



# ControlNet Communications

For PanelView Plus and PanelView Plus 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 <a href="http://literature.rockwellautomation.com">http://literature.rockwellautomation.com</a>) 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, and recognize the consequence
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.

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	<ul> <li>The PanelView Plus and PanelView Plus CE devices support ControlNet Communications with RSView ME v3.10 or higher. These devices support Unscheduled and Scheduled messaging. Use this guide to:</li> <li>Configure ControlNet Unscheduled Communications</li> <li>Configure ControlNet Scheduled Communications</li> <li>Upgrade a 2711P-RN15S Series A Revision A ControlNet communication module</li> </ul>
Topics Covered	<i>Chapter 1 Install a ControlNet Communication Module</i> - Shows how to install and replace a ControlNet communication module on a PanelView Plus or PanelView Plus CE terminal. Also shows how to connect module to a ControlNet network.
	<i>Chapter 2 Configure Unscheduled Communications</i> - Shows how to configure ControlNet for Unscheduled messaging between a PanelView Plus or PanelView Plus CE terminal and an Allen-Bradley controller.
	<i>Chapter 3 Configure Scheduled Communications</i> - Shows how to configure ControlNet for Scheduled messaging between a PanelView Plus or PanelView Plus CE terminal and an Allen-Bradley controller.
	<i>Chapter 4 Upgrade 2711P-RN15S Firmware</i> - 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 PanelView Plus CE terminal to configure and communicate with an Allen-Bradley controller on a ControlNet network.

ControlNet Unscheduled Communications

Software/Firmware	PanelView Plus 700-1500 PanelView Plus CE 700-1500	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) <sup>(1)</sup>	2711P-RN15C, Series A, Rev A or later

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

Requirements	PanelView Plus 700-1500 PanelView Plus CE 700-1500	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) <sup>(1)</sup>	2711P-RN15C, Series A, Rev A or later

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



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.

# **Additional Resources**

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)
- PanelView Plus 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 sho	This chapter shows how to:	
	<ul> <li>Install and Plus or Pa:</li> <li>Connect the</li> </ul>	replace a communication module on the PanelView nelView Plus CE terminal. ne 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 PanelView Plus CE 700-1500 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:		
	<b>1.</b> Disconnect power from the terminal.		
		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.	
	<b>2.</b> 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.



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/PanelView Plus CE 700-1500





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



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



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 PanelView Plus 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 PanelView Plus 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 PanelView Plus CE terminal.

Software/Firmware	PanelView Plus 700-1500 PanelView Plus CE 700-1500	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) <sup>(1)</sup>	2711P-RN15C, Series A, Rev A or later

ControlNet Unscheduled Communications

 $^{(1)}$   $\,$  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/PanelView Plus 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/PanelView Plus 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 / PanelView Plus CE, which is always 01.

ControlNet Scanner Properties	×
General 1/0 Configuration	1
Enter the scanner properties, and then click the I/O Configuration tab to define the I/O tables.	
Name: 2711P-RN15S ControlNet Scanner	
Node Address: 02	
Slot in Virtual Backplane: 01	
OK Cancel Apply Help	

**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 / PanelView Plus 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.

Device Properties	×
General	
Name 1756-L63 LOGI×5563	
OK Cancel Apply Hel	P

- **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.

∎¶Communication Setup - RNA://\$Local/Cr	netSample/RSLinx Enterprise	_ 🗆 🗙
Add a device shortcut that specifies two communic development and testing. Click Target to specify a	ation paths. Cick Local to specify one path on this computer for application second path for use by the target device.	
Cevice Shortcut*	Loca     Target       IH-■     RSLink Enterprise. RSLink Enterprise       IH-■     1789-417, Backplane       IH-■     1, 2711P-RN15S ControlNet: Scanner, 2711P-RN15S Control       IH-■     1, 2711P-RN15S ControlNet: Scanner, 2711P-RN15S Control	olNet Sca
	<ul> <li>in a state of the state of the</li></ul>	
	∢   Mode: Difine	
	Offine Tay File	owse
Add Bemove Apply	<u>C</u> ooy OK. Cancel	Help

**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/PanelView Plus 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 RSView Machine Edition application file

### **Software Requirements**

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

Requirements	PanelView Plus 700-1500 PanelView Plus CE 700-1500	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) <sup>(1)</sup>	2711P-RN15C, Series A, Rev A or later

ControlNet Scheduled Communications

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



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.

# **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 / PanelView Plus 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)



S	Scope: ControlNet(controller 💌 Show: Show All 💽 Sogt: Tag Name 💌							
	Ρ	Tag Name 🗠	Alias For	Base Tag	Туре	Style		
		⊞-Timer			TIMER			
					DINT	Decimal		
		⊕-Output_to_PVP			DINT	Decimal		
					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.

Red Controler ControlNet	Module Prop	erties - Local:1 (1756-CNBR/D 5.1) 🛛 🔀
- 🚰 Controller Bault Handler - 🗁 Powerp Handler	Турия	1776-TNBR/D 1776 Coole (Net Bridge, Beromdart Merria
🗄 🔂 asks	Vendor	WienBradley
🗈 🙀 Hair ask 1 🍱 🎘 Mair Frogram	Nane	NIF 1 📑
Miction Groups	Dosanpton:	Slot: 2
Treu Is     Total Is     Total Is     Total Types     Total Types     Total Types     Total Types     Total Type     Tot	Revision:	3     •       Electoric Kaying:     Compatible Module
🖞 [1] : 754-CNBR/D		Lance         < Back         Next >         Fnish >>         Help

### **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.

in the second se				
D [c] I I/00	1	New Module		
	×	Cut	Ctrl+X	
	E	Сору	Ctrl+C	
	R	Paste	Ctrl+V	
		Delete	Del	
		Cross Reference	Ctrl+E	
Select Module Type				
Type: 2711P-RN15S/A				
Туре	Description			
1788-CNCR/A	1788 ControlNet Bi	ridge, Redundant Coax	Media	
1788-CNF/A	1788 ControlNet Bi	ridge, Fiber Media		
1788-UNFR/A	1788 ControlNet Bi 1794 ControlNet A	ridge, Hedundant Fiber I 4	Media	
1794-AUN 1570 1794-ACNIB1570	1794 ControlNet A	dapter dapter Bedundant Med	ia	
1797-ACNB15/C	1797 ControlNet A	dapter, Redundant Med dapter, Bedundant Med	ia	
2364F RGU-CN1	2364F Regen Bus	Supply via 1203-CN1		
2711P-RN15S7A	ControlNet Module f	or PanelView Plus 700-1	500/PanelView	Plus CE
CONTROLNET-MODULE	Generic ControlNet	t Module		
FlexPak 3000	FlexPak 3000 DC [	Drive		
GV3000	GV3000 AC Drive			
PanelView DamerFlag 700 Maintage 20	2/11 PanelView U	perator Lerminal New Deive (2000/24/04/24/2	- 20 COUM C	
PowerFlex 700 Vector-20 PowerFley 700 Vector-20	. PowerFlex 700 Vec DowerFley 700 Vec	ctor Dirive (208/240V) VI stor Dirius (400/4901/) ui	а 20-СОММ-С. Б 20 СОММ С.	
Channes 700 Vector-40	. Fowerlex 700 vet	Stor D 1196 (400/4609) VI		
Vendor All			necialtu I/O	Select All
Tourgov h.m.	<u>_</u>		poordity in O	
Analog 🔽 Digital	Communicatio	on 🔽 <u>M</u> otion 🔽 C	o <u>n</u> troller	Cļear All
		ОК	Cancel	Help

**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.

Module Prop	perties - CNBR (2711P-RN155/A 3.1)	×
Type: Vendor: Parent: Name:	2711P-RN15S/A ControlNet Module for PanelView Plus 700-1500/ PanelView Plus CE Allen-Bradley CNBR	
Descri <u>p</u> tion:		
Comm <u>F</u> ormat:	None	
<u>R</u> evision:	3 7 💼 Electronic Keying: Compatible Module 💌	-
	Cancel < Back Next> Finish>> Help	

### **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.

Ø	Controller Tags - C_NET(controller)							
S	Scope: C_NET(controller) 💌 Show: Show All 💌 Sort: Tag Name							
	Ρ	Tag Name 🛛 🛆	A	Alias For	Base Tag	Туре		Sty
			5		PVP-1	DINT		De
*	Π			Monitor Tag - Ir	nput_From_PVP			
				Edit Tag Proper	ties		Alt+Enter	
				Edit Data Type				
				Create Tag whi	ch aliases - Input_Fr	om_PVF	)	
				Trend Tag - Inp	out_From_PVP			

**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.

General Con	nection
Name:	Input_From_PVP
Description:	
Tag Type:	C Base C Alias C Produced C Consumed
Data Type:	DINTOonfigure
Scope:	C_NET
Style:	Decimal
	OK Cancel Apply Help

**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.

Í	🕈 Tag Properti	es - Input_From_P¥P	
	General Conn	ection	
	Producer:	<b>PVP</b>	•
	Remote Data:	1	*
	RPI:	(Tag Name or Instance Number)	

- 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.

	🖄 Co	ntroller Tags - ControlNet(controll	er)					_ 🗆	×
	Scop	e: ControlNet(controller 💌 Show: S	how All	•	So <u>r</u> t:	Tag Name 🛛	-		
	P	Tag Name	Δ	Alias For		Base Tag	Туре	Style	
10		⊞-Input_from_PVP				PVP:1	DINT	Decimal	
10		⊞-Output_to_PVP					DINT	Decimal	
10		⊕-Timer					TIMER		
10		⊞-Timer_to_PVP					Timer_Values		
10	* [								

**2.** Right-click on the checked Output\_to\_PVP tag and select Edit Tag Properties.

	Controller Tags - C_NET(controller)							
S	Scope: C_NET(controller) 💌 Show: Show All 💌 Sort: Tag Name 💌							
	Ρ	Tag Name 🛛 🛆	Alias For	Base Tag	Туре	Style	1	
			P	PVP:1	DINT	Decima	al	
J	₽	Output_to_PVP	Monitor Tag			Decima	al	
*			Edit Tag Proper	ties	Alt+Enter			
	Edit Data Typ							

**3.** In the Tag Properties dialog, configure the Output\_To\_PVP tag with the Tag Type=Produced and Data Type=DINT.

🕌 Tag Propert	ies - Output_to_P¥P	_ 🗆 ×
General Conr	nection	
Name:	Output_to_PVP	
Description:	× V	
Tag Type:	C Base C Alias C Produced C Consumed	
Data Type:	DINT Configure	
Scope:	C_NET	
Style:	Decimal	

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

Tag Properties - Output_to_PVP	
General Connection	
Maximum Consumers:	
Programmatically (IOT Instruction) Send Event Trigger to Consumers	

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 PanelView Plus 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/PanelView Plus CE.

Local Target	
E- IN RSLinx Enterprise, USMKEWHMARTI1	
1789-A17, Backplane Elevent Add Device	
Properties	

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

Add Device Selection	×
Available Dievices	
2711P-RN15C ControlNet Scanner	<b>_</b>
2711P-RN10C, 2711P-RN10C DeviceNet Scanner	
🗄 📠 1784-PCIDS DeviceNet Scanner	
9904-PCIC	
🛓 🗄 1784-PCICS	
🕀 🏬 1784-PCIC	
😟 🕫 1788-CNC/A	
😟 🕫 1788-CNCR/A	
🖶 🕪 1788-CNF/A	
🖶 🖗 1788-CNFR/A	
🖶 🖞 1784-PKTCS ControlNet Scanner	
SoftLogix5800 EtherNet/IP	
2711P-RN10H_2711P-RN10H_DeviceNet Scanner	<u> </u>
OK Cancel Help	
	1

- **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 / PanelView Plus CE, which is always 01.

ControlNet Scanner Properties	×
General I/O Configuration	
Enter the scanner properties, and then click the I/O Configuration tab to define the I/O tables.	
Name: ControlNet Scanner Card for PanelVi	
Node Address: 02	
Slot in Virtual Backplane: 01	
OK Cancel Apply Help	

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



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

Transfer Utility			
Download	Upload	Compare	Download
Source file:			Exit
C:\Documents and Settings\All Users\Docum	ents\RSView Enterprise\ME\Runtime\Con	rolNet Configuration.mer	Help
Download as: ControlNet Configur	ation		
Destination storage type:	WARNING:		
Internal Storage	Include a goto cor	figure mode button in your application if	
Run application when download complete - When application runs:	s you need to acces	s the configuration mode screens.	
Replace communications	be able to shut it d	own.	
lect destination terminal:			
RSLinx Enterprise, USMKEWHMARTI1			
는 묾 EtherNet, Ethernet			
🖻 🔲 10.10.2, PanelView Plus 125	0, PanelView Plus 1250		
1/89-A17, 1/89-A17 Virtua	Chassis		
aday Salast Nat Provising			
Non-Delect processing			

**8.** 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 PanelView Plus CE.



**9.** 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**

- 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.

<mark>tt</mark> д Ес	ddress 02, PVI Frit day Network	Plus/PV I Domini	Plus CE C	ontrol N In	let - Scanli	ist Cor	figurati	on			
H	a 🗠 🖪 🖬	16 県日	S 🕹 😽	1							
	🗵 Eok anabid	Durren:	Pending			Cined	-criding				
÷.	Divoles Linec	0 di 27	0 of 127	Data ng	at Fe Liege:	0.00%	0.00%				
LL D				Devia	pa Fieldos je	C 102	0.00%				
*	K F Burle Mean	ny Booger/	( Nation Netso	Tand Dar Kalaga	X 0-4-5 (B	- T	(13)				<b>i</b>
Ader.	Juliot Paramete s	: Lintin	A Device	Name	Connection Na	<b>19</b>		18. (c. c	EA.G.	Input Achies	i tractili i di el
- u	×		1755-01 1756-16	103/10 8							
12			- 20 A R	6 a							
H I	• • • Cornection	Conductored	ung lànce	de a Sia I	c / <b>4</b>					888	<b>L</b>
F . H d	la parss ≓r				(Co	n : Fil	N 1	nada CE C	inn Nil:	5.7 A	cheofî 🔟 🦽

Configure the Producer Connection for the PanelView Plus/PanelView Plus 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.

Address 02, PV Plus/PV Plus CE ControlNet - Scanlist Con	figura
File Edit View Network Device Connection Help	
📙 X 🖻 🖻 Խ 🐝 🗛 🗛 😽 😽	
Edits Enabled Current Pending	-
Entries Used: 0 of 127 0 of 127 Data In	nout F
Data C	lutput
Node Memory Usage X Node Network Usa	
Addr Slot Parameters Entry N Device Name	Co Insert Target for Connections
00 1756-CNDR/D	Insert Target for Connections
Insert <u>I</u> arget for Connections Ctrl+I	Target Name Send Data
Properdes Delete Selected Entry Del	
Auto Insert	Produce Buffer ID
Auto <u>A</u> ddress	Addressing Parameters
Clear Addresses	Input Size Words Input Address n/a
Scanner Mode	Output Size 2 Vords Output Address 0
	Status Address 0
View Connection Configuration	
A View Connection Status	Auto Address Preferences
Display RSNetWorx Window Ctrl+R	
What's This? Shift+F1	atus
Insert a new connection target end y	

- 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.

🐉 Tag Properties - Input_From_PVP								
General Conn	ection							
Producer:								
Remote Data:	1 *							
RPI:	(Tag Name or Instance Number)							

When finished, the resulting scanlist looks similar to this:



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/PanelView Plus CE device.

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

Y] Ad	dress 02, PV F	Plus/PV Plus CE C	ontrolNet - Sca	nlist Configuration					
Eile	<u>E</u> dit <u>V</u> iew <u>N</u> e	etwork <u>D</u> evice	Connection <u>H</u>	<u>H</u> elp					
	Х 🖻 🖪	10 🏙 👫	문 방 문	5 19					
≝	🔽 Edits Enat	oled Current	Pending		C	Current Pen	ding		
e U	Entries Used:	1 of 127	1 of 127	Data Input File Us	age: O	.00% 0.0	10%		
onic				Data Output File L	Jsage: O	1.02% 0.0	12%		
8				Total Data File Lle	age: 0	0.02% 0.0	12%		
ã	<b>▲</b> ►\Node	Mernory Usage	Node Netw	vork Usage 🖌 Ove	erall Ne	۰ <u>۲</u>			
Addr.	Node	Memory Usage Parameters	K Node Netw	Vork Usage 🖌 Ove	Conne	ection Name	API (	RPI (	Input Ad
Addr. 01	Slot	Memory Usage	K Node Netw	Vork Usage / Ove V Device Name 1756-CNBR/D 1756-CABR/D 1756-CABR/D	Erall Ne	ection Name	API (	RPI (	Input Ad
02 Addr. 01	Slot	Memory Usage Parameters Produce Buffer ID	Entry Node Netwo	N Device Name 1756-CNBR/D 1756-L63 PV Plus/V		continue     control     contro     control     control     control     control     control     c	API (	RPI (	Ctrl+I Del

- **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.

Connection Properties
Connection Electronic Keying Details
To Address 01 Device Name 1756-L63 LOGIX5563
To Slot UU Name Receive Data From
Communication Parameters
Name Value
Tag Output_to_PVP
Requested Packet Interval (ms) 20
Addressing Parameters
Input Size 2 Vords Input Address 0
Output Size Words Output Address n/a
Configuration Size Vords
Status Address 2
Auto Address Preferences
OK Cancel Apply Help

- 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:

YI Ad	Y Address 02, PV Plus / PV Plus CE ControlNet - Scanlist Configuration									_ 🗆 🗵
Eile	Ele Edit View Network Device Connection Help									81
	X 🖻 f	1 🕩 🎁 🚯	물놂물	윰 💦						
×	🔽 Edits Er	habled Current	Pending		Current	Pending				
⊖ e	Entries Use	ed: 1 of 127	2 of 127	Data Input File Us	age: 0.00%	0.02%				
onic				Data Output File U	sage: 0.02%	0.02%				
Res	Nod	e Memory Usage	e 🖌 Node Net	Total Data File Us work Usage 🖌 Ove	ana: 0.02% analiNel ∢ I	0.04%				
		,,	Λ							
Addr.	Slot	Parameters	Entry	N Device Name	Connection I	Vame	API ( RPI	( Input /	Address   Input S.	Outp 🔺
01				1756-CNBR/D						
	00			1756-L63						
0.2		Output_to_PVP		nu nice/u	Receive Data	From 2	20,00 20	U	2	n/a
		Produce Buffer I	D=1	F V FIQS/ V	Send Data	г	i/a n/a	n/a	n/a	0

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.

Save As							? ×
Save in: 🔎	Networks	-	÷	£	<del>d</del> i.		
			_	_	_		
File name:	ControlNet.xc					Save	
Save as type:	ControlNet Files (*.xc)		1	•		Cance	

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

Y] Addres	Address 02, PV Plus/PanelView Plus CE ControlNet - Scanlist Configuration								
Eile Edit View Network Device Connection Help									
	h C	<b>b 16 f</b> a   न	<sub>류</sub>   <del>유</del>   N	<b>?</b>					
Addr	Slot	Parameters	Entry N	Device Name	Connection Name	Status	Inhibit	▲	
01				1756-CNBR/D					
	00		1	ControlNet					
		Output_to_PVP			Receive Data From	Offline	No		
02			1	PV Plus/V					
		Produce Buffer ID=1			Send Data	Offline	No		
L									
4   ▶	N ∖ Con	nection Configuration	), Connectio	n Status / 📘	1			Þ	
For Help, p	ress F1				Offline Monitor	PV Plus/VV-CE ControlNet 3	.7 Address 02	Offline //	

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.



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.

New/Open Machine Editi	on Application	x
New Existing		
Application name:	ControlNet Messaging	
Description:		
	Create Import Cancel	

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

Application Explorer		
Control     SLinx Enterprise     Communication Setup     Control	RSLinx Enterprise Configuration Wizard	×
System     Project Settings     Ver Accounts     Diagnostics List Setup     Global Connections     Statup     HMI Tags     MI Tags	A configuration file contains information about devices, drivers, and networks. Select the source for this offline configuration file:      C Create a new configuration.      C Copy an existing configuration from a	
Graphics Displays Displa	Copy the configuration that is currently running on this workstation.	
nformation	< Back Finish	Cancel

- **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/PanelView Plus CE
  - b. Node Address = 02
  - c. Slot in Virtual Backplane = 01.

ControlNet Scanner Properties	×
General 1/0 Configuration	
Enter the scanner properties, and then click the I/O Configuration tab to define the I/O tables.	
Name: 2711P-RN15S ControlNet Scanner	
Node Address: 02	
Slot in Virtual Backplane: 01	
OK Cancel Apply Help	

### 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.

		Address Block Properties	×
ControlNet Scanner Properties	×	Specify a start byte (using the Input or Output Address from the RSNetWorx Scanlist Configuration Tool) and the block length. Note that a word-to-byte conversion is necessary.	
General 1/0 Configuration PKTCS PC Input 0.3 Bytes 01,0 Connection 0-3 [2] Input 0-3 Add Address Block		Start Byte: 0 Access C Input Length in Bytes: 4 Otput OK Cancel Help	

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.

	Connection Properties	×
Control of Configuration Confi	Use the data from the RSNetWorx Scanlist Configuration Tool to specify a connection.          Start Byte:       0       •       Use for Connection Reporting         Length in Bytes:       4       •       Node (MAC ID):       1         Status Address:       2       •       Slot:       0	•
OK Cancel Apply Help	OK Cancel He	lp

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.

Co	ntrolNet Scanner Properties	
L. L.	General 1/D Configuration	
	PKTCS     PKTCS     O3 Bytes     Add Connection     Add Alias     Delete     Properties	
Alias Properties: New	Alias-0006 - Input - 0-3 Bytes	×
Select the alias data type	a for this alias, and then define its properties.	
Alias Data Type:	Alias Properties:	
- Numbers - SINT	Alias Name Name: Input	
USINT	Address	L
INT UINT	Specify the address values or type the address string.	
	Start Byte: 0	
REAL	Array Count: 1	
BITSERIES		
E E It	Address String: 00	
	Swapping	-
	Swap bytes	
	Initialization	-
32-bit, Signed (Long) In	teger. Range -2147483648 to 2147483647	
	OK Cancel Apply Next Help	1

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.

		Address Block Properties
ControlNet Scanner Properties	×	Specify a start byte (using the Input or Output Address from the RSNetWorx Scaniist Configuration Tool) and the block length. Note that a word-to-byte conversion is necessary.
General 1/D Configuration  FKTCS  General 0-3 Bytes  General 0-3 Bytes  General 0-3 [2]  Add Address Block		Start Byte: 0 Access C Input: C Output: O Output: OK Cancel Help

### 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.

	Connection Properties	X
ControlNet Scanner Properties	Use the data from the RSNetWorx Scanlist Configuration Tool to specify a connection.	
General 1/0 Configuration  PKTCS  Configuration  O 3 Bytes  O 3 Bytes  O 10,0 Connection 0-3 [2]  O utput  O 4dd Connection  Add Alless  Delete  Properties	Start Byte: 0 v Use for Connection Reporting Length in Bytes: 4 v Status Address: 0 v OK Cancel He	

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.

	Co	ntrolNet	: Scanner Proj	perties		×
			I/O Configuration ★TCS Input 0-3 Bytes 0-1 put 0-1 put 0-4 put 0-3 Bytes 0-1 put 0-1 put 0-3 Bytes 0-1 put 0-3 Bytes 0-1 put 0-3 Dytes 0-1 put 0-3 Dytes 0-1 put 0-1	Connection 0-3 0-3 Add Conne Add Alias Delete Properties.	3 [2] • •	
lias Properties: NewA	lias-0007 - Outr	out - 0-3	OK	Cancel	Apply	Help
elect the alias data type f	or this alias, and th	nen define	e its properties.			
Alias Data Type:	Alias Properties	s:				
	Alias Name - Address	Initial V	lame: Output dress values or t Start Array C Address S Swap ' Swap ' 'alue:	ype the address Byte: 0 iount: 1 itring: 00 Bytes Words	s string.	
32-bit, Signed (Long) Inte	ger. Range -2147	483648 to	o 2147483647			
	0	ЭК	Cancel	Apply	Next	Help

A

ControlNet Scanner Properties	×
General 1/0 Configuration	
OK Cancel Apply Help	

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.

Communication Setup - RNA://\$Local/C	netSample/RSLinx Enterprise
<u>     Add a device shortout that specifies two communi- deve content and testing. Click Target to specify a devector shortouts     Over Shortouts     Over Shortouts     Over Scholar Schol</u>	netSample/FISLinx Enterprise         cation paths: Click Local to specify one path on this computer for epolication is second path for use by the target device         -ocal         Target         Image: State Enterprise         USHAT, Harkplane         Image: State Path Path State Path Path Path Path Path Path Path Path
	Mode: Online No: Browsing
	Offine Tag File
	<u><u> </u></u>
Adc <u>R</u> enovo Agply	Copy OK Cancel Hop

**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/PanelView Plus CE device from another device. The Output Table folder is used for output data that is sent from the PanelView Plus/PanelView Plus CE device to another device.

Calent Tag			<u>?</u> ×
Folders	Contents of V::CNET_	SCHEDULED/Online/InputTable'	
Image: System     MyCNetScheduledApp       Image: Charles of the system       Image: Charles of the system	Name	Description	
Tag filter:			•
Selected Tag			
L	OK	Cancel H	elp

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

🔗 Tag Browser			? ×
Select Tag			
Folders	Contents of V::CNET	_SCHEDULED/Online/InputTable'	
CNET_SCHEDULED CNET_SCHEDULED CNET_SCHEDULED CNET_SCHEDULED CONINE	Name	Description	
Tag filter: <a>Kone&gt;</a>			•
- Selected Tag			
[CNET_SCHEDULED]InputTable.Input			_
Home area: /			
	OK	Cancel He	

# 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 PanelView Plus 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.



- 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 / PanelView Plus CE labeled 1789-A17, Backplane, and select Add Device.

Local Target
E RSLinx Enterprise, USMKEWHMARTI1
1789-A17, Backplace

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

Add Devic	ce Selection	×
Available	Devices	
- 2	711P-RN15C ControlNet Scanner	
27	711P-RN10C, 2711P-RN10C DeviceNet Scanner	
17	756-EN2T/A	
📄 🕀 🛄 1.	784-PCIDS DeviceNet Scanner	
- 🚺 99	904-PCIC	
📄 🗄 – 🚺 15	784-PCICS	
📃 🕀 🛄 11	784-PCIC	
📄 🕀 📂 🖬 13	788-CNC/A	
📃 🗄 – 🔛 13	788-CNCR/A	
📄 🕀 🕬 17	788-CNF /A	
📄 🕀 🖻 17	788-CNFR/A	
🌐 🕀 🖷 🗐 15	784-PKTCS ControlNet Scanner	
- 🗍 S	oftLogix5800 EtherNet/IP	
- 1 2	711P-RN15S ControlNet Scanner	
2	711P-BN10H_2711P-BN10H_DeviceNet Scapper	<u> </u>
	OK Cancel Help	

- **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 / PanelView Plus CE, which is always 01.

ControlNet Scanner Properties
General 1/0 Configuration
Enter the scanner properties, and then click the I/O Configuration tab to define the I/O tables.
Name: 2711P-RN155 ControlNet Scanner
Node Address: 02
Slot in Virtual Backplane: 01
OK Cancel Apply Help

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



**7.** 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.

Transfer Utility			
Download	Upload	Compare	Download
Source file: C:\Documents and Settings\All Users\Docu	ments\RSView Enterprise\ME\Runtime\Con	trolNet Configuration.mer	Exit
Download as: ControlNet Configu Destination storage type:			
Internal Storage	es Include a goto co you need to acce Include a shutdow be able to shut it o	nfigure mode button in your application if is the configuration mode screens. In button in your application if you want to lown.	
lect destination terminal:			
	50, PanelView Plus 1250 al Chassis t		
ode: Select Not Browsing			

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 PanelView Plus 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.



Control FLASH	Select the new revision for this update:  Revisi Restricti  Show All  Restrictions
	Current Folder: c:\program files\contro~1

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

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

Summary			
Control	DANGER: The target module is about to be update with new firmware. During the update the module will be unable to perform its normal control function. Please make sure that all processes affected by this equipment have been suspended and that all safety critical functions are not affected. To abort this firmware update, press Cancel now. To begin the update now, press Finish.         Catalog Number:       2711P-RN15S         Serial Number:       002387B4         Current Revision:       2.7         New Revision:       3.8	ControlFL	ASH
	< Back Finish Cancel Help		Yes No

Communications will begin and the firmware will update.

Progress		
Catalog Number: Serial Number: Current Revision: New Revision: Transmitting block	2711P-RN15S 0023B7B4 2.7 3.8 1113 of 2048	

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

Progress	
Catalog Number: Serial Number: Current Revision: New Revision:	2711P-RN15S 0023B7B4 2.7 3.8
Polling for power-u	p Time left until abort: 48 seconds.

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

l	Jpdate Status			X
	Catalog Number: Serial Number:	2711P-RN15S 0023B7B4	[	OK
	Current Revision: New Revision:	3.8 3.8		View Log
	Status: Update o firmware device in	complete. Please verify this new update before using the target its intended application.	[	Help

7. Click OK.

# Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At <u>http://support.rockwellautomation.com</u>, 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 <u>http://support.rockwellautomation.com</u>.

### 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, it may need 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.

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### **Power, Control and Information Solutions Headquarters**

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, 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