

INSTALLATION & OPERATION

A80672 PTC CONSOLE

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DOCUMENT HISTORY

Version	Release Date	Sections Changed	Details of Change
А	3-28-14		INITIAL RELEASE
A.1	11-12-2018	4.1.2.2	Updated with PTC General Parameters and updated branding to Siemens Mobility, Inc.
A.2	10-09-2019	All, Appendix A	Updated WebUI Screenshots and added Appendix A.
В	02-15-2021	1.0	Page 1-3, Section 1.2: Caution added to ECD description and Figure 1.3 added.

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NOTES, CAUTIONS, AND WARNINGS

Throughout this manual, notes, cautions, and warnings are frequently used to direct the reader's attention to specific information. Use of the three terms is defined as follows:

WARNING INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY. WARN-INGS ALWAYS TAKE PRECEDENCE OVER NOTES, CAUTIONS, AND ALL OTHER INFORMATION. ALL OTHER INFORMATION. CAUTION REFERS TO PROPER PROCEDURES OR PRACTICES WHICH IF NOT STRICTLY OBSERVED, COULD RESULT IN A POTENTIALLY HAZARDOUS SITUATION AND/OR POSSIBLE DAMAGE TO

NOTE

NOTE

EQUIPMENT. CAUTIONS TAKE PRECEDENCE OVER NOTES AND ALL

Generally used to highlight certain information relating to the topic under discussion.

If there are any questions, contact Siemens Mobility, Inc. Application Engineering.

OTHER INFORMATION, EXCEPT WARNINGS.

ELECTROSTATIC DISCHARGE (ESD) PRECAUTIONS

Static electricity can damage electronic circuitry, particularly low voltage components such as the integrated circuits commonly used throughout the electronics industry. Therefore, procedures have been adopted industry-wide which make it possible to avoid the sometimes invisible damage caused by electrostatic discharge (ESD) during the handling, shipping, and storage of electronic modules and components. Siemens has instituted these practices at its manufacturing facility and encourages its customers to adopt them as well to lessen the likelihood of equipment damage in the field due to ESD. Some of the basic protective practices include the following:

- Ground yourself before touching card cages, assemblies, modules, or components.
- Remove power from card cages and assemblies before removing or installing modules.
- Remove circuit boards (modules) from card cages by the ejector lever only. If an ejector lever is not provided, grasp the edge of the circuit board but avoid touching circuit traces or components.
- Handle circuit boards by the edges only.
- Never physically touch circuit board or connector contact fingers or allow these fingers to come in contact with an insulator (e.g., plastic, rubber, etc.).
- When not in use, place circuit boards in approved static-shielding bags, contact fingers first. Remove circuit boards from static-shielding bags by grasping the ejector lever or the edge of the board only. Each bag should include a caution label on the outside indicating static-sensitive contents.
- Cover workbench surfaces used for repair of electronic equipment with static dissipative workbench matting.
- Use integrated circuit extractor/inserter tools designed to remove and install electrostaticsensitive integrated circuit devices such as PROM's (OK Industries, Inc., Model EX-2 Extractor and Model MOS-40 Inserter (or equivalent) are highly recommended).
- Utilize only anti-static cushioning material in equipment shipping and storage containers.

For information concerning ESD material applications, please contact the Technical Support Staff at 1-800-793-7233. ESD Awareness Classes and additional ESD product information are also available through the Technical Support Staff.

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SECTION 1 INTRODUCTION

1.0 INTRODUCTION

1.1 GENERAL DESCRIPTION

The PTC Console is an interface component of the wayside PTC system that can be configured for a variety of applications for wayside control and monitoring, including Positive Train Control (PTC) applications.

1.2 PTC CONSOLE

The PTC Console is shown in Figure 1-1. The PTC Console has Dual 400 MHz processors, one processor handles non-vital functions and one handles vital functions. The front panel has LED indicators to provide system status. Interfaces include one Ethernet Laptop and 3 Ethernet network ports, up to three RS-232 serial ports, an Echelon[®] network port, and a serial Diagnostics (Terminal) port.



Figure 1-1 PTC Console

1.2.1 PTC Console Indicators and Controls

See locations on the following page.

1	Laptop Port
2	Power/ECD Connector
3	I/O Port - VRO x1/VPI x2
4	Power Indicator
5	ITC Comms (Communications)
6	Time Sync
7	IN 1 (VPI on I/O Connector)
8	IN 2 (VPI on I/O Connector)
9	TX/RX Serial Port
10	On-Site (Illuminates when On-Site Personnel Button is pressed)
11	Health Status
12	Beaconing
13	GEO Sessions
14	Out (VRO on I/O Connector)
15	Alarms Suppressed
16	TX/RX Echelon®
17	On-Site Personnel (Pressed when Maintainer is on Site, halts active CDLs and suppresses alarms)
18	Ethernet Port 1
19	Ethernet Port 2
20	Ethernet Port 3
21	MultiPort Connector
22	Echelon® Connector
23	Terminal (Diagnostics Port)

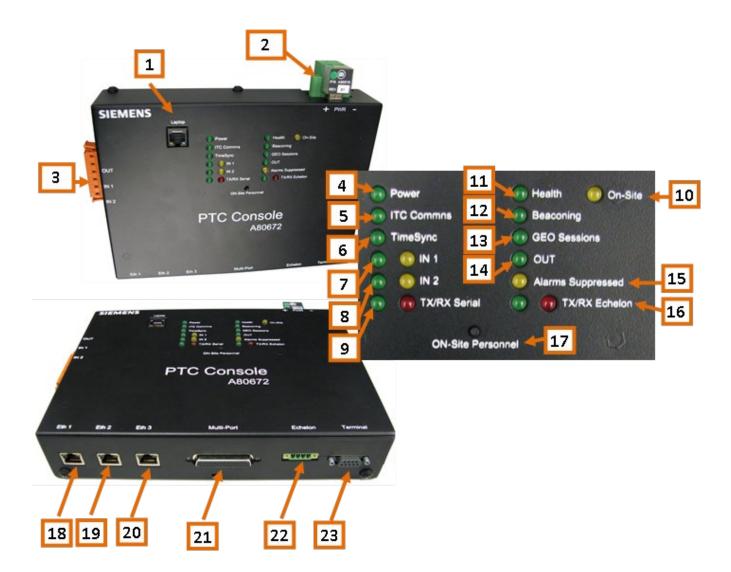


Figure 1-2 PTC Console Indicator and Controls Locations

WHEN INSTALLING THE POWER/ECD CONNECTOR AS SHOWN AT LOCATION (2) IN FIGURE 1-2, ENSURE THE TWO SCREWS LOCATED ON EITHER SIDE OF THE POWER CONNECTOR ARE SECURELY FASTENED, TO PREVENT LOOSENING OF THE DEVICE.
ADDITIONALLY, DO NOT UNPLUG THE ECD WHEN ACTIVELY FLASHING RED (SHOWN IN FIGURE 1-3). THIS INDICATES THAT DATA IS CURRENTLY BEING WRITTEN TO THE DEVICE.
DISCONNECTING THE ECD DURING THIS OPERATION MAY CORRUPT INTERNAL CONFIGURATION INFORMATION.
WAIT UNTIL THE LED TURNS GREEN BEFORE REMOVING THE ECD FROM THE CONSOLE.



Figure 1-3 ECD Flashing Red to indicate it is actively writing data

Indicator	LED Color	LED State	Description and Function
		On	Power is applied to the unit
Power	Green	Off	Power is not applied to the unit or the internal power supply has failed
Health		Flashing Slowly	System is healthy
Health	Green	Flashing Rapidly	System is not healthy
	e Yellow	On	Pending request for local user presence
On-Site		Flashing	Local user presence verification accepted and active
On-Oile		Off	No pending requests, no actions that require on-site personnel can be performed
	nms Green	On	Class D connection established with application gateway
ITC Comms		Flashing	Unit is attempting to connect with application gateway
		Off	No Connection No attempt to connect
		On	Unit currently transmitting WSMs with the "Beacon Bit" set
Beaconing	ning Green	Flashing	Unit sending WSMs beacon end timer is running (beacon bit not set)
		Off	Unit is not beaconing (neither beacon timer nor beacon end timer are running)
	nc Green	On	Unit is synchronized via Class C time updates or SNTP
Time Sync		Flashing	Unit is not receiving updates and 8-hour timeout running
		Off	Not synchronized, 8-hour timeout has occurred

Table 1-1 Indicator Information

GEO Green	On	All connected GEO systems are in session
	Flashing	At least one GEO is in session but not all
	Off	All GEOs are out of session
	Green On Yellow Off	Input is energized positive
Green Yellow	Yellow On Green Off	Input is energized negative
	Both Off	Input is de-energized
Output Green	On	Output energized
	Off	Output de-energized
Green TX	Flashes	Flashes briefly when transmitting data
	Flashes	Flashes briefly when receiving data
Red RX		These LEDs show activity with serially connected GEO These LEDs are not for the laptop serial port
Green TX	Flashes	Flashes briefly when transmitting data
TX RX Red RX Flas		Flashes briefly when receiving data
Vellow	On	Alarms are being suppressed by maintainer on-site
TEIIOW	Off	Alarms are not being suppressed
	Green Yellow Green Green TX Red RX Green TX	Green Flashing Off Green On Yellow Off Yellow Off Yellow Off Both Off Both Off Off Green TX Flashes Red RX Flashes Red RX Flashes Red RX Flashes Red RX Flashes

1.3 A26702-0X PTC CONSOLE MULTIPORT CABLES

The PTC Console has two MultiPort Cables as detailed in the following sections.

1.3.1 A26702-0X PTC Console MultiPort Cable

The PTC Console A26702-0X Multi-Port cable provides three serial ports for external devices. Figure 1-4 shows the PTC Console Multi-Port Cable. This cable may be used for future applications incorporating use of a backplane attached modules.

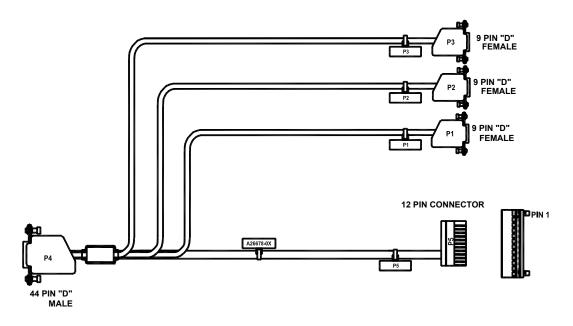


Figure 1-4 A26702-0X MultiPort Cable

A wiring diagram of the A26702-0X Multi-Port cable is shown in Figure 1-5. P1 through P3 provide RS-232 serial protocol via three DB-9 connectors to interface to external devices.

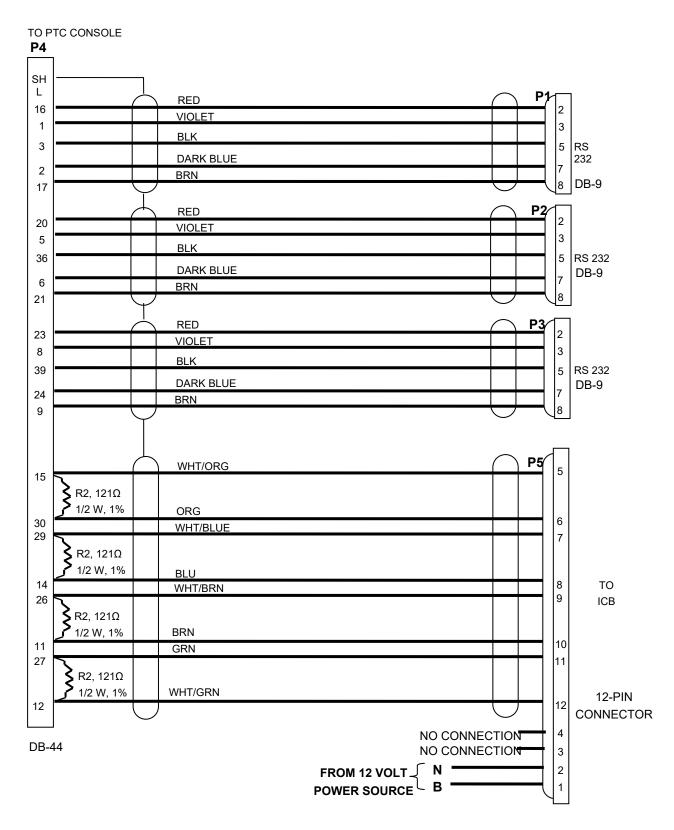


Figure 1-5 A26702-0X MultiPort Cable Wiring Diagram

1.3.2 A26775-0X PTC Console MultiPort Cable

The PTC Console A26775-0X Multi-Port cable provides a serial port for external devices. Figure 1-6 shows the PTC Console Multi-Port Cable. This is used to connect a PTC-enabling GEO with CPU1, which does not support an Echelon[®] connection to the PTC Console.

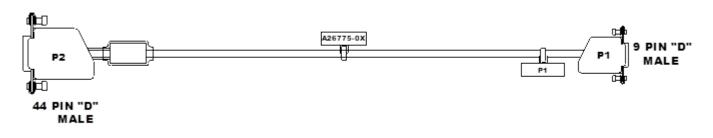
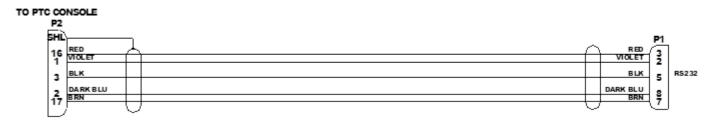


Figure 1-6 A26775-0X MultiPort Cable

A wiring diagram of the A26775-0X Multi-Port cable is shown in Figure 1-7. P1 provides RS-232 serial protocol via the DB-9 connector to interface to external devices.

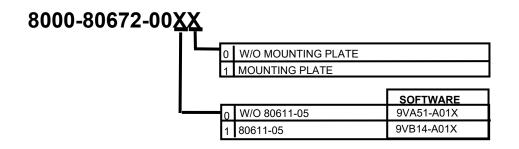




1.4 ORDERING INFORMATION

Figure 1-8 displays the PTC Console and Multi-Port Cable ordering information. Options are subject to change. Contact Siemens Mobility, Inc. Customer Service for the latest configuration options.

PTC Console:



PTC Console Multi-Port Cables:

8000-26702-000X				
0000-20702-000 <u>77</u>		Length P5 ±2"	Length P1, P2, P3 ±2"	Source
	1	3 FT	3 FT	Back Shell
	2	6 FT	3 FT	Back Shell
	3	6 FT	6 FT	Back Shell
	4	12 FT	6 FT	Back Shell
	5	12 FT	12 FT	Back Shell

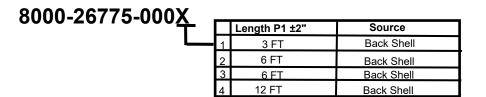


Figure 1-8 Ordering Information

1.4.1 Specifications

Power Requirements

	Input Voltage	9-32 VDC, Isolated, Reverse Polarity Protection	
	Input Current	1.1 Amps Max @ 13.8 VDC	
Connectivity			
Connectivity		Power	2-Pin Phoenix
		Ethernet Ports	RJ-45
		Echelon®	4-Pin Wago [®]
		MultiPort	DB-44
		Vital I/O Port	6-Pin Wago [®]
		Terminal (Serial RS-232)	DB-9
Indicators			
		Power (Green)	
		ITC Comms (Green)	
		TimeSync (Green)	
		IN 1 (Green) (Yellow)	
		IN 2 (Green) (Yellow)	
		TX/RX Serial (Green) (Red)	
		Health (Green)	
		Beaconing (Green)	
		GEO Sessions (Green)	
		OUT (Green)	
		Alarms Suppressed (Yellow)	
		TX/RX Echelon [®] (Green) (Red)
		On-Site (Yellow)	
O sustana la			
Controls	Push-Button		
	Momentary	On-Site Personnel	
	Momentary	On-Sile Personner	
Physical			
,	Dimensions	9.625 inches (24.4475 cm) Wi	de
		7.000 inches (17.78 cm) High	
		2.125 inches (5.3975 cm) Dee	р
	Weight	4.3 lbs. (1.95 kg)	
Environmental			
	Temperature	-40 ° C to 70 ° C	
	Humidity	95% non-condensing	
		1-10	

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SECTION 2 APPLICATIONS

2.0 APPLICATIONS

2.1 APPLICATIONS OVERVIEW

The PTC Console may be used in a variety of applications. This section will provide an overview of possible applications using the PTC Console.

2.1.1 PTC Enabled GEO

In this example, the SEAR II remains in place to perform the non-vital logic and codeline interface functions. The PTC Console is installed into an existing system to report signal/switch/hazard detector status to the PTC network.

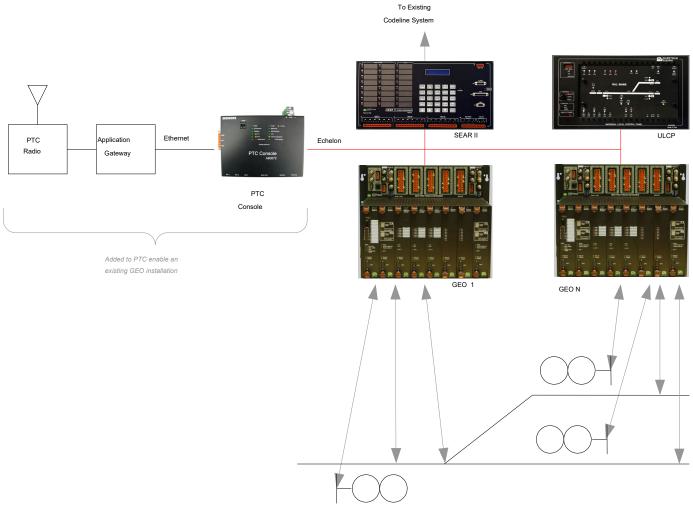


Figure 2-1 PTC Enabled GEO Installation Example

2.1.2 Dark Territory

Figure 2-2 shows an example of a Dark Territory installation with monitor and control of a switch via radio.

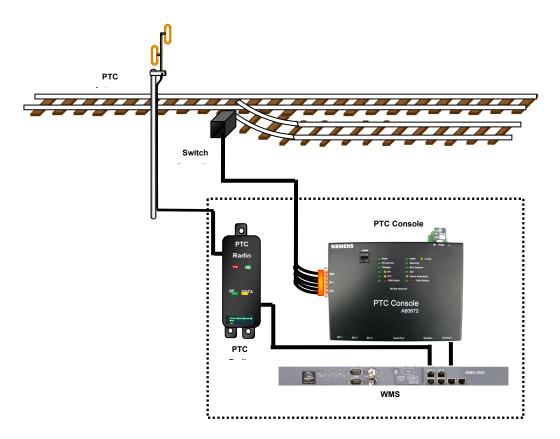
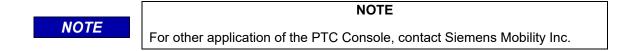


Figure 2-2 Dark Territory Installation Example

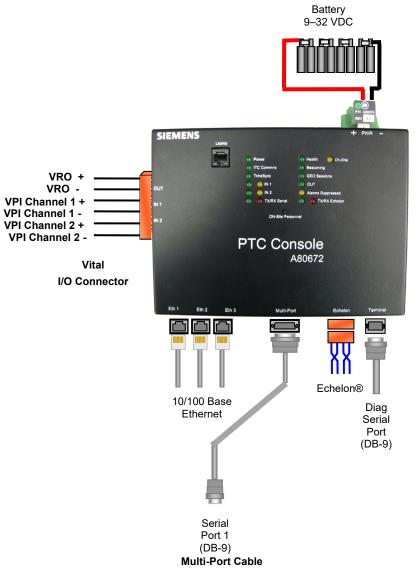


SECTION 3 INSTALLATION AND CONFIGURATION

3.0 INSTALLATION AND CONFIGURATION

3.1 INSTALLATION OVERVIEW

Figure 3-1 displays all the possible connections to the PTC Console.





3.1.1 Example PTC Enabled GEO Installation

The figure below is an example of a PTC Enabled GEO installation.

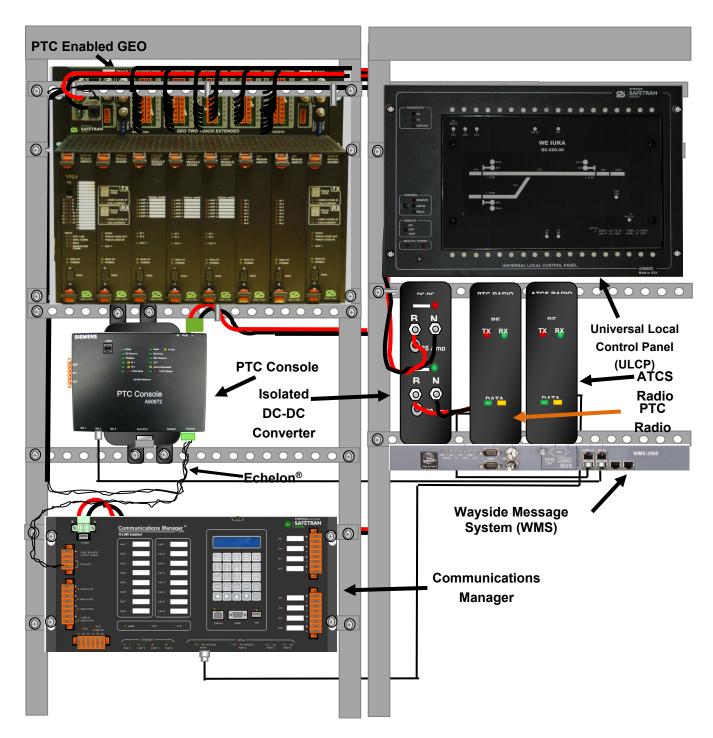


Figure 3-2 PTC Enabled GEO Installation Example

3.1.1.1 PTC Enabled GEO Wiring Diagram

The figure below depicts an example wiring diagram of a PTC Enabled GEO installation.

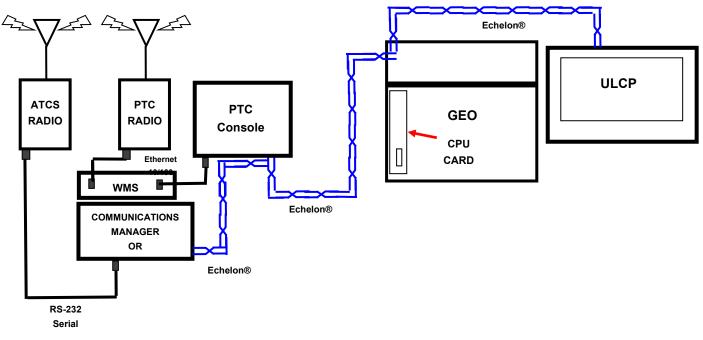
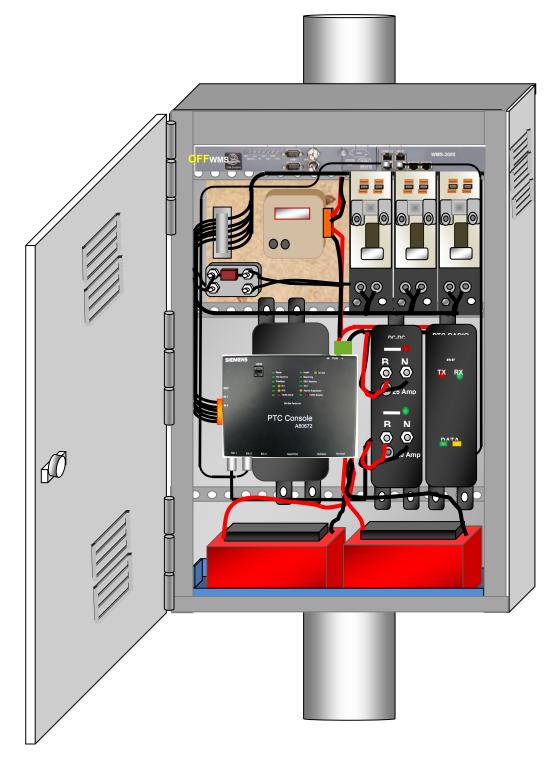
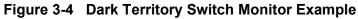


Figure 3-3 PTC Enabled GEO Wiring Diagram

3.1.2 Example Dark Territory Installation

The Drawing below is an example Dark Territory Switch Monitor and Control using a PTC Console with optional I/O connector and PTC communications in a weatherproof pole mount cabinet.





3.1.2.1 Example Dark Territory Switch Monitor Wiring Diagram

The diagram below is an example of a dark territory switch monitor and control for a PTC application.

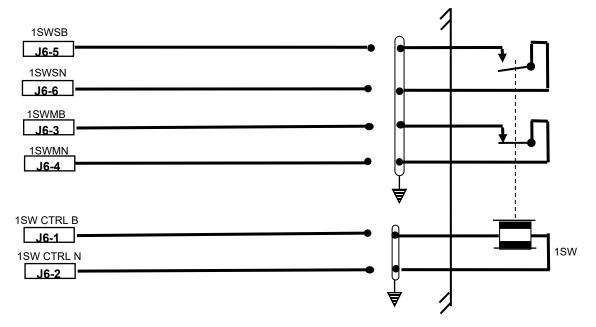


Figure 3-5 Example Dark Territory Switch Monitor Wiring Diagram

3.2 CONSOLE INSTALLATION

The PTC Console is mounted to the relay rack assembly using the optional mounting bracket. The PTC Console has four #8 threaded mounting holes on the rear of the unit.

3.2.1 Installing Mounting Bracket to Console

Use the following procedure to install the optional Mounting Bracket to the PTC Console:

- 1. Position the mounting bracket with the counter sunk holes facing away from the console.
- 2. Mount the bracket to the PTC Console using four #8 flat head screws as shown in Figure 3-6.

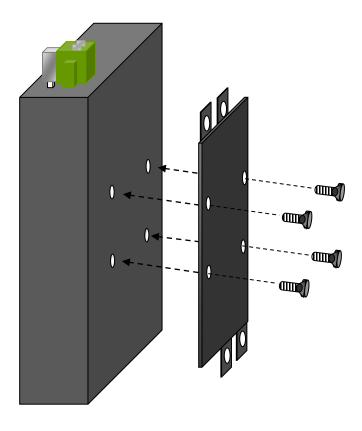


Figure 3-6 Installing PTC Console Mounting Bracket

3.2.2 Installing the PTC Console to the Rack Assembly

The PTC Console optional Mounting Bracket is designed to mount the console between the relay rack rails. Mount the console using the following procedure:

- 1. Align the Mounting Bracket with the Relay Rack rails.
- 2. Use 1/4-20 bolts and flat washers and slide through the holes in the mounting bracket and the rack rail.
- 3. Secure the bolts using a flat washer, a lock washer, and a ¹/₄-20 nut.

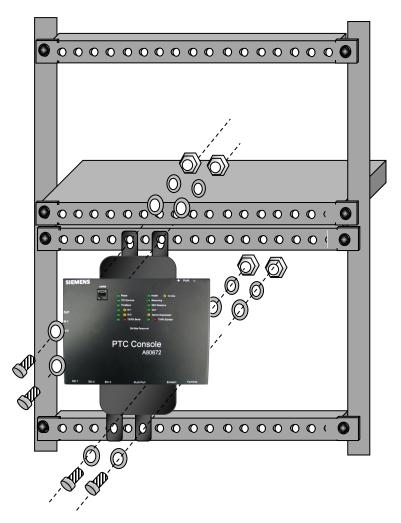


Figure 3-7 Mounting the PTC Console to a Rack Assembly

3.3 CONFIGURATION

Once installed, the PTC Console will require setup and configuration. Setup and configuration is performed using WebUI and is described in detail in Section 4.

Figure 3-8 shows the connection of a laptop computer to the PTC Console using the Laptop port.



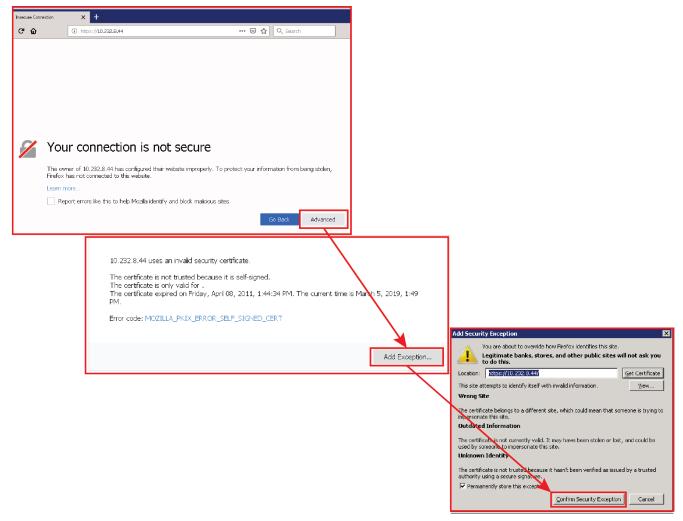
Figure 3-8 Laptop Connection to the PTC Console

SECTION 4 WEB USER INTERFACE (WebUI)

4.0 WEB USER INTERFACE (WEBUI)

4.1 WEBUI OVERVIEW

The PTC Console comes with a Web User Interface (WebUI) which enables users to configure the PTC Console locally at the console as well as remotely. Using a standard web browser, enter the IP address assigned to the console (e.g. https://192.168.255.81). Note: the WebUI utilizes the HTTP Secure (https) protocol. On the initial login, the web browser will notify the user that the connection is not secure. For the initial login, the WebUI must be added as an exception. See Figure 4-1 below for example.





4.1.1 WebUI Login Page

Upon connecting to the console, the WebUI Login Page will come up. Log into the console using the assigned Password and click on the Login button. Note that Passwords are case sensitive. The factory default password is Siemens.

SIEMENS	
Welcome to PTC Cons	ole
Login User Name : Admin V Password : Cogin	

Figure 4-2 WebUI Login Page

4.1.2 Configuration Menu

The WebUI opens with the Configuration Menu. The Configuration Menu contains three sub-menus for site information: Applications, Non-Vital Configuration, Vital Configuration. Click on any of the menu buttons to bring up the corresponding configuration page.

Configuration Reports & Logs Status Monitor Maintenance Diagnostics	
Configuration Configuration Applications Configuration Vital Configuration Applications Vital Application CDL Non-Vital Configuration Vital Configuration 	Vital Application Unlock Save Refresh Reset VCPU Item PTC Consols VCPU MCF PTC ICSXPTCNAG003 mcf MCF CRC PTC B1c99156 UCN 9CBC2C08
Configuration Applications Non-Vital Configuration Site Configuration PTC Console Modules ExternalNetworking Log Setup Set to Default Vital Configuration	Site Configuration Image: Imag
Configuration Applications Non-Vital Configuration Vital Configuration LOGICAL configuration PHYSICAL configuration SITE configuration	LOGICAL configuration



4.1.2.1 Vital Application

The vital application page provides a quick reference location for the MCF, MCF CRC, and UCN applicable to the item selected. This is also where the MCF CRC and UCN are entered.

Configuration Reports & Logs St	atus Monitor Maintenance	Pag Diagnostics
Configuration	Vital Application	
 Applications Vital Application 	🕞 Unlock 📑 Save	PTC Console VCPU
 CDL Non-Vital Configuration Vital Configuration 	MCF	PTC ICSXPTCNAG003.mcf
	MCF CRC UCN	^{ртс} 81с99156 9CBC2C08

Figure 4-4 Vital Application Information

WARNING		
THE MCF, MCF PARAMETERS SETTINGS AND UCN MUST BE SET ACCORDING TO THE SITE PLANS.		
WARNING		
ENTERING THE WRONG UCN WILL RENDER THE PTC CONSOLE INOPERABLE. DO NOT CHANGE THE UCN UNLESS REQUIRED BY SYSTEM CHANGES THAT HAVE BEEN APPROVED BY THE RAILROAD AND/OR AUTHORIZING AGENCY USING A UCN ASSIGNED TO THE SITE PLANS.		

4.1.2.2 Site Information

The Site Information menu enables the User to configure Site Name, DOT Number, Mile Post, Time Zone, ATCS Address, Date, Time, and PTC UCN.

Configuration Reports & Logs Sta	atus Monitor Maintenance Diagnos	U tics
Configuration	Site Configuration	
Applications	🕞 Unlock 🛛 👼 Save 🛛 🍯 Refresh	Refault
 Non-Vital Configuration Site Configuration 	Site Name	NSCL002_David
▶ PTC	DOT Number	000000A *
ConsoleModules	Mile Post	000.0 *
ExternalNetworking	Time Zone	Pacific (GMT-8:00)
 Log Setup Set to Default 	ATCS Address	7.620.100.100.01
 Vital Configuration 	Date	03-07-2019
	Time	14 V : 17 V : 42 V
	PTC UCN PTC	0X7E9C4B68

Figure 4-5 Configuration Menu - Site Information

• Setting the Time Zone

To set the Time Zone, click on the drop menu. Select the desired time zone and click the mouse. Note that Daylight Savings Time rules are included in the time zone selected. The system will automatically adjust for DST based on the time zone selected

Configuration		
🔒 Save 🥤 Discard 👔	🛱 Refresh 🔹 Default 🔓 Unlock	
Site Name	CP CUC	Pacific (GMT-8:00)
DOT Number	123456D	Greenwich Mean Time (GMT)
Mile Post	35.2	Eastern (GMT-5:00) *
ATCS Address	*7.620.400.100.04	Central (GMT-6:00)
Time Zone	Pacific (GMT-8:00)	Mountain (GMT-7:00)
Date	Greenwich Mean Time (GMT) Eastern (GMT-5:00) *	Pacific (GMT-8:00)
Time	Central (GMT-6:00) Mountain (GMT-7:00) Pacific (GMT-8:00)	Alaska (GMT-9:00)
	Alaska (GMT-9:00) PTC Atlantic (GMT-4:00)	Atlantic (GMT-4:00)
	Arizona (No DST, GMT-7:00) Newfoundland (GMT-3:30)	Arizona (No DST, GMT-7:00)
	Aus Western (GMT+8:00) Aus Central (GMT+9:30)	Newfoundland (GMT-3:30)
	Aus Central (No DST, GMT+9:30) Aus Eastern (GMT+10:00) Aus Eastern (No DST, GMT+10:00)	Aus Western (GMT+8:00)
	par caren (no bot, diri + 10.00)	Aus Central (GMT+9:30)
		Aus Central (No DST, GMT+9:30)
		Aus Eastern (GMT+10:00)
		Aus Eastern (No DST, GMT+10:00)

Figure 4-6 Setting the Time Zone

• Setting the Date

To set the Date, click on the calendar icon on the right of the Date box. Highlight the current date and click on it with the mouse.

🔒 Unlock 🛛 🖥 Save	🛃 Refresh	🦹 Defa	ult					
Site Name		Siemens						
DOT Number		000000A						
Mile Post		000.0						
Time Zone		Eastern	(GMT-5:	00)				
ATCS Address	SAFE							
Date		07-23-20)19					
Time		<	J	uly 2	2019	Ŧ		>
PTC UCN		Su	Мо	Tu	We	Th	Fr	Sa
			1	2	3	4	5	6
		7	8	9	10	11	12	13
		14	15	16	17	18	19	20
		21	22	23	24	25	26	27
		28	29	30	31			

Figure 4-7 Setting the Date

• Setting the Time

To set the time click on the Hours drop menu and highlight the current hour, click on the Minutes drop menu and select the current minute, and select the Seconds drop menu and select the current second. Click on the **Save** button to accept changes or the **Discard** button delete any changes.



Figure 4-8 Setting the Time

4.1.2.3 PTC

The PTC sub-menu enables the configuration of some of the PTC parameters. The PTC menu has seven screens that enable access to additional configuration parameters. Figure 4-9 shows the configuration screens available.

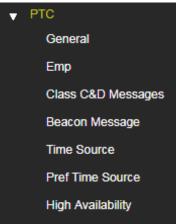


Figure 4-9 PTC Menu Tabs

• PTC - General Menu

The PTC - General menu is shown in Figure 4-10 below. Some parameters may have a key lock or a PTC designator. These parameters affect applicable UCN (Unique Check Number) and PTC UCN. Changing these parameters will place the system in the safe mode and render the console in an unconfigured state. The proper UCN or PTC UCN will be required and entered into the console to restore normal operation.

Configuration	General		
 Applications 	🚺 Unlock 🛛 📑 Save 🏾 🍯 Refresh	Default	
 Non-Vital Configuration Site Configuration 	PTC Enable GEOs 🦸	Yes v	
↓ PTC General	Console as NV Logic Ctrlr	No *	
Emp	Log GEO Events	Yes	
Class C&D Messages	Sync GEO and SEAR Clocks	No *	
Beacon Message Time Source	WIU Channel Enabled	Yes ¥	
Pref Time Source	Send Msg on Change of State	Yes 🔻	
High Availability	Msg Timeout (Minutes) 🛛 👼	5	
▶ Console	Mare Hardesta Data (aaa)		
Modules	Msg Update Rate (ms) 🛛 🧋	1500	

Figure 4-10 PTC General Menu



WARNING

THE WIU ADDRESS MUST BE UNIQUE FOR EACH PTC CONSOLE

PTC Enable GEOs: set to **Yes** for PTC enabled GEO applications (set to **Yes** automatically by OCE) **Console as NV Logic Ctrlr**: **Yes**, **No**, defaults to **No**. Leave as **No** as this feature is not currently supported

Log GEO Events: Yes, No, defaults to Yes. This is used to select whether the GEO sends events to the Console for logging in the Console Event Log. In general, this can be set to Yes. Would only set to No on a very large GEO set up with many GEO units being monitored by one Console where the Echelon link is near capacity.

Sync GEO and SEAR clocks: **Yes**, **No**, defaults to **No**. Used to select whether the Console sends time updates to the GEO and SEAR to synchronize their time to that of the Console.

WIU Channel Enabled: Yes, No, defaults to Yes. Used to enable the Console to send PTC messages. Keep as Yes.

Send Msg on Change of State: **Yes**, **No**, defaults to **Yes**. When set to **Yes** the GEO will send an updated state to the Console when the state of the data sent to the console changes. When set to **No**, the GEO will not send on change of state.

Msg Timeout (minutes): 5-240, defaults to 5 minutes. This is the message timeout on the GEO from the Console. If the GEO does not receive a valid message from Console in this time, it will set the link to **Out of Session** and stop sending messages to the Console. This is only used as a **Keep Alive** message so that the GEO will stop sending messages if the Console is removed, meaning, this is a non-vital function. The vital timeout on the Console is set using the **Msg Update Rate** (see below).

Msg Update Rate (ms): 500-3000ms, default 1500ms. This sets the message update rate on the GEO for messages sent to the Console. The Console will set a message timeout to the (2 * Msg Update Rate) + 100ms. If the Console receives no valid messages from the GEO in this message timeout, it will set the link to **Out of Session** and report the PTC devices associated with this GEO as restrictive.

• PTC EMP Menu

The PTC - EMP menu is shown in Figure 4-11 below. Refer to AAR specification S-9202 for proper values in setting up the PTC-EMP.

Configuration	Emp	
Applications	🕞 Unlock 🛛 🗮 Save 🏾 🍠 Refresh	Default
 Non-Vital Configuration Site Configuration 	WIU Addr	7.125.077.101.07
▼ PTC	EMP Msg Ver	4
General Emp	EMP Src Addr	csxt.w.077101:07.wiu
Class C&D Messages	EMP Dst Addr	xx.1.x.000000:tmc
Beacon Message Time Source	Bcn Msg TTL	16
Pref Time Source	Stat Rsp TTL	16
High Availability	Bcn Msg QOS	1656
▶ Console ▶ Modules	Stat Rsp QOS	3576
 ExternalNetworking 	НМАС Кеу	FA4E75FA35A857B662DBE4A318C
▶ Log Setup Set to Default	RC2 Key	
 Vital Configuration 	RC2 Key Confirmation	

Figure 4-11 PTC EMP Menu



WARNING
THE USER MUST ENSURE THAT EACH SITE IS GIVEN A UNIQUE HMAC KEY.

• PTC - Class C&D Message

Figure 4-12 displays the PTC Class C&D Message configuration options. Refer to AAR specifications S-9280 (Class C) and S-9356 (Class D) when setting up PTC - Class C&D messaging.

Class C&D Messages			
🗟 Save 🔗 Refresh 🚺 Default			
Class C Multicast IP Addr	239.255.0.5	×	
Class C Multicast Port	32768	*	
Class D Mode	Bi-Directional 🔹	*	
Primary GW Srvr IP Addr	10.255.255.210	*	
Primary GW Srvr Port	3001	*	
Log Traffic	No 🔻	*	
Keep Alive Interval (ms)	30000	*	
Keep Alive Ack Timeout (ms)	30000	*	
Acknowledgement Timeout (ms)	15000	*	
NAK Retry Count	3	*	
Retransmit Delay (ms)	0	*	

Figure 4-12 PTC - Class C & D Message

• PTC - Beacon Message

The PTC Beacon Message configuration with the Beacon Continuous option is shown in Figure 4-13 below.

В	Beacon Message				
	🔒 Save 🛛 🥳 Refresh 🚺 Default				
В	roadcast on Change	Yes 🔹			
В	iroadcast Rate (ms)	1000	*		
В	leacon Continuous	Continuous 🔹]		
		Times out Continuous			
Τ					

Figure 4-13 PTC - Beacon Message Configuration - Beacon Continuous

The PTC Beacon Message configuration with the Beacon Times Out option is shown in Figure 4-14 below.

Beacon Message				
🗟 Save 🏾 🥳 Refresh 📑 Default				
Broadcast on Change	Yes 🔻			
Broadcast Rate (ms)	*			
Beacon Continuous	Times out 🔹 *			
Beacon Bit Time (Seconds)	300			
Beacon End Time (Seconds)	120			
Max Beacon Interval Enabled	Yes 🔻			
Max Beacon Interval (Seconds)	900			

Figure 4-14 PTC - Beacon Message Configuration - Beacon Times Out

• PTC - Time Source Configuration

Figure 4-15 displays the PTC Time Source configuration option with EMP selected.

	Monitor Maintenance Diagnostics	5	
Configuration	Time Source		
Applications	📕 Save 🦉 Refresh 🛛 🛃 Default		
▼ Non-Vital Configuration Site Configuration	WIU Time Source	EMP 🔻	×
FTC General	Time Msgs Before Sending WSM	5	*
Emp	Time Message Deviation (Seconds)	1	ħ
Class C&D Messages	Ignored Time Difference (Seconds)	3	*
Beacon Message Time Source	Max Seconds Time Change (Seconds)	3	*
Pref Time Source	Max Time Change within Minutes (Minutes)	60	*
High Availability	LRM Max Seconds Time Difference (Seconds)	3	*
▶ Console ▶ Modules	No Time Sync Message (Minutes)	6	*
 ExternalNetworking 			
▶ Log Setup			
Set to Default			
 Vital Configuration 			

Figure 4-15 PTC - Time Source Configuration

• PTC - Time Source Configuration - NTP Option

The NTP option will expand the parameters to include the NTP parameters. These parameters are hidden until the NTP option is selected. In the **NTP Mode** field, if Unicast is selected the PTC Console requests time updates from a specific IP address: Primary NTP Time Source, or if that isn't available, the Backup NTP Time Source. If the **NTP Mode** is set to Multicast, the PTC Console will subscribe to a multicast group and receive time updates as they arrive, it will not request them.

Configuration Reports & Logs Status	Monitor Maintenance Diagnostics	
Configuration	Time Source	
▶ Applications ▼ Non-Vital Configuration	📕 Save 🦉 Refresh 🚺 Default	
Site Configuration	WIU Time Source	NTP 🔻
▼ PTC General	Time Msgs Before Sending WSM	5 *
Emp	Time Message Deviation (Seconds)	*
Class C&D Messages	Ignored Time Difference (Seconds)	3 *
Beacon Message Time Source	Max Seconds Time Change (Seconds)	3 *
Pref Time Source	Max Time Change within Minutes (Minutes)	60 *
High Availability ▶ Console	LRM Max Seconds Time Difference (Seconds)	3 *
Modules	No Time Sync Message (Minutes)	6 *
ExternalNetworking	NTP Mode	Unicast 🔹
▶ Log Setup Set to Default	Primary NTP Time Source	10.48.0.10
 Vital Configuration 	Backup NTP Time Source	10.49.0.43

Figure 4-16 PTC - Time Source Configuration - NTP Option Parameters

• PTC - Preferred Time Source

The Preferred Time Source function can be enabled by the user to direct the PTC Console to a desired time source.

📊 Save 💙 Discard 🦉 Refr	esh 🚺 Default		
EMP Pref-Timesrc Enabled	No*	No *	
		No * Yes	
		Yes	



Up to six time sources can be selected and arranged in the desired priority. If a time source is not available the next available source is used. Should a higher priority source become available the PTC Console will be directed to that source.

Configuration	Pref Time Source	
Applications	🔚 Save 🛛 🍠 Refresh 📄 🔒 Default	
✓ Non-Vital Configuration Site Configuration	EMP Pref-Timesrc Enabled	Yes 🔹
▼ PTC	Sync Timeout	500
General Emp	Priority 1 Enabled	Yes
Class C&D Messages	Priority 1 EMP Address	emp.time.service
Beacon Message Time Source	Priority 2 Enabled	Yes
Pref Time Source	Priority 2 EMP Address	emp.time.service2
High Availability	Priority 3 Enabled	No
▶ Console ▶ Modules	Priority 3 EMP Address	
 ExternalNetworking 	Priority 4 Enabled	No
▶ Log Setup Set to Default	Priority 4 EMP Address	
 Vital Configuration 	Priority 5 Enabled	No

Figure 4-18 Preferred Time Source EMP Address Entry

• PTC - High Availability

The High Availability function enables the user to select up to twelve links to maintain availability to and from the PTC Console.



Figure 4-19 PTC - High Availability

• PTC - High Availability Links

Enabling the High Availability function will open a new screen with link connection setup positions for entry of High Availability Link IP Addresses. The High Availability setup screen is shown in Figure 4-20. The two High Availability Modes are Priority and Round Robin. Priority will cause the PTC Console to link to the first available IP address and stay connected. The Round Robin will continue attempts to connect to the first link even after establishing connection with a second or third IP address.

Configuration	High Availability	
 Applications 	📕 Save 📑 Refresh 🚺 Default	
 Non-Vital Configuration Site Configuration 	HA Enabled	Yes 🔻
▼ PTC General	HA Mode	Priority •
Emp	Holdoff timer (Minutes)	1
Class C&D Messages	HA Link 1 IP Address	10.232.8.23
Beacon Message Time Source	1- IP Port	12000
Pref Time Source	HA Link 2 IP Address	10.232.8.25
High Availability	2- IP Port	12000
Console		

Figure 4-20 PTC - High Availability Setup - Priority

Configuration	High Availability	
 Applications 	🔒 Save 🛛 💆 Refresh 🚺 Default	
 Non-Vital Configuration Site Configuration 	HA Enabled	Yes 🔻
	HA Mode	Round Robin
Emp	HA Link 1 IP Address	10.232.8.23
Class C&D Messages	1- IP Port	12000
Beacon Message Time Source	1- Idle Timeout	0
Pref Time Source	1- Idle Enabled	No
High Availability	HA Link 2 IP Address	10.232.8.25
▶ Console ▶ Modules	2- IP Port	12000
ExternalNetworking	2- Idle Timeout	0
 Log Setup Set to Default 	2- Idle Enabled	No
 Vital Configuration 	HA Link 3 IP Address	

Figure 4-21 PTC - High Availability Setup - Round Robin

4.1.2.4 Console Configuration

The Console Configuration menu has four sub-menus for Serial Ports, Ethernet Ports, Security, and Web Server as shown in Figure 4-22.

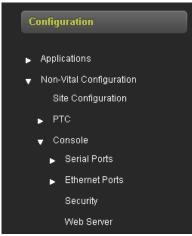


Figure 4-22 Console Configuration Menu

Console Configuration - Serial Ports

Figure 4-23 displays the serial port configuration menu (left) and one of the four sub-menus for the Laptop port.

Serial Ports		
Laptop		
Port 1	Laptop	
Port 2	📕 Save 🛛 🖉 Refresh 🛛 🚺 Defau	It
Port 3		
	Baud Rate	9600 *
	Data Bits	8 *
	Parity	None *
	Stop Bits	1 *
	Flow Ctrl	None *

Figure 4-23 Configuration Serial Ports

Figure 4-24 shows the configurable parameters options for Serial Ports 1-3. Note that many of the protocols are not functional at this time and have been reserved for future applications. The primary protocol for the PTC Console is Genisys GEO used with the serial link to the GEO System with a CPU1.

Serial Ports			
Laptop			
Port 1			
Port 2	↓		
	Port 1		
Port 3	🔚 Save 🛛 🍠 Refresh 🔹 Default		
	Baud Rate	9600 •	·
	Data Bits	8 🔻	·
	Parity	None •	· III
	Stop Bits		
	Flow Ctrl	None 🔻	j. 🚺
	Protocol	Genisys GEO	
	Path Type	Field v	
	Recovery Time (Seconds)	300]•
	Test Period (Minutes)	3]•
	Fail Count (Counts)	6	
	Reserved	p	

Figure 4-24 Serial Port Configuration Options

• Serial Ports One through Three Protocol and Path Configuration

There are 15 Protocols listed for serial ports 1 through 3, however, Genisys GEO is the only protocol currently supported. In addition, there are six Path Types choices while configuring the port, but **Field** is the only supported one in use with Genisys GEO.

Configuration	Port 1	
Applications	🔒 Save 🍠 Refresh 🔒 Default	
✓ Non-Vital Configuration Site Configuration	Baud Rate	9600 *
▶ PTC	Data Bits	8 *
✓ Console ✓ Serial Ports	Parity	None *
Laptop	Stop Bits	1 *
Port 1 Port 2	Flow Ctrl	None *
Port 3	Protocol	Genisys GEO 🔹
► Ethernet Ports Security	Path Type	Field •
Web Server	Recovery Time (Seconds)	300 *
▶ Modules	Test Period (Minutes)	3 *
 ExternalNetworking Log Setup 	Fail Count (Counts)	ē *
Set to Default	Reserved	0 *

Figure 4-25 Serial Port Protocol Configuration

• Console Configuration - Ethernet Ports

Figure 4-26 displays the Ethernet Port configuration screen. Four tabs select the sub-menus. Port 1 through Port 3 are located on the bottom of the console. The DNS tab is used to set the DNS server IP Addresses.

Configuration	Port 1		
Applications	📕 Save 🛛 🍯 Refresh 🚺 Default		
 Non-Vital Configuration Site Configuration 	DHCP Configuration	Disabled •	
▶ PTC	Protocol	None •	
 ✓ Console ▶ Serial Ports 	Path Type	None 🔻	
Ethernet Ports	Recovery Time (Seconds)	300	
Port 1 Port 2	Test Period (Minutes)	3	
Port 3	Fail Count (Counts)	6	
DNS Security	Op Traffic Only	No	
Web Server	RSSI Value	0	
Modules	IP Address	10.255.255.81	
 ExternalNetworking Log Setup 	Network Mask	255.255.255.0	
Set to Default	Default Gateway	10.255.255.254	
 Vital Configuration 			

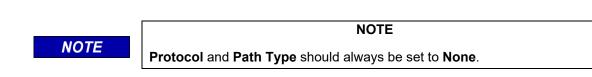
Figure 4-26 Console Configuration - Ethernet Ports

• Port 1-3 Configuration - Disabled

The ETH1 through ETH3 Ethernet ports have the same configuration options which includes DHCP options (Disabled and Client), IP Address, Network Mask, Default Gateway, Path Type, Recovery Time, Test Period, Fail Count, Op Traffic Only, RSSI Value, and Protocol settings. No current applications use Office or Field Path types and should be configured with the default (NONE) path type.

• ETH1, ETH2, ETH3 Port Configuration - Client

The ETH1 through ETH3 Ethernet ports have the same configuration options which includes DHCP options (Client, and Disabled), Path Type, Recovery Time, Test Period, Fail Count, Op Traffic Only, RSSI Value, and Protocol settings. No current applications use Office or Field Path types should be configured with the default ("None") Path Type.



• DNS Server Configuration

Three DNS Server IP Address configurations are accessed by selecting the DNS menu as shown in Figure 4-27.



Figure 4-27 Ethernet Port Configuration - DNS

• Console Configuration - Security

The Security sub-menu enables configuration of passwords for the WebUI. A session inactivity timer can be set to close the session if left unattended. Display hibernation time and Keypad/Display password completes the list of parameters.

Configuration	Security		
Applications	🔒 Save 🎽 Refresh 🚺 Default		
 Non-Vital Configuration Site Configuration 	WebUI password		
▶ PTC	WebUI password Confirm		
 ✓ Console ▶ Serial Ports 	Session Inactivity Timeout (Minutes)	20	
Port 1			
Port 2			
Port 3			
DNS			
Security			
Web Server			



• Web Server Configuration

Click on the Web Server text (located below the Security menu) to open the Web Server screen. The Web Server parameter sets the WebUI access security to the PTC Console. Select Secure or Non-Secure (Secure is recommended) and click Save to save the selection.



Figure 4-29 Web Server Configuration

4.1.2.5 Modules

The Modules Menu has one sub-menu: Connections as shown in Figure 4-30.

• Modules - Connections

NOTE

At this time the only module supported is the GEO. Additional modules will be included in future releases. The Connections screen displays the installed modules. To install a new module, click on the desire module slot in the MODULES column. A parameters screen will appear listing the required parameters for the module to be installed. It will be necessary to have the proper UCN number available to complete the installation. Drop-down menus are used on the module Type and Connection Type.

When a PTC GEO site has been selected, the OCE will automatically create connections for each GEO expected in the installation.

for each GEO connection is required. If this is not entered correctly, the P Console will not be able to PTC Enable that GEO.

NOTE

Configuration	С	onnections		
	1	geo_NW	~	
 Applications 	2	Module 2	⇒	🐻 Unlock 🛛 👼 Save 🧊 Refresh 📝 Default 🛛 🧐 Boot
 Non-Vital Configuration 	3	Module 3	⇒	
Site Configuration	4	Module 4		Name geo_NW
▶ PTC	5	Module 5	⇒	Туре
▶ Console	6	Module 6	>	GEO •
	7	Module 7	>	Connection Type Serial •
Connections	8	Module 8	⇒	ATCS Subnode
ExternalNetworking	9	Module 9	>	ATCS Subnode 3
▶ Log Setup	10	Module 10	⇒	Indication Offset 0
Set to Default	11	Module 11	⇒	Indication Size
 Vital Configuration 	12	Module 12		
	13	Module 13	⇒	Control Offset 0
	14	Module 14		Control Size
	15	Module 15	⇒	
	16	Module 16		UCN f28cb401
				MCF CRC PTC ddac3825

Figure 4-30 Modules - Connections

4.1.2.6 External Networking

To configure the various external networks, click on the External Networking menu. Five sub-menus will appear, but only, Echelon[®] networks and SNMP are supported external networking methods.

• Echelon[®] Network

The Echelon[®] menu is a single parameter for entry of the Gateway Node number.

Configuration	Echelon	
 Applications Non-Vital Configuration Site Configuration 	🔚 Save 🏾 🍠 Refresh 🔹 Default	1 *
 PTC Console Modules ExternalNetworking CAD 		
WAMS WNC Echelon SNMP		
 Log Setup Set to Default Vital Configuration 		

Figure 4-31 Echelon[®] Node Configuration

• SNMP

Enter each Destination IP and Port for up to four destinations [1]. Verify the information and click on the SAVE button [2a] to save any changes or click on the DISCARD button [2b] to remove any changes. The REFRESH button [3] refreshes the screen and the DEFAULT button [4] changes all entries to the original factory default values.

Configuration	SNMP		
▶ Applications	🔒 Save 🏾 🥳 Refresh 🚺 Default		
▼ Non-Vital Configuration Site Configuration	Destination 1 IP	0.0.0.0	*
▶ PTC	Destination 1 Port	162	*
▶ Console ▶ Modules	Destination 2 IP	0.0.0.0	*
▼ ExternalNetworking	Destination 2 Port	162	*
CAD VVAMS	Destination 3 IP	0.0.0.0	*
	Destination 3 Port	162	*
Echelon SNMP	Destination 4 IP	0.0.0.0	*
⊾Log Setup	Destination 4 Port	162	*
Set to Default	Community	Siemens	*
 Vital Configuration 	Contact Info		*
	Alarm Suppression Timer (Minutes)	30	*

Figure 4-32 SNMP Network Configuration

The Alarm Suppression Timer sets the amount of time the console will suppress CDL applications and Alarms when the On-Site Personnel button is pressed on the console front panel by the Maintainer. The timer can be adjusted from 10 minutes to 180 minutes. The default value is 20 minutes. Operation of the On-Site Personnel function is detailed in Section 5 of this manual.

Apprecisiono cratos monitos - Mannena				
SNMP		SNMP		_
🔒 Save 💙 Discard 🦉 Refresh	Cofault	🔒 Save 🥤 Discard 👹 Refresh	🔀 Default	
Destination 1 IP				
Destination 1 Port	162	Destination 1 IP	0.0.0.0	
Destination 2 IP Destination 2 Port	0.0.0	Destination 1 Port	162	
Destination 2 Port	162	Destination 2 IP	0.0.0.0	
Destination 3 Port	162	Destination 2 Port		
Destination 4 IP	0000	Destination 3 IP	162	
Destination 4 Port	162		0.0.0.0	
Community	Inventys	Destination 3 Port	162	
Contact Info	000.000.000	Destination 4 IP	0.0.0.0	
Alarm Suppression Timer (Minutes)		Destination 4 Port	162	
		Community		
		Contact Info	Invensys	
		Contactinio	000.000.000.000	
				_
_		Alarm Suppression Timer (Minuted)	0	: Console Version 1
		L	0 Default	: Console Version 1
		SNMP		: Console Version
		SNMP		: Console Version
		SNMP	2 Default	: Console Version
	1	SNMP	2 Default 127.1.1.1	: Console Version
	1	SNMP Save Discard C Refresh Destination 1 IP Destination 1 Port Destination 2 IP	2 Default	Console Version
	1	SNMP Bestination 1 IP Destination 1 Port Destination 2 IP Destination 2 Port	2 Default 127.1.1.1	Console Version
	1	SNMP Save Discard Ferresh Destination 1 IP Destination 2 IP Destination 2 Port Destination 3 IP	2 Default	Console Viescon
	1	SNMP Bestination 1 IP Destination 1 Port Destination 2 IP Destination 2 Port	2 Default 127.1.1.1 162 127.1.3 162	-Consele Version
	1	SNMP Save Discard Ferresh Destination 1 IP Destination 2 IP Destination 2 Port Destination 3 IP	2 Default 127.1.1.1 162 127.1.3 162 127.1.5	-Constitution
		SNMP Save Discard Cresh Destination 1 IP Destination 1 Port Destination 2 IP Destination 2 Port Destination 3 IP Destination 3 Port	2 Default 127.1.1.1 162 127.1.1.3 162 127.1.1.5 162	- Console Version
Discard		SNMP Save Discard Perfresh Destination 1 IP Destination 1 Port Destination 2 IP Destination 2 Port Destination 3 IP Destination 3 Port Destination 4 IP	Default 127.1.1 162 127.1.5 162 127.1.5 162 127.1.5	- Console Version
Discard		SNMP Save Biscard Caffresh Destination 1 IP Destination 2 IP Destination 2 Port Destination 3 IP Destination 3 Port Destination 4 IP Destination 4 IP	2 Default 127.1.1.1 162 127.1.1.3 162 127.1.1.5 162 127.1.1.7 162 127.1.1.7 162 127.1.1.7 162 127.1.1.7 162 127.1.1.7 162	- Conselle Version
Discard 2b		SNMP Save Discard C Refresh Destination 1 IP Destination 1 Port Destination 2 IP Destination 2 Port Destination 3 IP Destination 3 Port Destination 4 IP Destination 4 Port Community	Default 127.1.1 162 127.1.5 162 127.1.5 162 127.1.5	

Figure 4-33 SNMP Setup

• SNMP Traps

SNMP messages sent from the PTC Console are received in the Back Office. The CDL program defines which alarms are sent.

SNMP OID	VALUE	DESCRIPTION
deviceType.0	iVIU	Defines the type of equipment that sent the SNMP trap. For the PTC Console, this field will always contain "iVIU"
dateTime.0	03-May-2012 18:56:13	Date and Time the system created the alert
siteName.0	CP_Safetran_312	This field contains the Site Name, as set in the PTC Console configuration settings.
milePost.0	35.2	This field contains the Milepost Number, as set in the PTC Console configuration settings
spareText2.0		Not used. Reserved for future use.
spareText1.0	2950240fd20218	Not used. Reserved for future use.
alarmPriority.0	4	The priority of the alarm as set by the iVIU's CDL logic. This value is specific to each alert (see the manual for the specific CDL program).
alarmClearFlag.0	0	Indicates whether this is the alarm or the corresponding clear for the alarm.
alarmText.0	Alarm Enabled Message	The Alarm text as programmed into CDL logic. This value is specific to each alert (see the manual for the specific CDL program).
alarmID.0	2	The Alarm ID number as programmed in the CDL logic. This value is specific to each alert (see the manual for the specific CDL program).
trapNum.0	3	The Trap Number as programmed in the CDL logic. This value is specific to each alert (see the manual for the specific CDL program).
snmpTrapOID.0	1.3.6.1.4.1.3064.3.20.2.2	The ID of the trap in the unit's MIB. This value is specific to each alert (see the manual for the specific CDL program).
sysUpTime.0	1days22h55m24.59s	System Up Time

Table 4-1	SNMP	Information

4.1.2.7 Log Setup

The Log Setup Menu has three sub-menus for Consolidated Logging, Diagnostic Message Logging Options, and Log Verbosity.

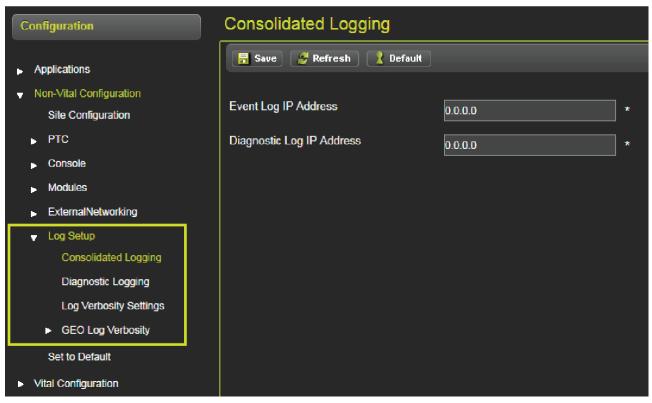


Figure 4-34 Log Setup (Consolidated Logging

Consolidated Logging

Consolidated Logging enables logs to be consolidated to a single location. A log is still held locally, however, reports will be forwarded to a single location. The IP Address for the "collecting" location is entered into the text box. An address is setup for the Event Log and the Diagnostic Log as shown in Figure 4-34.

Diagnostic Message Logging Options •

The Diagnostic Message Logging Options screen provides the User the ability to enable or disable thirteen options as shown in Figure 4-35. All options are disabled by default. Each option may be enabled or disabled as desired.

		CA	UTION			
	ENABLE ONLY THE LOGGING PARAMETERS NECESSARY. ENABLING TOO MANY PARAMETERS WILL REDUCE THE PERFORMANCE OF THE SYSTEM.					
Diagnostic Loggin The Serie University Control Restart Lyon Protessing (Lyor 7) Rodrig (Lyon 2) Serial Part ROTA (Lyor 2) Serial Part ROTA (Lyor 2) Serial Part ROTA (Lyon 2) Serial Part ROTA (Lyon 2) Rester Part ROTA (Lyon 2) Ethermel Part	Duales* D	le Processing (Layer 7) (Layer 3) aptop Port RX/TX (Layer 2) ort 1 RX/TX (Layer 2) ort 2 RX/TX (Layer 2) ort 3 RX/TX (Layer 2) A B t Laptop Port RX/TX (Layer 2) t Port 1 RX/TX (Layer 2) t Port 2 RX/TX (Layer 2) t Port 3 RX/TX (Layer 2)	Disabled *	፟ ∕ 🖥	isabled isabled nabled	
			Disabled *			

Figure 4-35 Diagnostic Message Logging Options

• Log Verbosity Settings

The Log Verbosity may be set to gather information at various levels. Default is Basic which gathers general information. The Error setting will log only error messages while the Warning setting gathers warnings. The Info setting collects the minimum amount of data. On the other hand, the Debug setting gathers all information for troubleshooting purposes.

				CAUTION		
	JTION	ENABLE ONLY T TOO MANY PAF THE SYSTEM.				
Log Verbosi	a Console Di	Reduct Werbookly	Info *		Info * Basic Error Warnir Info * Debug	



• GEO Log Verbosity

The GEO Log Verbosity menu allows the user to set the verbosity level for each GEO slot. The opening screen has a drop-down menu listing the available GEO unit(s). Click on the GEO Address of the unit desired.

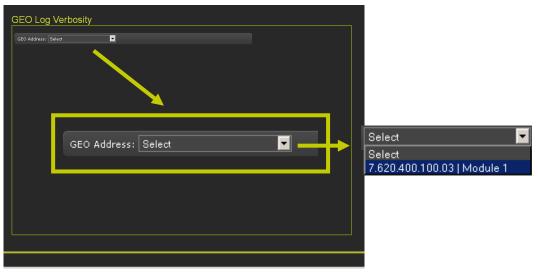
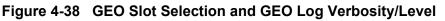


Figure 4-37 GEO Log Verbosity - GEO unit selection

• GEO Log Verbosity - Slot Selection and GEO Log Verbosity/Level

After selecting the desired GEO unit, a new screen will display the drop-down menus for Slot selection and GEO Log Verbosity/Level.

	Log Verbos			
Slot	dress: 7.620.400.100.0 ; Verbosity Level	3 Module 1 C C C C C C C C C C C C C C C C C C		Slot 1 - CP
	GEO Ac	ldress: 7.620.400.100.03	Module 1 🔽 🦉 Refresh	Slot 1 - VLP2 Slot 2 - Coded Track Slot 3 - Colorlight Slot 4 - Colorlight
	Slot GEO Log	g Verbosity Level	Slot 1 - CP	Slot 5 - RIO Slot 8 - Coded Track
			🕵 Set Verbosity	1 1 2



4.1.2.8 Non-Vital Set to Defaults

The final configuration menu is the Non-Vital **Set to Default** function. Activation of this function will reset all parameters to their original factory settings. All previous user settings will be lost and are not recoverable.

SIEMENS		Welcome Admin Logout
Configuration Reports & Logs	Status Monitor Maintenance Diagnostics	Site Name: NSCL002_David ATCS Address: 7 620.100.100.01 Mile Post: 000.0 DOT Number: 000000A
Configuration	Site Configuration	
 Applications Non-Vital Configuration Site Configuration PTC Console Modules ExternalNetworking Log Setup Set to Default Vital Configuration 	Site Name NSCL002_David DOT Number 00000A Mile Post 000.0 Time Zone Pacific (GMT-8:00) ATCS Address 7 r020.100.01 Dat 7 r020.100.100.01 Dat Sect to Defa	ult
	Figure 4-39 Set	
		NOTE



Setting all parameters to factory default will clear any configuration parameters and return all settings to the factory default. This may cause the PTC Console to enter safe mode and will require new configuration and setup to restore the console operation.

4.1.3 Report and Logs

The Reports and Logs menu has five sub-menus: Event Logs, Reports, GEO Configuration Report, GEO Logs, and GEO Software Info, as shown in Figure 4-40.

Configuration Reports & Logs S	tatus Monitor Maintenance	Diagnostics		
Reports & Logs	Event			
✓ Event Logs	BASIC 🔻 📕 First	Previous 🕨 Next 🌖	🔰 Last 🛃 Dov	vnload 🔍 Event Text 🔻
Event	Time Stamp 🔺	Site Name 🔺	Card/Slot	Event Text 🔺
Diagnostic	28-Jan-2019 11:25:18.81	NSCL002_David	VCore	IVIU: Session Established with GEO 762010010003
Download All	28-Jan-2019 11:25:18.86	NSCL002_David	VCore	Signal01: G_DATA 36
Reports	28-Jan-2019 11:25:18.92	NSCL002_David	VCore	Signal02: G_DATA 36
► Reports	28-Jan-2019 11:25:18.96	NSCL002_David	VCore	Signal01: G_Aspect Stop
 GEO Configuration Report 	28-Jan-2019 11:25:19.1	NSCL002_David	VCore	Signal02: G_Aspect Stop
			VCore	0
GEO Logs	28-Jan-2019 11:25:19.7	NSCL002_David	vcore	Signal01: G_PTC_Code 15
GEO Logs GEO Software Info	28-Jan-2019 11:25:19.7 28-Jan-2019 11:25:19.11	NSCL002_David NSCL002_David	VCore	Signalio1: G_PTC_Code 15 Signal02: G_PTC_Code 15

Figure 4-40 Reports and Logs Menus

4.1.3.1 Event Log

The Event Log records events based on the configured verbosity. There are three retrieval methods available.

• Event Log - Basic

The Basic log is the default retrieval method. The Basic search of the Event Log is shown in Figure 4-41. Buttons are included to navigate to the beginning or the end of the log. The number of entries is selectable from 50 to 500 entries per page in six increments. An All Events button may be selected to download all available events.



Figure 4-41 Event Log - Basic Search

• Event Log - Advanced

The Advanced search of the Event Log enables the user to search a particular time period in the log, saving searching the entire log for information desired. The same Basic search navigation is included in addition to the Advanced search features as shown in Figure 4-42.

Configuration Reports & Logs	Status Monitor Maintenance	Diagnostics		
Reports & Logs	Event			
✓ Event Logs Event Diagnostic	Start Date: Start T		End Date:	wnload Event Text ▼ End Time: Ⅲ 11 ▼ : 27 ▼ : 02 ▼ Set Filter
Download All	Time Stamp 🔺	Site Name 🔺		- Event Text -
Reports	27-Apr-2018 15:52:20.93	Siemens	VCore	Shutdown Error: 69 , Periodic Unconfg State reboot
 GEO Configuration Report 	27-Apr-2018 15:52:21.5	Siemens	VCore	Card SW Version: 9VB14A01 Console+IO
	27-Apr-2018 15:52:21.5	Siemens	VCore	Card SW Version: IVC00_08.MEF; ID #: 9VA49A01.P
GEO Logs	27-Apr-2018 15:52:21.14	Siemens	VCore	Card SW Version: FPGA: NO NAME
 GEO Software Info 	27-Apr-2018 15:52:21.16	Siemens	VCore	Card SW Version: MCF: iTEST_DTW_D024.mcf
	27-Apr-2018 15:52:21.20	Siemens	VCore	GPS Signal: Present
	27-Apr-2018 15:52:23.5	Siemens	VCore	Logical Layout = 1
	27-Apr-2018 15:52:23.5	Siemens	VCore	Physical Layout = 1
	27-Apr-2018 15:52:23.9	Siemens	VCore	Startup Check Error: 47, UCN check failed
	27-Apr-2018 15:52:23.13	Siemens	VCore	
	27-Apr-2018 16:22:39.56	Siemens	VCore	Reboot Occurred (RSR 4099, IVCORE
	27-Apr-2018 16:22:39.60	Siemens	VCore	Shutdown Error: 69 , Periodic Unconfg State reboot
	27-Apr-2018 16:22:39.72	Siemens	VCore	Card SW Version: 9VB14A01 Console+IO
	27-Apr-2018 16:22:39.72	Siemens	VCore	Card SW Version: IVC00_08.MEF; ID #: 9VA49A01.P
	27-Apr-2018 16:22:39.79	Siemens	VCore	Card SW Version: FPGA: NO NAME

Figure 4-42 Event Log - Advanced

• Event Log - Trace Events

The Trace Events option enables the User to see events as they come in. Click on the **Start** button to start tracing events. The screen refreshes every five seconds so events can be viewed in near real time. Click the **Stop** button to halt tracing events. Figure 4-43 displays the Trace Events navigation buttons.

Report	s & Logs	Event				
		📕 Back 🥂 Clear 🤺	Start 🔀 Stop			1
	t Logs vent iagnostic	Time Stamp 18-Oct-2024 06:35:04.0 18-Oct-2024 06:35:13.99 18-Oct-2024 06:35:14.0	Site Name Siemens Siemens Siemens	NVCPU Time NVCPU New	system time from GPS e change from GPS system time from GPS	
	ownload All	18-Oct-2024 06:35:14.6 18-Oct-2024 06:38:07.55 18-Oct-2024 06:39:16.47	Siemens Siemens Siemens	VCore GPS) Signal: Present) Signal: Lost e change from GPS	
► Repo	Configuration Report					
	Software Info					
Configu Report	ts and Logs	Status Monitor Maintenance Diagnost	les			
	figuration Report	Clear 🕺 Start 🔀 Stop 🔍	Equipment	ent Tet		
Even Diagi	nt Log 26-Nov-20 Inostic Log	013 22:33:22.94 iVIU CP_Safetran 013 22:33:22.95 iVIU CP_Safetran		gnal: TN co e: 0 (Invalid) gnal: TR code: V(Invalid)		
	Ware Info	🔨 Clear 🤺 Start 🔀 S	top	Equip	oment 👻	
	nload All Logs	Stamp Et uipmen	t Sitename	Card/Slot	Event Type Exant Text	
		0 20100 00 8011 Of Defetion	Vicara Di Ad			
						Equipmen Equipmen

Figure 4-43 Event Log - Trace Events

4.1.3.2 Configuration Report

The configuration reports lists all of the parameter settings currently programmed into the system. Click on the **Create** button to generate the Configuration Report or click on **Download** to download the report to a computer.



Figure 4-44 Create or Download Configuration Report

Figure 4-45 shows a completed creation of a Configuration Report.

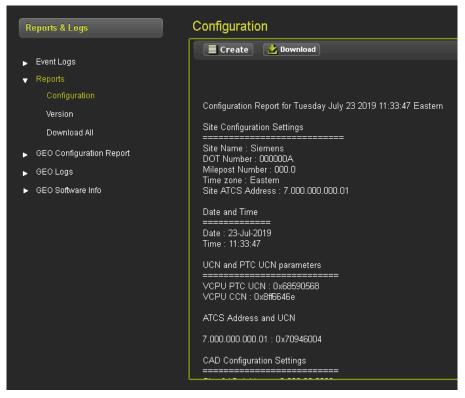


Figure 4-45 Configuration Report display

4.1.3.3 GEO Configuration Report

The GEO Configuration Report provides software and hardware information for the modules installed in the GEO unit. Figure 4-46 shows an example of the GEO Configuration Report.

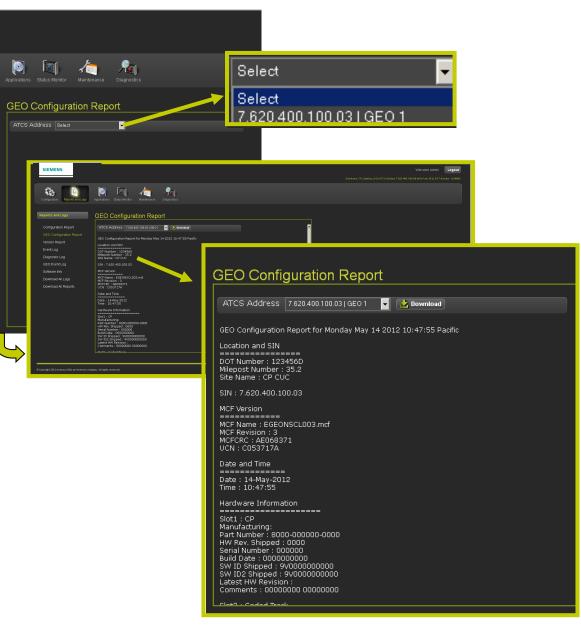


Figure 4-46 GEO Configuration Report

4.1.3.4 Version Report

The Version report lists all the hardware and software version information. Click on the "Create" button to generate the Version Report or click on "Download" to download the report to a computer.

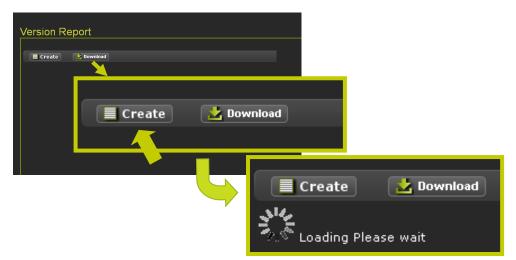


Figure 4-47 Create or Download Version Report

Figure 4-48 shows a completed creation of a Version Report

	Version Report generated Wednesday November 27 2013 10:49:13 Pacific
Version Report	32.5-CP_Safetran (DOT #123456D) ATCS Addr 7.620.100.100.01
Crate Vented Venter Report generated Weenbeekp Norol 5, 3013,0349,13 Padott: 252-05_94/end (007 # 123450) AVCS Addr 7, 420,100,100,01 Venter IV Venter Venter 11: 5-90313 Venter IV Venter Add (11: 11: 5-90313 Venter IV Venter IV Venter Add (11: 11: 5-90313 Venter IV Venter	Version Report Summary Vital MEF: 9VA49A01.L MCF: iTESTNSPGEO.D203.mcf (11-15-2013) NV MEF: 9VC68-A01A (11-12-2013) Console Vital CPU (Slot 0) Vital MEF: 9VA49A01.L ====================================

Figure 4-48 Version Report

4.1.3.5 Diagnostic Log

The Diagnostic Log records events based on the configured verbosity. There are three retrieval methods available.

• Diagnostic Log - Basic

The Basic search of the Event Log is shown in Figure 4-49. Buttons are included to navigate to the beginning or the end of the log. The number of entries is selectable from 40 to 80 entries per page in 10 entry increments or All entries may be selected.

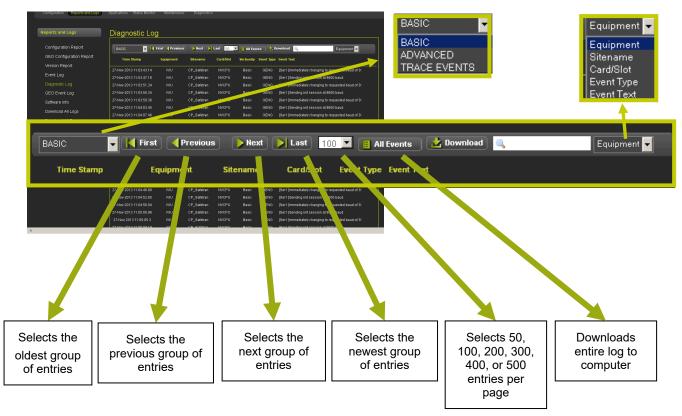


Figure 4-49 Diagnostic Log - Basic

• Diagnostic Log - Advanced

The Advanced search of the Diagnostic Log enables search a particular time period in the log saving searching the entire log for information desired. The same Basic search navigation is included in addition to the Advanced search features as shown in Figure 4-50.



Figure 4-50 Diagnostic Log - Advanced

• Diagnostic Log - Trace Events

The Trace Events option enables the User to see events as they come in. Click on the START button to start tracing events. The screen refreshes every five seconds so events can be viewed in near real time. Click the STOP button to halt tracing events. Figure 4-51 displays the Trace Events navigation buttons.

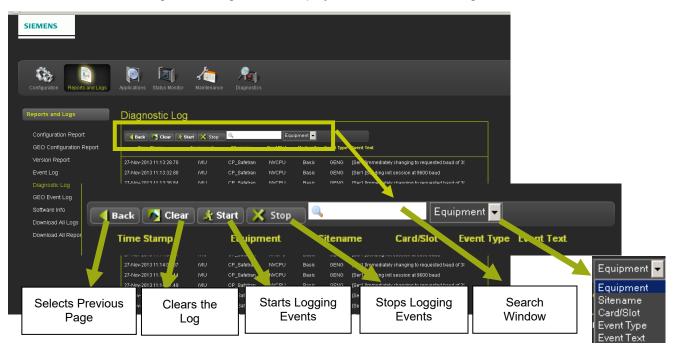


Figure 4-51 Diagnostic Log - Trace Events

4.1.3.6 GEO Event Log

If one or more GEO devices are installed a GEO Event Log is available to track GEO Status or Error events. A separate log is generated for each device. Logs are retrieved by selecting the ATCS Address of the GEO and the Slot number.



Figure 4-52 GEO Event Log

• GEO Event Log Navigation

Navigation for the GEO Event Log has status or summary log selection and a Slot drop-down menu that enables selection of each available slot. Navigation buttons enable selection of the desired portion of the log for viewing.

Configuration Reports and Logs	Applications Status Monitor	Maintenance Diagnostics			
Reports and Logs	GEO Event Log				
Configuration Report	Log Type Status 🔽 S	lot slot 1 - CP 🔽 📢 First 🍕 Presious 🕟 Next	Last Al Events		
GEO Configuration Report	Meanage Source _ Time S	tamp _ Events _			
Version Report Event Log	4 E2 14M4	12-10:17:388 VLO Channel 5 Status LOR			
Diagnostic Log		12-10:17:38.9 ESIG: BG Status LOR 12-10:17:38.9 ESIG: BY Status LOR			
	4 E7 14MA	12-10:17:39.4 VLO Channel 1 LOR Voltage: 8829 Ct.			Prints all
Software Info		12-10:17:39.4 VLO Channel 1 Status LOR 12-10:17:39.4 VLO Channel 2 LOR Voltage: 8682 Cu			
Download All Logs		12-10:17:39.4 VLO Channel 2 EUR Votage: 8682 CL 12-10:17:39.4 VLO Channel 2 Status LOR			
Download All Reports		12-10:17:39.7 ESIG: AG Status LOR			
		12-10:17:39.8 ESIG: AY Status LOR 12-10:17:30.0 SEAR Session Established			_
		12-10:18:02:1 SEAR Session Lost			
	Status 🔽	Slot slot1-CP	First Previ	ous Next N	Last 🔲 All Even
slot 1		Selects the	Selects the	Selects the	Selects the
slot 1	- CP - VLP2		previous group	next group of	newest grou
		oldest group	of entries		

Figure 4-53 Geo Event Log Navigation

4.1.3.7 Software Info

The Software Info Menu opens with a drop-down menu listing the available module ATCS Addresses. Click on the desired module.

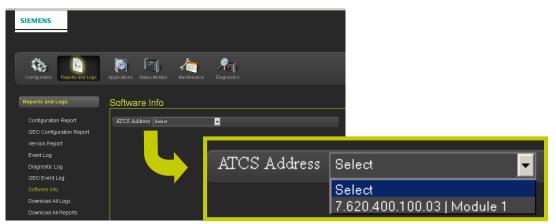


Figure 4-54 Software Info - Select Module ATCS Address

An information list will generate with information on the software installed including version, UCN, MCFCRC, Slot location, current verbosity setting depending on the type of software. Click the DOWNLOAD button to save the listing to a computer file.

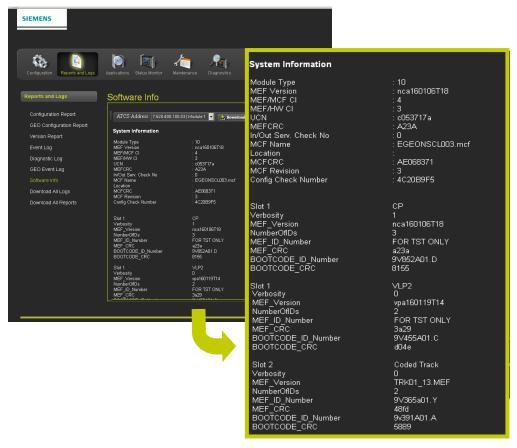


Figure 4-55 Software Info List

4.1.3.8 Download All Logs

The Download All Logs menu will download all three logs. The date and time may be selected to define the time frame of the logs. The Date is selected using pop-up calendars on the Start Date and End Date text boxes. The Time is selected using the drop-down boxes for hours, minutes, and seconds for the start time and the end time as shown in Figure 4-56.

SIEMENS Configuration Configuration Report Configuration Report CEC Configuration REPORT CEC CEC CEC CEC CEC CEC CEC CEC CEC CEC	C Ma Su No 4 5 11 12 18 19 25 26	Tu We Th Fr Sa 1 2 3 6 6 7 8 9 10 2 13 14 15 16 17 2 20 21 22 23 24	
Version Heport Event Log Diagnostic Log GEO Event Log Software info	Start Date: 03/04/2012 End Date:	Start Time: 11 🔽 : 24 End Time:	• 04
Download All Logs	03/05/2012	12 ▼:37 00 ▲ 18	
	La Download	01 19 02 20 03 21 04 22	39 40 41
Copyright 2013 Stemans. All rights reserved.	Mar 2012 ▼ Su Mo Tu We Th Fr Sa 1 2 3 1 2 3 4 5 6 7 8 9 10	05 23 06 24 07 25 08 26	43 44
	11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	09 27 10 28 11 29	46 47 48
		12 30 13 31 14 32 15 33	50 51 52
		16 34 17 35 18 36 19 ▼ 37	53 54 55 ▼ 56 ▼

Figure 4-56 Download All Logs - Start and End Date/Time

• Download All Logs - Viewing and Saving

Once the starting and ending date and time has been selected, click on the download button. The download will start and will show progress on the screen. When the download is complete a pop-up window will appear to enable viewing or saving the logs as shown in Figure 4-57 below.

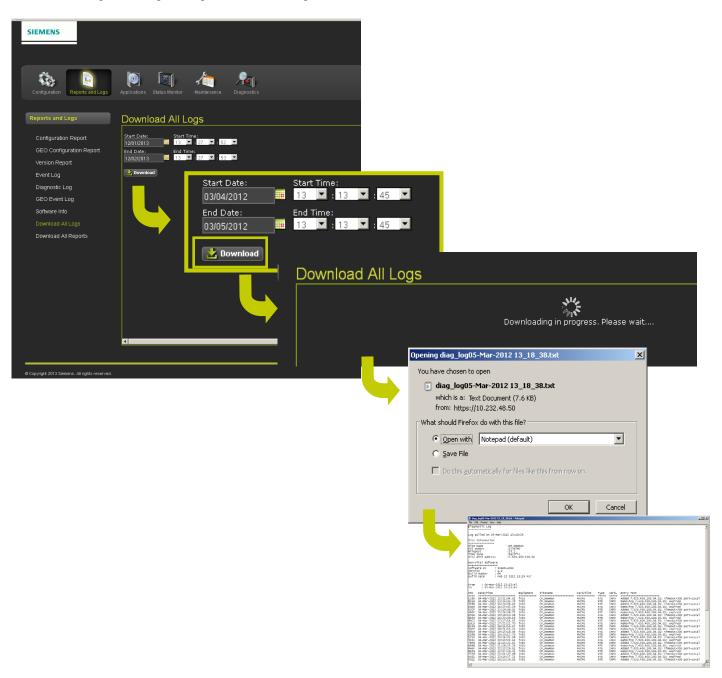


Figure 4-57 Viewing and Saving Logs

4.1.3.9 Download All Reports

The Download All Reports menu has a single DOWNLOAD button. Click on the button to download all of the reports. When the download is complete, a pop-up will appear for viewing or saving the reports as shown in Figure 4-58.



Figure 4-58 Downloading All Reports

4.1.3.10 CDL (Control Description Language) Files

To access CDL Menu, select Applications icon from menu bar, then, under Applications column, select CDL.

The CDL Menu enables uploading and running CDL applications. To upload a CDL file, click on the Upload CDL button. Click on the Browse button [4] and select the desired CDL file from the stored location and click on the Open button [5]. The selected CDL file will appear in the CDL File text box. Click on the Upload File button [6] to upload the file.

Configuration	CDL
 Applications Vital Application CDL 	E Display Q & A Previous Next K Start Remove CDL View CDL Log Log Download CDL & Download CDL File Name : VCore_Reboted2.cdl
Operational Parameters Non-Vital Configuration Vital Configuration 	

Figure 4-59 Selecting CDL

• Running CDL Files

To run a CDL file, click on the **Start** button. A CDL may have more than one file. A list of files will appear. Select the desired CDL file.

Configuration • Applications Vital Application • CDL	CDL Display Q & A Previous Next Start — Remove CDL (View CDL Log) (Upload CDL) (Download CDL File Name : VCore_Rebooted2.cd	
Operational Parameters Non-Vital Configuration Vital Configuration 	CDL Reset Names.Modules? Yes Do you want to compile the CDL file VCore_Rebooted2.cdl Yes Yes No CDL Display 0 & A Previous Hext All phase CDL compilation complete	itart

Figure 4-60 Running CDL Files - Start File



Select the answer to the next question (in this case Yes or No)

Figure 4-61 Running CDL Files - Sequence File

Continue to click the NEXT button to continue until the end of the sequence is reached. All tests should have a green check if the test was successful.

SIEMENS	Wekone Admin Logout
Configuration Reports and Logs	Sie Nume (P Spelan) 41'G Addeur 7200 400 100 04 Mile Pat 32 2] (30'T kunker 129405 August August
CDL File Name : VCore_Diagcode_	iner / Restart 1 bybout CR. • New CR. Log 2 Download Log - Parmove CR.
V TET NUMBER V TET CONDITION OK	CDL Site Setup Operational Parameters Display Q & A Previous Hext & Restart & Upload CDL & View CDL Log & Download Log - Remove CDL CDL File Name : VCore_Diagcode_active.cdl
×	

Figure 4-62 Successful CDL File Run

The final step is to compile the CDL file. Click the **Next** button [1] as shown below.

Applications Vtal Application Nº ladder logic CDL	CDL Mar State Mar Market Col File Name - Vice, Diagondo actine cd /TEST WARDED2 _ TEST 1
	Test condition of CDL Site Setup Operational Parameters Display Q & A Previous Next & Restart Dipload CDL View CDL Log & Download Log Remove CDL
	CDL File Name : VCore_Diagcode_active.cdl TEST NUMBER? TEST 1 TEST CONDITION? OK

Figure 4-63 Compile CDL File

A pop up window will appear asking to the user if they want to compile the CDL file. Click on the OK button to continue as shown in the figure below.

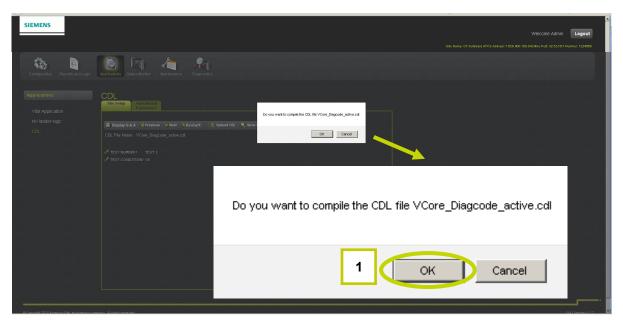


Figure 4-64 Confirm CDL Compilation

A confirmation text will appear to confirm the compilation was successful.

Applications Vital Application NV ladder logic COL	CDL Site State Operational Parameters Display O. A. Prenice Mart & Start & Byland CEL & Vew CEL Log & Download Log — Bernove CEL COL File Name : VCong Dispacede, active cel
	CDL compilation successful!!
@ Copyright 2010 Invensive Reil, an Invens	na nemera Alektranenat Milanza 12

Figure 4-65 Verification of Successful CDL Compilation

• View or Download CDL Log

The CDL Log displays the compiling of the CDL file (both successful and failed files). To view the CDL Log, click on the View CDL Log button. To download the log to a computer file, click on the Download Log button.

SIEMENS	
	Weltone Adma
	Shir Yume (24-Sarking ATCS Addisor 7250-80) 100.04 Min Parts 32-58 (017 Nombur 125480)
Configuration Reports and Log	kapit-aliuna Babus Monitar Mardemante Diagnostics
Applications	
Vital Application	StD Strip Operational Parameters
NV ladder logic	🖥 Display () A.A. 🛛 Persions - Maret - Starit - Stabul COL. Log - Bannow CRL
	CDL File Name : VCore Dagade_schw.cdl
	CDL Site Setup Operational Parameters Display Q & A Previous Next & Start Dipload CDL View CDL Log Download Log Remove CDL CDL File Name : VCore_Diagcode_active.cdl
	🔥 Upload CDL 🔍 View CDL Log 🔡 Download Log 🗕 Remove CDL

Figure 4-66 View or Download CDL Log

• CDL Log Printout

The CDL Log will appear in the window for local viewing as shown in Figure 4-67.

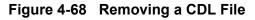
SIEMENS	Welcome Admin Logout Sile Name - PriSelfusi (ATCS Address 7 000-400 100.00) Mile Pet 32 03 001 Number 1204920
Configuration Reports and Logs Academic Status Monitor Maintenance Diagnostics	
Applications CDL Vital Application CRL eg Vital Application CRL eg NV ladder logic Vital Application	
CDL Apple 12 as the compared theorem in the 12 as 20 control field to be instructioned Apple 12 as 20 control field to be instructioned Apple 12 as 20 control CL distributioned for must Apple 12 as 20 contr	CDL Site Setup Operational Parameters
φ ₂ 24.23 Phum Value for present, a transmit, a tra transmit, a tra transmit, a tra tra transmit, a transmit, a tra	CDL Log Version : 3.0 CDL File Name : VCore_Diagcode_active.cdl
$ \begin{array}{c} A_{22} \leftarrow 12.23 \\ C = 0.23 \\ C = 0.23$	Apr-12 14:28:36 INFO Initialised instruction array Apr-12 14:28:36 INFO Initialised String array Apr-12 14:28:36 DEBUG Call the main cdl compile task Apr-12 14:28:36 DEBUG Call the main cdl compile task
* 40 : 12 : 20 : 20 : 20 : 20 : 20 : 20 : 2	Apr-12 14:28:36 DEEUG CDL_SiteSetupTraverse(257, menu) Apr-12 14:28:36 INFO Creating menu: [mn1], id=0 Apr-12 14:28:36 EUFO CDL_SiteSetupTraverse(257, menu) Apr-12 14:28:36 INFO Creating menu: [mn2], id=1
Vesi Application W ladder toget CDL Vesi 23 W ladder toget CDL Vesi 24 W ladder toget W ladder toget CDL Vesi 24 W ladder toget W ladder	Apr12 14:28:36 DEBUG CDL, SiteSetupTraverse(259, version) Apr12 14:28:36 INFO Program version: 3.0 Apr12 14:28:36 Phase One (menus) compile successful. Apr12 14:28:36 INFO Reading answers
Ajes 2: 14,20,27 BPC Occurry CCL by Nd	Apr-12 14:28:36 Compiling Phase Two (definitions) Apr-12 14:28:36 DEBUG Call the amin coll compile task Apr-12 14:28:36 DEBUG CDL_DefinitionTraverse(281, memory) Apr-12 14:28:36 INFO Defining memory: [term], Id=0 Apr-12 14:28:37 Phase Two (definitions) compile successful
	Apr-12 14:28:37 Compiling Phase Three (logic) Apr-12 14:28:37 DEBUG Call the main cdl compile task Apr-12 14:28:37 DEBUG CDL_LogicTraverse(146. if) Apr-12 14:28:37 DEBUG CDL_LogicTraverse(547, and)
	Apr12 14:2837 DEBUG CDL_LogicTraverse(433, =) Apr12 14:2837 DEBUG CDL_ugicTraverse(440, temp) Apr12 14:28:37 DEBUG CDL_VAR_READ 0 Apr12 14:28:37 DEBUG CDL_LogicTraverse(438, 0) Apr12 14:28:37 DEBUG CDL_LogicTraverse(438, 0)
	Apr/12/14:28:37 DEBUG CDL_PERATION 1 Apr/12/14:28:37 DEBUG CDL_OPERATION 1 Apr/12/14:28:37 DEBUG CDL_ONSTANT 0 Apr/12/14:28:37 DEBUG CDL_CONSTANT 611
	Apr-12 14:28:37 DEBUG CDL_CONSTANT 255 Apr-12 14:28:37 DEBUG CDL_INSTR_VCORE_DIAG 0 Apr-12 14:28:37 DEBUG CDL_OPERATION 6 Apr-12 14:28:37 DEBUG CDL_INST_IF 0 Apr-14 14:28:37 DEBUG CDL_INST_IF 0
	Apr-12 14.28:37 DEBUG CDL_LogicTraverse(432, =) Apr-12 14.28:37 DEBUG CDL_logicTraverse(438, 53) Apr-12 14.28:37 DEBUG CDL_OOINTANT 53 Apr-12 14.28:37 DEBUG CDL_LogicTraverse(284, 81) Apr-12 14.28:37 DEBUG CDL_STAT_LED_DIRECT_7
	Apr-12 14:28:37 DEBUG CDL_INST_ELSE 0 Apr-12 14:28:37 DEBUG CDL_LogicTraverse(432, =) Apr-12 14:28:37 DEBUG CDL_LogicTraverse(438, 43) Apr-12 14:28:37 DEBUG CDL CONSTANT 43
	Apr-12 14:28:37 DEBUG COL_LogicTraverse(284, 31) Apr-12 14:28:37 DEBUG COL_STAT_LED_DIRECT_2 Apr-12 14:28:37 DEBUG COL_INDT ENDIF 0 Apr-12 14:28:37 DEBUG COL_END 0 Apr-12 14:28:37 DEBUG COL_END 0
	Apr-12 14:28:37 Phase Three (logic) compile successful. Apr-12 14:28:37 INFO Closing CDL log file!

Figure 4-67 CDL Log Printout

• Removing a CDL File

To remove a CDL file from the PTC Console, click on the Remove CDL button as shown in Figure 4-68. A confirmation message will appear confirming the CDL has been removed as shown in Figure 4-69.





SIEMENS							
							Logout
Configuration Reports and Logs	Agglicadors Status Monter Manterance Diagnostics						
Applications Vital Application W ladder logic CDL	CCL New Coll Coll of Parameters Design (2 & A Previous New (2 Start) Bigliost CCL New Coll Log Bowelest Log CDL File Name - Name Summer & Summer & Summer (Summer Coll)	Bamore Cit.					
	CDL Site Setup Operational Parameters	▶ Hext 🔏 Start	Upload CDL	🔍 View CDL Log) 🔡	Download Log	- Remove CD	
1	CDL File Name : None						- I
	Removed Successfully.	CDL Fi	le Nan	ne : Non	e _		
https://10.222.40.50/cdstesstup/emove_od		Remov	ed Su	ccessfu	lly.	II Version 1.2.2	

Figure 4-69 CDL File Removal Confirmation

4.1.4 Status Monitor

The Status Monitor has nine sub-menus for monitoring status, PTC Status, High Availability, System State View, Echelon Statistics, Ethernet Status, Online Status, GEO IO Module, ATCS Comm, and UI Sessions..

Status Monitor	PTC Status				
PTC Status	Object	Status	Code	Track	Time
High Availability	EG:	Invalid			28-Jan-2019 11:25:45 🛛 🚇
 System State View 	WG:	Invalid			28-Jan-2019 11:25:45 🛛 🚇
Echelon Statistics					

Figure 4-70 Status Monitor Menus

4.1.4.1 **Status Monitor - PTC Status**

The PTC Status function in the Status Monitor menu displays real-time Signal and Switch information being sent to the locomotive. A typical display is shown in Figure 4-71.

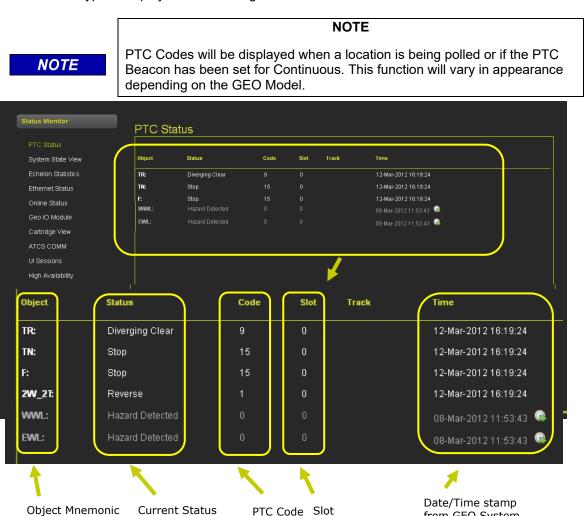


Figure 4-71 Status Monitor - PTC Status

PTC Code Slot

from GEO System

Indicates outdated information

4.1.4.2 Status Monitor - System State View

Figure 4-72 displays the System State View which displays information for the PTC Console and connected devices. In this example two GEO units and the PTC Console is available. Select the STATUS MONITOR icon to open the sub-menus. Select the SYSTEM STATE VIEW sub-menu. A drop-down menu will appear listing the available ATCS addresses to view. Select the GEO or Console address and click the mouse on the text.

Status Monitor	System State View	i
PTC Status System State View Echelen Statestos Ethernet Status Onine Status Geo IO Module Cartrilage View	System State View	
ATES COMM UI Sessons High Availability	ATCS Address Select	Select 7.620.400.100.03 GEO 1 7.620.400.100.05 GEO 2 7.620.400.100.04 Console VCPU
×		a

Figure 4-72 Status Monitor - System State View

• System State View - Geographic Objects

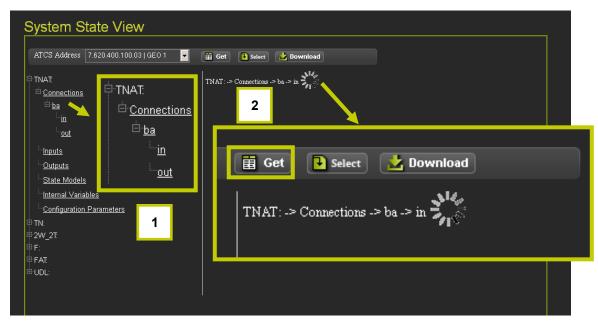
In the example below, a list of Geographic Objects are displayed. Select the desired object and expand as needed.



Figure 4-73 System State View - Geographic Objects

• Status Monitor - System State View - View Connections

Figure 4-74 displays GEO Objects in the left column. Objects can be expanded [1] and selected. Click on the GET button [2] to retrieve the data available.





Select the desired variable Name and Value and click the SELECT icon.

System State View	🛱 Get 🔒 Se	elect 🚺 🛃 Download	—	🗐 Get 💽 Select 🛃 Download
⊖ TNAT. □ <u>Connections</u> □ <u>ba</u>	TNAT: -> Connec	tions -> ba -> in		TNAT: -> Connections -> ba -> in
in in in	Names	Values		
- <u>out</u>		False		
Inputs	LG	True		
Outputs	PR	False		
State Models	PG	False		
Linternal Variables	AT	False		Variable Names and Values
Configuration Parameters	RT	False		
⊕ TN:	ST	False		
₽·2W_2T:	T1	False		
∰ F :	T2	False		
E FAT	ТР	False		
[⊕] ·UDL:	ATP	False		
	T1D	True		

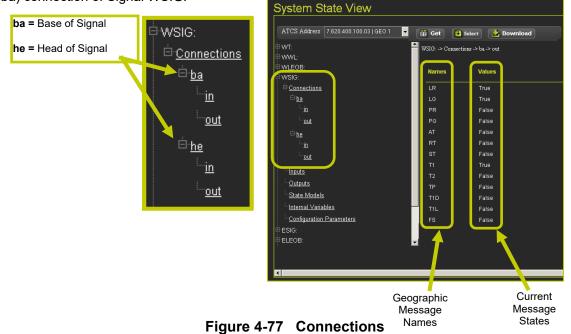
Figure 4-75 System State View - View Object Values

The Select Range screen will appear with edit text boxes for First Logic State and Late Logic State. Enter the first and last logic states in the range to be displayed (value in the Last Logic State box must be equal to or less than the total number of variables assigned to the object category).

NOTE
Some variables may have multiple elements, each with its own logic state.
System State View
ATCS Address 7.620.400.100.03 GEO 1 WT: Connections ba in out State Models Internal Variables Configuration Parameters
First Logic State 1 WNLEOB: WNIE: ELEOB: ELEOB: EVVL: WFY: WFY: EFF.

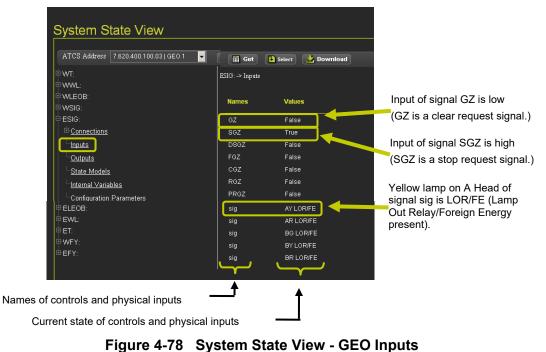


The Connections category includes all the Geographic Messages that are transmitted from and received on each Geographic Connection. In this example the state of each Geographic Message is transmitted from the base (ba) connection of Signal WSIG.



• System State View - Inputs

The Input category includes all controls and physical inputs associated with each Geographic Object including relay inputs, searchlight signal mechanism inputs, and coded track inputs. In this example the state of controls and physical inputs of signal ESIG are displayed.



System State View - Outputs

The Outputs category includes all indications and physical outputs associated with each Geographic Object including lamp outputs, relay outputs, searchlight signal mechanism outputs, and coded track outputs. In this example the state of indications and physical outputs of signal ESIG are displayed.

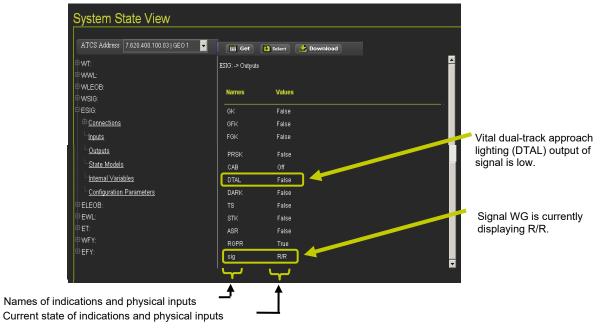


Figure 4-79 System State View - GEO Outputs

• System State View - State Models

The State Models category includes the current state of all state models defined in the Geographic Object Library. In this example the current state of the State Models of signal ESIG are displayed.

System State View			
ATCS Address 7.620.400.100.03 GEO 1	🗮 Get 🗣 Sele	ect 🛃 Download	
₿wt: ₩wwL:	ESIG: -> State Models		
[©] WLEOB: [©] WSIG:	Names	Values	
₽ ESIG:	LOS	Idle	
<u>Connections</u>	SigReq	Idle	
L. Inputs	ResMoveCO	Idle	
Outputs	Traffic	Idle	
L.State Models	MechFail	Idle	
Internal Variables	CabCond	Off	Signal ESIG is clear;
Configuration Parameters	ResMoveRTT	ldle	therefore SigClr state
ELEOB:	ResMovePRS	ldle	model of Signal ESIG is
EWL:	StopReq	idle	in the locked state and
e ET:	SigClr	LockWait	has a wait timer.
	SigRel	Reset	
EFY:	RTT	ldle	
	ApprLock	Wait	
List of State Models for Signal E Current state models for		1	

Figure 4-80 System State Views - State Models

• System State Views - Internal Variables

The Internal Variables category includes the current state or value of all other variables defined in the Geographic Object Library.

System State View				
ATCS Address 7.620.400.100.03 GEO 1	Get 💽 Selec	et 🛃 Download		
© WT: ■ WWL: ■ WLEOB: ■ WLEOB:	WSIG: -> Internal Variab Names	values		
<u>Connections</u>	_start	0		
Inputs	_lrcls	Undefined		
L.Outputs	_aspect_in			
State Models	_lorfilter	63		
Internal Variables	_mechfilter			
<u>Configuration Parameters</u>	_mdifilter			
 ⊕ESIG:	_tbz			
ELEOB:	ConstFlashMask	4032		
⊕ EWL:	ConstFlashMaskA	448		
⊕ ET:	ConstFlashMaskB	3584		
⊕WFY:	ConstFlashMaskC	0		
⊡ EFY:	ConstFEMask	4032		
		^^^ 		
List of Internal Variables				
Current values of Internal Variables —— Figure 4-81 System State Views - Internal Variables				

• System State Views - Configuration Parameters

The Configuration Parameters category includes a list of parameters and the current configuration of each parameter.

ATCS Address 7.620.400.100.03 GEO 1 Get Select Download WVL: WSIG: WLEOB: MSIG: Connections Inputs Outputs State Models State Models LockRouteOnReg Disabled 	stem State View		
WWL: Work WLEOB: Names Values WSIG: SATUsed Inputs Outputs State Models State Models	 CS Address 7.620.400.100.03 GEO 1 -	📋 Get 💽 Select	La Download
Inputs SigType Automatic Outputs ClearOnProceed Disabled State Models SigReqCheck Disabled	WL: /LEOB:		
SigReqCheck Disabled			
LockRouteOnReg Disabled			
Configuration Parameters	Internal Variables Configuration Parameters	CrossCheck	Disabled
ELEOB: StartDelay Disabled ELEOB: TimeRunning 500 ASRPickDelay 0		TimeRunning	500
□ EvvL. □ ET: TimeLockDelay Disabled	r:	TimeLockDelay	- Disabled
Image: WFY: CancelDelayTime 2 Image: EFY: SignalClearDelay Disabled		SignalClearDelay	- Disabled
List of Configuration Parameters			

List of Configuration Parameters Current configuration of parameters

Figure 4-82 System State Views - Configuration Parameters

• Download Object Values

To download the Object Values to a file click on the Download button [1] to bring up a pop-up window. The window provides optional selections for viewing data in a Notepad file or saving the data to a file [2] as shown in Figure 4-83.

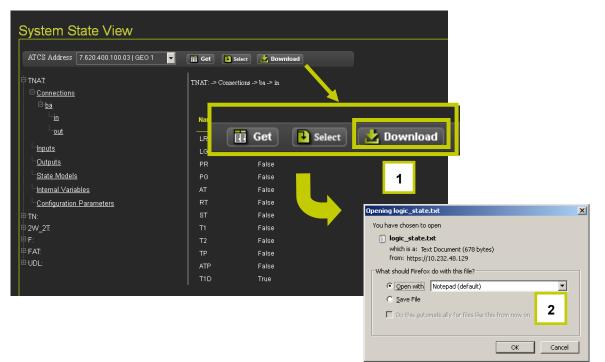


Figure 4-83 System State View - Download Object Values

Figure 4-84 displays an example of a download printout of Aspect Signal information.

SATUsed|True ASPECT_01|Clear ASPECT_02|Approach Diverging ASPECT_03|Advance Approach ASPECT_04 Approach Restricted ASPECT_05|Approach ASPECT_06|Approach ASPECT_07|Diverging Clear ASPECT_08|Diverging Approach Restricted ASPECT_09|Diverging Approach ASPECT_10|Restricting ASPECT_11|Stop ASPECT_12|Stop ASPECT_13|Stop ASPECT_14|Invalid ASPECT_15|Invalid ASPECT_16|Invalid ASPECT_17|Invalid ASPECT_18|Invalid ASPECT_19|Invalid ASPECT_20|Invalid



4.1.4.3 Echelon Status

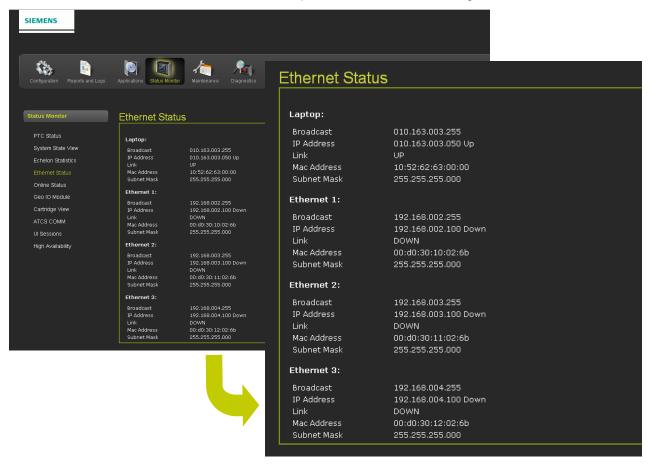
The Echelon Status category includes the Module Name, Node Number, TX Count, RX Count, Acknowledge Fails, and Neuron Resets. The current tally for each column is displayed.

Status Monitor		Echelon S	Statistics				
PTC Status		Name	Node number	Tx count	Rx count	Ack fails	Neuron resets
System State V	iew	Module 1	U	U	U	U	
Echelon Statisti		Module 2					
Ethernet Status		Module 3					o
		Module 4					o <mark>-</mark>
Online Status		Module 5					0
Geo IO Module		Module 6					0
Cartridge View		Module 7					0
ATCS COMM		Module 8					0
UI Sessions		Module 9	8 9	0		0 0	0
		Module 10 Module 11	9 10	U	0 0	U 0	0
High Availability		Module 11 Module 12		0	0	0	0
		Module 12 Module 13	12	0	0	0	0
		Module 14		0	0	0	0
		Module 15	14	0	0	0	ő
		Module 16	15	0	0	0	0
			16				o
Echelon S	Status						+
Name	Node numbe		ount	Rx count	Ack fails	Neuron	resets
Module 1 Module 2	0 1	2106 2138		14581 13096	0	0	
1	1	1		1	1	1	
Module Name	Node Number	T) Cou		RX Count	Acknowledge Fails	e Neu Res	



4.1.4.4 Ethernet Status

The Ethernet Status screen shows the four Ethernet ports and their current settings and connection status.





4.1.4.5 Online Status

The Online Status lists in real time the status of the components of the selected device. The Online Status comes up running and collecting data. To stop the Online Status stream click on the **Stop** button. To restart the Online Status stream click on the **Statu** button. Save the Online Status data collected by clicking on the **Save** button. A pop-up screen will appear providing options for viewing the data or saving to a file. Click on the **Clear** button to erase the data collected.

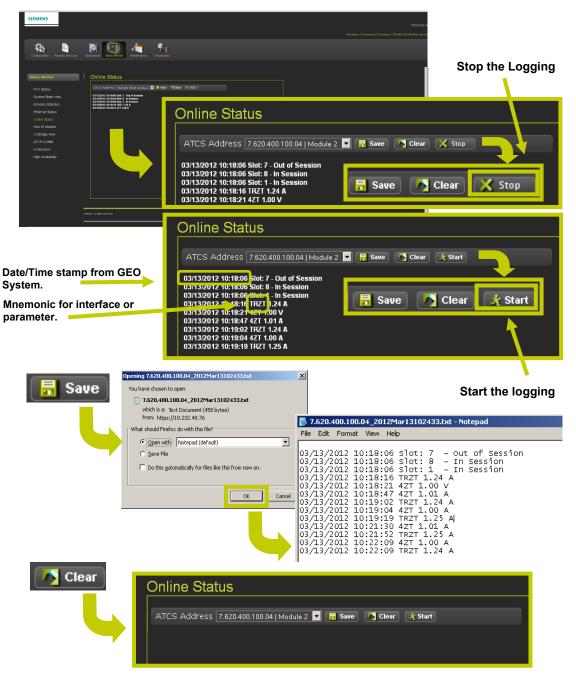


Figure 4-87 Status Monitor - Online Status

4.1.4.6 Status Monitor - GEO I/O Module

The GEO I/O Module screen shows a graphic display of the GEO modules of the selected unit. The display is near real time with a snapshot refreshed every few seconds.

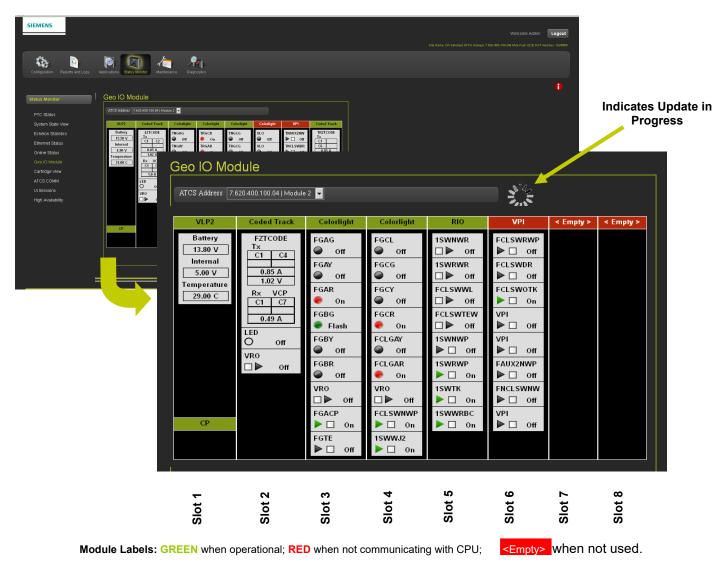


Figure 4-88 Status Monitor - GEO I/O Module Display

GEO I/O Module Displays

Rx

LED 0

Output Status:

The following are detailed views of the individual modules displayed on the GEO I/O Module real-time screen.

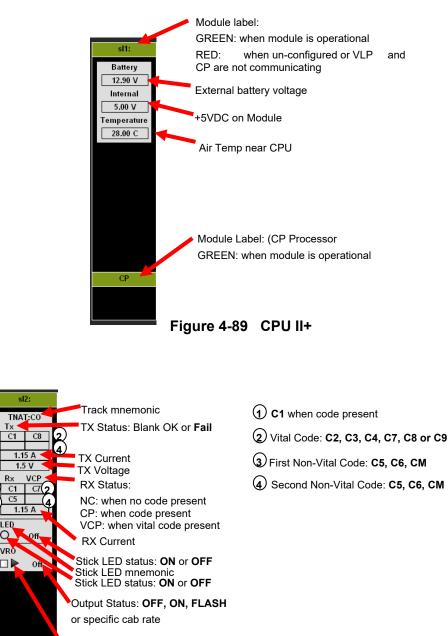


Figure 4-90 Coded Track

GREEN when on, BLACK when off

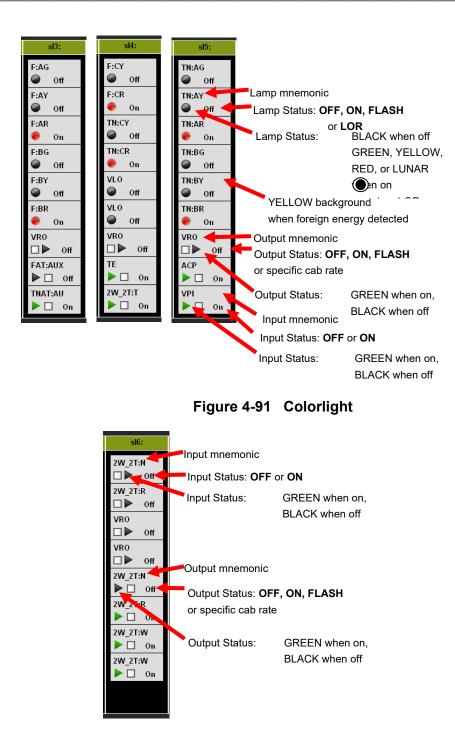


Figure 4-92 RIO

• GEO I/O - Module Information

GEO Module information may be retrieved by RIGHT CLICKING the mouse on the Module Label. A pop-up menu will appear, select MODULE INFORMATION and click the mouse. A pop-up window will appear displaying the module parameters and that parameter's value.

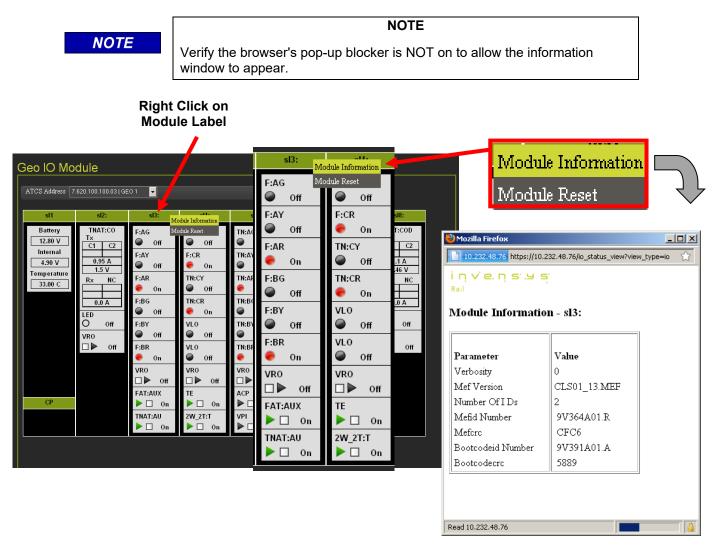


Figure 4-93 GEO I/O - GEO Module Information

• GEO I/O - Module Reset

A GEO module can be reset by right clicking the mouse on the Module Label. A pop-up menu will appear, select **Module Reset** and click the mouse. A pop-up window will appear displaying the module is being rebooted.

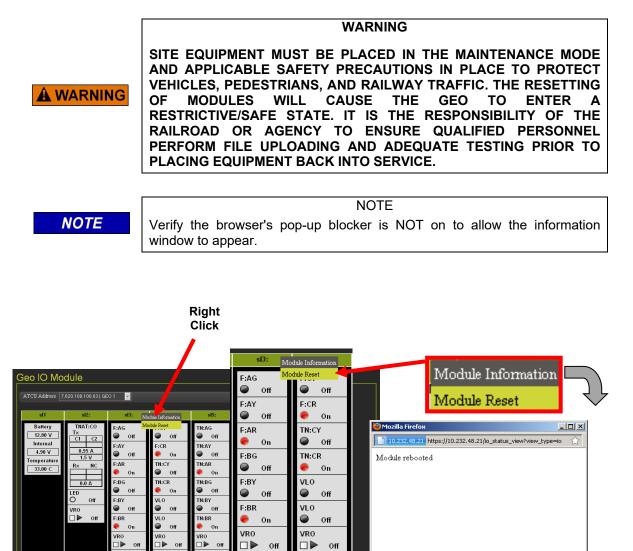


Figure 4-94 GEO I/O - GEO Module Reset

TE

🕨 🗌 🛛 On

🕨 🗌 🛛 On

2W 2T:T

FAT:AUX

TNAT:AU

0

TE

🕨 🗆 🛛 On

2W_2T:T

АСР

la 🖉 🖌 🖌

VPI ▶□ Of FAT:AUX

TNAT:AU

🕨 🗌 🛛 On

🕨 🗌 🛛 On

4.1.4.7 Status Monitor - ATCS Comm

The ATCS Communication Links (ATCS Comm) function displays the ATCS links between the GEO and connected devices. Figure 4-95 details the ATCS Comm display.

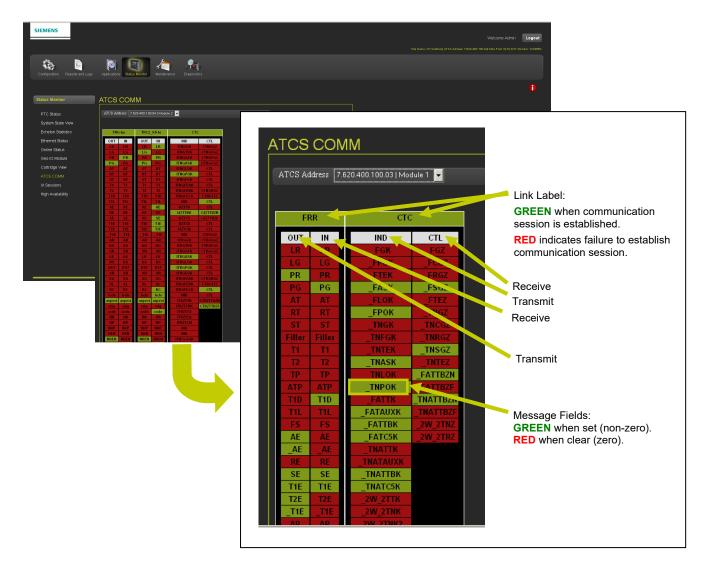


Figure 4-95 ATCS Communications Links

• ATCS Communication Link - Message Field Status

When navigating the cursor over the message fields the state of the field will appear, 1 = Set (Green field) and 0 = Clear (Red field) as shown below:

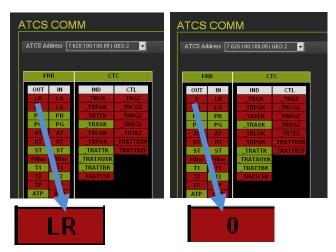


Figure 4-96 ATCS Comm Link - Message Field Status

4.1.4.8 UI Sessions

The UI Sessions function displays the configured ATCS addresses and their current status as shown in Figure 4-97.

	UI Sessions				Ð
Status Monitor	ATCS Address	In Session			
PTC Status System State View Echelon Statistics Ethernet Status Online Status	7.820.400.100.05.02 7.820.400.100.03 7.820.400.100.04		Ready Ready Risady		
Geo IO Module Cartridge View ATCS COMM U Sessions			UI Sessions		
High Availability			ATCS Address	In Session	Status
			7.620.400.100.05.02	Yes	Ready
			7.620.400.100.03	Yes	Ready
			7.620.400.100.04	Yes	Ready

Figure 4-97 UI Sessions

4.1.4.9 High Availability

The High Availability status displays the communication links available. If a link fails the PTC Console will configure the next link available prioritizing the connection by its availability. If a link becomes available with a higher priority the PTC Console will reconfigure to that link.

*	Status				
	Connected to '192.168.2.11'				
	Disconnected	· • 1	-ligh Availabi	lity	
	Disconnected		light Availabl	шу	
	Disconnected	· •			
	Disconnected (Reconfigured) Disconnected		Link	Status	
	Disconnected	2			
	Disconnected			Connected to '192.168.2.11'	
		· •	2	Disconnected	
		• •		Disconnected	
			4	Disconnected	
				Disconnected	
			6	Disconnected	
				Disconnected	
			8	Disconnected	
			9	Disconnected (Reconfigured)	
			10	Disconnected	
			11	Disconnected	
			12	Disconnected	

Figure 4-98 High Availability Status Display – Round Robin

4.1.5 Maintenance

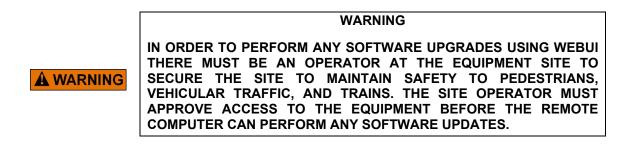
The Maintenance Menu enables software updates to the PTC system and the attached components.



Figure 4-99 Maintenance

4.1.5.1 Maintenance - Software Update

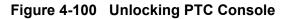
When performing a software update using WebUI from a location outside of the equipment site it is necessary for an authorized technician be present at the site. The technician will need to approve access to the console before the outside source can perform any uploading functions.



• Software Update - Unlocking PTC Console

To start a software update it is necessary to unlock the PTC Console. Click on the UNLOCK button [1], this will bring up a pop-up screen [2] advising continuing will place the system in a restrictive/safe state. Click the OK button to proceed. A screen will appear on the PTC Console at the equipment site, a qualified technician at the equipment site will press the ENTER key on the console keyboard to allow remote access to the console.

Maintenance	Software Update
Software Update Download from System	Update Discussion
Download from System PTC Class D Tests	Target to Software Update: none
	OK Cancel
	Power P
	TimeSync (1) GEO Sessions
	n 0 IN 2 0 Alarms Suppressed
	🕠 🧰 TX/RX Serial 👘 TX/RX Echelon
	ON-Site Personnel



When the on-site technician approves the remote access to the console, an authentication message will appear on the WebUI screen. The software update can now be performed.

SIEMENS			
Configuration Reports and Logs	Applications Status Monitor	Diagnostics	
Maintenance Software Update Download from System PTC Class D Tests	Software Update	cated	
	Type of Update: none	Software l	Jpdate
		Vpdate 🕞	4) Unlock
		Target to Software	Ce is successfully authenticated
		Type of Update:	none 🔽

Figure 4-101 Unlocking PTC Console - Authenticated

• Software Update Options

The Software Update screen has a drop-down menu with eight sub-menus as shown below.

SIEMENS		
		Select 🔽
Maintenance	Applications Status Monitor Maintenance Diagnostics Software Update	Select Non Vital Executive GEO Vital Core Cartridge
Software Update Download from System PTC Class D Tests	Target to Software Update: Select Type of Update: none	Non Vital Configuration Non Vital Application Vital Configuration Vital RC2 Key Site Configuration

Figure 4-102 Software Update Sub-Menus

• Software Update - Sub-Menu Screens

The following figures display the nine software update sub-menu screens.





Maintenance		
Vpdate 🔓 Unlock	🔏 Reset VCPU	
		Select
Target to Software Update:	GEO	Select Serial Port 1 (J1)
Serial Port:	Select	Serial Port 2 (J2)
Type of Update:	none	none 🔽
	<u> </u>	none
		MCF MEF MCFCRC

Figure 4-104 GEO Software Update



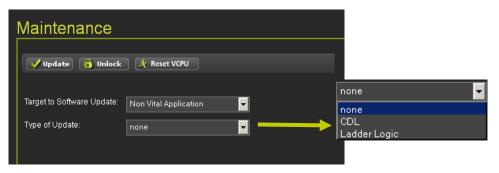
Figure 4-105 Vital Core Software Update

Maintenance	
📝 Update 🕞 Unlock 🥀 Reset VCPU	
Target to Software Update: Cartridge	none 🔽
Type of Update:	none MCF
Slot 2	MEF
Slot 3 Slot 4 Slot 5	MEX TGZ



Maintenance			
Vpdate 🕞 Unlock	🦹 Reset VCPU		
Target to Software Update:	Non Vital Configuration	 none	-
Type of Update:	none 🔽	none nvconfig.sql3	

Figure 4-107 Non-Vital Configuration Software Update





Maintenance		
Vpdate 🔓 Unlock	🔏 Reset VCPU	
		none 🔽
Target to Software Update:	Vital Configuration	none
Type of Update:	none 🚽 🗕 🛁	cic.bin
		GeoPTC.db



Software Upda	ate		
Vpdate 👩 Unlock			
Target to Software Update:	Vital RC2 Key		
Type of Update:	RC2 Key		none none RC2 Key
Upload File:	rc2key.bin	🕄 Browse	

Figure 4-110 RC2 Key Software Upgrade

Software Upda	ate		
Update 🐻 Unlock	5		
Target to Software Update:	Site Configuration	none	•
Type of Update:	ZIP	ZIP	
Upload File	Test1_PTCGE0_R1_De	IWEE	

Figure 4-111 Site Configuration Software Upgrade

Download From System

The following screens display the sub-menus for downloading Vital and Non-Vital Configuration and Application files from the PTC Console.

Download from System				
🛃 Download				•
Select Source: Select File:	Please Select		Vital Configuration Vital Application Non Vital Configuration Non Vital Application	



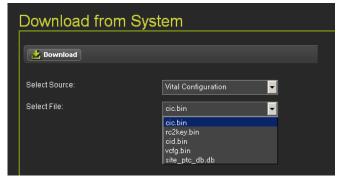


Figure 4-113 Vital Configuration Download

Download from System			
🛃 Download			
Select Source:	Vital Application		
Select File:	TESTNSPGE0_D203.mcf ▼		
	iTESTNSPGE0_D203.mcf		

Figure 4-114 Vital Application Download

Download from System				
🛃 Download				
Select Source:	Non Vital Configuration			
Select File:	nvconfig.sql3			
	nvconfig.sql3			

Figure 4-115 Non-Vital Configuration Download

Download from System			
📩 Download			
Select Source:	Non Vital Application		
Select File:			
	CDLEXETEST1.cdl		

Figure 4-116 Non-Vital Application

• PTC Class D Tests

PTC Class D Tests verify the IP based point to point protocol for messaging. Test message can be enabled and sent to a test server. The test results are logged for review later.

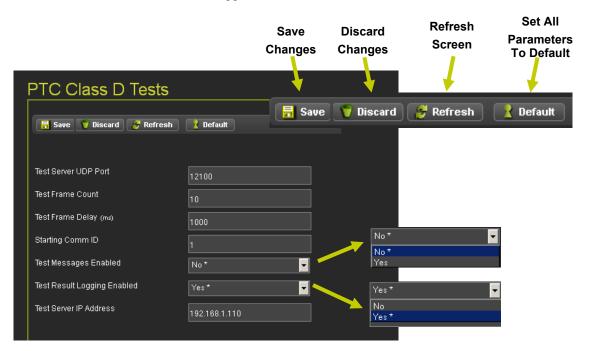


Figure 4-117 PTC Class D Tests

4.1.6 Diagnostics

The Diagnostic menu has three sub-menus, Information, GEO Statistics, and CDL Status as shown in Figure 4-118 below.

Configuration Reports & Logs Status	a Monitor Maintenance	Diagnostics		
Diagnostics	Information	Slot 🔺	Description 🔺	Code 🔺
Information GEO Statistics CDL Status	23-Jul-2019 12:56:02 23-Jul-2019 12:56:02	0	UCN Error Vital Unconfigured	607 609

Figure 4-118 Diagnostics

4.1.6.1 GEO Statistics

The GEO Statistics diagnostics menu has eight statistics screens as shown in Figure 4-119.

GEO Statist		
ATCS Address s	elect CEO Statistics	Select Type
L	GEO Statistics	Card Statistics Vital ATCS Statistics Non-Vital ATCS Statistics Time Statistics SIO Statistics Console Statistics LAN Statistics VLP Statistics

Figure 4-119 GEO Statistics

• GEO Statistics Screens

The following are the GEO Statistics screens available.

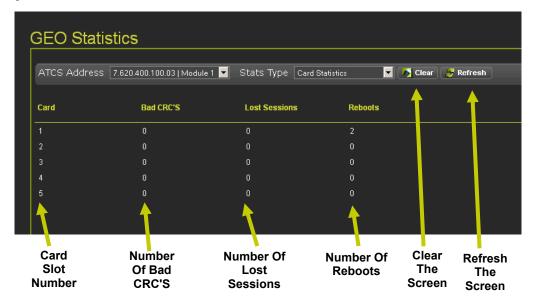


Figure 4-120 GEO Card Statistics

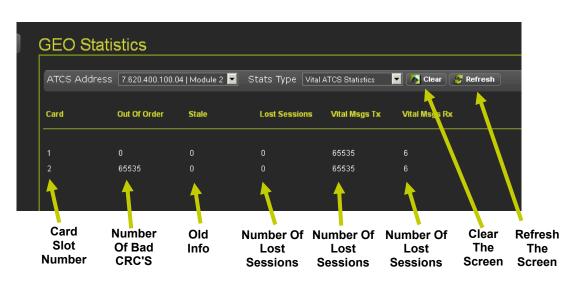






Figure 4-122 Non-Vital ATCS Statistics

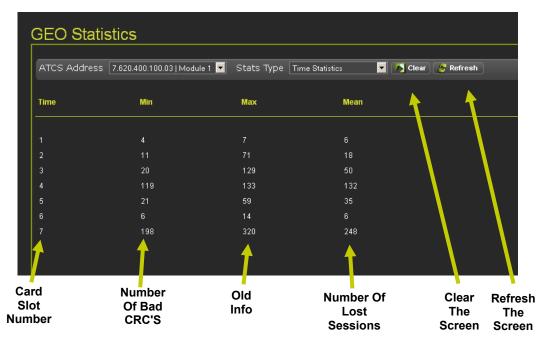


Figure 4-123 Time Statistics

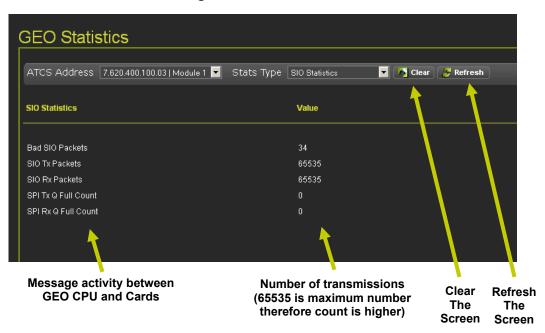


Figure 4-124 SIO Statistics

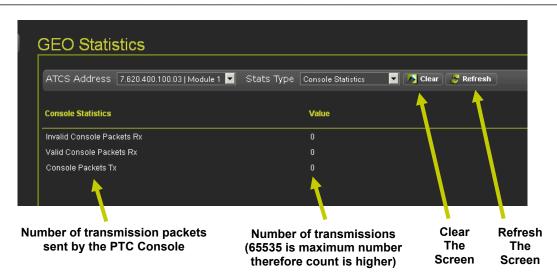


Figure 4-125 Console Statistics

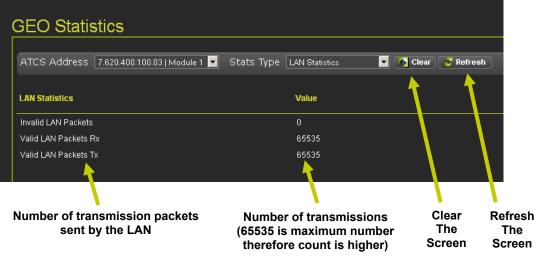


Figure 4-126 LAN Statistics

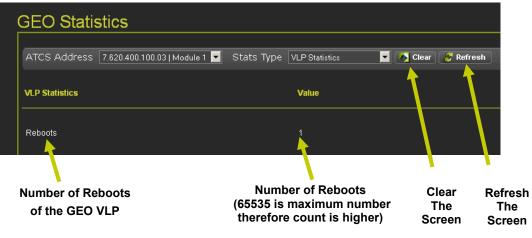


Figure 4-127 VLP Statistics

4.1.6.2 Information

The Information window serves as an alert vehicle to advise the user of a situation present within the system. Monitor and Diagnostic windows will display an information icon in the upper right corner of the page as shown in Figure 4-128. When the information icon is present, click on the Diagnostics Icon and click on the Information to bring up the Information window. The Information window will display active events as shown in Figure 4-128. In the example the information advises the Date and Time of the event, the description of the error, and the error code.

	Di Taj Ang Raja atara Dina kining Mananara		Welcome Adnin Legeur	
GEO Statistics 0 Information 0. CDL Status 0-	Arime Bit/s Description Code - Cec:2013115.44.57 0 MCF CRC Encr 601 Desc2013115.44.57 0 UCH Encr 607 Cec:2013114.457 0 USH Encr 609			
	Information			
	Date/Time 🛓	Slot 🛓	Description 🔺	Code 🛓
	04-Dec-2013 15:46:57	0	MCF CRC Error	601
	04-Dec-2013 15:46:57	0	UCN Error	607
	04-Dec-2013 15:46:57	0	Vital Unconfigured	609

Figure 4-128 Information Alert Icon and Data Display

4.1.6.3 CDL Status

Figure 4-129 displays the CDL Status screen. If a CDL program is installed and is running a Green "C" will appear in the upper right corner. If a CDL program is installed and not running a Red "C" will appear in the upper right corner. A Yellow "C" will appear when a CDL alert is present in the CDL Status window. This icon will appear on all screens in WebUI to alert the user to check the CDL Status for an important alert. If a CDL program is not installed no indication will be present.

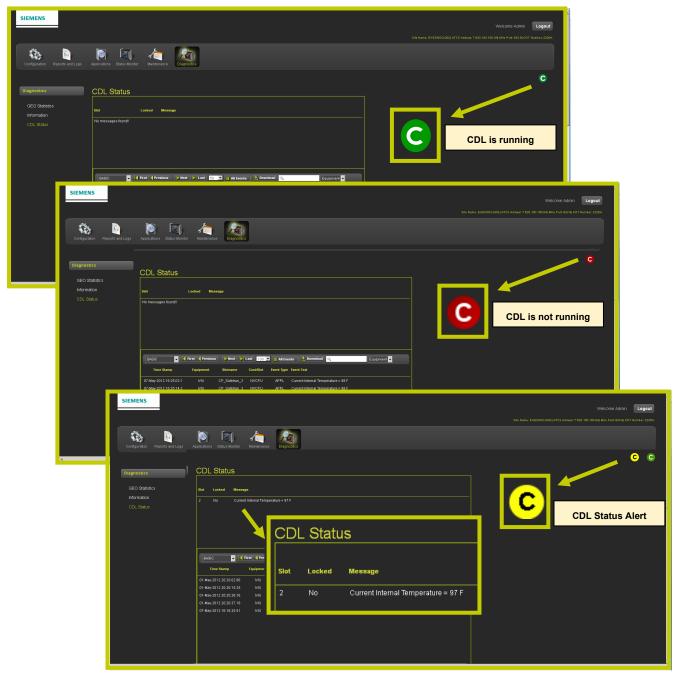


Figure 4-129 Status Monitor - CDL Status

• CDL Status - CDL Logs

The CDL Status screen also has the CDL Event Log displayed on the lower portion of the screen. The events may be searched by Equipment, Site Name, Card Slot, Event Type and Event Text. A Search Window provides a means of searching events using keywords.

To view non CDL generated events open the Event Log by clicking on the Report and Logs icon in the menu bar then selecting Events Log in the Reports and Logs menu.

		R 🛛 🧶 R		Sin Name ESGENSICADE A	Welcone Admin Logout	
	Conformation Reaction and Diagnometes Of Distinuous Prior mation CDL, Steps	Copy Apphratem States Montes Managements Copyrights			C C	
		Ballic If Poil Pression Paint Paint Inter States Equinated Stateminic Carditule Inter States Equinated Stateminic Carditule Inter States Equinated Stateminic Carditule Interpolicy 2012 2020 ML VU Off, Jacking, J. MCPU Off, Jacking, J. MCPU Interpolicy 2012 2020 ML VU Off, Jacking, J. MCPU Off, Jacking, J. MCPU Interpolicy 2012 2020 ML VU Off, Jacking, J. MCPU Off, Jacking, J. MCPU	Termina Provided Concent fored figer Concent formations = 597 APPL Concent formations = 597 APPL Concent formations = 597 APPL Concent formations = 597 APPL Concent formations = 597 APPL Concent formations = 597		earch Window	
BASIC	First Previou	07-44a-201216162851 WU CP_Bakeban_3 NVCPU	471 Overständensk Forgerader = 577	; Download) 🔍	Equipment	-
				×		Equipment 🔽
BASIC BASIC TRACE EVENTS	Selects the oldest group of entries	Selects the previous group of entries	Selects the next group of entries	Selects the newest group of entries	200 300 400 500	Equipment Sitename Card/Slot Event Type Event Text

Figure 4-130 CDL Event Logs

The ALL EVENTS button [1] will create all of the logs. Click on the DOWNLOAD button [2] to display the logs.



Figure 4-131 Download All CDL Events

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SECTION 5 MAINTENANCE

5.0 MAINTENANCE

5.1 GENERAL

There is no maintenance required on the PTC console. Standard housekeeping is recommended to keep dirt and debris from accumulating around the console. There are no user serviceable parts within the console. Failed units should be returned to Siemens for repair or replacement.

NOTE If the PTC Console fails, replace the PTC Console but leave the ECD/Power connector installed. The newly installed PTC Console will obtain its configuration from the ECD.

WARNING

THE ECD SHOULD NOT BE REMOVED OR REPLACED. IT CONTAINS VITAL SITE-SPECIFIC DATA REQUIRED FOR PROPER OPERATION OF THE SIGNALING SYSTEM. IF THE ECD IS SWAPPED, THE SYSTEM MUST BE RETESTED.

5.2 ON-SITE PERSONNEL

On-Site Personnel is used in two ways, 1) to enable on-site personnel to suppress alarms while performing maintenance on-site, 2) enables on-site personnel to authenticate requests from remote users.

5.2.1 On-Site Personnel Operation

When on-site personnel perform maintenance, it is desirous to suppress alarms until work is completed. To suppress alarms, verify the On-Site LED is OFF, press the On-Site Personnel button to start the alarm suppression timer. The length of time is determined by the Alarm Suppressor Timer described in Section 5.2.2.1. Default time is 20 minutes. The Alarm Suppressed LED will illuminate while the timer is active.

Time can be extended by pressing the On-Site Personnel button again. The suppression timer will reset and start the countdown with the full amount of time programed into the console.



Figure 5-1 On-Site Personnel Activation

5.2.2 Remote User Access Authentication

When a remote user desires to unlock the PTC Console, a request is sent using WebUI (see Section 4.1.6.1). When an access request is sent from a remote user the on-Site LED will flash on the PTC Console front panel. An on-site maintainer can authenticate the request by pressing the On-Site Personnel button. In this case alarms will not be suppressed.



Figure 5-2 Authentication of Remote User Access

5.2.2.1 On-Site Personnel Timer - Alarm Suppression Timer

When the On-Site Personnel button is pressed, the Alarm Suppression timer will begin counting down. The Alarm Suppression Timer is user adjustable from 10 to 180 minutes. Default value is 20 minutes. When the timer times out, the CDL functions will activate and alarms will be sent to their designated destination.

The Alarm Suppression Timer adjustments are detailed in the SNMP sub-menu of the External Networking Menu, paragraph 4.1.2.6.

Vertication	SIEMENS		
Configuration Reports and Logs Application Mainteenance Diagnostics Configuration PTC Stein Information PTC P Configuration PTC Console Destination 1 IP CAD Destination 1 Prt WAMS Destination 1 Prt WAMS Destination 1 Prt Share Destination 1 Prt Destination 1 Prt 162 Destination 3 Prt 162 Destination 4 IP 0.00.0 Destination 3 Prt 162 Destination 4 Prt 162 Community Immentys Contact thris 0.00.0 Atom Supposesion Timer connotes 18			
Configuration Site information PTC • Console		D 🗐 🔏	n - <u>Ra</u> n
Site Information PTC • Console • Modules • External Networking CAD VeXANS Destination 1 Pr 0.0.0 WANS Destination 2 IP 0.0.0 WANS Destination 3 IP 0.0.0 Exterion Destination 3 Port 162 SNMP Destination 4 IP Destination 4 Port 162 Contract Info 0.0.0 Mon-Vital Set to Defaults	Configuration Reports and Logs		
PTC Instant Function (Financial Function) Console Destination 1 P Modules Destination 1 Port CAD Destination 2 P CAD Destination 2 Port WAMS Destination 3 Port Chelon Destination 3 Port SNMP Destination 4 P Destination 4 Port 162 Non-Vital Set to Defaults Contact Info Contact Info 0000000000 Arm Suppression Timer (Minutes) 16	Configuration	SNMP	
 Console Modules Destination 1 P 0.0.0 Destination 1 Port 182 CAD Destination 2 P 0.0.0 Oestination 2 Port 162 WNC Destination 3 Port 162 SNMP Destination 4 P 0.0.0 Destination 4 Port 162 Connunity Invensyst Contract Info 0.000000000 Alarm Suppression Timer (Minutes) 16 Contract Info Contract Info	Site Information	🔒 Save 🧊 Discard 🛯 🝠 Refresh	Cefault
Modules Destination 1 P 0000 • External Networking Destination 2 P 0000 CAD Destination 2 P 0000 WAMS Destination 3 P 0000 WNC Destination 3 P 0000 Echelon Destination 3 Port 162 SIMP Destination 4 IP 0000 Destination 4 Port 162 Non-Vital Set to Defaults Contract Info 00000000 Nam Suppression Timer (Minorkey) 16	PTC		
Modules Destination 1 Port 162 CAD Destination 2 IP 0.0.0 WAMS Destination 2 Port 162 WNC Destination 3 IP 0.0.0 Echelon Destination 3 Port 162 SNMP Destination 4 IP 0.0.0 Destination 4 IP 0.0.0 Non-Vital Set to Defaults Community Invensyst Contact Info Info 162		Destination 1 IP	0000
CAD Destination 2 IP 00.00 WAMS Destination 2 Port 162 WNC Destination 3 IP 00.00 Echelon Destination 3 Port 162 SNMP Destination 4 IP 00.00 b Log Setup Destination 4 Port 182 Non-Vital Set to Defaults Contract Info 000.00000000 Alarm Suppression Timer (Minutes) 16		Destination 1 Port	
WAMS Destination 2 Port 162 WAC Destination 3 IP 0.0.0 Echelon Destination 3 Port 162 SNMP Destination 4 IP 0.0.0 b Log Setup Destination 4 Port 162 Non-Vital Set to Defaults Conmunity Invensyst Contact Info 0000000000 Alarm Suppression Timer (Minutes) 16		Destination 2 IP	
WNC Destination 3 IP Echelon Destination 3 Port SNMP Destination 4 IP Destination 4 Port 162 Non-Vital Set to Defaults Community Inventsys Contact Info Alarm Suppression Timer (Minutes) 16		Destination 2 Port	
Echelon Destination 3 Port 162 SNMP Destination 4 IP 0.0.0.0 > Log Setup Destination 4 Port 182 Non-Vital Set to Defaults Community Inventset Contact Info 000.000.000 Alarm Suppression Timer (Minutes) 16		Destination 3 IP	
SNMP Destination 4 IP 0.0.0 Log Setup Destination 4 Port 182 Non-Vital Set to Defaults Community Invensys Contact Info 000.000.000 Alarm Suppression Timer (Minutes) 16		Destination 3 Port	
Log Setup Destination 4 Port 162 Non-Vital Set to Defaults Community Invensyst Contact Info 000 000 000 000 Alarm Suppression Timer (Minutes) 16			
Non-Vital Set to Defaults Community Contact Info O00.000.000 Alarm Suppression Timer (Minutes) 16			
Contact Info 000 000 000 Alarm Suppression Timer (Minutes) 16			162
Alarm Suppression Timer (Minutes)			Invensys
			000.000.000
		Alarm Suppression Timer (Minuter)	
Alarm Suppression Timer (Minutes)		Alarm Suppr	ession Timer (Minutes) 16
© Copyright 2013 Siemens. All rights reserved.	© Copyright 2013 Siemens. All rights reserved.		<u> </u>

Range: 10 - 180 Minutes Default = 20 min

Figure 5-3 On-Site Personnel - Alarm Suppression Timer

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APPENDIX A SYSTEM MANAGEMENT COMMAND REFERENCE

A.1 SERIAL TERMINAL INTERFACE

Open the desired terminal interface tool and select **File > New Connection**. In the TCP/IP Address field, type the IP address of the PTC Console unit, then select **OK**.

• TCP/IP	Host: 10.232.	•
	☑ History Service: ○ Telnet	TCP port#: 22
	⊙ SSH	SSH version: SSH2 💌
	O Other	Protocol: UNSPEC 💌
O Serial	Port: COM1: Com	munications Port (COM1) 💌
	OK Cancel	Help

Figure 5-4 Enter IP Address

The terminal interface may then display a security warning, select **Continue** to move past this screen.

	SECURITY WARNING	
SSH Auti Logging Authenti	There is no entry for the server "10. " in your list of known hosts. The machine you have contacted may be a hostile machine pretending to be the server.	_
Ē	If you choose to add this machine to the known hosts list and continue, then you will not receive this warning again.	
O Us	The server's host key fingerprint is: Fingerprint hash algorithm: O MD5 ⓒ 할HA256 SHA256:BgePrZ/CDQeW3gqI4D4e4KwKMTnOKC/G8WivLQh5KMs	
O Us	+[RSA 1040]+ * * * + =0 0 * X+ + S %E o B .	
O Us	00+ + + BB+ ★+=0 +[SHA256]+	
	Add this machine and its key to the known hosts list	

Figure 5-5 Terminal Interface Security Warning

The terminal interface will then display a login screen, the default username is **root** and the default password is **ptcuser**. These can be changed after login using the standard Linux commands.

SSH Authentication 📃 🖂 🔀
Logging in to 10.
Authentication required.
User name: root
Passphrase:
Remember password in <u>m</u> emory
Forward agent
Use plain password to log in
C Use <u>R</u> SA/DSA/ECDSA/ED25519 key to log in Private key file:
C Use rhosts to log in (SSH1) Local user name:
Host private key file:
C Use keyboard-interactive to log in
C Use Pageant to log in
OK <u>D</u> isconnect

Figure 5-6 Login Screen

A.2 COMMANDS

Each systems management command is described in the following sections. The command names and parameters are case-sensitive unless specified otherwise. This section does NOT show how to use standard Linux commands, such as scp and ssh.

A.3 GET_DAIG, GET_EVENTS

get_diag [-t <hours>]

Print the last <hours> worth of diagnostic log entries.

💶 10.232.8.24 - Tera Term ¥T	_ 🗆 🗙 📃 10.232.8.24 - Tera Term ¥T	
File Edit Setup Control Window Help	File Edit Setup Control Window Help	
# get_diag -t 24	 ► ► THON INFO Thread Suspended:timengr id:20 7100 1970-Jan-04 12:14:45.00 iVIU EE_REEL THON INFO Thread Resumed:timengr id:20 sec:5 4ef1 1970-Jan-04 12:14:48.68 iVIU EE_REEL THGR INFO Sending NTP request 3011 1970-Jan-04 12:14:48.68 iVIU EE_REEL THON INFO Thread Suspended:timengr id:20 c30a 1970-Jan-04 12:14:48.68 iVIU EE_REEL THON INFO Thread Resumed:timengr id:20 sec:5 ff88 1970-Jan-04 12:14:52.36 iVIU EE_REEL THOR INFO Timed out waiting for NTP response ► Log request complete. 	NVCPU NVCPU NVCPU D NVCPU

Figure 5-7 Get_Diag Example

get_diag [-s <time>] [-e <time>]

Print diagnostic log entries in the given date/time range.

get events [-t <hours>]

Print the last <hours> worth of event log entries.

get events [-s <time>] [-e <time>]

Print event log entries in the given date/time range.

A.3.1. Description

The get_diag command returns the contents of the system's diagnostic log. The diagnostic log contains detailed information about the internal workings of the PTC Console. The get_events command returns the contents of the event log, which contains the application level view of the operation of the location. Both commands allow the user to specify a date/time range of entries to return. If the command is used without arguments, the entire log is returned.

-t <number of hours>

Prints the last <number_of_hours> worth of log entries. For example, get_events -t 24 would display the last 24 hours of events in the event log.

-s YYYY-MM-DD hh:mm:ss -e YYYY-MM-DD hh:mm:ss

Prints the entries in the given date/time range. The –s specifies the start time and the –e specifies the end time. Times must be specified in 24 hour format. If no date and time given after –s or -t, starting time defaults to the beginning of the log and ending time defaults to the end of the log. If you omit the time portion of the date and time, it defaults to midnight. If you omit the date portion, it defaults to today.

A.3.2. Examples

The following shows requesting the last 24 hours from the diagnostic log:

```
# get_diag -t 24
```

The following shows requesting between 15:30 and 18:00 today from the event log:

```
# get events -s 15:30:00 -e 18:00:00
```

The following shows requesting from the beginning of the log to a certain date (at midnight).

```
# get events -s -e 2013-01-15
```

A.4 UPGRADER

```
Upgrader -s <source file> [-d <destination>] [-v] [-x]
```

Upgrades the non-vital executive software of the PTC Console.

A.4.1. Description

This command upgrades the non-vital software from the given non-vital software package file. All file paths must be specified as an absolute path from root (/).

-s <source file>

Tells the Upgrader command the location of the package file (*.tgz) used to upgrade from.

-d <destination>

Optional. The location that package file will be expanded into. By default, this is the root directory (/). As of this writing, this should always be the root directory.

-v

Optional. If specified, enables verbose output. The output will show information about each file included in the package, as it is expanded.

-x

Optional. If specified, any included upgrade script in the package will not be executed and the system will not automatically reboot at the end of the upgrade. This option should only be used by development or manufacturing personnel.

A.4.2. Examples

If the user transferred a new non-vital executive software package file, iv_mef_1.2.3.tgz into the /tmp directory, the following command would update the system from that file:

Upgrader -s /tmp/iv_mef_1.2.3rtgz

A.5 WHO

```
who [m|r|s]
```

Display the WIU model, revision, and serial number.

```
who [m <model>]
```

Used by manufacturing to set the model number.

```
who [r <revision>]
```

Used by manufacturing to set the revision level of the WIU.

```
who [s <serialnum>]
```

Used by manufacturing to set the serial number.

A.5.1. Description

The who command displays the model, hardware revision, and serial number of the WIU product. This command also shows the site name, DOT number (unused), milepost, and ATCS address for the product. Siemens Mobility, Inc. manufacturing use the who command to set the model, revision, and serial number data.

[FUTURE, not yet implemented] This command will also show the software and hardware revision information for the connected GEO systems. For each GEO and for each card in the GEO chassis, the following will be shown:

- Software version
- Software ID
- Software CRC
- Latest Hardware Revision
- Hardware Revision Shipped
- Part number
- Serial number
- Build date
- Warranty date

Use the who command with no arguments to view the information.

The following are the command line options, which are used by Siemens Mobility, Inc. manufacturing.

m, M <model>

Used by Siemens Mobility, Inc. manufacturing to set the WIU's model number.

r, R <revision>

Used by Siemens Mobility, Inc. manufacturing to set the WIU's revision level.

s, S <serialnum>

Used by Siemens Mobility, Inc. manufacturing to set the WIU's revision level.

A.5.2. Examples

The following example shows viewing the information provided by the command.

```
# who
iVIU Site: CP 360
DOT is:
Mile post: 122.2
ATCS Address: 7.620.100.100.02
iVIU Model: PTC Console
iVIU Revision: B6
iVIU Serial #: 172
```

A.6 WIUCONF

wiuconf -g <filename> [-v|-nv|-c]

Generate text file of WIU configuration options.

wiuconf -a <filename>

Apply new configurations settings, contained in provide text file.

```
wiuconf -s <variable> -t <value>
```

Sets a configuration setting (variable) to the given value.

wiuconf -d <variable>

Displays the value of the given configuration settings (variable).

wiuconf -c <cdlfile>

New CDL file will be compiled and CDL engine will execute based on the logic that's generated.

A.6.1. Description

The wiuconf command can:

- Generate text files containing the vital and non-vital configuration settings currently in the unit. It also contains CDL menu and operational parameter options.
- Apply text files containing non-vital settings (include Encrypted HMAC key) to the unit
- Set the value of individual configuration parameters
- View the value of individual configuration parameters and the UCN values
- Apply automated changes for existing or new CDL

The following are the possible command options

```
-g <filename>, --generate <filename>,
```

```
-g <filename>[-v|-nv|-c|--nonvital|--vital|--cdl]
```

--generate <filename>[-v|-nv|-c|--nonvital|--vital|--cdl]

The wiuconf utility will generate a text file with the given <filename>, which contains all the configuration parameters. Optionally, the command can generate just the non-vital settings (those not covered by the UCN) using the "-nv" or "--nonvital" option, or the vital settings using the "-v" or "--vital" option, or CDL menu and operational parameters with"-c" or "--cdl" option, or all the above configuration parameters without any of the [-v]-nv|-c|--nonvital|--vital]--cdl] options.

```
-a <filename>, --apply <filename>
```

The wiuconf utility will parse the given file and apply the contents of the file to the unit's non-vital configuration settings. The non-vital configuration file can also contain CDL-defined menu or operational parameters. If necessary, this may result in a re-compile of the CDL logic loaded in the unit. The command will report any errors parsing the file or compilation errors.

-s <variable> -t <value>, --set <variable> --to <value>

The wiuconf utility will set the given variable to the given value (Note: You may only set the value of non-vital variables). The variable name must match the variable name from the text file format and the value must match one of the possible values for that variable. Variable names and values are not case sensitive. If the variable is nested, you must specify the sections. However, if the variable name within the section is unique, you will not need the section name. For example:

```
wiuconf --set EMP_WIU:Broadcast_Rate_ms --to 1000
wiuconf --set Broadcast_Rate_ms --to 1000
    -s <variable> -t ?
```

The wiuconf utility will show a listing of possible values for the variable if you use a question mark for the –t parameter. For example, it will show all the available options, and user can type in only partial string of the option instead of the whole string:

```
# wiuconf -s timezone -t ?
Options:
    1. Greenwich Mean Time (GMT)
    2. Eastern (GMT-5:00)
    3. Central (GMT-6:00)
    4. Mountain (GMT-7:00)
    5. Pacific (GMT-8:00)
    6. Alaska (GMT-9:00)
    7. Atlantic (GMT-4:00)
    8. Arizona (No DST, GMT-7:00)
    9. Newfoundland (GMT-3:30)
    10. Aus Western (GMT+8:00)
    11. Aus Central (GMT+9:30)
    12. Aus Central (No DST, GMT+9:30)
    13. Aus Eastern (GMT+10:00)
    14. Aus Eastern (No DST, GMT+10:00)
# wiuconf -s timezone -t central
# wiuconf -d timezone
Central (GMT-6:00)
      -d <variable>, --display <variable>
```

The wiuconf utility will display the current value of the given variable (see the text file reference for the variable names).

-c <cdlfile>, --cdl <cdlfile>

This option is used to do automated changes for new CDL. The wiuconf utility will compile the CDL program, and generate the logic based on the given non-vital configuration file. And then triggers the CDL engine to begin executing that logic. Before wiuconf command is run, user needs to transfer the new CDL file to the default directory /mnt/ecd/0/, and also upload the configuration file to any user picked directory.

A.6.2. Examples

The following will generate the complete text file of the configuration settings supported by the WIU. The text file can be used as a reference for what variables are supported.

```
# wiuconf -g /tmp/wiu_conf.txt
```

The following is an example to view the PTC UCN (PTC Configuration CRC).

```
# wiuconf -d ptc_ucn
```

5e5ab213

The following is an example to set the encrypted HMAC key:

```
# wiuconf -s hmac_key -t ABC123XYZETC
```

A.6.3. Special Considerations

Some variables are nested depending on which port/channel/slot the setting applies to. For example, the "Baud_Rate" variable depends on which serial port you are setting. The following lists the full variable names for some variables nested this way:

```
laptop serial port:baud rate
laptop_serial_port:Data_Bits
laptop serial port:Parity
laptop serial port:Stop Bits
laptop serial port:Flow Ctrl
Serial Port1:baud rate
Serial Port1:Data Bits
Serial Port1:Parity
Serial Port1:Stop Bits
Serial Port1:Flow Ctrl
Serial Port2:baud rate
Serial Port2:Data Bits
Serial Port2:Parity
Serial Port2:Stop Bits
Serial Port2:Flow Ctrl
Serial Port3:baud rate
Serial Port3:Data Bits
Serial Port3:Parity
Serial Port3:Stop Bits
Serial Port3:Flow Ctrl
```

Laptop_Eth_Port:DHCP Laptop_Eth_Port:IP_Address Laptop_Eth_Port:NetMask Laptop_Eth_Port:Gateway

Eth_Port1:DHCP
Eth_Port1:IP_Address
Eth_Port1:NetMask
Eth Port1:Gateway

Eth_Port2:DHCP
Eth_Port2:IP_Address
Eth_Port2:NetMask
Eth_Port2:Gateway

Eth_Port3:DHCP Eth_Port3:IP_Address Eth_Port3:NetMask Eth Port3:Gateway

```
Module1:Name
Module1:Type
Module1:GEO:Connection_Type
Module1:GEO:ATCS_Subnode
Module1:GEO:UCN
Module1:GEO:MCF_CRC
```

```
Module2:Name
Module2:Type
Module2:GEO:Connection_Type
Module2:GEO:ATCS_Subnode
Module2:GEO:UCN
Module2:GEO:MCF_CRC
```

(etc. up to Module16)

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