# Programming SpeedNet™ Radios With LinkStart Software

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Instruction Sheet 766-567

Ouglified Persons			
Quaimed Fersons			
	Only qualified persons who are knowledgeable in the installation, operation, and maintenance of overhead and underground electric distribution equipment, along with all associated hazards, may install, operate, and maintain the equipment covered by this publication. A qualified person is someone who is trained and competent in:		
	The skills and techniques necessary to distinguish exposed live parts from nonlive parts of electrical equipment		
	<ul> <li>The skills and techniques necessary to determine the proper approach distances corresponding to the voltages to which the qualified person will be exposed</li> </ul>		
	<ul> <li>The proper use of special precautionary techniques, personal protective equipment, insulated and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment</li> </ul>		
	These instructions are intended ONLY for such qualified persons. They are not intended to be a substitute for adequate training and experience in safety procedures for this type of equipment.		
ead this	NOTICE		
struction Sheet	Thoroughly and carefully read this instruction sheet and all materials included in the product's instruction handbook before installing or operating your IntelliRupter® fault interrupter. Familiarize yourself with the Safety Information on page 3. The latest version of this publication is available online in PDF format at <b>sandc.com/en/support/product-literature/</b> .		
etain this struction Sheet	This instruction sheet is a permanent part of your IntelliRupter fault interrupter. Designate a location where you can easily retrieve and refer to this publication.		
roper Application			
	The equipment in this publication is only intended for a specific application. The application must be within the ratings furnished for the equipment. Ratings for the IntelliRupter fault interrupter are listed in the ratings table in Specification Bulletin 766-31. The ratings are also on the nameplate affixed to the product.		
arranty	The warranty and/or obligations described in S&C's Price Sheet 150, "Standard Conditions of Sale–Immediate Purchasers in the United States," (or Price Sheet 153, "Standard Conditions of Sale–Immediate Purchasers Outside the United States,") plus any special warranty provisions, as set forth in the applicable product-line specification bulletin, are exclusive. The remedies provided in the former for breach of these warranties shall constitute the immediate purchaser's or end user's exclusive remedy and a fulfillment of the seller's entire liability. In no event shall the seller's liability to the immediate purchaser or end user exceed the price of the specific product that gives rise to the immediate		

#### Understanding Safety-Alert Messages

Several types of safety-alert messages may appear throughout this instruction sheet
and on labels and tags attached to your IntelliRupter fault interrupter. Familiarize
yourself with these types of messages and the importance of these various signal words:

# 

"DANGER" identifies the most serious and immediate hazards that will likely result in serious personal injury or death if instructions, including recommended precautions, are not followed.

# **WARNING**

"WARNING" identifies hazards or unsafe practices that can result in serious personal injury or death if instructions, including recommended precautions, are not followed.

# **A** CAUTION

"CAUTION" identifies hazards or unsafe practices that can result in minor personal injury if instructions, including recommended precautions, are not followed.

# NOTICE

"NOTICE" identifies important procedures or requirements that can result in product or property damage if instructions are not followed.

### Following Safety Instructions

If you do not understand any portion of this instruction sheet and need assistance, contact your nearest S&C Sales Office or S&C Authorized Distributor. Their telephone numbers are listed on S&C's website **sandc.com**, or call the S&C Global Support and Monitoring Center at 1-888-762-1100.

# NOTICE Read this instruction sheet thoroughly and carefully before installing your IntelliRupter fault interrupter.

Replacement Instructions and Labels If additional copies of this instruction sheet are needed, contact your nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

It is important that any missing, damaged, or faded labels on the equipment be replaced immediately. Replacement labels are available by contacting your nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

Introduction	The following procedure creates a PPP connection to enable configuration of a SpeedNet <sup>™</sup> Radio installed in an IntelliRupter fault interrupter communication module through LinkStart software. Begin by installing LinkStart software, which is included with the IntelliRupter fault interrupter installer. Then, verify it can establish a Wi-Fi connection to the IntelliRupter fault interrupter. Access to an IntelliRupter fault interrupter, or the combination of a control module, communication module, and docking station, is required.	
	To prevent unexpected operation of an equipment team member during manual reconfiguration of the circuit (for example, during repairs), follow your company's operating procedures for disabling automatic operation of the IntelliTeam® SG or IntelliTeam® II Automatic Restoration System.	
	The IntelliTeam SG or IntelliTeam II Automatic Restoration System can be disabled by selecting <b>Restoration Prohibited</b> mode on the <i>IntelliTeam SG/II Operation &gt; General &gt; Team Summary</i> screen of any active team member.	
Requirements	• LinkStart software (see S&C Instruction Sheet 766-566)	
·	• An IntelliRupter fault interrupter or IntelliRupter fault interrupter docking station, communication module, and control module	
	• The SpeedNet Client Tool (see S&C Instruction Sheet 766-571)	
	The SpeedNet Radio serial port configuration must be set to PPP, the factory default. See Figure 1. If the radio serial port is not set to PPP, LinkStart software cannot be used for radio configuration, and the radio will have to be programmed over-the-air through the SpeedNet network.	
	<b>Note:</b> Administrator privileges are required for creating a PPP connection. After initial setup, non-administrator users will be able to establish a PPP connection to SpeedNet radios.	

SpeedNet SNMP Client - Version: 1.1.2.22	
SNMP Timeout:	Location: Unknown Rodio ID: Speed Net Rodio Rodio ID: 192-168.165 1 Status: Connected Access: Administrator
Main Interfaces IP Routing Security Admin Statistics	Region: North America
Fibernet Wireless Serial Mode Serial Port	
Serial Port Mode © PPP © DNP © Repeater SpeedGate Point-to-point Protocol Settings Local IP Address 192.168.100.2 Remote IP Address 192.168.100.1	
Apply	

Figure 1. SpeedNet Serial Port set to PPP Mode.

## Serial Port Configuration

Follow these steps to configure the serial port:

- $\label{eq:STEP 1.} Step 1. \quad Open the LinkStart software and connect to the IntelliRupter fault interrupter.$
- **STEP 2.** Open the Control Panel and select the Phone and Modem applet, which can also be found by entering "modem" in the search box. See Figure 2.



Figure 2. Control Panel search for "modem."

**STEP 3.** If the Phone and Modem dialog box does not show the **Modems** tab (see Figure 3), enter the location information in the **Dialing Rules** tab. Then, click on the **Add** button.

Dialing Rules Modems Advance	ed
The following modems	are installed:
Modem	Attached To
- C)	Add Remove Properties

Figure 3. The Modems tab in the Phone and Modem dialog box.

**STEP 4.** In the Add Hardware Wizard dialog box, check "Don't detect my modem; I will select it from a list," and click on the **Next** button. See Figure 4.

Install New Moder Do you want Win	n dows to detect your modem?
	<ul> <li>Windows will now try to detect your modem. Before continuing, you should:</li> <li>1. If the modem is attached to your computer, make sure it is turned on.</li> <li>2. Quit any programs that may be using the modem.</li> <li>Click Next when you are ready to continue.</li> <li>Image: Don't detect my modem: I will select it from a list.</li> </ul>
	< <u>B</u> ack Next > Cancel

Figure 4. The Add Hardware Wizard dialog box.

**STEP 5.** From the list of modems, select "Communications cable between two Computers." Then, click on the **Next** button. See Figure 5.

and model of your modem. If your modem is not listed, or if you hav K Have Disk.
Models
Communications cable between two computers Parallel cable between two computers Standard 300 bps Modem
<u>Have Disk</u>

Figure 5. The Install New Modem dialog box.

**STEP 6.** Select "COM18" for the Wi-Fi connection, and click on the **Next** button. See Figure 6. COM18 will not be available if the Wi-Fi connection to the IntelliRupter fault interrupter is not established and running.

Communications cable between two computers	
On which ports do you want to install it?	
C All ports	
Selected ports	
COM17 COM18	
COM22	
	On which ports do you want to install it? C All ports Selected ports COM17 COM18 COM22

Figure 6. The Add Hardware Wizard dialog box showing the modem port selections.

**STEP 7.** Click on the **Finish** button to exit the Add Hardware Wizard dialog box. See Figure 7. Then, click on the **OK** button to close the Phone and Modem applet.



Figure 7. The dialog box showing the modem installation has completed successfully.

**STEP 8.** Check that the cable between the two computers is attached to COM18. See Figure 8.

Add Hardware Wizard	
Install New Modem Select the port(s) y	ou want to install the modem on.
	You have selected the following modem: Communications cable between two computers On which ports do you want to install it? All ports Selected ports COM17 COM18 COM22
	< <u>B</u> ack <u>N</u> ext > Cancel

Figure 8. The Add Hardware Wizard dialog box for installing a new modem.

Network Configuration for Direct Cable Connection Follow these steps to configure the network for direct cable connection:

**STEP 1.** Open the Control Panel and click on the **Network and Sharing Center** entry, or click on the Network icon in the system tray and select "Network and Sharing Center." Then, click on the "Setup a new connection or network" link. See Figure 9.



Figure 9. The Network and Sharing Center dialog box.



**STEP 2.** Click on the "Set up a dial-up connection" entry. See Figure 10.

Figure 10. The Set Up a Connection or Network dialog box showing how to choose a connection option.

**STEP 3.** In the **Dial-up phone number** field, enter any number, and in the **Connection name** field, enter a descriptive name. See Figure 11.

🕒 🛄 Create a Dial-up Connec	tion	
Type the information from y	your Internet service provider (ISP)	
<u>D</u> ial-up phone number:	1	Dialing Rules
<u>U</u> ser name:	[Name your ISP gave you]	
<u>P</u> assword:	[Password your ISP gave you]	
	Show characters           Remember this password	
Connection <u>n</u> ame:	SpeedNet PPP	
🛞 🔽 Allow other people to	use this connection	
This option allows an <u>I don't have an ISP</u>	yone with access to this computer to use this o	connection.
		<u>C</u> onnect Cancel

Figure 11. The Create a Dial-up Connection dialog box.

**STEP 4.** Click on the **Connect** button. See Figure 11 on page 10. The Connecting to SpeedNet PPP... dialog box opens. See Figure 12.

🕞 👜 Create a Dial-up Connection	
Connecting to SpeedNet PPP	
· · · · · · · · · · · · · · · · · · ·	
Dialing 1	
	Skip Cancel

Figure 12. The Create a Dial-up Connection dialog box showing a connection occurring to SpeedNet PPP.

**STEP 5.** During the connection test, click on the **Skip** button. Figure 13 shows the connection test stopping.

Create a Dial-up Connection (Not Responding)	
🕞 🛄 Create a Dial-up Connection	
Connecting to SpeedNet PPP	
· · · · · · · · · · · · · · · · · · ·	
Stopping	
	kip Cancel

Figure 13. The Create a Dial-up Connection dialog box showing the connection test is stopping.



**STEP 6.** When the Create a Dial-up Connection dialog box opens showing the connection is ready for use, click on the **Close** button. See Figure 14.

Figure 14. The Create a Dial-up Connection dialog box showing the connection is ready for use.

#### Adjusting Serial Port Properties

Follow these steps to adjust properties of the serial port:

**STEP 1.** Open the Control Panel and select the "Device Manager" entry. Click on the "Modems" entry to expand the tree and right click on the "Communications cable between two computers" entry. See Figure 15.



Figure 15. The Device Manager dialog box.

**STEP 2.** Click on the "Properties" entry and select the **Advanced** tab in the communications cable between two computers Properties dialog box. See Figures 16 and 17.

File Action View Help		
♦ ♦ ∅ 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
DTGSS1     DTGSS1     Disk drives     Disk drives     Disk drives     Disk drives     DivD/CD-ROM drives     Qii Human Interface Devices     Keyboards     Of Mice and other pointing devices     Moderns		
Communications cable between to Monitors Network adapters Encodoom NetXtreme Gigabit Ether Intel® 82579LM Gigabit Network ( Ports (COM & LPT) Ports (COM & LPT) Secund, video and game controllers Storage controllers System devices Winversal Serial Bus controllers	Update Driver Software Disable Uninstall Scan for hardware changes Properties	

Figure 16. The Properties selection for communications cable between two computers.

General	Modem	Diagnostics	Advanced	Driver	Details	
Extra	Settings					
Extra	initializatio	on commands:	5			
Initia sens mode	lization co itive infom em's instru	mmands may l nation in the m ction manual f	ead to the ex odem log. Co or more detai	posure of insult you Is.	f	
		Ch	ange Default	Preferen	ices	

Figure 17. The communications cable between two computers Properties dialog box.

Call preferences		
Disconnect a c	all if idle for more than	mins
Cancel the call	if not connected within	secs

**STEP 3.** Click the **Change Default Preferences...** button. See Figure 17 on page 14. The **General** tab opens. See Figure 18.

Figure 18. The communications cable between two computers dialog box showing how to adjust data-connection preferences.

- **STEP 4.** Set the **Port speed** field to "115200" and the **Flow control** field to "None," as shown in Figure 18.
- **STEP 5.** Click on the **OK** button twice to exit back to the Device Manager dialog box. Close the Device Manager and any other open applications.
- **STEP 6.** Restart the computer.

#### **Start PPP Session** Follow these steps to start a PPP session:

- **STEP 1.** Disable the firewall.
- **STEP 2.** Open the LinkStart software and connect to the IntelliRupter fault interrupter. Verify the Wi-Fi WAN port configuration settings are as shown in Figure 19. If not, change them to match those in the Wi-Fi Administration dialog box showing where WAN Radio Serial Port Settings can be adjusted. To change the Wi-Fi WAN port configuration, click on the **Wi-Fi Admin** button on the *LinkStart Main* screen. Enter the password. Users should contact S&C to obtain their passwords. Click on the **WAN Port Setting** button.

WiFi Administration				
WiFi Configuration and Setup				
WAN Radio Serial Port Settings				
Bits per SecondData BitsParity1152008Inone				
Stop Bits Flow Control				
Apply				
Done				

Figure 19. The WAN Radio Serial Port Settings dialog box.

**STEP 3.** Go to the Open Network and Sharing Center dialog box. See Figure 20. Click on the "SpeedNet PPP" entry, and then click on the **Connect** button.



Figure 20. The Open Network and Sharing Center dialog box.

**STEP 4.** The Connect SpeedNet PPP dialog box opens. See Figure 21. Enter the radio User name and Password. Users should contact S&C to obtain their passwords. Click on the **Properties** button. The SpeedNet PPP Properties dialog box opens. See Figure 22 on page 19.

Tonnect SpeedNet PPP	×
User name: SpeedNet	
<ul> <li>Save this user name and password for the for</li> <li>Me only</li> <li>Anyone who uses this computer</li> </ul>	ollowing users:
Dial: 1	
Dial Cancel Properties	<u>H</u> elp

Figure 21. The Connect SpeedNet PPP dialog box.

📟 SpeedNet PPP Properties	×
General Options Security Networking Sharing	
This connection uses the following items:	
<ul> <li>✓ → Internet Protocol Version 6 (TCP/IPv6)</li> <li>✓ → Internet Protocol Version 4 (TCP/IPv4)</li> <li>✓ ⊕ File and Printer Sharing for Microsoft Networks</li> <li>□ ⊕ Client for Microsoft Networks</li> </ul>	1
Install       Image: Second seco	
OK Cancel	

Figure 22. The SpeedNet PPP Properties dialog box.

**STEP 5.** Select the **Networking** tab and check the checkbox for "File and Printer Sharing for Microsoft Networks," if this checkbox is not already checked. Then, click on the **OK** button.

**STEP 6.** In the Connect SpeedNet PPP dialog box, click on the **Dial** button. See Figure 21 on page 18. A couple of dialog boxes will be quickly displayed, showing the log-in progress. See Figure 23. If the log-in attempt is successful, no error dialog boxes will open. To check the connection status, click on the Network Connection icon located on the system tray. The SpeedNet PPP connection will show a **Connected** status. See Figure 24.

Connectin	ng to SpeedNet PPP	
<u>N</u>	Registering your computer on the network	
	Cancel	

Figure 23. The Connecting to SpeedNet PPP dialog box showing the connection log-in progress.



Figure 24. The Open Network and Sharing Center dialog box.

**STEP 7.** Start the SpeedNet Client Tool software and enter the appropriate login credentials. Figure 25 shows a sample login screen with factory default settings.

SpeedNet SNMP Client - Version: 1.1.2.22		_ X
S&C ELECT SNMP Timeout	RIC COMPANY	Location: Unknown Radio ID: Radio IP: Status: Not Connected Access: None
	SpeedNet Radio Login Enter the IP Address of the SpeedNet Radio to connect to and your Usemanne and Password. IP Address 192.168.100.2 Usemanne SpeedNet Password Login	

Figure 25. SpeedNet Radio Login dialog box.

**STEP 8.** After SpeedNet Radio configuration is complete and before you close the LinkStartsoftware, close the PPP session. Go to the Open Network and Sharing Center dialog box, click on the "SpeedNet PPP" entry, and click on the **Disconnect** button. See Figure 26.



Figure 26. The Open Network and Sharing Center dialog box.