connection Name	API...	RPI...	Input Address	Input S...	Output Addr...	Output Siz...	Status
01				1756-CNBR/D								
	00			1756-L55/A L...								
	03			1756-L55/A L...								
10				PV Plus/VV...								
Produce Buffer ID=1				Send Data	n/a	n/a	n/a	n/a	0	2	0	
25				1784-PCIC								

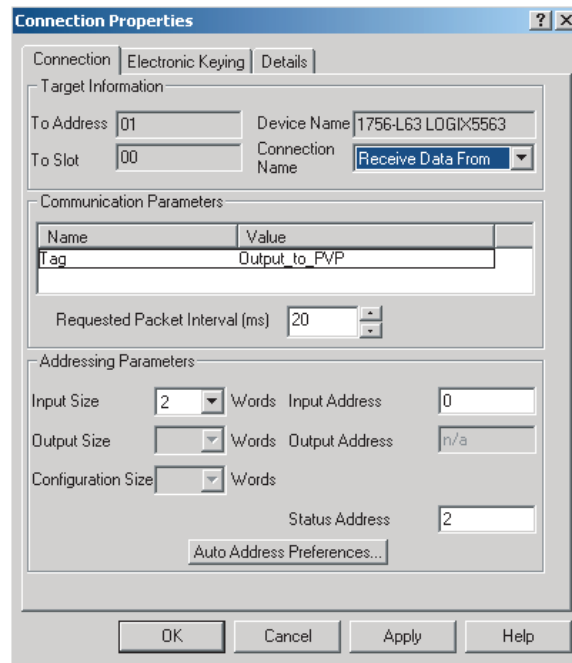
Configure the Producer Connection for the Controller

Configure the ControlLogix producer connection for the Output_to_PVP tag to be consumed by the PanelView Plus/VersaView CE device.

1. In the Scanlist Configuration dialog, right-click on the processor named 1756-L63 and select Insert Connection.

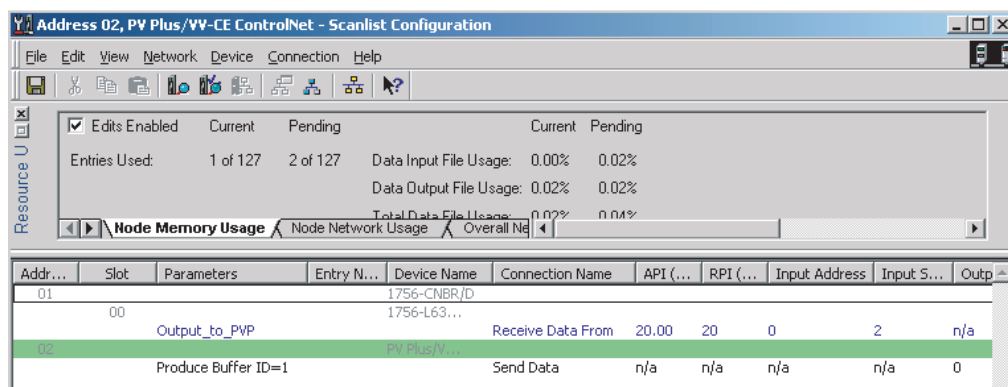


2. In the Connection Properties dialog, configure the producer connection properties for the Output_to_PVP tag and click OK.
 - a. Set the Input Size to 2.
 - b. Set the Input Address and the Status Address to 0.



- The Input Size parameter (in words) must match the Output_to_PVP tag size. Two words (a word or integer is equivalent to a 16-bit value) equal 1 DINT (double integer or one 32-bit value).
- The Input Address and Status Address fields are used in the RSView Machine Edition application.

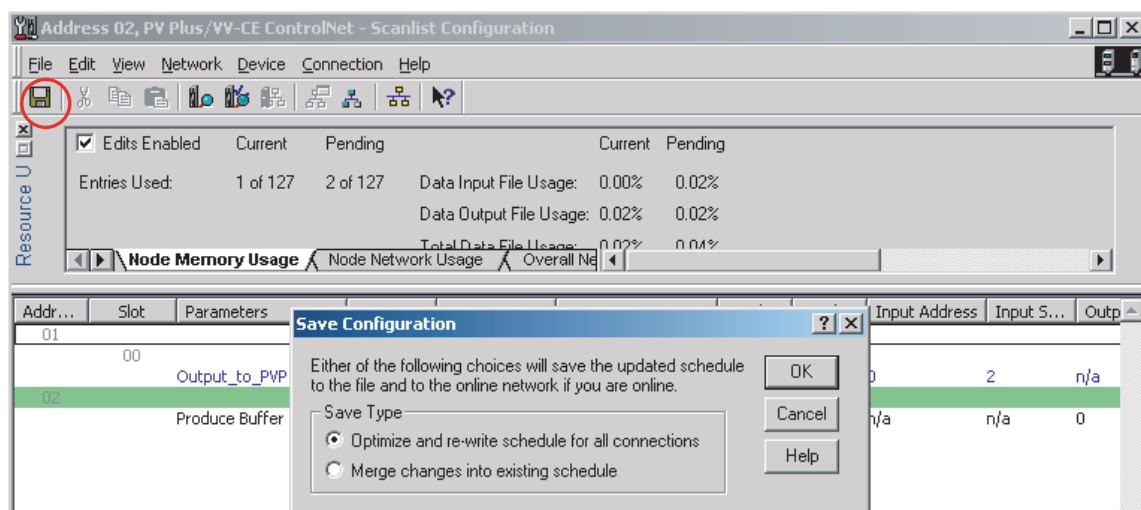
When finished, the resulting scanlist configuration screen looks similar to this:



Save and Download the Scanner Configuration

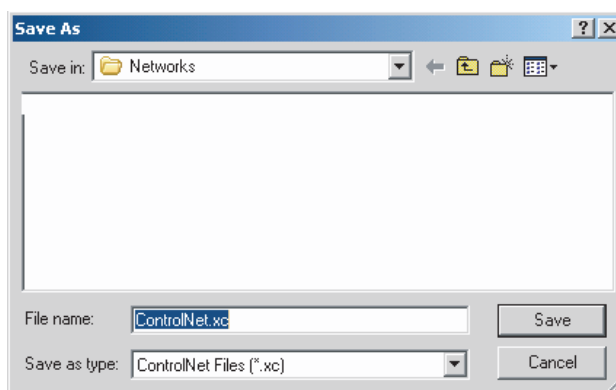
Save and download the scanner configuration to the ControlNet scanner.

1. Select the File Save icon or File>Save from the menu.

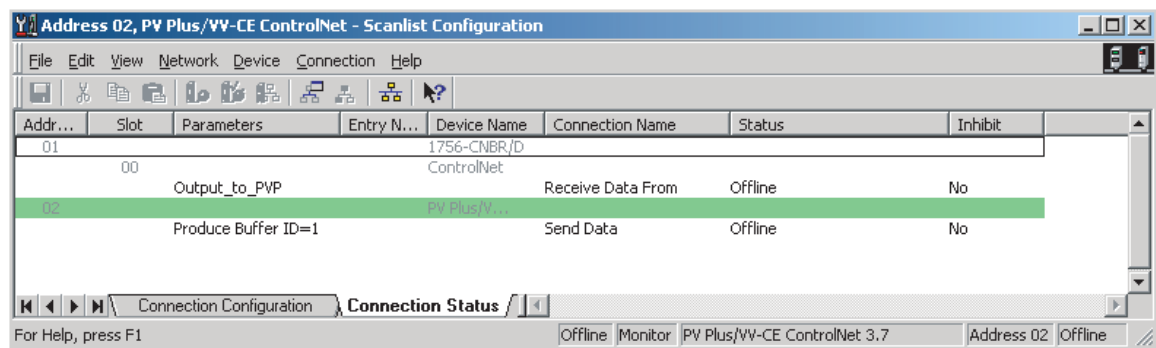


A dialog prompts you to select the type of save configuration.

2. Select Optimize and re-write schedule for all connections and click OK.
3. Save the configuration file as ControlNet.xc.



4. When the download is complete, select the Connection Status tab. It should look similar to this:



All of the ControlNet scanners have been successfully configured. The final step to begin ControlNet Scheduled communications is to configure the RSView Machine Edition project.

Configure the RSView Machine Edition Application

Now that the ControlLogix processor and the ControlNet network are configured, the last item to configure for ControlNet Scheduled communications is the RSView Machine Edition application. Follow the procedures in this section to configure an RSView Machine Edition application.

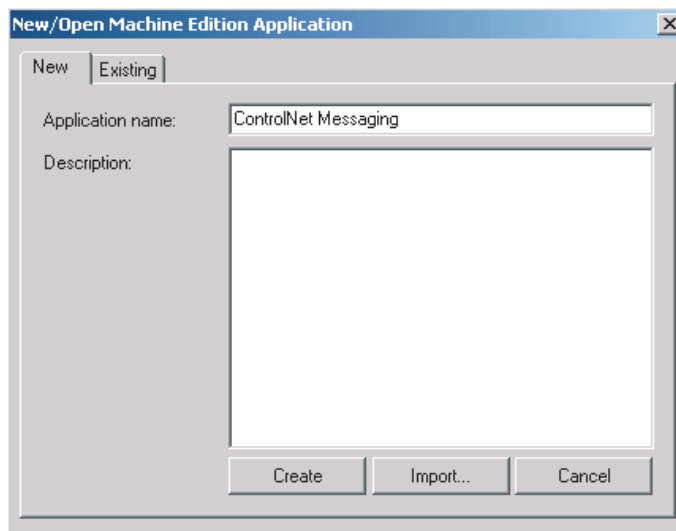
ATTENTION



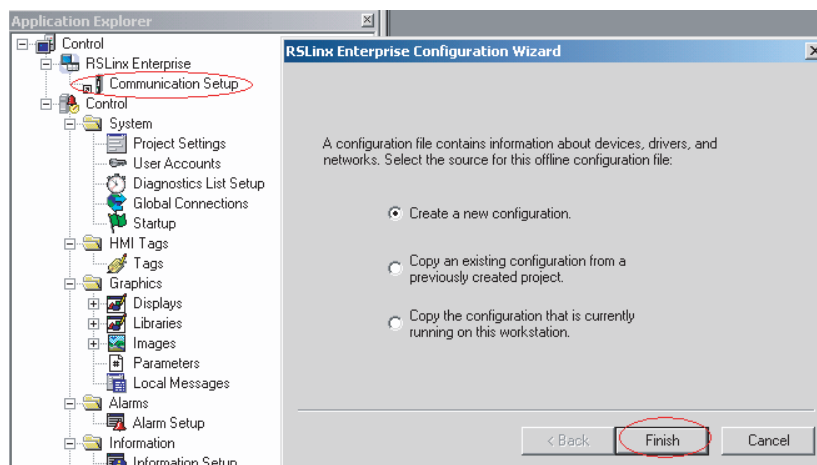
ControlNet Scheduled Communications is not supported during runtime for the desktop version of RSView Machine Edition.

Create a New Configuration

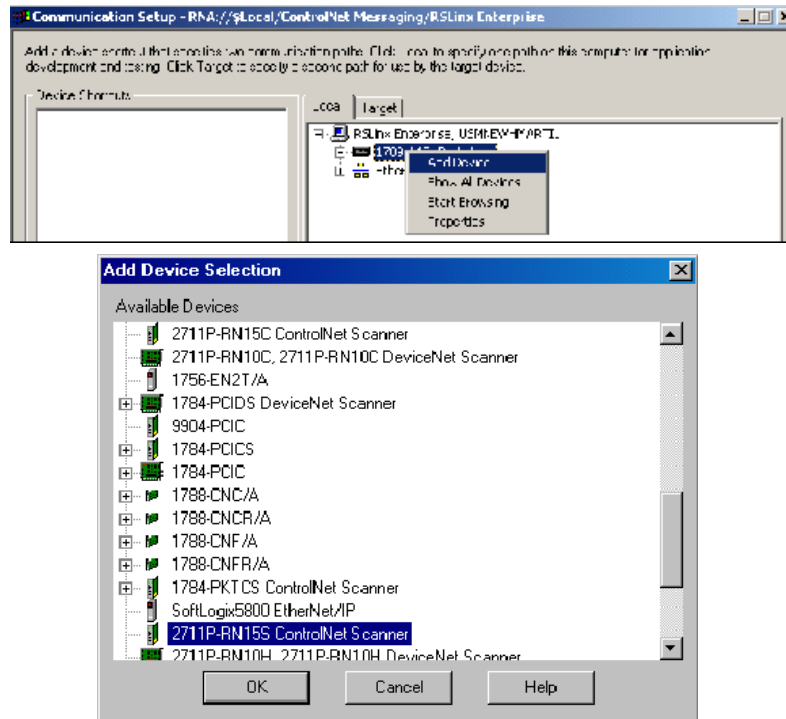
1. Start RSView Studio and create a new application named ControlNet Messaging.



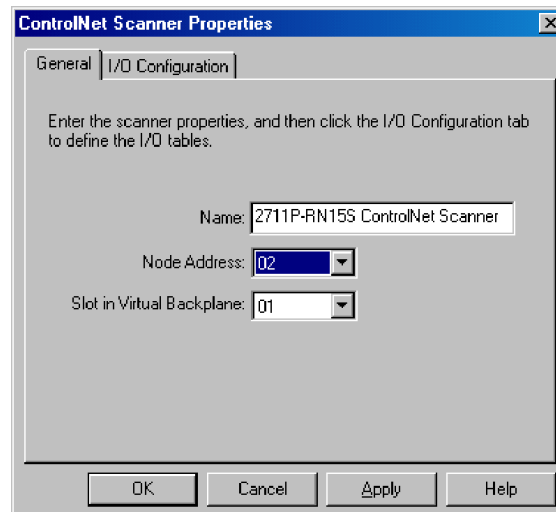
2. Create a new RSLinx Enterprise communication configuration. Double-click on Communication Setup, select Create a new configuration, and click Finish.



3. From the Local tab, right click on 1789-A17, Backplane and select Add Device.
4. Select 2711P-RN15S (or 2711P-RN15C) and click OK.



5. In the ControlNet Scanner Properties dialog, configure the 2711P-RN15x communication module and click OK.
 - a. Name = ControlNet Scanner Card for PanelView Plus/VersaView CE
 - b. Node Address = 02
 - c. Slot in Virtual Backplane = 01.



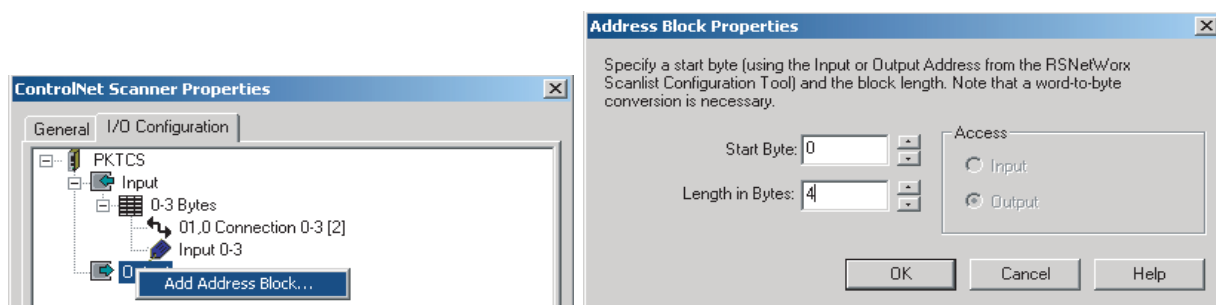
Configure I/O for the PanelView ControlNet Module

Configure the 2711P-RN15x to scan the specific size of inputs and output. This I/O configuration method is very similar to RIO. Perform this operation from the I/O Configuration tab.

Configure the Input Scan Size for the Module

1. On the I/O Configuration tab, right-click on Input and select Add Address Block.
2. In the Address Block Properties dialog, set these properties and click OK.
 - a. Start Byte=0
 - b. Length in Bytes = 4

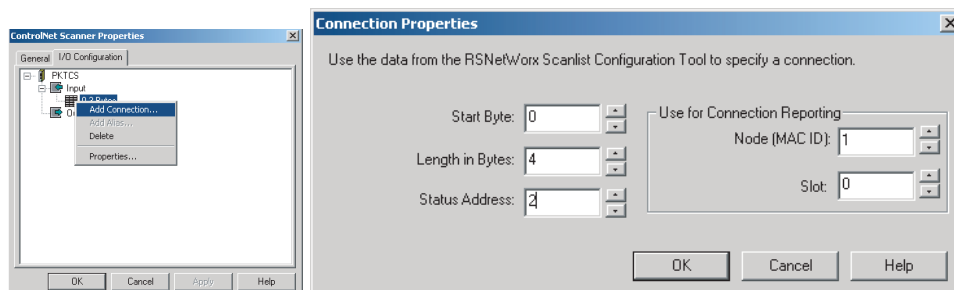
The PanelView Plus will read 1 DINT from the ControlLogix processor beginning at byte 0.



Configure the Input Connection

1. Under Inputs, right click on 0-3 Bytes and select Add Connection.
2. In the Connection Properties dialog, set these properties and click OK.
 - a. Start Byte = 0
 - b. Length in Bytes = 4
 - c. Status Address = 2
 - d. Node (MAC ID) = 1
 - e. Slot = 0

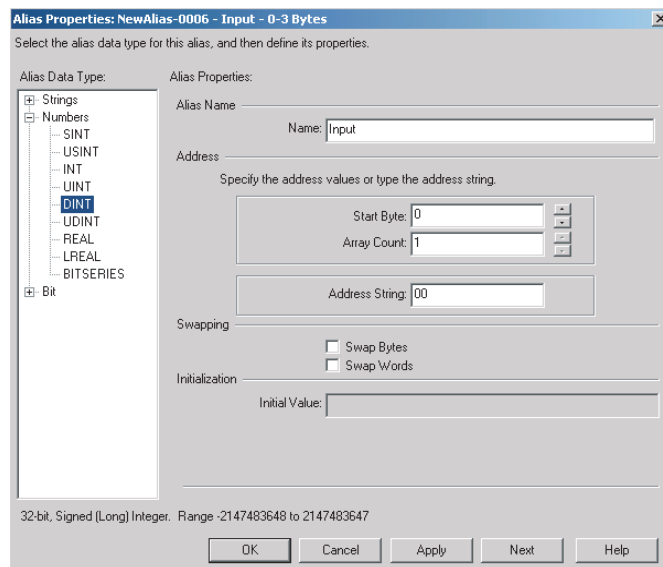
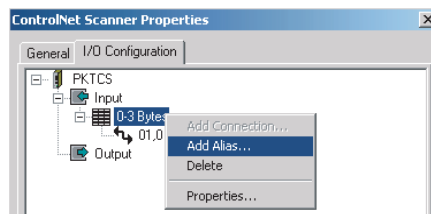
The PanelView Plus will read 1 DINT from a ControlLogix processor located in slot 0 via a ControlNet scanner module addressed at node 1, and the Status Address is assigned by RSNetWorx for ControlNet.



Identify Where the Input Data is Coming From

Identify where the raw input data is coming from by creating an Alias to allow RSView Machine Edition to use this data.

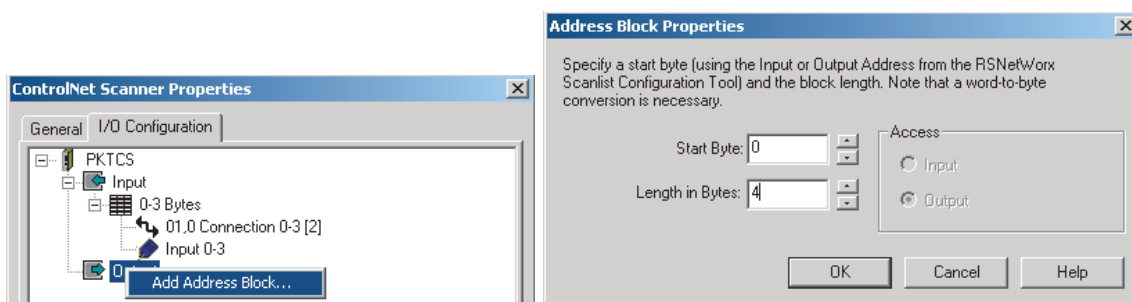
1. Right-click on 0-3 Bytes under Input and select Add Alias.
2. In the Alias Properties Dialog, select the Alias Data Type DINT, set these properties, and then click OK.
 - a. Alias Name = Input
 - b. Start Byte = 0
 - c. Array Count = 1
 - d. and specify the address.



Configure the Output Scan Size for the Module

1. On the I/O Configuration tab, right-click on Output and select Add Address Block.
2. In the Address Block Properties dialog, set these properties and click OK.
 - a. Start Byte=0
 - b. Length in Bytes = 4

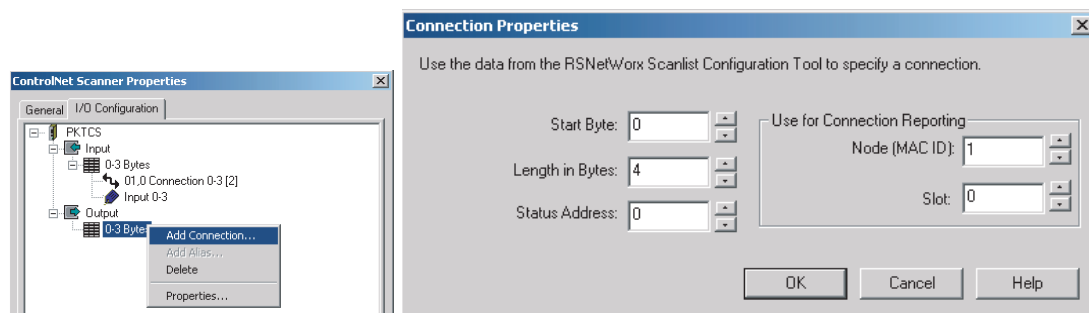
The PanelView Plus will send 1 DINT to the ControlLogix processor beginning at byte 0.



Configure the Output Connection

1. Under Outputs, right click on 0-3 Bytes and select Add Connection.
2. In the Connection Properties dialog, set these properties and click OK.
 - a. Start Byte = 0
 - b. Length in Bytes = 4
 - c. Status Address = 2
 - d. Node (MAC ID) = 1
 - e. Slot = 0

The PanelView Plus will send 1 DINT to the ControlLogix processor located in slot 0 via a ControlNet scanner module addressed at node 1. The Status Address is assigned by RSNetWorx for ControlNet.

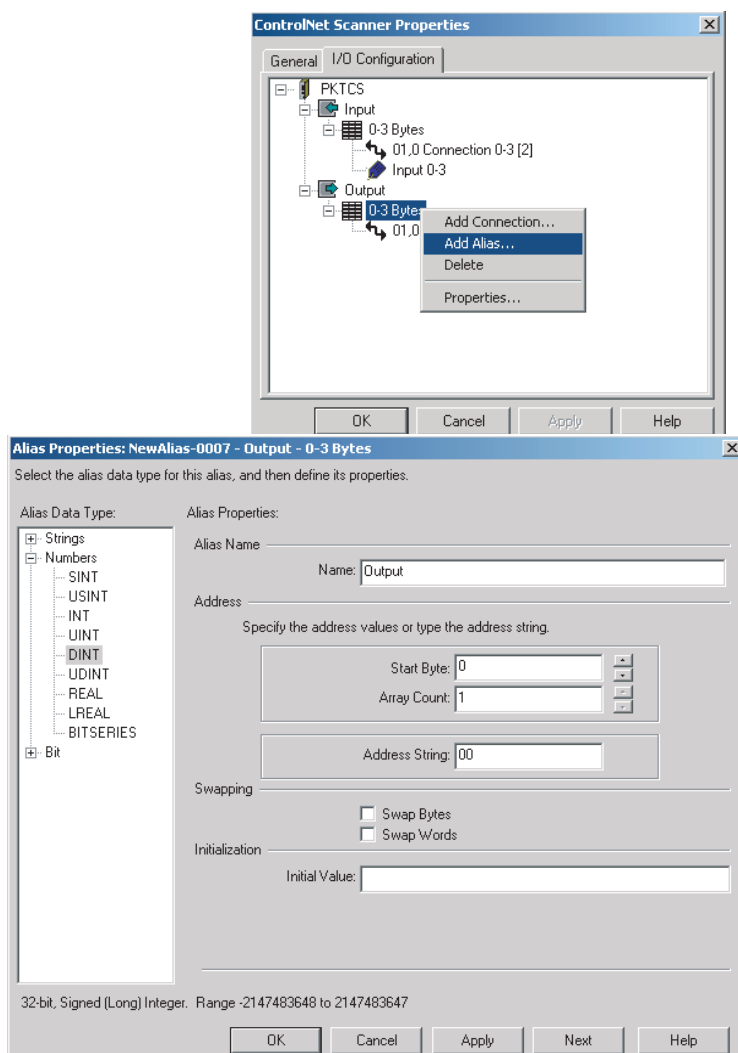


Identify Where the Output Data is Going

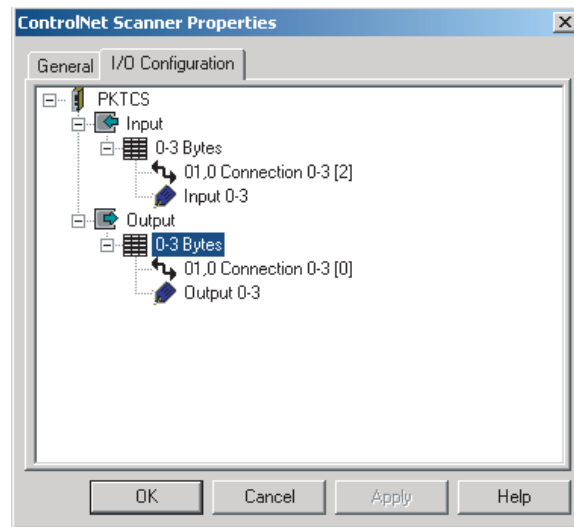
Identify where the raw output data is going by creating an Alias to allow RSView Machine Edition to use this data.

1. Right-click on 0-3 Bytes under Output and select Add Alias.
2. In the Alias Properties Dialog, select the Alias Data Type DINT, set these properties, and click OK.
 - a. Alias Name = Output
 - b. Start Byte = 0
 - c. Array Count = 1

The PanelView will send these 4 bytes as a DINT to the ControlLogix processor.



The I/O configuration should look like the following:

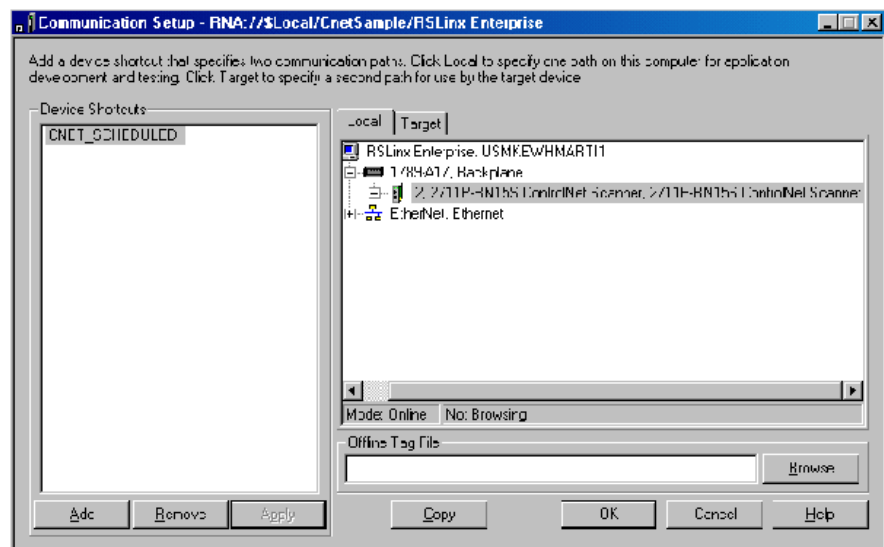


Create a Shortcut to the Communication Setup

Create a shortcut in both the Local and Target tabs to reference this communication setup for the HMI display.

1. On the Local tab, select the 2711P-RN15x ControlNet communication module and select Add.
2. Enter the shortcut name CNET_SCHEDULED and click OK.

The screen looks similar to this.



3. Configure the same shortcut for the Target tab.

A simple way to do this is by selecting Copy. This copies the configuration of the Local tab to the Target tab.

4. Verify that no devices are configured for Ethernet communications in the Target tab. If devices exist for Ethernet communications in the Target tab, delete the devices but keep the Ethernet driver.
5. Click OK when done.

ControlNet Scheduled communications is now configured. Develop the rest of the RSVIEW Machine Edition application using this communication configuration. A sample ControlNet Scheduled communication application is available on the Rockwell Automation Technical Support Knowledgebase in Technote A103053983 at <http://support.rockwellautomation.com>.

Address Assignments for Objects

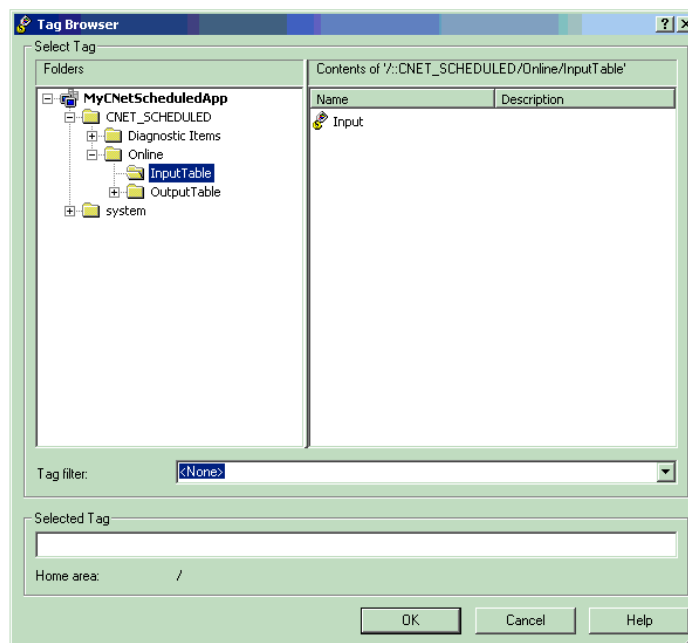
Tag addresses are assigned to objects in the Tag Browser.

To access the Tag Browser:

1. Select an object and then select the Connections tab. To do this, either:
 - right-click on object and select Connections
 - double-click to open the object's Properties dialog and select the Connections tab.
2. Click on tag to open the Tag Browser.
3. Open the path to the CNET_SCHEDULED tags.

The folder is <application name><shortcut>Online and either Input Table or Output Table.

The Input Table folder is used for input data received by the PanelView Plus/VersaView CE device from another device. The Output Table folder is used for output data that is sent from the PanelView Plus/VersaView CE device to another device.



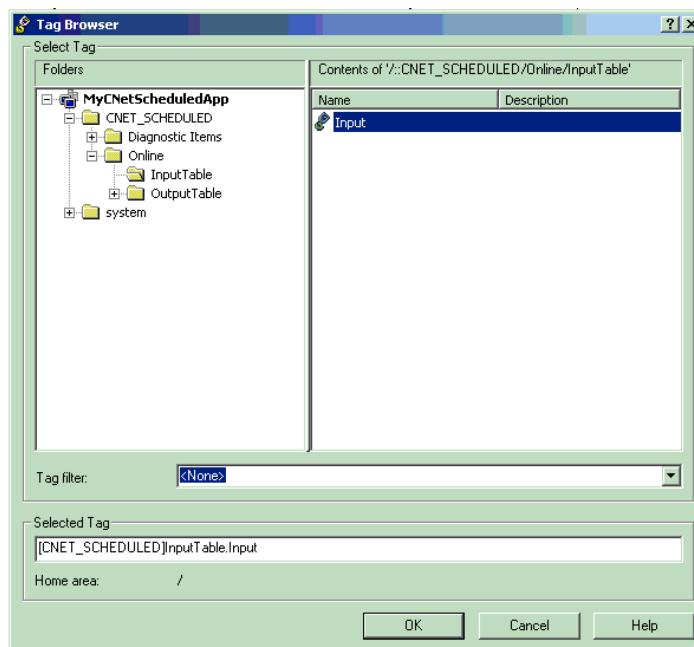
The syntax for the selected tag appears in the Selected Tag area.

For example, {[CNET_SCHEDULED]InputTable.Input}

"CNET_SCHEDULED" => Shortcut name

"InputTable"=> Table name

"Input"=> Alias name



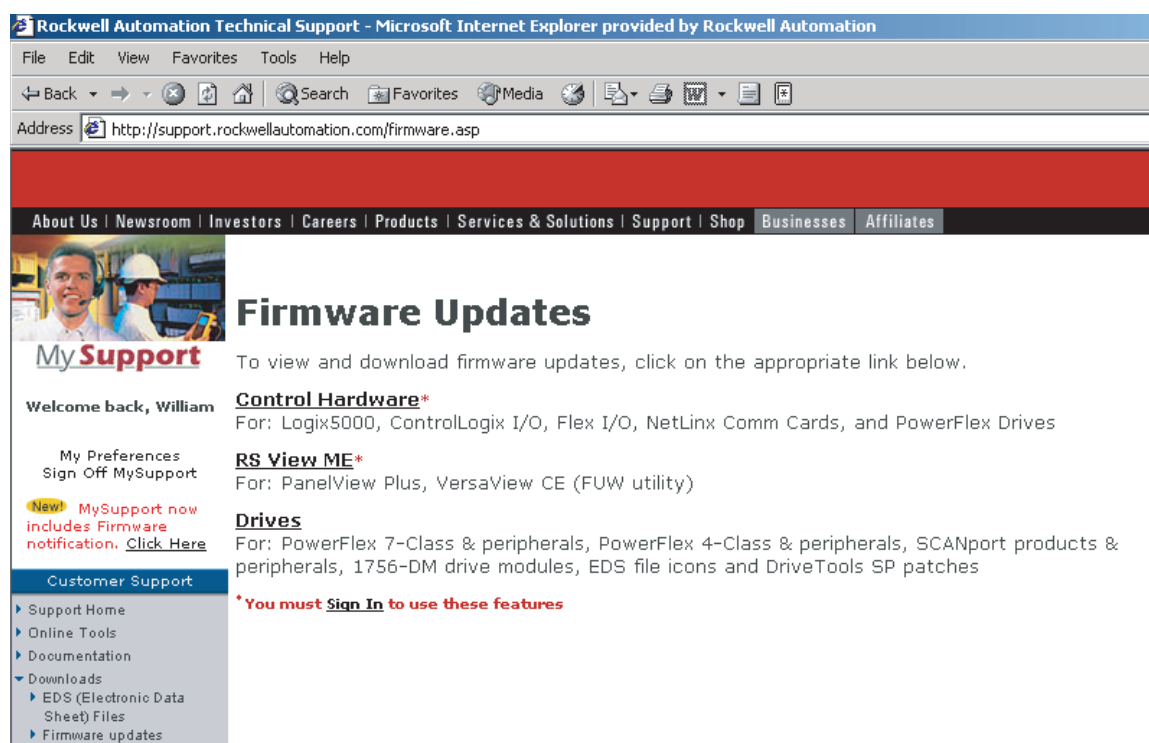
Upgrade a 2711P-RN15S Module Firmware

Objectives

This chapter shows how to upgrade the firmware for a 2711P-RN15S Series A, Rev. A ControlNet Communications Module to Rev. C for Scheduled messaging. This also applies to terminals pre-configured and shipped from the factory with a ControlNet Module. During the upgrade, the module firmware is updated from v2.7 to v3.8 or later.

The firmware upgrade is available at the Rockwell Automation Technical Support website under Firmware Updates and RSView ME.

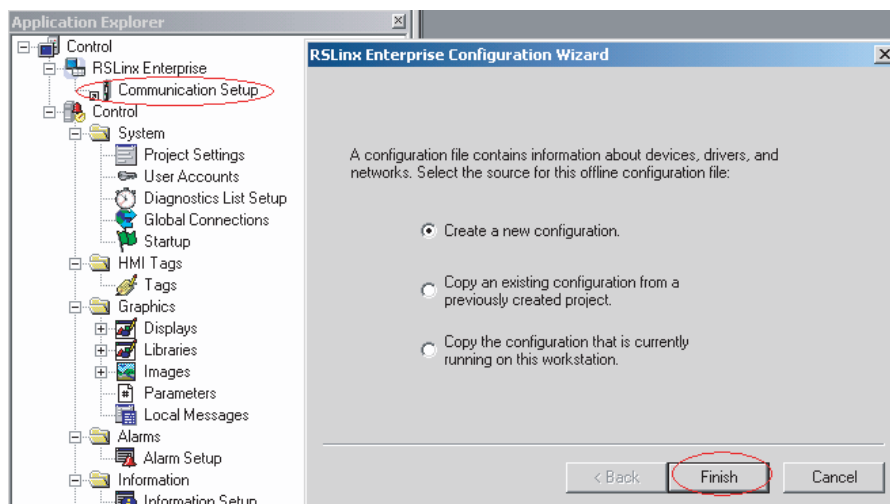
All 2711P-RN15C ControlNet communication modules for PanelView Plus 400 and 600 support ControlNet Scheduled Messaging.



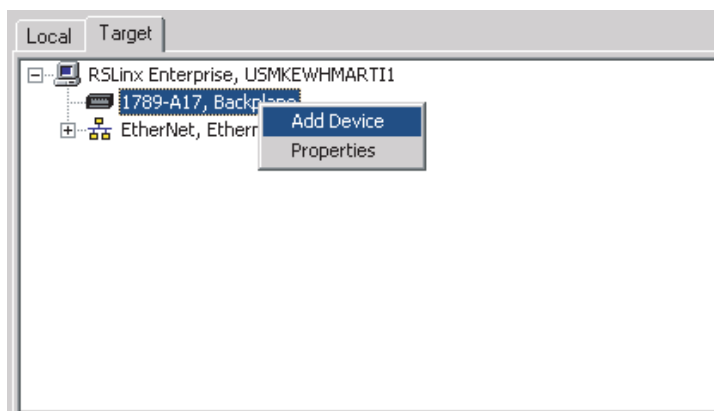
Configure the Communication Module

When a new 2711P-RN15S communication module is installed in a PanelView Plus or VersaView CE, the terminal requires some basic settings to establish communications.

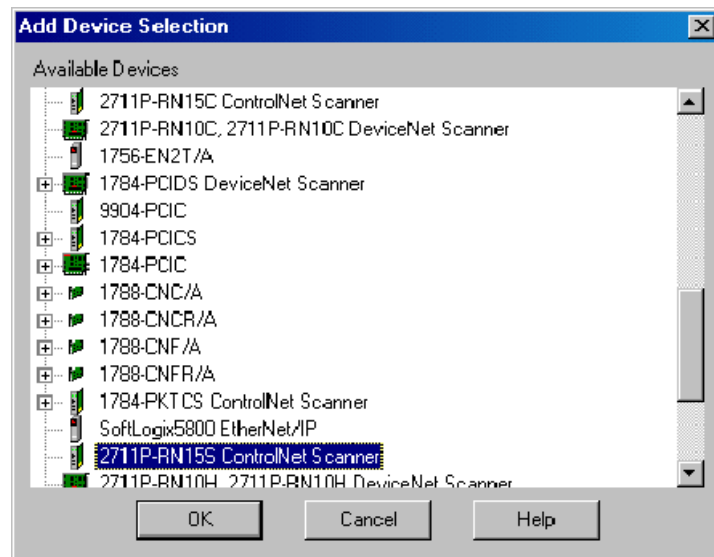
1. Create a new RSLinx Enterprise communication configuration by double-clicking on Communication Setup, select Create a new configuration, and click Finish.



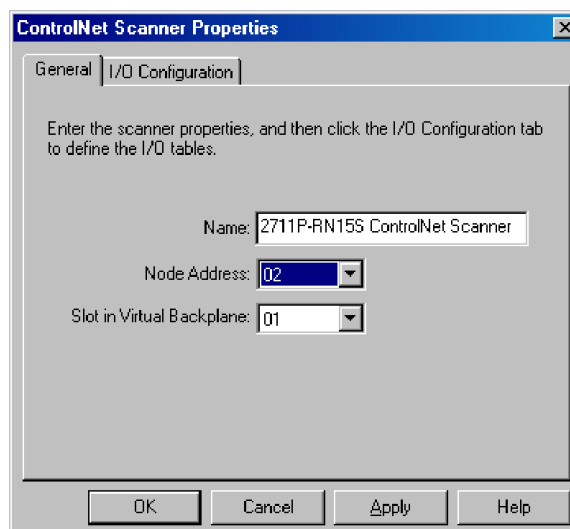
2. Click on the Target tab of the communication window.
To set the path for the target, the devices and drivers must be added manually because the development computer is not connected by ControlNet to the ControlLogix processor.
3. Right-click on the virtual backplane of the PanelView Plus / VersaView CE labeled 1789-A17, Backplane, and select Add Device.



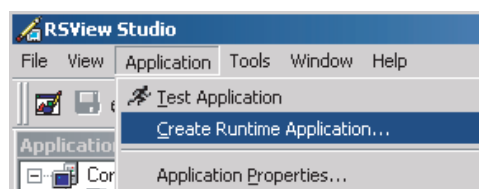
4. In the Add Device Selection dialog, select 2711P-RN15S, ControlNet Scanner Card for and click OK.



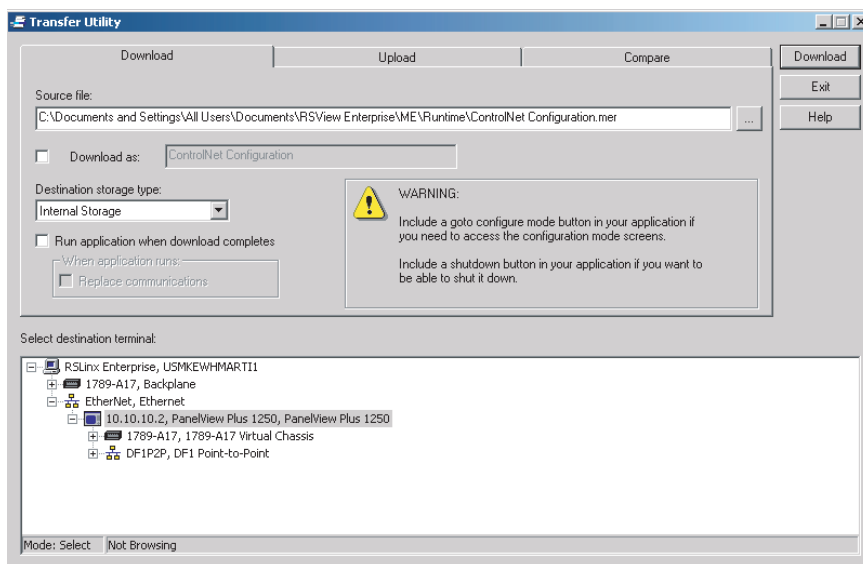
5. In the ControlNet Scanner Properties dialog, set the Node Address to 2 and click OK.
 - The node represents the unique node address (1-99) of the ControlNet Communication Module.
 - The slot corresponds to the position of the ControlNet communication module in the virtual backplane of the PanelView Plus / VersaView CE, which is always 01.



- From the Application menu, choose Create Runtime Application to create an RSView Machine Edition runtime file.



- Compile the project, download it to the terminal, and run the project. If successful, the communication status LED's illuminate on the 2711P-RN15S module.



A sample .MER has been created to configure the 2711P-RN15S as Node 2 on a ControlNet network. This application is located on Technote A103053983 on the Rockwell Automation Technical Support Knowledgebase at <http://support.rockwellautomation.com>. Download and run ControlNet Configuration.mer on the PanelView Plus or VersaView CE.



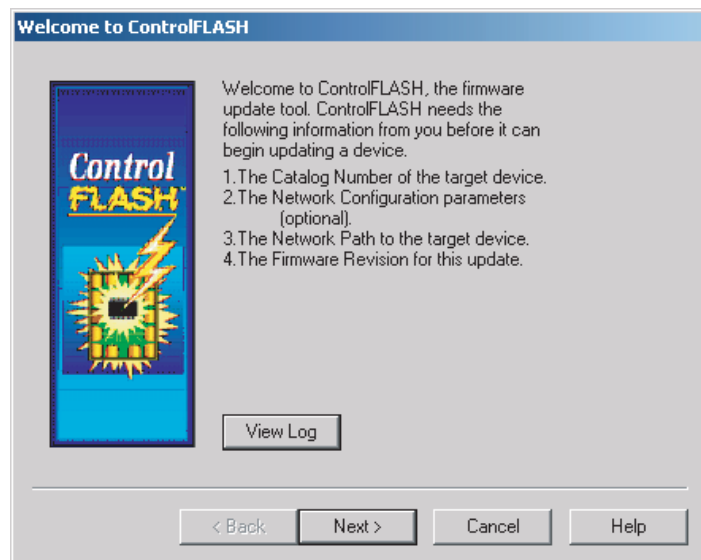
8. Click the Goto Configure button to return to the RSView ME configuration menu.

You can now upgrade the firmware in the 2711P-RN15S ControlNet module to v3.8 or later.

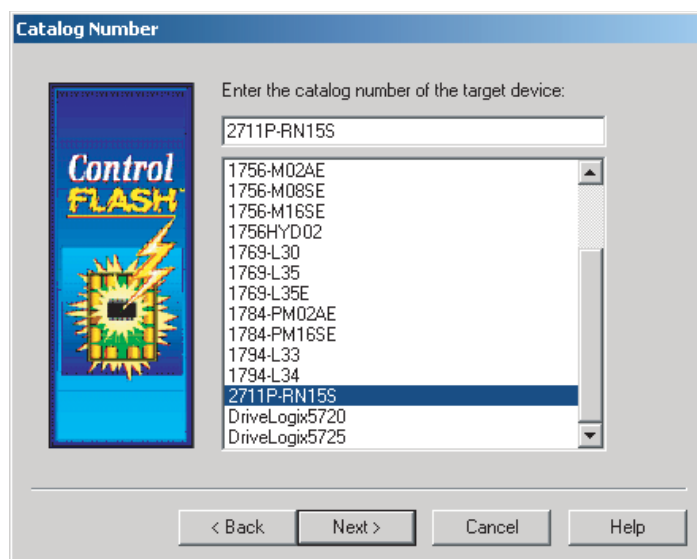
Upgrade the ControlNet Module Firmware to v3.8 or later

After the 2711P-RN15S Series A, Revision A module is initially configured, you must upgrade the module firmware to v3.8 or later to support ControlNet Scheduled messaging.

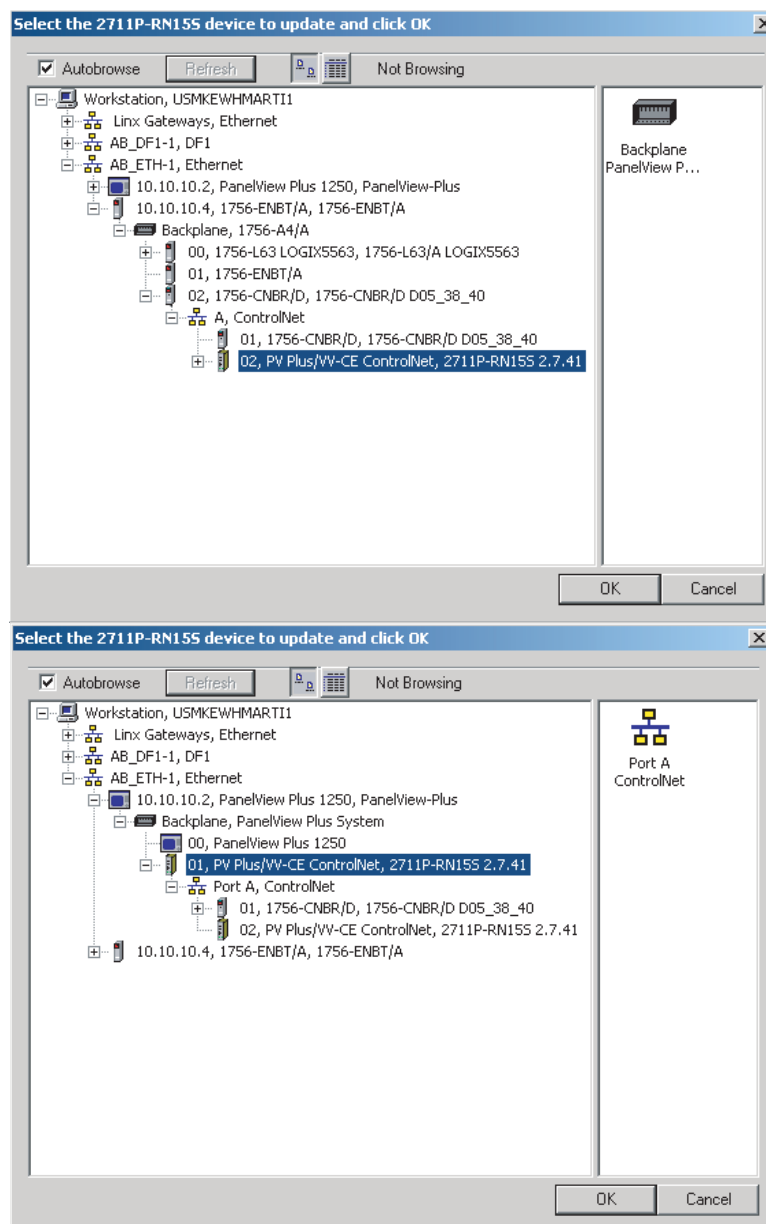
1. Start the ControlFlash firmware upgrade utility and click Next.



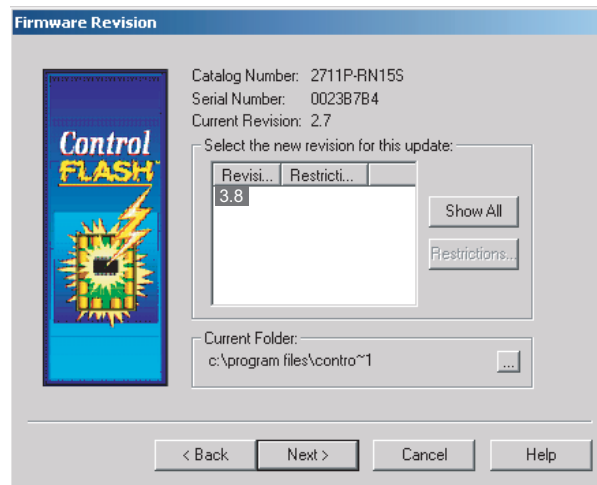
2. Select 2711P-RN15S and click Next.



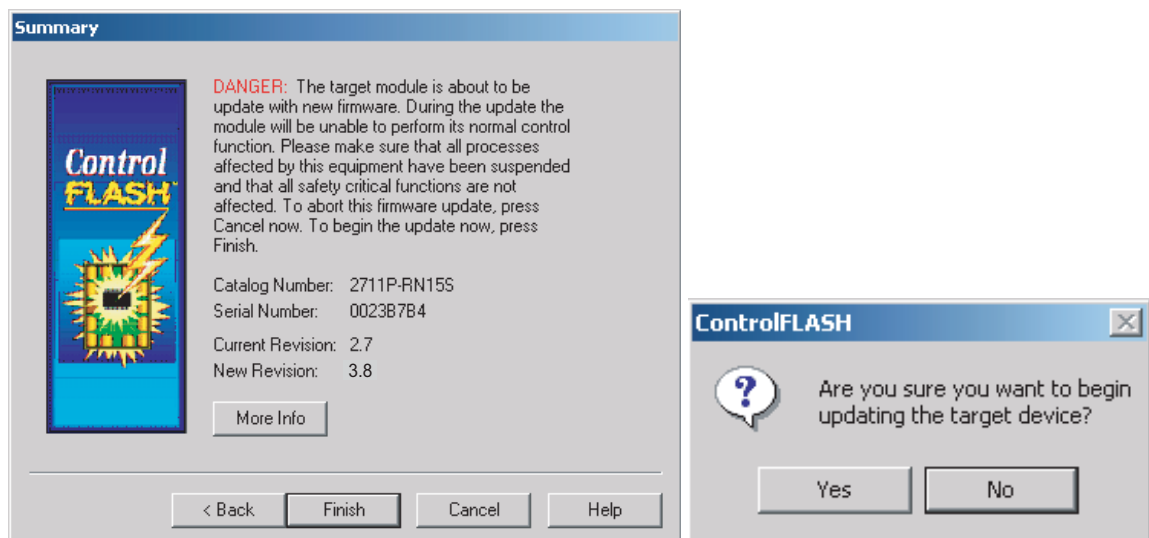
3. Select 2711P-RN15S to upgrade via an Ethernet or ControlNet network and click OK.



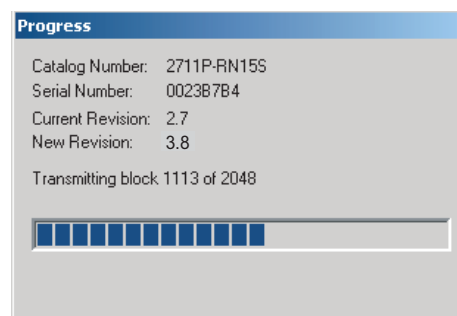
4. Select the firmware revision for the upgrade and click Next.



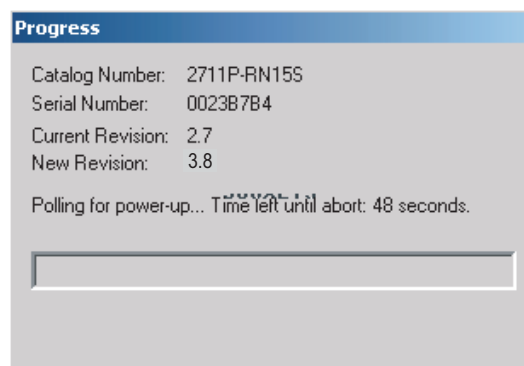
5. Click Finish and then Yes to begin the firmware upgrade process.



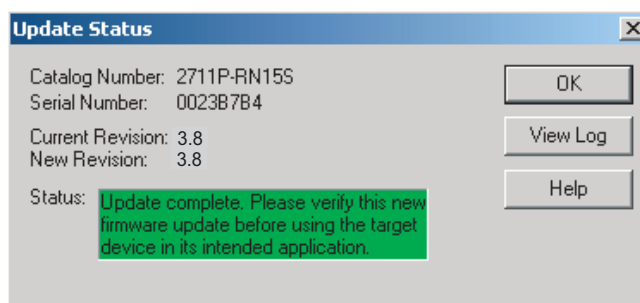
Communications will begin and the firmware will update.



6. When the upgrade is complete, cycle power on the PanelView Plus or VersaView CE.



When the terminal recycles power, the Control Flash firmware upgrade utility verifies the communication card update.



7. Click OK.

Rockwell Automation Support

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

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

Installation Assistance

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

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

New Product Satisfaction Return

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

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

www.rockwellautomation.com

Corporate Headquarters

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

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

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

Europe/Middle East/Africa: Rockwell Automation SA/NV, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Headquarters for Dodge and Reliance Electric Products

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

Europe/Middle East/Africa: Rockwell Automation, Herman-Heinrich-Gossen-Strasse 3, 50858 Köln, Germany, Tel: 49 (0) 2234 379410, Fax: 49 (0) 2234 3794164

Asia Pacific: Rockwell Automation, 55 Newton Road, #11-01/02 Revenue House, Singapore 307987, Tel: (65) 6356 9077, Fax: (65) 6356 9011