# **Navigation Guide**

#### **Table of Contents**

Section	Page
Introduction	
Qualified Persons	2
Read this Instruction Sheet	2
Retain this Instruction Sheet	2
Special Warranty Provisions	2
Safety Information	
Understanding Safety-Alert Messages	4
Following Safety Instructions	4
Replacement Instructions and Labels	4
Safety Precautions	5
Overview	6
Switch Control Configuration	
Log In to the Control.	8
Software Screen Features	9
Validate/Apply Screen.	9
Security	10
•	

Section	Page
General Setup. Sensor Configuration Site-Related Settings Metering Saving a Memory Snapshot Communications.	11 12 13 13 14 14
Programming Setpoint Files IntelliTeam System Configuration Stand-Alone Programming Automatic Operation SCADA Point Mapping	15 16 16 16 17



Qualified Persons	
	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:
	<ul> <li>The skills and techniques necessary to determine the proper approach distances corresponding to the voltages to which the gualified 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.
Read this	NOTICE
Instruction Sheet	Thoroughly and carefully read this instruction sheet and all materials included in the product's instruction handbook before installing or operating the 6800 Series Automatic Switch Control. Familiarize yourself with the Safety Information and Safety Precautions on pages 4 and 5. The latest version of this publication is available online in PDF format at <b>sandc.com/en/support/</b> <b>product-literature/</b> .
Retain this Instruction Sheet	This instruction sheet is a permanent part of your 6800 Series Automatic Switch Control. Designate a location where you can easily retrieve and refer to this publication.
Special Warranty Provisions	The standard warranty contained in S&C's standard conditions of sale, as set forth in Price Sheets 150 and 181, applies to the 6800 Series Automatic Switch Control, except that the first paragraph of the said warranty is replaced by the following:
	(1) General: The seller warrants to the immediate purchaser or end user for a period of 10 years from the date of shipment that the equipment delivered will be of the kind and quality specified in the contract description and will be free of defects of workmanship and material. Should any failure to conform to this warranty appear under proper and normal use within 10 years after the date of shipment, the seller agrees, upon prompt notification thereof and confirmation that the equipment has been stored, installed, operated, inspected, and maintained in accordance with the recommendations of the seller and standard industry practice, to correct the nonconformity either by repairing any damaged or defective parts of the equipment or (at the seller's option) by shipment of necessary replacement parts. The seller's warranty does not apply to any equipment that has been disassembled, repaired, or altered by anyone other than the seller. This limited warranty is granted only to the immediate purchaser or, if the equipment is purchased by a third party for installation in third-party equipment, the end user of the equipment. The seller's duty to perform under any warranty may be delayed, at the seller's sole option, until the seller has been paid in full for all goods purchased by the immediate purchaser. No

such delay shall extend the warranty period.

Replacement parts provided by the seller or repairs performed by the seller under the warranty for the original equipment will be covered by the above special warranty provision for its duration. Replacement parts purchased separately will be covered by the above special warranty provision.

For equipment/services packages, the seller warrants for a period of one year after commissioning that the 6800 Series Automatic Switch Control will provide automatic fault isolation and system reconfiguration per agreed-upon service levels. The remedy shall be additional system analysis and reconfiguration of the IntelliTeam SG Automatic Restoration System until the desired result is achieved.

Warranty of the 6800 Series Automatic Switch Control is contingent upon the installation, configuration, and use of the control or software in accordance with S&C's applicable instruction sheets.

This warranty does not apply to major components not manufactured by S&C, such as batteries and communication devices. However, S&C will assign to the immediate purchaser or end user all manufacturer's warranties that apply to such major components.

Warranty of equipment/services packages is contingent upon receipt of adequate information on the user's distribution system, sufficiently detailed to prepare a technical analysis. The seller is not liable if an act of nature or parties beyond S&C's control negatively impact performance of equipment/services packages; for example, new construction that impedes radio communication, or changes to the distribution system that impact protection systems, available fault currents, or system-loading characteristics.

## Understanding Safety-Alert Messages

Several types of safety-alert messages may appear throughout this instruction sheet and on labels and tags attached to the 6800 Series Automatic Switch Control. 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 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 the 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 6800 Series Automatic Switch Control.



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

Replacement Instructions and Labels

#### A DANGER The 6800 Series Automatic Switch Control line voltage input range is 93 to 276 Vac. Failure to observe the precautions below will result in serious personal injury or death. Some of these precautions may differ from your company's operating procedures and rules. Where a discrepancy exists, follow your company's operating procedures and rules. QUALIFIED PERSONS. Access to the 6800 Series 4. **SAFETY LABELS.** Do not remove or obscure any 1. of the "DANGER," "WARNING," "CAUTION," or Automatic Switch Control must be restricted only to qualified persons. See the "Qualified Persons" "NOTICE" labels. section on page 2. 5. MAINTAINING PROPER CLEARANCE. Always 2. SAFETY PROCEDURES. Always follow safe maintain proper clearance from energized operating procedures and rules.

- 3. PERSONAL PROTECTIVE EQUIPMENT. Always use suitable protective equipment, such as rubber gloves, rubber mats, hard hats, safety glasses, and flash clothing, in accordance with safe operating procedures and rules.
- components.

This Navigation Guide is intended to be used in conjunction with the more detailed 1045-range of instruction sheets for the 6800 Series Automatic Switch Controls. These instruction sheets can be downloaded as PDF files at **sandc.com/en/support/product-literature/**.

6800 series controls manage distribution switches and can automatically sectionalize a feeder based on factors such as overcurrent, loss of voltage, and phase unbalance. The switch controls can be controlled remotely using IntelliLink® Setup Software.

The Navigation Guide provides a general overview to switch control configuration with IntelliLink Setup Software. More information about control configuration with IntelliLink software can be found in Instruction Sheet 1045-530, "6800 Series Automatic Switch Controls with IntelliTeam® SG Automatic Restoration System: *Setup*."

6800 series controls come in three variants: 6801, 6802 and 6803 controls. The last numeral designates the number of switches that can be controlled by the 6800 control. A 6802 or 6803 controls can have different settings applied to each switch.

6800 controls can be used on a variety of switching devices including Scada-Mate® Switching Systems, Mini-Rupter® Switches in Remote Supervisory PME and PMH Pad-Mounted Gear, Remote Supervisory Vista® and Vista® SD Underground Distribution Switchgear, and a variety of switches from other manufacturers.

6800 controls can be operated in two states: **Local** and **Remote**. When set to the **Remote** state, SCADA commands are permitted. When set to the **Local** state, SCADA commands are blocked and the 6800 control can be operated by the faceplate or with a local connection using IntelliLink Setup Software. The **SCADA Control** mode can be set to the **Local** state from the front panel, a local connection (serial or Wi-Fi), and with a remote IntelliLink software command. When the **SCADA Control** mode is set to the **Local** state by a remote IntelliLink software command, the **Remote Operation** state can only be enabled by a local connection (serial or Wi-Fi) at the 6800 control site. See Figures 1 and 2 on page 7.

The 6800 control can also be used in S&C's IntelliTeam SG and IntelliTeam® II Automatic Restoration Systems for self-healing applications.

#### NOTICE

Setting **Local/Remote** mode to the **Local** state does not disable the **Automatic Sectionalizing** mode or IntelliTeam system **Automatic Restoration** mode.

To disable sectionalizing, the **Automatic Operation** mode must be set to the **Disabled** state.

To prevent automatic restoration operation, the **Automatic Restoration** mode must be set to the **Prohibited** state.



Figure 1. The 6801 control faceplate.



Figure 2. The 6801 control Operation screen.

Log In to the Control	Follow these steps to log in to an installed switch control:						
	STEP 1.	Before arriving at the site, download and install the 6800 Control Software (which includes IntelliLink Setup Software) on a computer. The software can by downloaded at this link: <b>sandc.com/en/support/sc-customer-portal</b> /. The video describing this process can be viewed at <b>sandc.com/videos</b> . Administrative privileges are required to install this software.					
	STEP 2.	At the site, make sure the control has power by performing a lamp test. Press the TEST LAMPS button, and every LED on the faceplate should illuminate. See Figure 1 on page 7.					
	STEP 3.	If the lights do not come on, make sure the battery is connected and push the BATTERY ON button on the control board inside the control. See Figure 3. Instruction Sheets 1045-510 and 1045-540 have more information about the battery.					
	STEP 4.	When the control is powered, connect the computer to the control by a cable to one of the DATA PORTS on the faceplate. Use a USB A to B cable or a serial cable. Wi-Fi can be used to connect to a control that has the <b>Wi-Fi</b> option.					
	STEP 5.	On the computer, double-click on the ${\bf IntelliLink}$ icon to launch the software.					
	STEP 6.	Click on the <b>Local Connection</b> button to open the Product Selection dialog box. All installed S&C devices will be listed.					
	STEP 7.	Click on the Series 6800 IntelliTeam II/SG entry. Then, click on the <b>serial</b> button.					

**STEP 8.** Click on the **IntelliLink** button to launch IntelliLink Setup Software and log in. Contact S&C or your system administrator to get the default user name and password when a custom password has been assigned.



Figure 3. The Battery On (BAT ON) button on the top circuit board inside the control.

## Software Screen Features

IntelliLink software screens have a tool bar across the top, a navigation tree on the left and status screens in the center. The communication status is displayed along the bottom. There are many tabs and data fields on specific screens. This guide introduces a small amount of the functionality needed to configure the control. See Figure 4. Instruction Sheet 1045- 530 has comprehensive information about every software screen.



Figure 4. IntelliLink software navigation features.

#### Validate/Apply Screen

The *Validate/Apply* screen is where configuration changes are validated and applied. See Figure 5 on page 10.

The **Validate** button evaluates settings in the buffer memory without applying them. When changes are pending, click on the **Validate** button to initiate a logical check of the pending changes for errors. If the procedure detects an error or inconsistency, it will be displayed in the **Validation Result** field.

The **Apply** button evaluates settings in the buffer memory and applies them. When changes are pending, click on the **Apply** button to initiate a logical check of the pending changes for errors and commit the changes to control memory if no errors are detected. A successful check will be indicated in the **Validation Result** field.

#### NOTICE

The **Reset Buffer** button does not undo a previously applied command. Instead, the button resets the settings in buffer memory to the presently active values in the control.

ile Connection Data Tools I	1p								
1 🗄 🛓 🛓 🗡 🔍 🔍	3	📝 Validate 🛷 Apply 😂 Reset							
6801/2/3	Connected to: Location:	Settings Applied Successfu							
Switch Control	💽 💿 🔽 Se	tup>Validate/Apply							
Operation IntelliTeam SG Setup General Restoration Communications	Caution: The settings you have entered are stored in buffer memory are not used by the IntelliRupter until they are Validated and Applied.           Validate         Validate the settings without applying them. Errors are displayed below. Correct them and Validate again.								
Point Mapping Security Validate/Apply Metering Diagnostics Logs	Apply         Validate and Apply settings, overwriting existing settings. Errors are displayed below. Correct them and Apply again.           Reset Buffer         Reset all unapplied buffer memory to original settings								
	Validation Result								
	Group None								
	Instance								
	Result								
	Command Completed Successfully If a commani	d is unsuccessful, view the historic events detail							

Figure 5. The Setup>Validate/Apply screen.

### Security

Security is extremely important for the electric grid. Log-in and password information should never be left set to default entries. To change them, navigate to the *Setup>Security* screen. See Figure 6. Configure the User Groups, create passwords for each group, and select the access for each group with these checkboxes. Only users logged in as an Admin can make changes to this screen. The User Group name can be changed for all groups except Admin and Viewer. All passwords can be changed. Passwords have no restrictions on characters, and the max character limit is 12. A dialog box will open when the value to change is clicked on. Changes do not take effect until the **Apply** button is clicked on in the *Setup>Validate/Apply* screen.

	9								Validate 🖌 Apply 💈 F
6801/2/3 Automatic	Con	nected to: Loca	ation:						Settings Applied Succe
Switch Control						Setup?	Security		
Operation									
IntelliTeam SG Setup General		User Group	Password	General	Communi- cation	Resto- ration	Operation	Update Firmware	
Restoration		Admin		1	Z	2	Z	1	
Communications		Engineer1							
Security		Engineer2							
Validate/Apply		Technician1	**********						
Metering		Technician2						6	
Loas		Technician3			E3			83	
2090		Operator	*******		1				
		Viewer	*********		E		E.		

Figure 6. The Setup>Security screen.



## **General Setup**

In the left menu, select the Setup and General entries to configure settings specific to the control on the *Setup>General* screen. See Figure 7. The **SG6800** tab configures name and location information for the switch control. Name this control in the **Device Name** field and enter the location in the **Device Location** field. These fields display to identify this control when you log in.

1122××	٩	😺 Validate 💊	Apply 🗘 Reset										
5. 6801 Automatic	Connected to: Location:												
Switch Control		Setup>General>SG6800											
Operation IntelliTeam SG A Setup General I Restoration Communications Point Mapping Security Validate/Apply Metering Diagnostics Logs	Cabinet Heater On 50% Below This Temperature Cabinet Heater On 50% Below This Temperature	Sofurp-Conneral>SC68800           watomatic Op.         User         Connands.         Time.         Revisions.         User           Normal         (Default Normal)         (Default Normal)         10         (Range: 0-30 Step: 1 Default: 10)         15         (Range: 1-120 Step: 1 Default: 10)         15         15         (Range: 1-120 Step: 1 Default: 15)           00*00'00.0'N         000*00'00.0'E         123344556         123344556         12334556         1235         (Range: -59-204 Step: 1 Default: 25)         35         (Range: -49-205 Step: 1 Default: 35)         10	t / Revisions / User Notes ////////////////////////////////////										

Figure 7. The Setup>General>SG6800 screen.

### **Sensor Configuration**

Click on the **Sensor Config** tab. See Figure 8. This screen configures sensor calibration data for Scada-Mate Switching Systems, and PME, PMH, or Vista Underground Distribution Switchgear sensors. The switch control uses this data to calibrate sensor input to the voltage and current amplitude accuracy specified for S&C Sensors. The 6802 and 6803 controls are supplied with a yellow sheet showing the current and voltage ratio information (also stamped on each sensor). Enter the information on this screen.

The 6801 controls do not have this card, but the information is part of the data package provided with the Scada-Mate switch. Because the controls and switches are typically shipped separately it is important to make sure the information stays with the switch until it is pared with a control.

File Connection Data Tools	Help		_	_					
	ę							😺 Valid	ate 🧹 Apply 💈 Reset
6801 Automatic	Connecte	ed to: Lo	cation:						Settings Applied Successful
Switch Control						Sot	ip>Gene	aral>Sensor Cfg	
Operation	SG6800	Sensor Clg	Site-Re	lated   Fault C	Detection	Automatic O	p. User	Commands   Time   Revision	User Notes
IntelliTeam SG Setup General Restoration	Switch Sensor Harmo	Visual Disco Power Opti nic Smoothin	onnect C on (Faction on - Sens	ontacts (see ory Use Options or Power	Note 1.) on)	Not Present Present Disabled	t •		
Communications Point Mapping Security Validate/Apply	Curren	tio (see M	Note 2) Pole 2	105030403	600:5 Pole 3	•	2		
Metering		Magnitude	Phase	Magnitude	Phase	Magnitude	Phase		
Communication Tests	Current	120	4	120	4	120	4	(Range: 0 - 999.9 Default: 120.0)	(Range: 0 - 999.875 Default: 4.00
Logs	Voltage	1400	90	1400	90	1400	90	(Range: 0 - 9999 Default: 1400)	(Range: 0 - 999.875 Default: 90.0
	Note 1 System visual of switch operate Note 2 Magnit	When used a, set setting disconnect c es and some or. Select Curr udes	in an In s to 'Not ontacts. Scada-I ent Sens	telliTeam SG Present' if th This includes Mate switche sor Ratio befi	Automa te switch s all Scar s with th ore chan	tic Restoratio does not ha da-Mate CX e R1 switch ging Current	ve ve		

Figure 8. The Setup>General>Sensor Configuration screen (6801 switch control shown).

## NOTICE

Ratios must be entered for phase B when phases A, B, and C are measured. The phase B ratios are used to adjust all voltage scales for 15-, 25-, or 35-kV systems.

#### **Site-Related Settings**

The Site-Related tab configures settings for the specific control site. See Figure 9.

Make sure the **Line kV to 120 Vac Base Ratio** setpoint is correct. This is the voltage step-down ratio of all customer-load transformers on the feeder. The control records, displays, and manipulates voltages normalized on a 120-Volt or 240-Volt base. This setting is the conversion ratio from line voltage to base voltage. The **Voltage Transformer Wiring** setting configures the switch control for customer voltage reporting. The control uses this information when calculating kvars. Set as either **Phase-to-Neutral** or **Phase-to-Phase** mode.

At the bottom of the screen are the **Installation Voltage-Current Phase Angle Offset** settings. The setpoints (one for each voltage-current phase) allow installation-dependent phase-angle corrections. The angle offsets are used to determine the Normal Current and Reverse Current flow direction.



Figure 9. The Setup>General>Site-Related screen.

#### Metering

The *Metering* screen reports the current and voltage passing through each phase. This is real-time data. See Figure 10.

File Connection Data Tools	Help												
	e,							Validate 🧹 Apply 🛸 Reset					
6802Automatic	Connected to: L	ocation:						Settings Applied Successfully					
Switch Control	💽 💿 🔽 Metering												
Operation IntelliTeam SG	AC RMS Data	Current	Voltage	Current Flow	Phase Angle	Power Factor	kVARs						
▲ Setup	Switch 1 Phase A	119	119.7	Normal	-0.625	1.000	-9						
General • Restoration	Switch 1 Phase B	119	119.8	Normal	-0.625	1.000	-9						
IntelliTeam SG	Switch 1 Phase C	119	119.4	Normal	-0.625	1.000	-9	1					
Communications Point Manning	Switch 1 Neutral	0											
Security	Switch 2 Phase A	119	119.7	Normal	-0.625	1.000	-9						
Validate/Apply Metering	Switch 2 Phase B	119	119.7	Normal	-0.5	1.000	-7						
Diagnostics	Switch 2 Phase C	119	119.6	Normal	-0.375	1.000	-5						
Logs	Switch 2 Neutral	0	1										

Figure 10. The *Metering* screen for a 6802 switch control.

Saving a MemoryGood practice is to save a memory snapshot when making a change or troubleshooting the<br/>control. Saving a memory snapshot creates a file with all the present control settings and<br/>the historic log of previous events. This will help S&C engineers troubleshoot the control.

Follow these steps to save a memory snapshot:

- STEP 1. On any screen in the File drop-down menu, click on the Save Memory Snapshot option.
- **STEP 2.** In the displayed dialog box, specify a file name and location to save this snapshot.
- **STEP 3.** Click on the **Save** button.

**Communications** Remote communication can be configured for the IntelliTeam SG Automatic Restoration System, SCADA communications, and IntelliLink Setup Software. See Figure 11.

Information supplied by the department that supports your field-area network is entered on this screen. All the settings are defined in Instruction Sheet 1045-530, "6800 Series Automatic Switch Controls with IntelliTeam® SG Automatic Restoration System: *Setup*." Wi-Fi configuration is also covered in this instruction sheet.

111/×	٩									Validate	Apply	🔹 Re		
6801 Automatic	Connected to: Location:													
Switch Control	• [	•	_				Setup>C	ommunicatio	ms>DNP					
-	DNP Ser	al Ports   Rout	ting Eth	ernet WiF	Co	immunica	tion Tests	DNP Diagnos	tics					
Operation IntelliTeam SG	Local Device DNP Address (Range: 1-85,519 Step: 1 Default: 1)													
Setup	Number	Number of Retries for Confirm					(Range: 0-10	Step: 1 Default	6)					
General	Time De	lav Between I	Retries		10.0	000 s	(Range: 0.100	0-65.635 Step: 1	0.001 Default: 5	.000)				
Communications	Output F	lock Point Se	loct Tim	tune	10.0	10	(Ranna 10.1	00.0 Stee: 0.1	Defendt 10.03					
Point Mapping	Una	-K Address O	5500	oou	True I	ind a	(Range: 1.0-1	oute onep. o. i	Denaut. 10.07					
Security	Use or a	ell-Audiess o	0002	- 65	Enas	Jieu •	(Detault: Enai	piec)						
Validate/Apply Metering	Limit Un	Limit Unknown Master Functionality					(Default: Disa	bled)						
Diagnostics	Enforce	Enforce Master Association					(Default Disabled)							
Communication Tests Logs	Use Verbose Diagnostic DNP Logging					bled -	(Default: Disabled)							
	DNP App	DNP Application Layer Confirmations					(Default Enal	bled)						
	Maximur	Maximum Transfer Unit					(Range: 205-2,048 Step: 1 Default: 500)							
	Peer-to-	Peer-to-Peer Interpacket Delay					(Range: 0.0-1	0.0 Step: 0.5 D	efault 0.0)					
	Double Binary Inputs					bled -	(Default Disa	bled)						
	Local Dt	Local DNP Time Offset					(Default Disa	blad)						
	TODIAN	Alive Time			200	ulou -	(Panna 5.65 535 Stan 1 Default 300)							
	TCP NO	p-Alive Time	6		300	Party Set								
	DNP Co	unter Type			Both	(Default Both)								
	Unsolicit	ed Transmit D	Delay Ev	ent Count	10		(Range: 1-60 Step: 1 Default: 10)							
	Unsolicit	ed Transmit C	Delay Tin	ne	5.0	5.0 s (Range: 0.1-120.0 Step: 0.1 Default: 5.0)								
	Unsolicit	ed Retried Inc	definitely		Disa	bled •	(Default: Disa	bled)						
	Master	Master Functionality Enabled	DNP Address	IP Addres	ss able)	Port Co	de TCP F	ort TCP	Unsolicited Responses	Unsolicited Response Mode				
	Master 1		0			Serial Po	ort A 20000	Not TCF		Normal				
	Master 2		0			Serial Po	ort A 20000	Not TCF	V	Normal				
	Master 3		0			Serial Po	ort A 20000	Not TCF	V	Normal				
	Master 4		0	+ +1+1		Serial Po	ort A 20000	Not TCF		Normal				
	Master 5		0			Serial Po	ort A 20000	Not TCF		Normal				
	Master 6		0			Serial Po	ort A 20000	Not TCF	1	Normal		_		
	Master	Failover 1 IP Address	Failove TCP In	er 1 Fa terface IP	Addre	2 Fa	ilover 2 P Interface	Failover 3 IP Address	Failover	3 Failover 4 rface IP Addres	s TCP I	er 4 nterface		

Figure 11. The Setup>Communications>DNP screen.

## NOTICE

This section provides a summary of basic programming requirements. Programming should not be started until site and system requirements have been established and S&C Instruction Sheet 1045-530, "6800 Series Automatic Switch Controls with IntelliTeam® SG Automatic Restoration System: *Setup*" has been thoroughly reviewed.

When you have a screen question, press the  $\langle F1 \rangle$  key to open the help section for the screen being viewed. This is a very handy IntelliLink software resource.

**Setpoint Files** Many settings will be the same for most controls in a system. Making a setting template with the common settings saves time and reduces setting errors. Because of this, most users configure a control in the office, save a setpoint file with the unique site values, and simply load that file into the control in the field.

*After configuring the control:* follow these steps to save a setpoint file:

- STEP 1. Click on the File drop-down menu and click on the Save Setpoints entry.
- **STEP 2.** Enter the file name and location in the **Save as** field.
- STEP 3. In the Save Setpoint Profile dialog box, choose the setpoint values to be saved.
  - (a) To save the stand-alone setpoint values, make sure the General and Communication check boxes are checked and the Restoration check box is unchecked. Then, click on the **Save** button.
  - (b) To save the team setpoint values, click on the **Profile: Team x Setpoints** option for the desired team. Then, click the **OK** button.
  - (c) To save all setpoint values, including values for teams that may not have been configured, click on the **Select All** option. Then, click on the **OK** button.

*At the site:* follow these steps to load a setpoint file into the control:

- STEP 1. Click on the File drop-down menu and click on the Load Setpoints entry.
- **STEP 2.** Select the CFG file to be loaded and click on the **Open** button.
- **STEP 3.** Specific setpoint changes required for this control can now be entered. For stand-alone setpoints, enter the correct value for the **Physical Location** setting, the **Local Device DNP Address** setting, and the sensor configuration data, if applicable.
- **STEP 4.** If the CFG file contains security settings and the Security check box is selected, the authentication/login credentials will be reset to those in the CFG file. Have a clear understandinf of what those are before loading them.

#### NOTICE

Controls with lost passwords must be returned to the factory to be reset to the default values.

IntelliTeam System Configuration	The IntelliTeam Automatic Restoration System is a self healing or Fault Location, Isolation, and Service Restoration (FLISR) application. There are two types of IntelliTeam system restoration that can be implemented with the 6800 controls. The IntelliTeam SG Automatic Restoration System, the latest version, is configured with the S&C IntelliTeam® Designer software.
	After the settings have been configured with IntelliTeam Designer they are automatically pushed to the controls. See S&C Instruction Sheet 1044-570 for more details.
	The IntelliTeam® II Automatic Restoration System, the previous version, is configured through the IntelliTeam screens in the IntelliLink software. See S&C Instruction Sheet 1045-530, "6800 Series Automatic Switch Controls with IntelliTeam® SG Automatic Restoration System: <i>Setup</i> " for more information.
Stand-Alone Programming	In some cases, the 6800 control will be used to sectionalize by detecting phase and ground faults. The setpoint values are on the <i>Setup&gt;General&gt;Fault Detection</i> screen. These settings define the fault. Currents on all three phases are monitored and compared with these setpoints.
Automatic Operation	The <b>Automatic Operation</b> tab configures various automatic switch control operations. See Figure 12. For the 6802 and 6803 Automatic Switch Controls, configure most setpoints as separate values for Switch 1 and Switch 2. The switch control implements automatic operations based on the <b>Sectionalizing Only</b> , <b>Phase Loss Protection Only</b> , or <b>Sectionalizing plus Phase Loss Protection</b> mode.
	The <b>Sectionalizing</b> feature is based on the number of operations of an upstream or source-side breaker or recloser configured in the <b>Recloser Counts to</b>

upstream or source-side breaker or recloser configured in the **Recloser Counts to Sectionalize Trip, Fault Detected** setpoint, while the **3-Phase Volt Loss Sectionalizing** feature is based on time. The **Phase Loss Protection** feature can be set to automatically operate the switch when the control detects loss of voltage on one or two phases.



Figure 12. The Setup>General>Automatic Operation>Sectionalizing screen. The 6802 control is shown.

### **SCADA Point Mapping**

Point mapping assigns point commands and status points in the order required for a specific SCADA system. See Figure 13.

In the point list, the left column sets the index position of the selected point defining the order in which the points are returned to SCADA. For a detailed description of the DNP point in your control, refer to the appropriate S&C instruction sheet on **sandc.com**. The DNP Points List instruction sheets have the prefix 1045-560.



Figure 13. The Setup>Point Mapping>Status screen.