

INSTRUCTION & OPERATION

COMMUNICATIONS MANAGER A53475

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DOCUMENT HISTORY

Version	Release Date	Sections Changed	Details of Change
А	Jan 2010		Initial Release
A.1	May 2012	Sec 1	Pg 1-12 Sec 1.7.1.7 DC Code Line Figure 1-9 Table 1-1 Pg 1-13 Sec 1.7.1.8 Code Line Input Figure 1-10 Table 1-2 Pg 1-14 Sec 1.7.1.9 Analog DC Code Input Connector Figure 1-11
		Sec 2	Pg 2-8 Sec 2.1.10 Remote CM/SEAR II
		Sec 4	Pg 4-11 Sec 4.3.4.4 DC Code Line Sec 4.3.4.4.1 Protocol Conversion Mode Pg 4-12 Sec 4.3.4.4.2 Non-Vital Logic Controller Mode Pg 4-13 Sec 4.3.4.4.3 DC Code Line Settings Figure 4-15, Figure 4-16, Pg 4-14 Figure 4-17, Figure 4-18 Pg 4-15 Table 4-3 Pg 4-30 Sec 4.3.4.10.11 Module Editor (Add Remote CM/SEAR), Figure 4-35, Figure 4-36, Figure 4-37 Pg 4-31 Figure 4-38, Figure 4-39 Pg 4-32 Figure 4-40, Table 4-4 Pg 5-35 Sec 5.3.1.5.8 DC Code Line (User parameter "NONE")
		Sec 5	Pg 5-36 Sec 5.3.1.5.9 DC Code Line (User parameter "K2") Pg 5-41 Sec 5.3.1.5.12 Modules (Add Remote CM/SEAR II) Pg 5-46 Sec 5.3.1.5.12.5 Modules Remote CM/SEAR II parameters
A.2	Jul 2014	All	Convert to Siemens Format
A.3	AUG 2017	Sec 4	Pg 4-44 Sec 4.3.4.16 WSA/S2 Configuration Menu Figure 4-56, Figure 4-57
		Sec 5	Pg 4-45 Table 4-10 Pg 5-48, WSA/S2 Local User interface Menu

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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:



NOTE

NOTE

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

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

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 Industry, Inc. 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 electrostatic-sensitive 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.

SECTION 1 GENERAL DESCRIPTION

1.0 GENERAL DESCRIPTION

1.1 GENERAL

The Communications Manager is a multifunction communication, monitoring, and control device able to perform non-vital control point functionality as well as communication protocol conversion and message routing. It provides simple user interfaces for monitoring and configuration. For control point applications, it provides a minimal signal input capability with built-in logic execution which can be communicated over the user's network. As a communication protocol converter it supports a wide range of modern and legacy communication protocols and provides inter-message protocol conversion communications. As a message router, it provides configurable and automatic routing capabilities within many different kinds of networks as well as provides network redundancy support.

NOTE

NOTE

Configuration of the Communications Manager is performed via the web browser or the front panel display and keypad.





1.2 DEFINITIONS AND ACRONYMS

- ATCS Advanced Train Control System. A system wide specification for nodes and communication protocols in a train control network.
- BCP Base Communications Package. A communications package containing a control unit and a radio which provides RF coverage for several WCP locations and locomotives in an ATCS RF network.
- CAD Computer Aided Dispatch. An automated system for processing dispatch business and automating many of the tasks typically performed by a dispatcher. Abbreviated CAD (not to be confused with computer-aided design which is also known as CAD) is application software with numerous features and functions.
- CDMA Code Division Multiple Access. A protocol used in cellular telephony.
- Codeplug This is a configuration file that stores the values of all configurable parameters. This is the common language used by customers familiar with our Wayside Communications Package. This file is also known as the "config file" or the MCF.
- CTC Centralized Traffic Control. This is also known as CAD for Computer Aided Dispatch. This is the system in the office used to control and monitor the railroad signaling system.
- DNS Domain Name Server
- ECD External Configuration Device. A memory device that contains the configuration settings of the unit. The device is external to the unit such that the unit can be replaced without re-configuring anything in the system.
- Echelon[®] Trademarked by Echelon corporation. We often refer to the physical twisted pair interface as the Echelon interface as it uses transceiver technology designed and licensed by Echelon Corporation.
- GEO[®] Geographic Signaling System. Siemens vital signaling and control product line.
- GPS Global Positioning System
- IP Internet Protocol

- OCG Office Communications Gateway. Software that runs on a PC that performs similar functions to the WCC/FPD.
- PPS Pulse Per Second. This is a clock signal provided by GPS receivers that is synchronized across the GPS system. It is commonly used by communications equipment to synchronize the time divisions among multiple radios in a co-located communications system.
- SEAR II Siemens Event Analyzer Recorder II. A Siemens product used as an event recorder for crossings and the wayside. The SEAR II also performs the non-vital logic control function at GEO based interlockings.
- SNMP Simple Network Management Protocol.
- TCP Transmission Control Protocol. A transport layer protocol commonly used on top of IP. TCP is a connection oriented protocol providing reliable and in-order delivery of a stream of bytes.
- UDP User Datagram Protocol. A transport layer protocol commonly used on top of IP. UDP is a connectionless protocol that does not guarantee reliability of ordered delivery of messages.
- ULCP Universal Local Control Panel. A Siemens product used for local control of an interlocking. It is commonly installed with a SEAR II at GEO locations.
- VHFC VHF Communicator. Siemens Six Channel VHF Voice/Data Radio unit.
- WAMS Wayside Alarm Management System. The WAMS system is a suite of software created by Siemens Systems used to monitor the status of wayside installations and manage alarms and other information for the wayside installations.
- WCC/FPD Wayside Cluster Controller/Field Protocol Device. The WCC/FPD is often referred to as the Packet Switch. This equipment manages clusters of base stations and other communications links to the field. The WCC/FPD is installed in the office.
- WCCMaint Software that runs on a PC used to configure and manage a network of WCC/FPD equipment. WCCMaint is often used to manage other communications equipment as well such as WCPs and BCPs.

- WCM Wayside Communications Module. A smaller version of the WCC/FPD for use in field installations. The WCM provides protocol conversion and network access through a variety of interface protocols.
- WCP Wayside Communications Package. A communications package containing a control unit and a radio which provides access to the railroads ATCS RF network using a variety of interface protocols.

1.3 SCOPE

This manual serves as the installation and operation guide for the Siemens Communications Manager.

WARNING

THE COMMUNICATIONS MANAGER IS A NON-VITAL PRODUCT. **A** WARNING CAUTION MUST BE TAKEN WHEN INTERFACING THE COMMUNICATIONS MANAGER TO ANY VITAL SIGNAL OR CROSSING EQUIPMENT AS THE COMMUNICATIONS MANAGER CANNOT BE USED TO PERFORM, EITHER DIRECTLY OR INDIRECTLY, ANY VITAL FUNCTIONS. **ENSURE** THE COMMUNICATIONS MANAGER IS **INSTALLED** PER MANUFACTURER'S INSTRUCTIONS. AND/OR ALL EQUIPMENT INTERCONNECTIONS ARE IN COMPLIANCE WITH RAILROAD PROCEDURES AND SPECIFICATIONS.

1.4 APPLICABLE DOCUMENTS

The following documents will provide additional information in conjunction with this document:

- Siemens Echelon[®] Handbook (Doc. No.: COM-00-07-09)
- Siemens SEAR II Installation & Operation (Doc. No.: SIG-00-03-18)
- Siemens WAMS Installation & Operation (Doc. No.: SIG-00-03-17)
- Siemens WAMS Test & Inspection Mgmt (Doc. No.: SIG-00-07-08)
- Siemens VHF Communicator Installation & Operation (Doc. No.: SIG-00-03-05-002)
- Siemens GEO Installation & Operation (Doc. No.: SIG-00-05-09)
- Siemens WCM 53447 Installation & Operation (Doc. No.: COM-00-04-08)
- Siemens WCCMAINT Installation & Operation (Doc. No.: COM-00-05-03)
- Siemens OCG Installation & Operation (Doc. No.: COM-00-05-04)
- Siemens Packet Switch Installation & Operation (Doc. No.: COM-00-96-03)
- Siemens WCP CPU II 53105 Installation & Operation (Doc. No.: COM-00-97-10)
- Siemens BCM Installation & Operation (Doc. No.: COM-00-97-19)

1.5 ORDERING INFORMATION

Part Number	Description	
9000-53475-0001	Communications Manager	

1.6 SPECIFICATIONS

Power Requirements

Input Voltage	9 – 32 VDC, Isolated, Reverse Polarity Protection
Input Current	6 Amps Max @ 13.8 VDC
Connectivity	
Power	Unipolar 2-Pin Connector
GPS	SMA Type Antenna Connector
Digital Inputs	
IN-1 - IN-4	8 – Pin Cage Clamp Style
	Max Input Voltage: 120 VAC or VDC
IN-5 - IN-8	8 – Pin Cage Clamp Style
	Max Input Voltage: 120 VAC or VDC
Serial Ports	
Port 1	DB-25 – RS-232/RS-422 Sync/Async
Port 2	DB-25 – RS-232/RS-422 Sync/Async
Port 3	RJ-45 – RS-232 Async only
Port 4	RJ-45 – RS-232 Async only
Ethernet Ports	
Port 1	RJ-45
Port 2	RJ-45
Port 2	RJ-45
Port 4	RJ-45
Relay I/O	
RLY1 – RLY2	6-Pin Cage Clamp Style
	Max Contact Rating: 30 VDC , 5 Amps
Analog Inputs	0 Die Gener Channe Chale
Analog INPUT T - INPUT 4	8-Pin Cage Clamp Style
	A Dia Cara Classe
Echelon®/12 VDC Output	4-PIN Cage Clamp
User Keypad Connectors	I – KJ-45, I – DB-9, I – USB
	U3B 2.0
LED Indicators	
Power	Green
Echelon®	Green/Yellow
12 VDC Output	Red
Analog IN1 – Analog IN4	Yellow
Code Line IN	Red/Green
Code Line OUT	Red/Green
RLY1 – RLY 2	Red
	1-6

User 1 – User 16	Red/Green
Health	Yellow
GPS	Green
ECD	Red/Green
Ethernet Port 1 – Port 4	Yellow/Green
Serial Port 1	
ТХ	Green
RX	Red
RS-422	Yellow
Serial Port 2	
ТХ	Green
RX	Red
RS-422	Yellow
Serial Port 3	
ТХ	Green
RX	Red
Serial Port 4	
ТХ	Green
RX	Red
Keypad Ports	
Ethernet	Yellow/Green
USB	Red/Yellow/Green
Digital Inputs	
INPUT 1 – INPUT 8	Red
Display	
	2 Line X 20 Character Vacuum Fluorescent
	Display
Keypad	
	Matrix consisting of 25 embossed keys with
	tactile feedback
Dimensions	
Overall	19.0" W x 8.0" H x 2.0" D
	(48.26 cm W x 20.32 cm H x 5.08 cm D)
weight	8.25 pounds (3.75 Kg)



1.7 TERMINATIONS, INDICATIONS, AND CONTROLS



1.7.1 Connector Termination Description

1.7.1.1 Power Connector/ECD [1]

Input DC power for the Communications Manager is terminated with a cage clamp style unipolar connector. Input voltage range of the Communications Manager is 9-32 VDC. The Communications Manager provides 2000V RMS isolation from the battery buss. The DC input is reverse polarity protected. The External Configuration Device (ECD) connects to the Communications Manager via a connector mounted under the power plug using USB connection to the unit. The ECD stores the configuration data for the Communications Manager. The ECD is permanently mounted to the power connector as shown in the diagram below.



Figure 1-3 Power Connector/ECD

1.7.1.2 Digital Input Connectors [5] [6]

Two 8-Pin cage clamp style connectors are provided for termination of digital signals from wayside devices. Each input has a positive and negative terminal. Maximum input voltages are 120VAC Peak or 120VDC.





1.7.1.3 GPS Antenna Connector [4]

The Communications Manager has a SMA type RF connector for connection of an external GPS antenna.



Figure 1-5 GPS Antenna Connector

1.7.1.4 Serial Connectors [7] [8]

Four serial connectors with configurable parameters are provided, 2 DB-25 and 2 RJ-45, to interface to devices requiring RS-232 or RS-422 modes with synchronous or asynchronous operation. Ports one and two are full featured, while ports three and four are RS-232 asynchronous only. Figure 1-6 displays the pin-out arrange for each style of connector.



		C	AUTION			
SERIAL POR	TS 3-4 U	SE RJ	-45 CONNE	CTORS AS	DOES	THE
ETHERNET	PORTS	1-4.	ENSURE	CONNECT	IONS	ARE
TERMINATED	IN THE P	ROPE	R LOCATIO	N.		









1.7.1.5 Ethernet Ports

Four Ethernet RJ-45 connectors are provided with the Communications Manager. These ports can be configured for device or network LAN connections. Each Ethernet port is an independent network interface. Figure 1-7 displays the pin-out physical configuration of the Ethernet ports.



Figure 1-7 Ethernet RJ-45 Orientation and Pin-out

1.7.1.6 Relay Outputs

A Relay Output connector shown in Figure 1-8 interfaces the Communications Manager using "C" contact relay points to control devices. Relay output contacts are rated at a maximum voltage of 30 VDC at 5 Amps.







1.7.1.7 DC Code Line Output

The DC Code Line Output is exported via the Relay 2 output connections to a code line interface box and is rated at 0.9A @ 60 VDC. Relay 1 may be used simultaneously with the DC Code Line output using the Relay 2 connections. Note that DC Code Line functionality and Relay 2 cannot be used simultaneously.







Figure 1-10 DC Code Line Output Front Panel LED Indicators

LED	Color	Description
Code Out	Green	The green Code Out LED will turn ON when the CM energizes Code
		Out output 1 and will be off otherwise.
	Red	The red Code Out LED will turn ON when the CM energizes Code Out
		output 2 and will be off otherwise.

1.7.1.8 DC Code Line Input Connector

When DC Code Line is enabled Analog Input 4 is disabled and becomes the DC Code Line Input as shown in Figure 1-10. Analog inputs 1 through 3 may be used for analog monitoring simultaneously with the DC Code Line input function on Input 4. Note that Analog Input 4 and DC Code Line input functions cannot be used simultaneously.



Figure 1-11	Analog Input/DC	Code Line Input	Connector – Code L	ine Enabled
-------------	-----------------	------------------------	--------------------	-------------

Figure 1-12	DC Code Line Input Front Panel LED Indicators
-------------	---

LED	Color	Description
Code In	Green	When the CM is configured to support a DC code line protocol, it will light the green Code In LED. The LED stays on all the time while the unit has a DC code line protocol enabled. The CM disables analog input 4 and relay output 2 while this LED is on. The connector pins are used for the Code In and Code Out instead. If the green Code In LED is off, the CM does not have a DC code line protocol enabled and analog input 4 and relay output 2 operate as normal.
	Red	The red Code In LED will turn ON when the Code In input is energized and will turn off when there is no energy on the input. The red LED will follow the pulse applied to the input.

1.7.1.9 Analog Input/DC Code Line Connector

An Analog Input connector provides 4 analog inputs for wayside devices. DC Code Line uses Analog Input 4 and requires an external interface box. Analog inputs 1 through 3 may be used for analog monitoring simultaneously with the DC Code Line input function on Analog Input 4. Note that Analog Input 4 and DC Code Line input functions cannot be used simultaneously.





1.7.1.10 Echelon[®] / Power Output Connector



Figure 1-14 Echelon[®] / Power Output Connector



WARNING THE 12 VOLT ISOLATED OUTPUT MAY BE USED TO POWER NON-VITAL EQUIPMENT <u>ONLY</u>.

SECTION 2 APPLICATIONS

2.0 APPLICATIONS

The Communications Manager is designed for use in a variety of applications. The following are some examples of the Communications Manager's capabilities. Contact Siemens Customer Service for assistance in developing desired applications.

2.1 APPLICATION OVERVIEW

The Communications Manager's versatility enables it to be used in an array of applications. Figure 2-1 displays Communications Manager's equipment and network interface capabilities.



Figure 2-1 Equipment and Network Interfaces

2.1.1 ATCS Network

A typical Office ATCS network is shown in the diagram below. The Communications Manager is configured to provide either Primary/Backup or Redundant paths between the Communications Manager and the ATCS Office.



Figure 2-2 Office ATCS Network

2.1.2 GEO Application



Figure 2-3 GEO System Overview

2.1.3 CN2000A and CN2000B Application

The CN2000A and CN2000B protocols are proprietary to the CN Railway. Multi-drop code units are supported in this application.



Figure 2-4 CN2000A & CN2000B Application

2.1.4 Ground Fault Tester Support

The figure below shows connection of Ground Fault Tester modules to the Communications Manager digital inputs.



Figure 2-5 Ground Fault Tester

2.1.5 VHLC Support

Communication Manager supports VHLC applications. The diagram below displays an example Vital Harmon Logic Controller (VHLC) application. Communications Manager uses HDLC ADM or Genisys protocol to communicate with VHLC. The Diagnostic Text protocol allows a remote user to access the VHLC's diagnostic port.



Figure 2-6 VHLC Support Application

2.1.6 BCM Application

The diagram below displays an example Base Station Radio installation using the Siemens Base Station Control Module. The BCM is powered, controlled, and monitored by the Communications Manager.



Figure 2-7 BCM Application
2.1.7 Universal Local Control Panel (ULCP) Interface

The figure below shows an application using the Siemens ULCP. The ULCP communicates with the Communications Manager via the Echelon[®] network.



Figure 2-8 ULCP Interface

2.1.8 Local Panel I/O Interface

The diagram below displays an application using a legacy Siemens 53406 Panel I/O supporting a custom Local Control Panel. The Panel I/O uses the Echelon® node network to communicate with the Communications Manager.



Figure 2-9 53406 Panel I/O Interface

2.1.9 VHF Communicator Application

The figure below shows a VHF Communicator application using the Echelon[®] network.



Figure 2-10 VHF Communicator Interface

2.1.10 Remote Communications Manager/ SEAR II

The Communications Manager (CM) supports communicating ladder logic states to other CM units or SEAR II units over the Echelon network. The CM functions identically to the SEAR II for this feature. The feature allows you to distribute ladder logic programmable functions between multiple systems. The ladder logic programs on each system can exchange information as data bits in messages on the Echelon network.



Each CM sends messages to each remote unit configured in the unit's settings. The messages contain data bits as set by the CM's ladder logic program. The CM copies received data bits from the remote units into the ladder logic bit map. That allows the ladder logic program to evaluate the received data from the remote unit. Each unit sends ladder logic bits to the remote units in its configuration every 10 seconds and on the change of state of any ladder logic bit.

If the CM does not receive a message from the remote unit for approximately 40 seconds, the CM will log the module is offline and the CM will clear the "Node Online" bit for that unit in the ladder logic executive bits.

When a sent or received bit changes state, the CM will log the change using the bit's assigned label from the ladder logic label file.

Interface	Description		
Ethernet Ports 1 - 4	Used for office or field communication depending on system		
	settings.		
Laptop Ethernet Port	Used to allow Web Browser access to the unit.		
GPS Interface	Used to connect the internal GPS receiver to an external		
	antenna.		
Serial Ports 1 and 2	Used for communication with office or field devices depending		
	on system settings. These ports can handle sync or async		
	operation in RS-232 or RS-422 line mode.		
Serial Ports 3 and 4	Used for communication with office or field devices depending		
	on system settings. These ports only handle RS-232 line		
	mode.		
Echelon®	Used to communicate to other Siemens devices such as		
	GEO, ULCP, Panel I/O, VHFC, etc.		
Digital Inputs	Used to monitor and record discrete I/O at the location		
	(including Vital I/O) as well as Ground Fault Testing.		
Analog Inputs	Used to monitor and record battery bank voltages at the		
Delay Ostavia			
Relay Outputs	Used to control external equipment.		
DC Code Line	Used to interface to legacy DC Code Line equipment and run		
	DC Code Line protocols.		
Isolated Power Output	Used to provide isolated power to external communications		
	Uevices.		
USB Flash Drive	osed by Maintainer to.		
	•Download Logs		
Front Panel Interface	•Opioau/Download Configuration.		
FION Fanel Intenace	Diapley		
	•Dispidy		
	•Reypau •IEDs ombodded within the overlay		
	Used by Maintainer to view unit status configure unit etc.		
FCD	An external configuration device. This device holds the site		
	specific configuration parameters. The FCD is part of the		
	power connector assembly.		

Table 2-1 Communications Manager I/O Descriptions

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SECTION 3 INSTALLATION AND CONFIGURATION

3.0 INSTALLATION AND CONFIGURATION

3.1 INTERCONNECTION OVERVIEW

The installation of the Communications Manager will involve a variety of connections depending on the complexity of the application. An overview of the Communications Manager connections is shown in Figure 3-1.





3.1.1 Mounting

The Communications Manager is designed for either 19 inch rack or wall mounting. Select a mounting position with ample clearance for the GPS antenna connection on the top and the Ethernet and serial connectors on the bottom.



Figure 3-2 Mounting Communications Manager

3.1.2 Power Connections

DC Power is supplied to each Communications Manager unit via a 2-terminal Cage Clamp type connector located on the front panel. This connector also holds the External Configuration Device (ECD). The power connector and ECD can only be inserted into the corresponding connector on the front panel in one direction. Battery polarity is indicated on the Communications Manager front panel.





CAUTION

A CAUTION

A CAUTION

WHEN INSTALLING THE POWER / ECD CONNECTOR, ENSURE THE ECD IS PROPERLY ALIGNED BEFORE INSERTING THE PLUG FULLY. DO NOT FORCE THE ECD CONNECTOR AS THE RECEPTACLE MAY BECOME DAMAGED.

CAUTION

USE THE APPROPRIATE WIRE SIZE TO POWER THE COMMUNICATIONS MANAGER. WIRE SIZE SHOULD SUPPORT 6 AMPERES AT NOMINAL INPUT VOLTAGE. EXTENDED WIRE LENGTHS WILL REQUIRE LARGER WIRE SIZE TO AVOID EXCESSIVE VOLTAGE DROP.

3.1.2.1 Power Conductor Wire Preparation

Verify that "B" and "N" supply wires are installed in the power connector correctly before inserting the power connector into the mating connector on the front panel. Prepare the wires as follows:

1. Strip approximately 1/4 inch (6 mm) of insulation from the end of the wire.

2. Install EMI filter on cable.

3. Open the spring loaded receptor, by inserting small flat blade screwdriver in the recessed opening and insert the stripped end of the wire until it stops, making sure the wire insulation is not in the metal contactors.

4. Remove the screwdriver to close the receptor and verify the wire is secure.



Figure 3-4 Power Conductor Wire Installation

3.1.2.2 Installing EMI Filter on Power Cable

In order to reduce radiated electromagnetic interference in the Communications Manager power cable, a clamp-on EMI filter (part number Z590-00010-0001) must be installed as follows:

Step 1. Open the clamp-on EMI filter as shown in Figure 3-5.



Figure 3-5 Clamp-on EMI Filter (open)

Step 2. Place the open EMI filter under the power cable approximately 1.5 inches from the stripped end of the wires.

Step 3.Wrap the long end of the cable around the outer surface of the filter and back through the center of the filter one time (totaling two wire runs inside the filter – see Figure 3-6).



Figure 3-6 EMI Filter Installation (showing wire loops)

Step 4. Snap the filter closed (see Figure 3-7).



Figure 3-7 EMI Filter Installed



NOTE

Failure to install the EMI Filter may result in unwanted EMI and RFI interference to adjacent equipment.

3.1.3 Digital and Analog I/O Connections

Each discrete input on the I/O connectors has both a positive and a negative terminal connection. This allows for wiring of a larger variety of discrete I/O than only using a common negative. It also prevents problems such as 'sneak paths' when adjacent inputs are wired. Polarity is marked on the case adjacent to each connector.

3.1.3.1 Connector Wiring Procedure

The female connectors supplied with the Communications Manager for the digital input connections will accept wire sizes in the range of #28 AWG to #14 AWG. The connectors contain spring-loaded cage-clamps for attachment of the wires. Each connector consists of a row of wire receptors and actuator spring holes to open and close the cage clamps. Wire each connector as follows:

- 1. Remove the supplied connector from the mating receptacle on the unit.
- 2. Select a proper gauge wire for the application (range is #28 to #14 AWG).
- 3. Strip approximately 5/16 inch (8 mm) of insulation from the end of the wire.
- 4. Insert the blade of a small screwdriver into the actuator spring hole associated with the wire hole. The screwdriver blade should be no more than 0.10 inches wide and 0.020 inches thick (2.5 mm x 0.5 mm).
- 5. Lever the wire cage clamp open by pressing straight down on the screwdriver. Visually note that the contactor receptacle has opened up sufficiently to insert stripped wire. Fully insert wire into receptacle, taking care not to insert wire jacket insulation into metal contactors.
- 6. Remove screwdriver. Gently tug on the just-inserted wire to ensure the receptacle properly retains the installed wire.
- 7. Repeat for each wire to be added to the connector.



Figure 3-8 Cage Clamp Wire Installation

3.2 USER CONFIGURATION

Configuration of the Communications Manager is accomplished using the LUI (Local User Interface), or the Web UI (Web Browser User Interface). The ECD stores the unit's configuration information into non-volatile memory. The configuration data may also be downloaded via the Web UI or the front panel User USB Port.

3.2.1 Path Selection Modes

The Communications Manager can choose between several physical paths when sending a message to the office system. The Communications Manager provides three modes of determining the office-bound path: primary/backup, redundant, and manual. Figure 3-9 shows the path modes. See Section 4 for Local User Interface and Section 5 for Web Browser and WccMaint Path Selection Mode configuration screens.



Figure 3-9 Path Modes

3.2.1.1 Primary/Backup Mode

In primary/backup mode, the Communications Manager sends office-bound messages on the most preferred working path. The user chooses which paths are preferred by ranking them as follows (most preferred to least preferred): primary, backup 1, 2, and 3. The Communications Manager will send office-bound packets on the primary path, as long as it remains operational. If the packet cannot be delivered, the Communications Manager will report that path as "failed" and attempt the packet on the next preferred path. See page 3-11 for recommended settings for a WCP as the Primary path and Table 3-1 when WCP is the Backup path.

• Path Failure

In primary/backup mode, the Communications Manager considers a path "failed" if an acknowledged packet cannot be delivered on that path after several retries. Any acknowledged packet that cannot be delivered, which includes indications, WAMS alarms, and path test packets, will be used to determine path failure.

The packet's ATCS priority level, the protocol, and the physical medium determine the time between retries. The Communications Manager uses shorter timeouts for higher priority packets and for Ethernet ports. If the user selected the office path protocol as "Gen/ATCS Field", the protocol used with the Siemens WCP, the Communications Manger relies on the external equipment to perform retries and report delivery confirmation or delivery failure.

The Communications Manager will also consider a path "failed" if the physical link status of that protocol shows "disconnected". The specific protocol driver for the port determines the "disconnected" or "connected" state of a physical link. For example, the ATCS HDLC POLL protocol is a polled protocol. If the polling of the port stops, the protocol will report the physical path as failed. If that path is currently the most preferred office path, the Communications Manager will begin using the next most preferred operational path instead.

• Path Testing

The Communications Manager can actively test the paths it is not currently using for operational traffic. This allows the Communications Manager to report a path failure before that path may be needed. The user can select how frequently the Communications Manager tests a path. A test packet uses acknowledged service and the Communications Manager will retry a test packet according to the same rules as any acknowledged packet. If the packet does not receive acknowledgement after all retries, the Communications Manager considers the path failed. The Communications Manager also uses path testing to determine when a previously failed path recovers.

• Path Recovery

The Communications Manager sends test packets on failed paths to determine when they have recovered. Once a path successfully receives acknowledgement for a test packet, the Communications Manager considers that path "in recovery". A path must successfully deliver packets for a user selectable amount of time before the Communications Manager will change it from "in recovery" to "operational" status. Once operational, the Communications Manager will begin sending all office-bound traffic on that path if it is now the most preferred.

3.2.1.2 Redundant Mode

In redundant mode, the Communications Manager sends a copy of each packet on all officebound paths at the same time. Each Path still must be configured as either primary, backup 1, etc. Paths not used are set to "none". The primary versus backup is meaningless for this mode of operation.

An acknowledgement received on any path means that message was successfully sent. Because packets are sent on all paths at the same time and acknowledgements can arrive on any path (usually only one), the paths are not actively tested. The Communications Manager uses the physical link status of the port to determine if a path is operational or failed. If a packet cannot be delivered after several retries on all paths, all paths are considered failed until a packet is successfully delivered. Regardless of the "operational" or "failed" status of a path, the Communications Manager always attempts to deliver a packet on all paths.

3.2.1.3 Manual Mode

When configured for Manual Mode Communications Manager will use a configured path for a configured amount of time, or indefinitely. The path can be configured for Manual Mode using WccMaint from the office, a web browser interface, or the front panel keypad and display. There are two manual mode options: permanent and timed. Manual Mode is typically used to test a specific path for test path reliability or while maintenance is being performed on another path.

• Permanent

Upon selecting "permanent" as the manual mode option, the Communications Manager will use the selected office-bound path indefinitely. The "permanent" selection may be cancelled at any time, resulting in Communications Manager reverting back to automatically selecting the officebound path based on the configured mode (primary/backup or redundant). A system reset will also place the Communications Manager back to automatic mode. If the manually selected path fails for more than five minutes, the system will revert back to automatic mode.

• Timed Mode

Upon selecting "timed" as the manual mode option, the Communications Manager will use the configured office-bound path for the configured amount of time. When the time expires, the Communications Manager will revert back to automatically selecting the office-bound path.

3.2.1.4 Path Configuration for WCP

If one of the office paths uses a WCP, the path settings must be adjusted. These adjustments are due to the behavior of the WCP and packet switch.

- 1) A WCP modifies the ATCS layer 3 sequence numbers for office-bound packets in a manner the Communications Manager cannot predict.
- A WCP does not pass through ATCS acknowledgment packets from the office. It generates service signal messages instead, which do not include the ATCS layer 3 sequence numbers from the acknowledgement packet.

3) The office packet switch (or OCG) may send an acknowledgement for a packet received from the RF path to a backup path or vice versa. Because the acknowledgements do not pass through, the Communications Manager cannot know if the packet was delivered and the WCP may not receive a RF "ACK" (acknowledge) causing it to incorrectly report that a packet was not delivered.

As a result of the above constraints Communications Manager does not have a reliable method to test a backup path if a WCP is used. If a WCP is used, all backup paths must have the path test period set to 0 to disable the sending of test packets. Paths that are not tested are not marked as failed but as "unknown" when packet delivery fails on them. Using the "unknown" status, the Communications Manager will try those paths again upon failure of other paths.

• Recommended Settings (when WCP is Primary Path)

The following are the recommended settings for the primary and the backup path when using a WCP.

Primary Path	Recommended	Description		
Setting	Value			
Path Recovery Time	0 (seconds)	Tells the Communications Manager that as soon as the WCP reports a test packet was successfully delivered, it will consider the WCP path as operation and begin using it.		
Path Test Period	90 (seconds)	Tells the Communications Manager to send a test packet on the WCP path every 90 seconds. This value should not be set lower than 90 seconds for a WCP path as the RF retries will require about 80-90 seconds for the radio.		
Path Fail Count	6	Use the default value. This setting only applies to paths that have an "in recovery" state. Since the path recovery time setting is 0, this setting has no effect.		
RSSI Value	0	Tells the Communications Manager not to attach an RSSI value to ATCS packets. The WCP will add its own RSSI value to the packet when it sends the packet on its RF interface.		
Operational Traffic Only	No (Unchecked)	Tells the Communications Manager to send all packets, regardless of priority, on the WCP path, if it is the currently selected path.		

Table 3-1 Primary Path: WCP Recommended Settings

Backup Path Setting	Recommended Value	Description
Path Recovery Time	300 (seconds)	Use the default value. This setting has no effect since the path will not be tested (Path Test Period set to 0)
Path Test Period	0 (seconds)	Tells the Communications Manager not to send test packets on this path. This is due to the constraints described above when using a WCP. Path failure will not be known in advance.
Path Fail Count	6	Use the default value. This setting has no effect since the path will not be tested (Path Test Period set to 0)
RSSI Value	See Description	See the "Guidelines for RSSI Values" (Section 3.2.1.8) to determine if an RSSI value should be used. If an RSSI value is needed, use a low value such as 1 to ensure the RSSI from the WCP path will be higher than this path's RSSI.
Operational Traffic Only	No (Unchecked)	Tells the Communications Manager to send all packets, regardless of priority on this path, if it is the currently selected one.

Table 3-2 Any Backup Path (when a WCP is used as Primary Path)

• Recommended Settings when WCP is Backup Path

The following are the recommended settings when you use a WCP as a backup path. The WCP must be the last backup path.

Primary Path Setting	Recommended Value	Description
Path Recovery Time	0 (seconds)	Tells the Communications Manager that as soon as the successfully delivers a test packet, it will consider the pa

Table 3-3 Primary Path (Not a WCP) Recommended Settings

Path Recovery Time	0 (seconds)	Tells the Communications Manager that as soon as the path successfully delivers a test packet, it will consider the path as operational and begin using it.	
Path Test Period	60 (seconds)	Tells the Communications Manager to send a test packet on the path every 60 seconds. This value can be adjusted, to set the desired time Communications Manager will detect path recovery. Since this is not a WCP path, path test periods short than 90 seconds are supported. However, this value may need to be adjusted, depending on the protocol/equipment in use.	
Path Fail Count	6	Use the default value. This setting only applies to paths that have an "in recovery" state. Since the path recovery time setting is 0, this setting has no effect.	
RSSI Value	See Description	See the "Guidelines for RSSI Values" (Section 3.2.1.8) to determine if an RSSI value should be used. If an RSSI value is needed, use a high value such as 61 to ensure the RSSI will be higher than the RF path's RSSI.	
Operational Traffic Only	No (Unchecked)	Tells the Communications Manager to send all packets, regardless of priority, on the path, if it is the currently selected one.	

Backup Path	Recommended	Description
Detting		
Path Recovery	300 (seconds)	Use the default value. This setting has no effect since the path will
Time		not be tested (Path Test Period set to 0)
Path Test	0 (seconds)	Tells the Communications Manager not to send test packets on this
Period		path. This is due to the constraints described above when using a
		WCP. It means you will not know ahead of time if the path has
		failed.
Path Fail Count	6	Use the default value. This setting has no effect since the path will
		not be tested (Path Test Period set to 0)
RSSI Value	0	Tells the Communications Manager not to attach an RSSI value to
		ATCS packets. The WCP will add its own RSSI value to the packet
		when it sends the packet on its RF interface.
Operational	No (Unchecked)	Tells the Communications Manager to send all packets, regardless
Traffic Only	. ,	of priority on this path, if it is the currently selected one.

 Table 3-4
 Backup Path WCP Recommended Settings

• WCP and Redundant Mode Restrictions or Constraints

A WCP cannot be used in a redundant mode system due to the following constraints:

- 1) A WCP modifies the ATCS layer 3 sequence numbers for office-bound packets in a manner the Communications Manager cannot predict.
- 2) A WCP does not pass through ATCS acknowledgment packets from the office. It generates service signal messages instead, which do not include the ATCS layer 3 sequence numbers from the acknowledgement packet.
- The office packet switch (or OCG) may send an acknowledgement for a packet received from the RF path on another path, which forces the WCP to continue retrying packets.

Since the WCP modifies the layer 3 sequence numbers, the duplicate packets received at the packet switch (or OCG) will have different layer 3 sequence numbers. That prevents the packet switch from recognizing that packets are duplicates so it may acknowledge both packets. Since the acknowledgements will be sent by the packet switch on only one of the field-bound paths, the Communications Manager or the WCP may continue to retry the packet.

CAUTION

A CAUTION

THIS CREATES A SCENARIO WHERE THE PACKET SWITCH AND/OR THE DISPATCH SYSTEM MAY NOT DETECT STALE PACKETS, WHICH COULD RESULT IN THE DISPATCH SYSTEM DISPLAYING INCORRECT INDICATIONS.

3.2.1.5 Guidelines for ATCS Addressing

The Communications Manager contains several ATCS address settings and the ATCS network requires the field equipment to follow certain rules regarding address assignments. There are two ATCS address types commonly used by the Communications Manager: type 7 wayside addresses and type 2 office addresses.

• Type 7 Wayside Address Format

A type 7 wayside address has the following format: **7.RRR.LLL.GGG.SS.DD**. Each field of the address has the following meaning:

- **RRR** Railroad number between 001 and 999. All equipment installed for the same railroad usually uses the same railroad number.
- LLL Code-line or region number between 1 and 999. The communications system can be broken into lines by the railroad's own internal conventions. The office equipment may have limitations on the number of lines it can manage.
- **GGG** Group number between 1 and 999. Generally, all the equipment at one location is in the same group. However, there are locations that may require different group numbers set for the devices. The group number must be coordinated between the CTC equipment and the field equipment. The office equipment may have limitations on the number of groups it can support per line.
- **SS** Subnode number between 1 and 99. Generally, each addressable device at a location has a different subnode number (and the same railroad, line, and group number).
- **DD** Device number between 1 and 99. Generally used to address a particular device or application within a single piece of equipment. Since the equipment uses the DD for internal addressing, this field is often not user configurable.

The address **7.000.000.000.00.00** can be used as a broadcast address. The address **7.RRR.000.000.00** can also be used as a broadcast address.

• Type 2 Office Address Format

A type 2 office address has the following format: **2.RRR.NN.DDDD**. Each field of the address has the following meaning:

- **RRR** Railroad number between 001 and 999. All equipment installed for the same railroad usually uses the same railroad number.
- **NN** Network node number between 01 and 99. The office environment can be arbitrarily be broken into several network nodes.
- **DDDD** Device number between 0001 and 9999. The value is usually used to address specific application in the office. A value of 0000 addresses all applications within the network node.

3.2.1.6 General Address Guidelines

These guidelines apply to any address configured in the system:

- 1) All ATCS addresses should have the same railroad number.
- 2) All type 7 wayside addresses should have the same Code Line number.
- 3) Each wayside device must have a unique ATCS address. Conflicting addresses can cause major communications problems, including the dispatch system displaying incorrect indications.
- 4) If more than one Code Unit is reporting to the Communications Manager, each unit must have a unique ATCS group number.

3.2.1.7 Communications manager Site Address

When assigning a Site Address to the Communications Manager, use the following guidelines:

- 1) The Communications Manager's site ATCS address must be coordinated with the railroad to ensure it is unique.
- 2) If both the Communications Manager and a wayside controller are running ladder logic, the Communications Manager and the wayside controller must each have different group numbers. The office equipment limits handling one indication per group.

3.2.1.8 Guidelines for RSSI Values

The Communications Manager can attach an RSSI value to office-bound packets before sending them. The RSSI value can be set for each office path. The packet switch (and OCG) uses the RSSI values received on each path to determine which path to send field-bound packets on. Not all protocols support attaching RSSI values. Use the following guidelines to determine what number to set in the RSSI value field for each path. See Section 4 for Local User Interface and Section 5 for Web Browser configurations.

- 1) When using the Gen/ATCS Field protocol, the RSSI value should always be set to 0. The WCP or the receiving device will attach its own RSSI value to the packets.
- 2) When using the Genisys Field protocol, the RSSI value has no effect. The Genisys Field protocol does not send ATCS packets.
- 3) If a WCP (RF) is used as a primary path, any backup path where items 1 and 2 do not apply should have a low RSSI value, such as 1. It is recommended for the backup path to have a lower RSSI than the RF path, which will ensure the packet switch (or OCG) prefers to send field-bound packets out RF.
- 4) If a WCP (RF) is used as a backup path, more preferred paths where items 1 and 2 do not apply should have a high RSSI, such as 61. It is recommended for the primary path to have a higher RSSI than the RF path, which will ensure the packet switch (or OCG) prefers the primary path over the RF path.
- 5) If all previous guidelines do not apply, the path should have a lower RSSI value than paths more preferred. In this case use a path's default RSSI value. The default RSSI values are as follows: primary = 61, backup1 = 51, backup2 = 41 and backup3 = 31.

3.2.1.9 Site Setup Configuration Options

The Table lists the Site Setup Configuration Options.

Parameter	Range	Default
Site Name	1 - 20 Characters	Safetran Systems
Milepost	0 - 20 Characters	000.0
DOT Number:	1 - 7 Characters	000000A
Time zone:	GMT,	EASTERN
	EASTERN,	
	CENTRAL,	
	MOUNTAIN,	
	PACIFIC,	
	ALASKA,	
	ATLANTIC,	
	ARIZONA (NO DST),	
	NEWFOUNDLAND,	
	AUS WESTERN,	
	AUS CENTRAL,	
	AUS CNTRL (NO DST),	
	AUS EASTERN,	
	AUS EASTERN (NO DST)	
Site ATCS Address	7.000.000.000.00 - 7.999.999.999.99	7.620.100.100.01
CAD Address	2.000.00.0000 - 2.999.99.9999	2.620.00.0000
WAMS Address	2.000.00.0000 - 2.999.99.9999	2.620.01.9100
WAMS System	Enabled or Disabled	Enabled
Path Selection Mode	Primary/Backup Primary/Backup	
	Redundant	
Indication Refresh	0 (no refresh) - 600 seconds	60 seconds
Period		
Indication Holdoff	0 (no holdoff) - 10 seconds	0 seconds

Table 3-5 Site Setup Configuration Parameters

3.2.1.10 Serial Port Configuration Options

The following table summarizes the protocol options for the serial ports. If the "Field" path is selected only field options will display, likewise if the "Office" path is selected, only the office options will display. If no path is selected ("None") no path information will appear.

Path Type	Protocol	Clock Mode	Line Modes	TX Clock
Field	Genisys Office	Async	RS-232 Only	N/A
Field	Gen/ATCS Office	Async	RS-232 Only	N/A
Field	CN2000A	Async	RS-232 Only	N/A
Field	CN2000B	Async	RS-232 Only	N/A
Field	Dumb Terminal	Async	RS-232 Only	N/A
Field	Diagnostic Text	Async	RS-232 Only	N/A
Field	BCM Diag	Async	RS-232 Only	N/A
Field	ATCS/HDLC ADM	Sync	RS-232 or RS-422*	Internal or External
Field	ATCS/HDLC UI	Sync	RS-232 or RS-422*	Internal or External
Office	Genisys Field	Async	RS-232 Only	N/A
Office	Gen/ATCS Field	Async	RS-232 Only	N/A
Office	ATCS/HDLC POLL	Sync	RS-232 or RS-422*	Internal or External

 Table 3-6
 Serial Port Configuration Summary

* The 2 partial-featured serial ports only support Async protocols and RS-232 Line Mode.

Table 3-7	Serial	Ports	1 – 4	Parameters

Parameter	Range	Default
Baud Rate	1200, 2400, 4800,	9600
	9600, 19200,	
	38400, 57600, or	
	115200	
Data Bits	7 or 8	8
Parity	None, even, or odd	None
Stop Bits	1 or 2	1
Flow Control	None or Hardware	None
Path Type	None, Field,	None
	Office Primary,	
	Office Backup 1,	
	Office Backup 2, or	
	Office Backup 3	

Parameter	Range	Default
Protocol	Gen/ATCS Office,	Gen/ATCS Office
	Genisys Office,	
	ATCS/HDLC ADM,	
	ATCS/HDLC UI,	
	CN2000A,	
	CN2000B,	
	Dumb Terminal,	
	Diagnostic Text,	
	BCM Diag	

Table 3-8 Full-featured Port – Path Type: FIELD

Table 3-9 Partial-featured Port – Path Type: FIELD

Parameter	Range	Default
Protocol	Gen/ATCS Office,	Gen/ATCS Office
	Genisys Office,	
	CN2000A,	
	CN2000B,	
	Dumb Terminal,	
	Diagnostic Text,	
	BCM Diag	

Table 3-10 Full-featured Port – Path Type: Office Primary, Office Backup 1, 2, or 3

Parameter	Range	Default
Protocol	Gen/ATCS Field, Genisys Field, ATCS/HDLC POLL	Gen/ATCS Field

Table 3-11 Partial-featured Port – Path Type: Office Primary, Office Backup 1, 2, or 3

Parameter	Range	Default
Protocol	Gen/ATCS Field,	Gen/ATCS
	Genisys Field,	Field

Table 3-12 Full-featured Port – Protocol: ATCS/HDLC ADM, UI, or POLL

Parameter	Range	Default
Line Mode	RS-232, RS-422	RS-232
TX Clock	Internal, External	Internal
Source		

NOTE

NOTE

The Communications Manager uses Async Clock Mode and RS-232 Line Mode for all Async protocols: Genisys Office, Genisys Field, Gen/ATCS Office, Gen/ATCS Field, CN2000A, CN2000B, Dumb Terminal, Diagnostic Text, and BCM Diag.

Table 3-13 Laptop Serial Port Options

Parameter	Range	Default
Baud Rate	1200, 9600, 57600,	9600
	or 115200	
Data Bits	7 or 8	8
Parity	None, even, or odd	None
Stop Bits	1 or 2	1
Flow Control	None or Hardware	None

3.2.1.11 Ethernet Port Configuration Options

The following are the Ethernet port configuration parameters:

Table 3-14	Ethernet I	Port Options

Parameter	Range	Default
DHCP Client	Enabled or Disabled	Disabled
Path Type	None,	None
	Field,	
	Office Primary,	
	Office Backup 1,	
	Office Backup 2, or	
	Office Backup 3	

Table 3-15 Ethernet Port Options – DHCP Client Disabled

Parameter	Range	Default
IP Address	0.0.0.0 -	192.168.X.1 where X is
	255.255.255.255	replaced with the Port
		number plus one.
		(Ethernet Port 2 default
		would be 192.168.3.1).
Network Mask	0.0.0.0 -	255.255.255.0
	255.255.255.255	
Default	0.0.0.0 -	192.168.X.1 where X is
Gateway	255.255.255.255	replaced with the Port
		number plus one.
		(Ethernet Port 2 default
		would be 192.168.3.1).

Parameter	Range	Default	Description
OCG Circuit ID	0.0.0 - 999.2.15	620.1.1	The circuit ID, or base ID, of every IP base belonging to this HUB is manually entered here along with its IP address. The base ID is an assigned 16-bit value that is used as a unique tag for each base.
Routing Region One	0.0.0.0 - 255.255.255.255 or Symbolic Name	192.168.X.2 where X is replaced with the Port Number plus one.	This can be either a subnet broadcast or unicast IP address associated with office OCG or packet switch.
Routing Region Two	0.0.0.0 - 255.255.255.255 or Symbolic Name	192.168.X.3 where X is replaced with the Port Number plus one.	This can be either a subnet broadcast or unicast IP address associated with office OCG or packet switch.
OCG Port	0 - 65535	5361	Specifies the port number used to listen for messages. Specifies the UDP port number used to listen for messages. Default is 5361.
Path Value	0 - 255	72	This is information used by packet switch/OCG to specify inbound path options such as main/standby, field device operation, etc.
Route Search Time	0 - 65535 seconds	15 Seconds	Route request is sent per this time interval until a route update response is received.
Route Search Tries	0 - 255	4	The number of times Communications manager will retry a route search if a response is not received.
Route Refresh Time	0 - 65535 Minutes	5 Minutes	Once a route update response is received, a route request is periodically sent per this time interval to refresh the route table.

Table 3-16	ATCS/IP	Office	Options
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3.2.1.12 DNS Options

The following are the configurable DNS protocol options:

Table 3-17 DNS Options

Parameter	Range	Default	Description
Nameserver 1	0.0.0.0 - 255.255.255.255	192.168.2.1	IP address of DNS server
Nameserver 2	0.0.0.0 - 255.255.255.255	192.168.3.1	IP address of DNS server
Nameserver 3	0.0.0.0 - 255.255.255.255	192.168.4.1	IP address of DNS server

3.2.1.13 Echelon[®] Options

The following are the configurable Echelon[®] options.

Table 3-18 Echelon[®] Configuration Options

Option	Range	Default	Description
Gateway Node	1 -126	1	If the destination ATCS address of a message to send on Echelon® is not part of the same group as the
			Communications Manager, it sends the ATCS message to this Echelon® Node.

3.2.1.14 Gen/ATCS Field Protocol Options

Each port configured for Gen/ATCS Field Protocol will have the following configuration options:

Table 3-19 Gen/ATCS Field Protocol Options

Option	Range	Default	Description
Poll Address	1 - 254	1	
Link Fail Timer	250 - 60000 milliseconds	1000 ms	This is used as a watchdog timer to time the receipt of Genisys Office messages.
Comms Device Addr (for setting WCP address via XID)	7.000.000.000.00. 00 (disabled) 7.999.999.999.99.99. 99	7.000.000.000.00. 00 (disabled)	This address is used when building an XID message. The external equipment will read the address from the XID message and assign itself that address. If it is left at 7.000.000.000.00.00, the external equipment will not use the address and will use its own assigned address instead.

3.2.1.15 Gen/ATCS Office Protocol Options

Each port configured for Gen/ATCS Office Protocol will have the following configuration options:

Option	Range	Default	Description
Polling Range Start	1 - 254	1	The first Genisys station number in the
			polling sequence
Number of Stations	1 - 24	1	The number of stations to poll.
Short Poll Delay	250 - 120000	1000 ms	The amount of time to wait for a poll
	milliseconds		response when the station is online.
Long Poll Delay	250 - 120000	10000 ms	The amount of time to wait for a poll
	milliseconds		response when the station is offline.
Retry Count	0 - 255	5	The number of times to send a data
			frame to the field code unit before
			discarding the frame.
Response Fail	0 - 255	Not Used	
Count			

Table 3-20	Gen/ATCS	Office Protocol	Options
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3.2.1.16 Genisys Office Protocol Options

Each port configured for Gen/ATCS Office Protocol will have the following configuration options:

Table 3-21 Gen/ATCS Office Protocol Option
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Option	Range	Default	Description
Polling Range Start	1 - 254	1	The first Genisys station number in
			the polling sequence
Number of Stations	1 - 24	1	The number of stations to poll.
Short Poll Delay	250 - 120000	1000 ms	The amount of time to wait for a poll
	milliseconds		response when the station is online.
Long Poll Delay	250 - 120000	10000	The amount of time to wait for a poll
	milliseconds	ms	response when the station is offline.
Retry Count	0 - 255	5	The number of times to send a data
			frame to the field code unit before
			discarding the frame.
Source ATCS	7.RRR.LLL.GGG.SS.DD	5	The base ATCS address that will be
Address			used as the source address for each
			station. The station number that
			responded to a poll is added to the
			GGG field to create a source ATCS
			address.

3.2.1.17 ATCS/HDLC ADM Options

The ATCS/HDLC ADM protocol must be configured on the full-featured serial ports. Each port will have the following configurable options.

Option	Range	Default	Description
Message Response	300 - 65535 milliseconds	1000	Used for timing an expected
Timer		milliseconds	response message.
Retry counter	0 - 255	3	Number of times to retry a
			transmitted message.
Line Mode	RS-232 or RS-422	RS-232	
TX Clock Source	Internal or External	Internal	

3.2.1.18 ATCS/HDLC UI Options

ATCS/HDLC UI interfaces with the base station controller equipment (such as BCM or BCM II). In this application Communications Manager polls the base station controller. The following table displays the user configurable options to the Office System.

Table 3-23	ATCS/HDLC UI Configurable Options
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Parameter	Range	Default	Description
Message Response	300 - 65535 milliseconds	1000	Used for timing an expected
Timer		milliseconds	response message.
Retry counter	0 - 255	3	Number of times to retry a transmitted message.
First Station Number	1 - 255	1	The first station number in the polling sequence.
Number of Stations	1 - 15	1	The number of stations to poll.
Line Mode	RS-232 or RS-422	RS-232	
TX Clock Source	Internal or External	Internal	

3.2.1.19 ATCS/HDLC POLL Options

The ATCS/HDLC POLL protocol interfaces directly with packet switches in the office. The following table lists the user configurable options.

Parameter	Range	Default	Description
Message Response Timer	300 - 65535 milliseconds	1000 milliseconds	Used to time an expected message from the packet switch.
Retry counter	0 - 255	3	Number of times to retry a transmitted message
Poll Address	1 - 15	1	The poll address that will be responded to.
Line Mode	RS-232 or RS-422	RS-232	
TX Clock Source	Internal or External	Internal	

Table 3-24 ATCS/HDLC POLL Configurable Options

3.2.1.20 Office Path Options

Each Ethernet port and serial port configured as an office path (Office Primary, Office Backup1, 2, or 3) has the following user configurable options as shown in the table below.

Table 3-25 Office Path Configurable Options Primary Office and Backup

Option	Range	Default	Description
Path Recovery Time	0 - 3600 seconds	300 seconds	The amount of time a path must successfully deliver messages with no losses before the path can be considered "Operational" again.
Path Test Period	0 - 7 Days	60 seconds	The time between attempts to send a test packet on a path's whose state is either "Failed", "In Recovery", or "Operational" (not currently the most preferred path), If the "Path Test Period" is set to zero the path will not be tested. A test period of zero should only be configured for the least preferred path.
Path Fail Count		6	The minimum number of test packets that do not receive a response, causing a path to change from "In Recovery" to "Failed" state.
RSSI Value		61 - Office Primary 51 - Office Backup 1 41 - Office Backup 2 31 - Office Backup 3	Defines the RSSI value the office protocol will attach to the end of all ATCS RF_INFO packets transmitted on an office path. If the user sets the value to 0, the Communications Manager will not attach an RSSI value.

3.2.1.21 CN2000A & CN2000B Protocols

The CN2000A and CN2000B protocols operate with the CN2000 wayside controller equipment. The following table displays the user configurable options.

Option	Range	Default	Description
Polling Range Start	1 - 254	1	The first station number to poll.
Number of Stations	1 - 24	1	The number of CN2000 Code Units to poll.
Short Poll Delay	250 - 60000 milliseconds	1000 ms	The time interval between sending poll
Long Poll Delay	250 - 120000 milliseconds	10000 ms	The wait time for an indication acknowledge to be received from packet switch or OCG.
Source ATCS Address	7.RRR.LLL.GGG.SS.DD	7.620.100.100.01.01	The source ATCS address to use as the address of the field stations. The polled station number replaces the GGG field

Table 3-26 CN2000A & CN2000B Configurable Options

3.2.1.22 Dumb Terminal Options

Each port configured for Dumb Terminal will have the following options appear:

Table 3-27	Dumb Terminal Pa	arameters
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Parameter	Range	Default	Description
SSH Port Number	0 - 65535	10021 for Serial Port 1 10022 for Serial Port 2 10023 for Serial Port 3 10024 for Serial Port 4	The TCP port number the driver listens on for the new SSH connections
Session Time-out	0 - 60 minutes Value of 0 disables time-out	10 minutes	The amount of time of no received data before the session is disconnected

3.2.1.23 Diagnostic Text Options

Each port configured for Diagnostic Text will have the following options appear:

Table 3-28	Diagnostic Te	xt Parameter	Options
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Parameter	Range	Default	Description
SSH Port Number	0 - 65535	10021 for Serial Port 1 10022 for Serial Port 2 10023 for Serial Port 3 10024 for Serial Port 4	The TCP port number the driver listens on for the new SSH connections
Session Time-out	0 - 60 minutes Value of 0 disables time-out	10 minutes	The amount of time of no received data before the session is disconnected

3.2.1.24 Digital Input Options

The Communication Manager Digital Inputs have the following configuration parameters:

Table 3-29 Digital Input Configuration Options

Parameter	Range	Default	Description
Input Name	0 - 10	Input X	(Where X is the input number).
	Characters		
Algorithm	Discrete or GFT	Discrete	

• Digital Inputs - Algorithm: Discrete

The following configuration parameters appear when Algorithm is set for Discrete:

Table 3-30	Digital Inputs –	Algorithm:	Discrete
	Bigital inpato	/	Dicciolo

Parameter	Range	Default	Description
Off State	0 - 10 Characters	Off	Up to 10 characters in length and used to
Name			identify Off state.
On State	0 - 10 Characters	On	Up to 10 characters in length and used to
Name			identify On state.
Toggle State	0 - 10 Characters	Toggling	Up to 10 characters in length and used to
Name			identify Toggle state.
Off De-bounce	0 - 60000 milliseconds	100 ms	Number of milliseconds an input must be
			de-energized before it is declared OFF.
On De-bounce	0 - 60000 milliseconds	100 ms	Number of milliseconds an input must be
			energized before it is declared ON.
Toggle Period	0 - 60000 milliseconds	1000 ms	Number of milliseconds within an input
			changing state 4 or more times is declared
			TOGGLING.

• Digital Inputs - Algorithm: GFT (Ground Fault Detector)

The following configuration parameters appear when Algorithm is set for GFT:

Table 3-31 Digital Inputs – Algorithm GFT

Parameter	Range	Default	Description
Battery 1 Name	0 - 10 Characters	BAT 1	0-10 characters (Where X is the input number).
Battery 2 Name	0 - 10 Characters	BAT 2	0-10 characters (Where X is the input number).

3.2.1.25 Analog Input Options

The following are the configurable parameters for the Analog Input ports:

Table 3-32 Analog Input Option

Parameter	Range	Default	Description
Name	0 - 10 Characters	Batt X	0-10 characters (Where X is the input number).
Resolution	0.1V to 36.0V	0.5V	Specifies the change in voltage required before an event will be logged into the Argus event log. The voltage is calculated as the average of the number "Samples to Average".
Sample Period	100 - 60000 milliseconds	100 ms	Number of milliseconds between raw samples of the input. The average of the last "Samples to Average" readings is taken at this point and compared to the last logged value to determine if a new event needs to be logged.
Average Count	1 - 64 samples.	10	Specifies the number of consecutive samples to average together to determine the voltage present on the input. A list of the last "Samples to Average" samples is kept as the voltage readings are taken. At each sample period, the list of voltage readings is averaged together to determine the voltage value.
Re-read Period	0 - 60000 milliseconds	500 ms	The number of milliseconds after an event is logged, when one more comparison of voltage to the last logged value will be taken. This function has a default value of 500 ms.
Re-read Resolution	0.0V (off) to 36V.	0.2V	The voltage difference required to log another event after the re-read comparison is performed. This function has a default value of 0.2 VDC.

3.2.1.26 Relay Output Options

The following are the configurable parameters for the Relay Outputs:

	Range	Default	Description
Name	0 - 10 Characters	Relay X	0-10 characters (Where X is the output number).
Off State Name	0 - 10 Characters	Off	Up to 10 characters in length and used to identify OFF state.
On State Name	0 - 10 Characters	On	Up to 10 characters in length and used to identify ON state.
Toggle State Name	0 - 10 Characters	Toggling	Up to 10 characters in length and used to identify TOGGLE state.
Toggle Period	500 - 60000 milliseconds	1000 ms	Number of milliseconds within an input changing state 4 or more times is declared TOGGLING.
Duty Cycle	0 - 100 percent	50%	Percentage of time in ON state.

Table 3-33	Relay Outp	ut Options
------------	------------	------------

3.2.1.27 Diagnostic Logging Options

The Diagnostic Log has configurable parameters for logging message traffic. The following table displays the parameters available.

Parameter	Range	Default	Description
Message	Enabled	Disabled	Logs messages addressed to and generated by
Processing	or		the Communications Manager unit. The ATCS
Logging (Layer 7)	Disabled		packet header information is not shown; only the
			application layer data of the message is shown.
			For multi-part messages, the data is logged after
			the re-assembly of all the received message parts
			and before breaking up sent messages.
Routing Logging	Enabled	Disabled	Logs messages handled by the internal ATCS
(Layer 3)	or		router. The router handles ATCS layer 3 packets
	Disabled		and all data including the ATCS layer 3 header is
			shown in the log entries. The router determines
			what to do with received messages and handles
			path selection.
Serial Port 1	Enabled	Disabled	Logs data link layer message data as it is sent and
RX/TX Logging	or		received using the selected serial protocol.
(Layer 2)	Disabled		
Serial Port 2	Enabled	Disabled	Logs data link layer message data as it is sent and
RX/TX Logging	or		received using the selected serial protocol.
(Layer 2)	Disabled		
Serial Port 3	Enabled	Disabled	Logs data link layer message data as it is sent and
RX/TX Logging	or		received using the selected serial protocol.
(Layer 2)	Disabled		
Serial Port 4	Enabled	Disabled	Logs data link layer message data as it is sent and
RX/TX Logging	or		received using the selected serial protocol.
(Layer 2)	Disabled		
Ethernet Port 1	Enabled	Disabled	Logs data link layer message data as it is sent and
RX/TX Logging	or		received using the selected Ethernet protocol.
(Layer 2)	Disabled		
Ethernet Port 2	Enabled	Disabled	Logs data link layer message data as it is sent and
RX/TX Logging	or		received using the selected Ethernet protocol.
(Layer 2)	Disabled		
Ethernet Port 3	Enabled	Disabled	Logs data link layer message data as it is sent and
RX/TX Logging	or		received using the selected Ethernet protocol.
(Layer 2)	Disabled		
Ethernet Port 4	Enabled	Disabled	Logs data link layer message data as it is sent and
RX/TX Logging	or		received using the selected Ethernet protocol.
(Layer 2)	Disabled		

Table 3-34	Diagnostic	Loaaina	Options
	Diagnostic	Logging	options

3.2.1.28 GPS Configuration Options

The following table displays the user configurable parameters and descriptions for the GPS receiver.

Option	Range	Default	Description	
Sats For Time	1 - 4	4	The number of satellites that must be in view before	
			the Communication Manager will set its date/time	
			from the GPS receiver's date/time information.	
Time Difference	1 - 300	5	The number of seconds the GPS receiver's date/time	
	seconds	seconds	and the system's present date/time must differ before	
			the Communications Manager will set the date/time	
			from the GPS date/time.	

Table 3-35	GPS	Configuration	Options
------------	-----	---------------	---------

3.2.1.29 SNMP Traps

Communications Manager is equipped to send alarms generated by an application as SNMP version 2 traps. The trap is generated by application program, (if it is an IP path). The ATCS address, Site Name, Milepost, DOT, and Date/Time will automatically be filled in. The application-assigned alarm number, Application-assigned alarm text, Application-defined SNMP alarm number, and Application-defined SNMP severity level will be filled in from the application, run by the CDL engine.
The following table displays the user configurable SNMP Trap options.

Option	Range	Default	Description
Primary	0.0.0.0 (disabled) -	0.0.0.0	The destination IP address to send
Destination IP	255.255.255.255 or	(disabled)	SNMP traps when the currently active
	symbolic name		path is primary.
Primary	0 - 65535	162	The destination IP Port Number to send
Destination Port			SNMP Traps when the currently active
			path is primary.
Backup 1	0.0.0.0 (disabled) -	0.0.0.0	The destination IP address to send
Destination IP	255.255.255.255 or	(disabled)	SNMP traps when the currently active
	symbolic name		path is backup 1.
Backup 1	0 - 65535	162	The destination IP Port Number to send
Destination Port			SNMP Traps when the currently active
			path is backup 1.
Backup 2	0.0.0.0 (disabled) -	0.0.0.0	The destination IP address to send
Destination IP	255.255.255.255 or	(disabled)	SNMP traps when the currently active
	symbolic name		path is backup 2.
Backup 2	0 - 65535	162	The destination IP Port Number to send
Destination Port			SNMP Traps when the currently active
			path is backup 2.
Backup 3	0.0.0.0 (disabled) -	0.0.0.0	The destination IP address to send
Destination IP	255.255.255.255 or	(disabled)	SNMP traps when the currently active
	symbolic name		path is backup 3.
Backup 3	0 - 65535	162	The destination IP Port Number to send
Destination Port			SNMP Traps when the currently active
			path is backup 3.

Table 3-36 SNMP Trap Configurable Options

• Disabling SNMP Traps

SNMP Traps can be disabled by setting the Destination IP addresses to the default value (0.0.0.0).

3.2.1.30 WSA/S2

Communications Manager is equipped to interface with Westrace Freight

The following table displays the user configurable parameters for Westrace Freight interface.

Parameter Name	Range	Default	Description
WSA/S2 Enabled	Yes or No	No	Set to Yes to enable the WSA/S2 protocol functions.
WSA/S2 UDP Port	065535	3800	The UDP port number used to send and receive WSA/S2 messages.
WSA/S2 Destination IP	<ipv4 Address></ipv4 	192.168.1.1	The IP address of the Westrace Freight unit.
Session ID	1255	1	An identifier associated with the session. Must match the ID provided in WTFR.
Address ID	162	1	The WSA/S2 address of the WTFR.
Loss of Comms Timeout	10030000 (ms) in 100 ms increments	5000 (ms)	If no WSA/S2 messages are received within this timeout, the Comms Manager will declare the session as "failed".
Transmit Rate	10030000 (ms) in 100 ms increments	1000 (ms)	The rate at which the Comms Manager will transmit WSA/S2 control messages to the destination system.
la put Offe et	0.00	0	Offerst in hydrog into the input legie
Input Offset	028	0	states ("I" bits) of the ladder logic bitmap to copy the received WSA/S2 logic states.
Input Size	4, 6, 8, 12, 16, or 32	4	The size, in bytes, of data to copy from the received WSA/S2 logic states. Selected from drop down menu.
Output Offset	028	0	Offset, in bytes, into the output logic states ("O" bits) of the ladder logic bitmap to copy the sent WSA/S2 logic states.
Output Size	4, 6, 8, 12, 16, or 32	4	The size, in bytes, to copy the sent WSA/S2 logic states. Selected from drop down menu.

Table 3-37 \	WSA/S2	Parameters
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SECTION 4 WEB USER INTERFACE (WebUI)

4.0 WEB USER INTERFACE (WEBUI)

4.1 GENERAL

The Communications Manager comes with a Web Interface which enables users to configure the system as well as monitor system status using any web browser. Access can be via a network or locally using the Ethernet port on the front panel. Access is protected by a username and password.

4.2 USER COMPUTER SETUP

Setting up a computer to connect with the Communications Manager follows standard fundamental LAN protocol. The User Ethernet Port defaults as a DHCP Server. Setting the computer as a DHCP client will enable the Communications Manager to assign the computer an IP address. The user can also manually set up the computer's TCP/IP properties (e.g. IP address 192.168.1.105, subnet as 255.255.255.0) to connect with the Communications Manager as shown in the figure below. The example shown is for Windows XP and varies between Windows versions (Vista, Windows 7). This procedure is **NOT** necessary unless the intent is to set up the computer's Ethernet port to something other than a default configuration.

General Advanced	
Internet Protocol (TCP/IP) Properties (Y X	
Connect using: General Alternate Configuration	
Broadcom Net/Atreme 57xx Gigabit C Configure You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the capproprise IP settings.	ties <u>?</u> ×
✓ Image: Sharing for Microsoft Networks ▲ ✓ Use the following IP address: ▲ ✓ ✓ C Obtain an IP address: ✓ ✓ ✓ A ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	tomatically if your network supports to ask your network administrator for
IP address: IP address: Uninstal Uninstal Properties Default gateway: Submet mask: Submet mask: Submet mask: Default gateway: Submet mask: Submet ma	192.168.1.105
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks. C Obtain DNS server address automatically	192.168.1.1
Show icon in notification area when connected Notify me when this connection has limited or no connectivity Alternate DNS server: Alternate DNS server: Cuse the following DNS server and Preferred DNS server: Cuse the following DNS s	addresses:
OK Cancel OK Cancel OK Cancel	Advanced

Figure 4-1 User Computer Setup

4.3 STARTING THE WEB USER INTERFACE (WEBUI)

To access the Communications Manager, enter "https://" and the unit's IP Address in the browser address window as shown in Figure 4-2. It is necessary to preface the IP address with "https://". The front panel Ethernet port's default address is 192.168.1.100.



Figure 4-2 Communications Manager Web User Interface Start Up

4.3.1 Web Login

The WebUI's opening page will appear as shown below. Click on either *Login* highlighted to bring up the login screen.

	· · · · · · · · · · · · · · · · · · ·	Login
HOME VELCOME TROUBLESHOOT	You have reached the Safetran Systems Comms Manager web based user interface. Through this easy to use web tool, you can configure, control, and observe this device b the appropriate links and buttons throughout the system.	/ clicking
NON VITAL CONFIG	You may select a system area from the menu above, and then choose a more specific selection from the menu that appears to the left. If you need help, you may return to this clicking on the "Home" link above and selecting the "WebUI Troubleshoot" link from the left.	page by
MAINTENANCE STATUS REPORTS	Please Login to begin using the Comms Manager WebUI	/
APPLICATION		
Comms Man	age Weisr 133	Copyright @ 2014 Siemens.
	Click to Login	

Figure 4-3 WebUI Opening Screen

The WebUI's Login Page will appear. Enter the appropriate **Username** and **Password**, and then click on the **Login** button



Figure 4-4 WebUI Login Page

The login confirmation can be viewed in two locations. A pop up window will appear briefly to verify the User Name and Password was accepted. Login status is also continuously displayed in the upper right corner and includes Logout interactive text to conclude the session.



Figure 4-5 WebUI Login Confirmation

4.3.2 Web UI Welcome Page

The WebUI's Welcome Page will appear, as displayed in Figure 4-6. To the left of the page is the **Web UI Navigation Menu**. Each menu item has a list of sub-menu items. The Site Information is listed on the top of the page for easy reference. Login status is listed on the upper right corner of the page.

Site Name: Safetran Systems ATC Milepost: 123.4 DO	S Address: 7.620.100.100.03 T Number: 123456A	Logged into Comms M	<i>l</i> lanager as admin , <u>logout</u>
Cer Edit Seen Headery Bostmunks, Josh Brit Safesan Systems Webdit - Comman - +		○ C Sogie	P + A C = Logged into Comms Manager as admin, logged
Mie piar. 1224 Mie piar. 1224 Mie piar. 1224 Internet Explorer Crashes Min mie Toodlehood Internet Explorer crashes when the logi Campion of American Campion of American	n button is pressed you may need to apply a Windows ease visit <u>this link</u> . (requires internet access)	update from Microsoft.	
Conno.Manager Varian 1.1.3	HOME		Grayings & 2314 Stamon
	TROUBLE SHOOT NON VITAL CONFIG LOGS		
	MAINTENANCE STATUS REPORTS		
	APPLICATION		

Figure 4-6 WebUI Welcome Page

4.3.3 WebUI Troubleshooting

In the unlikely event of an Internet Explorer failure, an application download is available via the Internet. Click on the *Troubleshoot* interactive text to bring up the Troubleshooting page as shown in Figure 4-7.

	HOME WELCOME TROUBLE SHOOT	
	NON VITAL CONFIG	
	LOGS	
	MAINTENANCE	
	STATUS	
	REPORTS	
	APPLICATION	
Internet Explorer crashes when the login but Internet Explorer crashes when t	tton is pressed you may need to apply a Windows update from Microsoft. e witt <u>this link</u> . () equires internet access)	
Commis Manager Version 1.3.3		Copyrght @ 2014 Siemens
	Microsoft	
	Download Center	، م
	Shop v Products v Categories v Support v Security v Windows Script 5.7 for Windows XP	
	Language English Download This download installs Microsoft® Windows® Script containing Visual Basic® Script Edition (VBScript.) Version 5.7, JScript® Version 5.7, Windows Script Components, Windows Script Host 5.7, and Windows Script Runtime Version 5.7.	Free PC updates • Security patches • Software updates • Service packs • Hardware drivers @Non Microsoft Update
	Details	
	System Requirements Install Instructions	Microsoft Suggests
	Additional Information	Shop for a new Windows PC Browse our collection of
	Related Resources	laptops, tablets, and convertibles perfect for the new Windows.



4.3.4 Non-Vital Configuration

The WebUI is one method to configure the Communications Manager. The WebUI navigation menu shows a list of configuration sub-menus as shown in Figure 4-8.



Figure 4-8 Non-Vital Configuration Menu

4.3.4.1 Analog Input

Click on the *Analog Input*, from the list of configuration sub-menus to bring up the Analog Input Configuration Page.



Figure 4-9 Configuration Menu – Analog Input

The Analog Input Configuration Page has a tab for each of the four analog inputs. Click on the desired input tab to bring up the configuration dialog box.

SAFETRA	N° Ste Name: Safet	ran Systems ATCS Address: 7.62	0.777.100.01							Logged in	to Comms Manager as admin
ostens	Mile Post: 123.4 > Home > Non Vi	a 1 DOT Number: 1234 tai Config > Analog Input	560								
	AI One Al Tun	Al Tree Al Fox									
TAL CONFIG	Bier di ber	SRefresh Default									
a ROUTER	Name:	Reioktion (V):									
	BATT 1	0.5									
CODE LINE	Sample Period (ms)	E Average Count:									
	Renad Period (ms):	: Reread Resolution (V):									
	500	0.2									
		0									
AT OUTPUT		AI One AI Two	AI Three AI Four								
ere -		0	L								
		Save 🕥 Discard	Befresh CoDefault								
		Name:	Resolution:								
			le s	AI One	AITwo	AI Three	AI Four				
		BATT 2	0.5	1							
		Sample Period:	Average Count:	Save	🚮 Discard	🕏 Refresh 🤇	Default				
		100	10	Name:		Resolutio	n:				
UTON.		Reread Period:	Reread Resolution:	BATT 3		0.5		AI One	AI Two	AI Three	AI Four
		500	0.2	Sample D	eriod:	Averane	Count:		~		
000041	anage verson 122			- oumpier	enour	Trendge	ooune	Save j	Discard	Refresh	Default
				100		10		Name		Pacaluti	0.0.1
				Reread P	eriod:	Reread R	esolution:	DATT A		Resoluci	UIT
				500		0.2		BAI14		0.5	
								Sample P	eriod:	Average	Count:
								100		10	
								Reread Pe	eriod:	Reread	Resolution:
								500	1200.001	0.2	

Figure 4-10 Analog Input Configuration Page

Click on the *Refresh* button to re-populate the dialog boxes with the current configuration parameters. Clicking on the *Default* button will insert all of the default values in each parameter.



Save the new entries by clicking on the **Save** button. The **Discard** button will remove all changes and restore all configuration parameters to the values prior to making the changes.



The figure and chart below details the Parameters, Range, and Default settings as well as a description for the four Analog Inputs.

	» <u>Home</u> » <u>Non Vita</u>	l Config » Analog Input	
	AI One (*) AI Tw	o AI Three AI Four	
	🔚 Save 🌀 Discard 🗧	Befresh 🗞 Default	
(a)	Name:	Resolution:	(b)
\bigcirc	Sample Period:	Average Count:	(d
	Reread Period:	Reread Resolution:	$\int \int f$
(e)			-

Figure 4-11 Analog Input Parameters

	Parameter	Range	Default	Description
а	Name	0 to 10 characters	BATT X (where X is the input number)	Up to 10 characters long and used to describe the input in event reports.
b	Resolution	0.1V to 36.0V	0.5 V	Specifies the change in voltage required before an event will be logged into the event log. The voltage is calculated as the average of the number "Samples to Average".
С	Sample Period	100 – 60000 milliseconds	100 ms	Specifies the number of consecutive samples to average together to determine the voltage present on the input. A list of the last "Samples to Average" samples is kept as the voltage readings are taken. At each sample period, the list of voltage readings is averaged together to determine the voltage value.
d	Average Count	1 – 64 samples	10	Specifies the number of voltage samples to average together to calculate the input voltage.
е	Re-read Period	100 – 60000 milliseconds	500 ms	Specifies the time between voltage samples.
f	Re-read Resolution	0.0V (off) to 36.0V	0.2 V	The voltage difference required to log another event after the re-read comparison is performed.

4.3.4.2 ATCS Router

Click on **ATCS ROUTER**, from the list of configuration sub-menus to bring up the ATCS Router Configuration Page.



Figure 4-12 ATCS Router Sub-Menu

The Communications Manager will learn ATCS routes from received messages, or in some instances routes configured with external devices. The Route Timeout parameter establishes the amount of time that an ATCS address has not been heard from before Communications Manager removes the address from the route table. The route will be re-established when contact with the address returns. The timeout can be set for up to 48 hours. Communications Manager's routing table can be viewed from the Status Menu selection Route Table.

SAFETRAN	Site Name: Safetran Systems ATCS Address: 7.620.777.100.01 Mix Post: 123.4 DDT Number: 1234560 = Home = Nion Vital Config = ATCS Router	Logged rito Commis Manager as ad	dmin, <u>loc</u>
NON VITAL CORRE	The face of the set of		
AUCLINUUTUU COLLOG VERBOURT OCCOOLLINE DAURNOSTIC LOG OAURUL INPUT Effetment Evennet Evennet OVERTILOG OAURUL	200	➤ Home » Non Vital Config » ATCS Router Save Objected Stress Sciences	
MODOLES MELAY CRITIST SEMIAL POINT		Route Timeout (s):	
SITE DUTO SIME SIME VAUE VA		300	
ris An TENANCE A TUR			
PLICATION			
Comma Manag	gar Vanign 13.5		ent 8 2014

Figure 4-13 ATCS Router Configuration Page

Option	Range	Default	Description
Route Timeout	0 - 172800 seconds (up	300	If messages are not heard
	to 48 hours). A value of	seconds	from an ATCS address for this
	0 means the routes		time period, the address is
	never expire.		removed from the route table

Table 4-2 ATCS Router Configuration Parameters

4.3.4.3 CDL Log Verbosity Level

The CDL Log Level can be configured in one of five levels:

- BASIC (level 1) Operation and access information.
- ERROR (level 2) Critical problems that may need immediate attention.
- WARNING (level 3) Possible issues that may or may not need correction.
- **INFO (level 4)** Helpful information about present operation.
- **DEBUG (level 5)** For Siemens personnel.

The verbosity level of logging may be chosen such that any entry that has the same level or lower will be added to the log. Higher leveled entries will not be added to the log. The default verbosity level is Basic. The system log stores at least 1,000 entries.

SAFETRAN	Ste Name: Safetran Systems ATCS Address: 7.620.777.100.01			Logged into Comms Manager as admin, logout
(funt	Mile Post: 123.4 DDT Number: 1234560 + Home > Non Vital Config > CDL Log Verbosity Imme > Config > CDL Log Verbosity	Verbosity:		
RON VITAL CORESC * ANALOS MIPUT * AFCS ROUTER * SDL LORUNTRICUTY	CDL Log Lavel Debug Basic	Info	*	
bc coop Line bindhostic Loo coopil lineur coopil lineur Ethermet	Etas Etro Ancua Vian Ancua Data	Basic		
+ EVENTLOO + ors + MODOLES		Error		
Macau dogmant Mana and and and and and and and and and		Warning		
		Info		
LOGI MANTIBANG		Debug		
MPURIS APPENATION				
Corona Mana	gar Vanuer 9.3.1			Copyright & 2014 Namen

Figure 4-14 Configuration Menu – CDL Log Verbosity

4.3.4.4 DC Code Line

The Communications manager supports a single code unit running a DC Code Line protocol. The Communications Manager currently supports the K2 code line protocol and will support H code and J Code in future releases.

The Communications Manager can operate in two modes; Protocol Conversion and Non-vital Logic Controller.

• Protocol Conversion Mode

When the Communications Manager is acting as a protocol converter, it receives K2 indication data on the Code In input (analog input 4 is disabled) and converts the indication data into an ATCS indication message and delivers that message to the office system. The Communications Manager creates an ATCS address for the unit when converting the data. When the Communications Manager receives an ATCS control destined for the created address, the Communications Manager will convert it from ATCS format into K2 format and step out the control on the Communications Manager's Code Out output 1.

When the Communications Manager receives an ATCS recall, it will NOT send a K2 recheck frame but will instead briefly toggle the RLY1 output. RLY1 must be wired into the K2 code unit to trigger it to send an indication. The recheck method prevents the Communications Manager from delivering stale control data in a K2 recheck frame. The user may set the duration RLY1 is on to trigger the indication.

Because an ATCS office system expects an indication message from a location once per minute, the Communications Manager will resend the last received indication from the K2 code unit once per minute. That will prevent the office from going into code fail. However, the Communications Manager can periodically recheck the K2 code unit to ensure it is still operating. If the Communications Manager does not receive any indications (response from a recheck or otherwise) for the configurable Recheck Period plus 5 minutes, it will stop sending the periodic indications to the office. The office will time out the location and report code fail. If Periodic Rechecks are not enabled, the Communications Manager will always send the once per minute indication from its last received data.

In this mode of operation the Communications Manager and the K2 code unit are each independently addressable by the office system.

• Non-Vital Logic Controller Mode

When the Communications Manager is in this mode of operation, it does not directly send the K2 indication to the office system or deliver an ATCS control to the code unit. Instead, it copies the indication data received from the K2 code unit into the "I bits" of the ladder logic bit map. That allows the ladder logic program to operate on the data to create the indication sent to the office. The Communications Manager will also copy data from the "O bits" of the ladder logic bit map into the control stepped out to the K2 code unit. That allows the ladder logic program to operate on the ATCS control data before delivering it to the K2 code unit. This mode of operation allows the ladder logic program to perform local or remote control of the location using a ULCP, for example, and is similar to a CM/GEO combination.

In this mode, the Communications Manager will still perform a periodic recheck of the K2 code unit, if configured to do so. Executive bit E0005 will be set if the Communications Manager has received responses to the periodic rechecks and will be clear if the Communications Manager has not received a response from the K2 code unit. The Communications Manager will clear the E0005 bit if has not received an indication from the code unit for the configured Recheck Period plus 5 minutes. The ladder logic can choose to stop indications (using the Indicate Enabled executive bit) or set a bit in the indication messages sent to the office, if the code unit is offline.

• DC Code Line Settings

The DC Code Line screen has three modes, None, K2, and H. H is not functional at this time and will be available along with Mode J in a future release.



Figure 4-15 DC Code Line Modes

Selecting None on the DC Code Line Mode menu will disable DC Code Line.

	Ste Name; Safetras: Systems ATCS Address: 7620-277.100.01 Wike Pedt:: 121.4 1.001 Number: 124560 + ISone + Non VIAN Config = DG: Coste Lune	Logged into Commis Manager as admin , <u>logout</u>
Moti VTAL CORPC # Add LOUND # Add LOUND # Add LOUND # Could Lounded # Database Loo # Database Loo	tered Broker © Berken © Breket Cocke Line Mode: Encorp Ented DC Code Line Mode: None □Tracing Enabled	ult
Commi Mar	Magar Mass 115	Copyright & 2014 Stammers



The K2 DC Code Line Mode screen will display the user programmable parameters as shown in Figure 4-17.

SAFETRAN Ste Name: Safetran Systems ATCS Address: 7,620,777,100,01		» Home » Non Vital Config » DC Code Line								
CRONE:	Mile Port: 123.4 D07 humeer: 1234360 Home > Home Visit Order Visit Conde Line General (*) States (*)				General (*) Stations (*)					
HOR VITAL CONFIG	DC Code Line Mode:	Refeat to Default			Save 🗊 Discard 🕉 Refresh 🗞 Default					
+ COLLOG VERIOSITY	K2 Ø Tracese Feabled	*			DC Code Line Mode:			1		
DIAGNOSTIC LOG OKOTAL BUILT	RX Condition Max (ms): 400	RX Condition Min (ms): 250			K2 V	*				
+ EVENTLOG + GPS + MODULES	RX Long Pulse Max (ms): 400 RX Short Pulse Max (ms):	RX Long Pube Min (mi): 268 RX Short Pube Min (mi):		Ĩ	RX Condition Max (ms):	RX Condition Min (ms):				
 MELAN COUNTER MEDIAL PORT 	200 RX Clearout Max (ms):	90 RX Gearout Hin (ms):	TX Clearout Length (ms):	[400	250]			
• sour • sour • swat	1500 RX Rest Max (ms): 250	600 6X Rest Min (ms): 100	TX Rest Length (ms):	8	RX Long Pulse Max (ms):	RX Long Pulse Min (ms):	1			
CHANGE PASSWORD	TX Condition Length (ms) 350	1: TX Long Pulse Length (11 350	s): TX Short Pube Length (ms): 120		RX Short Pulse Max (ms):	RX Short Pulse Min (ms):	_			
					200	90				
				1	RX Clearout Max (ms):	RX Clearout Min (ms):	TX Clearout Length (ms):			
APPLICATION :					1500	600	1000	-		
					RX Rest Max (ms):	RX Rest Min (ms):	TX Rest Length (ms):			
Corurs Ma	Alger Vericon 1.3.3				250	100	50	5.2014 Sie		
					TX Condition Length (ms):	TX Long Pulse Length (ms)	: TX Short Pulse Length (ms):			
					350	350	120			

Figure 4-17 DC Code Line Mode K2 General Parameters

Click on the Stations tab to display the Station parameters as shown in Figure 4-18.





The following are the user configurable settings for the DC Code Line functions:

DC Code Line Mode NONE or K2 (H and J will be available in the future) Sets the DC code line mode and protocol. If set to NONE, no DC code unit is supported and analog input 4 and relay output 2 operate as normal. If set to K2, the CM will attempt to communicate with a K2 code unit relay output 2 will be disabled and instead will operate as 2 DC code outputs. Analog input 4 will be disabled and will operate as the DC code input. Tracing Enabled Yes or No If enabled, the CM will log the timing of each change of the DC code input into the diagnostic log. This can be used to find the proper range of times for the K2 settings. RX Condition 10 - 5000 Min/Max (ms) 10 - 5000 Min/Max (ms) 10 - 5000 RX Long Pulse 10 - 5000 RX Clearout 10 - 5000 Min/Max (ms) milliseconds Pulse. RX Clearout 10 - 5000 RX Rest Min/Max (ms) 10 - 5000 The range of time the CM will accept for the clearout period. RX Rest Min/Max (ms) 10 - 5000 The range of time the CM will accept for the clearout period. RX Rest Min/Max (ms) 10 - 5000 <
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TX Clearout Length 10 – 5000 The length of the CM will send the clearout
(ms) milliseconds period.
TX Rest Length (ms) 10 – 5000 The length of time the CM will rest before
milliseconds sending another control.
Station Settings
ATCS Group 0 – 999 If set to 0, the CM will operation in "Non-vital
Number logic controller mode". It set to a non-zero
value, the CM will operate in "Protocol
Conversion [®] mode and the created ATCS
ATCS address for the code unit will use the UN'S site
by this value

 Table 4-3
 DC Code Line Settings

O Map Offset (bytes)	0 – 31	Only applicable if the ATCS group number is set to 0. This is the offset in bytes into the O map in the ladder logic bits. The CM will copy these bits into the control sent to the code unit. The number of bits is determined by the CTL Data Length setting.
I Map Offset (bytes)	0 – 31	Only applicable if the ATCS group number is set to 0. This is the offset in bytes into the I map in the ladder logic bits. The CM will copy the bits received from the code unit into the map at this offset. The number of bits copied is determined by the IND Data Length setting.
CTL Addr	0 – 2147483647	The control address for the code unit, in decimal.
CTL Addr Length (bits)	0 – 32	The length of the CTL Addr in bits.
CTL Data Length (bits)	0 – 32	The length of the control data stepped out to the code unit (and number of bits to copy from ladder logic bitmap, if enabled).
IND Addr	0 – 2147483647	The indication address for the code unit, in decimal.
IND Addr Length (bits)	0 – 32	The length of the IND Addr in bits.
IND Data Length (bits)	0 – 32	The length of the indication data expected to receive from the code unit (and number of bits to copy into ladder logic bitmap, if enabled).
Recheck Relay On Time (ms)	100 – 10000 milliseconds	The number of milliseconds the CM will turn RLY1 on to trigger the code unit to step out an indication.
Periodic Recheck Enabled	Yes or No	If enabled, the CM will periodically toggle RLY1 to trigger the code unit to step out an indication. The period is determined by the Recheck Period setting.
Recheck Period (minutes)	10 – 65535 minutes	If Periodic Recheck Enabled is yes, the CM will perform the recheck on this interval.

4.3.4.5 Diagnostic Log Configuration





2

Server IP:

When one or more Communication Managers are operating on a network, each Communications Manager can be configured to forward all diagnostic events over the network to a remote "Consolidated Logger" and continue to log events locally. The Logger will maintain all of the events for every reporting Communications Manager. Enter the IP Address of the remote Logger in the Server IP box. If "0", logging is handled locally only.

Verbosity:

BASIC (Level 1) - Operation and access information

ERROR (Level 2) - Critical problems that may need immediate attention

WARNING (Level 3) - Possible issues that may or may not need correction

INFO (Level 4) - Helpful information about present operation (Default)

DEBUG (Level 5) - If set to Debug, every event will be logged

The verbosity level of logging may be chosen such that any entry that has the same level or lower will be added to the log. Higher leveled entries will not be added to the log. The default verbosity level is Info. The system log stores at least 7,500 entries.

3

Logging Options:

Checking the box next to each item will enable logging for that function. Only functions selected will be included in the log.

Figure 4-19 Configuration Menu – Diagnostic Log

4.3.4.6 Digital Input Configuration

Click on the *Digital Input* sub-menu to bring up the Digital Input Configuration page.

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Each of the eight digital inputs can be configured with a *Discrete* or *GFT* algorithm as shown in the figure below. An input configured with the "*Discrete*" algorithm logs the state of the I/O connected to that input as either OFF, ON, or TOGGLING. An input configured with the "*GFT*" algorithm should be connected to an Siemens Ground Fault Tester. GFT inputs log the fault/no fault state of each of the GFT's connected batteries as well as other status information related to the GFT.

	* Site Name: Safetr	an Systems ATCS Address: 7.62	10,777.100.61								Logged in	to Commis Mana	iger as admin, j	logout	
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F DC CODIC LINE	Battery 1 Name:	Battery 2 Name:			-										
F DIAGNOSTIC LOO	BAT 1	BAT 2			Discret	e	× 1								
* DIGIPLI INFUT					Discret	e									
* ENVIRTING					OFT									-	
1.075					GET									100	
* MODULES														-	
AELAY OUTPUT															
* BITE HIPO														-	
F same															
P SWARD														1	
+ CHANGE PASSIFORD														-	
														- E	
MANTERANCE.	3	» <u>Home</u> » <u>Non Vita</u>	al Config » Digital I	nput										2	
- Elizabet		DI One DI Two	DI Three DI Four	DI Five	DI Six	DI Seven	DI Eight	. Hanna		tal Config -	Disital In			12	
ADVINATION:		Save 🚮 Discard 🧣	🕹 Refresh 💊 Default					» <u>Home</u>	<u>: » inori vi</u>	tar Conlig »	» <u>Digital Ir</u>	ipul			
2	l.	lame:	Algorithm:					DI One	DI Two	DI Three	DI Four	DI Five	DI Six	DI Seven	DI Eight
Comma Mar	Aper Version 1.3.2	INPUT 1	Discrete	~				Save	Discard	Refresh	🔈 Default				
		On Debounce:	Off Debounce:						(jii sheara	Ø	Obereast				
		100	100					Name:		Algorithr	n:				
		On State Name:	Off State Name:					INPUT :	L	GFT		*			
		ON	OFF					Battery	1 Name:	Battery 2	2 Name:				
	1	Foggle State Name:	Toggle Period:					BAT 1		BAT 2					
		TOGGI ING	1000							11					



Click on the **Refresh** button to re-populate the dialog boxes with the current configuration parameters. Clicking on the **Default** button will insert all of the default values in each parameter.

ESave	🚮 Discard	🤣 Refresh	Default

Save the new entries by clicking on the **Save** button. The **Discard** button will remove all changes and restore all configuration parameters to the values prior to making the changes.



The figure and chart below details the parameters for each Digital I/O port and their default settings for a *Discrete* Algorithm.



	Parameter	Range	Default
а	Name	0 to 10 characters	INPUT X
			(where X is the input number)
b	On De-bounce	0 to 60000 milliseconds	100
С	Algorithm	Discrete or GFT	Discrete
d	On State Name	0 to 10 characters	ON
е	Off De-bounce	0 to 60000 milliseconds	100
f	Toggle State Name	0 to 10 characters	TOGGLING
g	Off State Name	0 to 10 characters	OFF
h	Toggle Period	0 to 60000 milliseconds	1000 milliseconds

Figure 4-22 Digital I/O Parameters – Discrete Algorithm

The figure and chart below details the parameters for each Digital I/O port and their default settings for a *GFT* Algorithm.



	Parameter	Range	Default
а	Name	0 to 10 characters	INPUT X
			(where X is the input number)
b	Battery 1 Name	0 to 10 characters	BAT 1
С	Battery 2 Name	0 to 10 characters	BAT 2
d	Algorithm	Discrete or GFT	Discrete

Figure 4-23 Digital I/O Parameters – GFT Algorithm

4.3.4.7 Ethernet Ports

Ethernet Ports include the Laptop Port located on the front panel's Local User Interface section and four Ethernet ports located on the bottom of the unit. Click on *Ethernet* sub-menu on the Non Vital Config menu.

Ele Est Jiew History Boo	ovarts Look Holp		and the second state of th			0.0	(a. 63)
Safetton Systems WebLE - Co	nn =				_		
5 (e) @ March 103503	6.9494	НОМЕ	⊤ C 🔣 • Kalvost CL P	٠	ŧ	4 E	Ξ
SAFETRA	N" + Home + tion vital Contig + Etherner	NON VITAL CONFIG				La	'n
RON VITAL CORPUS P. AVALOG SEPUE P. AVELOG SEPUE P. COL LOUV VARIEDIET P. COL LOUV VARIEDIET P. COL COLDE LINE	Lapton Part Dre Port Tale Port Bre Date: Strand Sciences Sciences DRCP-Confluencies Cherry Briefer Lapton Brief Lapton Briefer	 ATCS ROUTER CDL LOG VERBOSITY DC CODE LINE 					
Anancept cost Anancept		 DIAGNOSTIC LOG DIGITAL INPUT ENFERIET EVENT LOG GPS MODULES RELAY OUTPUT SERIAL PORT SERIAL PORT SIEN INFO SIMP WANAS WSAUS2 CHANGE PASSWORD 					
Carrier In	aringar verbich 1.3.3	LOGS		E.	a da a	0 2014 ha	ners.
		MAINTENANCE STATUS REPORT S APPLICATION					



• Laptop Ethernet Port

The Laptop Ethernet Port has the following user configuration parameters.

Laptop Port On	e Port Two Port Three	Port Four DNS
ESave 🚮 Discard	🕏 Refresh 💊 Default	
DHCP Configuraton	1	
Server Enabled	Client Enabled	ODHCP Disabled
Laptop IP:	Laptop Gateway:	Laptop Network Mask:
192.168.1.100	192.168.1.1	255.255.255.0

	Parameter	Range	Default	Description
а	DHCP Configuration	Server Enabled Client Enabled DCHP Disabled	Server Enabled	Set DHCP as a Server, Client, or Disables DHCP
b	Laptop IP	0.0.0.0 -	192.168.1.100	Sets address for IP,
	Laptop Gateway Laptop Network Mask	255.255.255.255	192.168.1.1 255.255.255.0	Gateway, and Network Mask

Figure 4-25 Ethernet Ports – Laptop Port

NOTE

NOTE

The internal DHCP server always assigns the IP address to the attached client. Therefore, it is not recommended to change the IP address, gateway, and network mask of the laptop Ethernet port from the defaults if the DHCP server is enabled.

• Ethernet Port 1 - 4

The four Ethernet Ports can be configured as **None** (no path type or protocol) or as an **ATCS/IP** Protocol and either an **Office Primary, Office Backup 1, Office Backup 2, or an Office Backup 3**.

SAFETRAN	Site Name: Safe	tran Systems ATCS Address: 7.620.	777.100.01				Lo	gged into Comms Manager as admin, Ig
1 systems	Hile Post: 123	4 DOT Number: 12345 Ital Config = Elhernet	50					
NE I	Laptoo Port 0	ne Port Two Port Three (*) Port	Four DHS					
N VITAL COMPR	E toos of the	Stehesh & Default						
ATCS NOVIER	DHCP Clent Ena	bied						
COLLOG VERBOSITY	P;	Gateway:	Network Mask:					
DAGNORTIC LOS	192.168.2.100 Protocol:	192.168.2.1 Path Tunar	255.255.255.0					
DIO/DAL INFILT	None	(E) None (C)	8					
Chernity Con								
24 A			_					
HODELES								
HELAY OCTIVIT		Laptop Port One	Port Two (*) P	ort Three Port Four D	NS			
SITE INFO		Save Discard I	🔁 Dofroch 🕓 Default					
SAUSAR		Bare Olipiscara						
WAME WSA/52		DHCP Client Enabl	ed					
CHANGE PR.LOWOND		IP:	Gateway:	Network Mask:	Laptop Por	rt One Port Two (*)	Port Three Port Four DNS	
4 		192.168.3.100	192.168.3.1	255.255.255.0	🔚 Save 🚮 Di	scard 🤹Refresh 📎De	fault	
TUA.		Protocol:	Path Type:		DHCP Client	Enabled		
curs.		ATCS ID Office	None	×	IP:	Gateway:	Network Mask:	
LICATION .		None	None		192 168 3 10	0 192 168 3 1	255 255 255 0	
	-	INOTIC			Desta ask	Deth Tures	2001200120010	
240.000	(m. 2010) (m. 1997)	ATCS IP Office			Protocol:	Path Type:		· · · · · · · · · · · · · · · · · · ·
Contra Maria	iger version 3 3 8				ATCS IP Offic	e 🝸 None	×	Coppign 6 304
						None		
						Office Primar	у	
						Office Backu	p1	
						Office Backu	p2	
						Office Backu	n3	
						Office backu	P 9	-

Figure 4-26 Ethernet Port 1 – 4 Path and Protocol Selection

NOTE

NOTE

If a protocol parameter is selected, then a path type parameter must also be selected and vice-versa. Selecting the **ATCS/IP** Protocol will require also selecting one of the Office path types or the unit will revert to no path type and no protocol (Protocol: *None* and Path Type: *None*) when saved. If an Office path type is selected and Protocol is set to *None*, the unit will default the Protocol to *ATCS/IP*.

• Ethernet Port 1 – 4 ATCS/IP Office Configuration

The following diagram and chart displays and describes the user configuration options for the ATCS/IP Protocol.

	* Home * Hom Yill Co	ang = cinemen	in the l	» Home	» Non Vital	Confid	» Ethernet				
VITAL CONFIG	Bar da G	Outhersh in Terfault	an line			1					
	STOHCP Clent Enabled	Neven Querant		Laptop	Port One	PortT	wo Port Thr	ee Port Fou	ur	DNS	
TO ROUTER	Pt	Gateway:	Network Mask:	Real second	0	a					
	197.346.2.100	(192,108.2.1		E Save	Oll Discard	PRefr	esh 🏠 Defau	t			
	Protocol.	Path Type:			liont Enabled						
KOROLL BUPUT	ATCS IP Office	Coffice Primary	*	EDDITCH C	lient Liablet						
WHIT LOD	Path Recovery Time (s):	Path Test Period (s):		IP:		G	ateway:		Netw	vork Mask:	
	300	60				-					÷.
	Path Fail Count:	RSSI Webe:		192.168.	2.100		192.168.2.1		255	.255.255.0	
	6	61		Brotocoli			Dath Tunor				
	EDOperacional frame Univ			PIOLOCOL.			Paul Type.				
	COD CHEAR AD	Kouchg Hagon Une:	Nouting Region Ewo	ATCS IP	Office	~	Office Primary		-		
WART .	105 Ports	Path Value:	Route Search Time (s):		200			1.2.2			
154/32	5361	22	15	Path Reco	overy Time (s	s): P	ath Test Perio	d (s):			
	joute Search Thes:	Route Refresh Time (mm)		200		6	50				
	6	5		300			00				
				Path Fail C	Count:	R	SSI Value:				
	1			6		6	51				
ICATION .	1			Doperati	onal Traffic C	nly					-
				OCG Circu	it ID:	R	outing Region	One:	Rout	ing Region Two:	-
Comma Ma	magel Venion 133			620.1.1	1078-1945 		02 160 2 2		102	160.3.2	Cos
				020.1.1			192.108.2.2		192	.100.2.3	_
				OCG Port		P	ath Value:		Rout	e Search Time (s):	
				5361		7	72		15		
				Route Se	arch Tries:	R	oute Refresh	Time (min):			-

Figure 4-27 Ethernet Port 1 – 4 ATCS/IP Configuration

	-		
Option	Range	Default	Description
Path Recovery	0 - 3600 seconds	300 seconds	The amount of time a path must
Time			successfully deliver messages with no
			losses before the path can be considered
			"Operational" again.
Path Test Period	0 - 7 Davs	60 seconds	The time between attempts to send a test
			packet on a path in the "Failed", "In
			Recovery", or "Operational State", If the
			"Path Test Period" is set to zero the path
			will not be tested
Path Fail Count		6	The minimum number of test packets that
		0	do not receive a response, causing a path
			to change from "In Besovery" to "Eciled"
			to change from in Recovery to Falled
RSSI value		61 - Office Primary	Defines the RSSI value the office protocol
		51 - Office Backup	will attach to the end of all ATCS RF_INFO
		1	packets transmitted on an office path. If the
		41 - Office Backup	user sets the value to 0, the
		2	Communications Manager will not attach
		31 - Office Backup	an RSSI value.
		3	
Operational Traffic	Yes = Checked	No	If checked, the Communications Manager
Only	box		sends only controls and indication on the
- ,	$N_0 = Empty box$		path. All other messages are discarded.
Circuit ID	0.0.0 (disabled)	0.0.0 (disabled)	Used by OCG to uniquely identify this path
Routing Region			The Destination IP Address to send route
	255 255 255 255	0.0.0.0 (disabled)	requests to
One	200.200.200.200		requests to.
Deutie e Deuter			The Destination ID Address to send route
Routing Region	0.0.0.0 -	0.0.0.0 (disabled)	The Destination IP Address to send route
TWO	255.255.255.255		requests to should the first routing region
	or symbolic name		not solicit a response.
	(e.g. google.com)		
OCG Port	0 - 65535	5361	The UDP port number to use for route
			requests
Path Value	0 - 255	72	A byte included in the layer 2 message
			header that indicates the type of path. This
			value is used by the OCG to manage
			connections.
Route Search Time	0 - 65535	15 seconds	If no office route update message has
	seconds		been received the amount of time to keep
			requesting a route update message until
			one is received. This will only occur for the
			number of tries configured before it gives
			up and discards the message
Pouto Soorah Trian	0 255	4	The maximum number of trice for conding
Route Search mes	0 - 255	4	The maximum number of thes for sending
			a route request message without receiving
			a route update message before discarding
			the message. A value of 0 will cause
			Communications Manager to not retry
			route requests.
Route Refresh	0 - 65535	5 minutes	The amount of time between re-requesting
Time	minutes		the route update message in order to
			refresh the existing route table. A value of
			0 means the route is not refreshed.

Table 4-4	Ethernet Port 1 – 4 ATCS/IP Configuration Parameters
-----------	--

• DNS Configuration

The Ethernet ports support use of up to three DNS Servers. The figure below displays the DNS configuration screen.

	192.168.2.1	192.108.3.1	192.16	8.5.1
	100 100 0	000 1 60 0 1	100.10	0 5 1
1	VameServer 1.	NameServer 2	NameSe	erver 3:
	ESave 🕤 Discard	🕏 Refresh 📎 Default	:	
<u>[</u>	Laptop Port Ope	Port Two Port T	hree Port Fo	our DNS (*)
168.2.1	192.168.3.1	192.168.4.1		
Server 1:	NameServer 2:	NameServer 3:		
ave 🚮 Discard	🕏 Refresh 📎 Defaul	t		
top Port One	e Port Two Port T	hree Port Four DI	NS	
Servet 2: NameServer 3: (68.3.1 (192.168.4.1				
PartTiver (*) PortFour DNS				
ATCS Address: 7.620.777.100.01 DOT Inumber: 1234560			Logged in	to Commis Manager as admin, logout
		∀ ¢] [5	- earthquake history Kettleman, ca	▶ ♣ ★ ☆ 自 ☰
	ATCS Address: 7x20.777.100.01 DDT Turches: 123550 Ditention PartThere (*) Part Face 005 Server 2: Namefarer 3:	ATCS Address: 7420-777100-01 DOT Number: 124500 Zinctited PartTere (?) Arct Four DBA General: 2 Server 2: Name[Server 3:	V C E	V C S - cartiquete history Kettleman, ca ATCS Address: 2620-777-100-01 Logged in Decimient Decimient Decimient Server 2: Namelianer 3:

- Refresh Refreshes screen
- Save Saves changes entered in dialog boxes
- Discard Discards changes made in dialog boxes
- Default Restores default settings

Figure 4-28 DNS Server Configuration

Table 4-5	DNS	Configuration	Parameters
-----------	-----	---------------	-------------------

Parameter	Range	Default	Description
Nameserver 1	0.0.0.0 -	192.168.2.1	IP address of DNS server
	255.255.255.255		
Nameserver 2	0.0.0.0 -	192.168.3.1	IP address of DNS server
	255.255.255.255		
Nameserver 3	0.0.0.0 -	192.168.4.1	IP address of DNS server
	255.255.255.255		

4.3.4.8 Event Log Configuration

To configure the Event Log parameters click on the *Event Log* sub-menu on the Non Vital Config menu.





The Event Log configuration has one parameter, Server IP.

Server IP: When one or more Communication Managers are operating on a network, each Communications Manager can be configured to forward all events over the network to a "Consolidated Logger" while continuing to log locally. The Logger will maintain all of the events for every reporting Communications Manager. The Consolidated Logger can be another Communications Manager.

Enter the IP Address of the Consolidated Logger in the Server IP box.

Server IP: Valid IP Address (Default is 0.0.0.0) If 0 logging is performed locally only.

SAFETRAN Sto Name: Safetran Systems ATC	6 Addresse 7,620,797,199,01	Logged into Commis Manager as admin, i
His Post: 123,* I DO + Homo + Non Vtal Config + E	Number: 1234540 entilog	
Han Gimai Sateh	p Celuit	
And COURT 0.0.0.0		
AUCS ROUTER		
TIC CODE LINE		
EARDERED IN COL		
Else and the second s	Save 🕥 Discard 💝 Refresh 😘 Default	
ENER LOO DES		
MANDERIN R. W.	Server ID:	
RELAY OUTPUT	Solution at 1	
SCIE SHEE		
Aurilan" Van Auril	0.0.0.0	
with the		
CHARGE PL SINCHD		
÷		
and a second s		
rue		
teel t		
R LEASING (



4.3.4.9 GPS

Click on the GPS sub-menu to bring up the GPS configuration window.



Figure 4-31 Configuration Menu - GPS

• DNS Configuration

The GPS Configuration screen and descriptions are listed below.

SAFETRAN Market Dates: Sector: Sector	ATG Aldmer, F438-7733040 00196-88 #523 #- Sgabaka #- Sgabaka #- Stabaka	Logged van Govern Manager an admin, jo
Annu particular	» <u>Home</u> » <u>Non</u>	Vital Config » GPS
F CONNECTOR	🔚 Save 🕤 Disc	card Refresh 📎 Default
Martin Surfree Martin Martin Martin Martin Martin Martin Martin	Sats for Time:	Time Difference (s):
+ anderskal + Stanener de Konstant: Stanet	4	5
an affan an t		
Control Processor Maders 13.3		and the second se

Option	Range	Default	Description
Sats For Time	1 - 4	4	The number of satellites that must be in view before the Communications Manager will set its date/time from the GPS receiver's date/time information.
Time Difference	1 - 300 seconds	5 seconds	The number of seconds the GPS receiver's date/time and the system's present date/time must differ before the Communications Manager will set the date/time from the GPS.

Figure 4-32	GPS	Configu	ration
-------------	-----	---------	--------

4.3.4.10 Modules

To configure the Module parameters click on the *Modules* sub-menu on the Non Vital Config menu.



Figure 4-33 Configuration Menu - Modules

• Module Configuration

The Modules Configuration window shows installed Echelon® modules. Expanding the module drop down menu will display the parameters for each installed Echelon® module.



Figure 4-34 Module Configuration

• Module Editor

The following figures show the various module configurations supported by the Communication Manager.

🗎 Save 🌀 Discard	🤣 Ref	resh 💊 Default
Module Type:		Module Name:
None	~	None 1

Figure 4-35 No Module Installed

🗎 Save 🌀 Discard 🛸	Refresh 🛛 🗞 Default
Module Type:	Module Name:
GEO	Y GEO 2
ATCS Address:	Indication Offset:
7.620.100.100.03	0
Indication Size:	Control Offset:
1	0
Control Size:	
1	

Figure 4-36 GEO

🔚 Save 🕤 Discard	💈 Refresh 🛛 🗞 Default	
Module Type:	Module Name:	þ0ms
ULCP	VICE 3	. 50ms
Todiastion Holdoff	Central Deliverus	100ms
Inuication Holuon;		200ms
50ms	➤ 50ms	15
Switch Offset:	Led Offset:	25
0	0	

Figure 4-37 Universal Local Control Panel (ULCP)

📙 Save 🕤 Discard 🦿	🖌 Refresh 🛛 🗞 Default	
Module Type:	Module Name:	
PANEL IO	Y PANEL IO 4	
Input Size:	Input Offset:	
9	0	to.
Output Offset:	Indication Holdoff:	pums 50ms
0	50ms 👻 🔶	100ms
Control Delivery:		200ms 500ms
50ms	~	1s 2s

Figure 4-38 Panel I/O

📙 Save 🌀 Discard 🤹 R	efresh 🛛 🗞 Default			
Module Type:	Module Name:		DTMF Only	
VHFC 💌	VHFC 5		Framed	
Receive Mode:	STX List:	ETX List:	Stream	
DTMF Only	F9F5F1FB00	F60000000	DTMF Only	
Data Channel:	Voice Channel:			
1	1			
Tone Length (ms):	Tone Space (ms):		BELL 202 1200BPS	~
250	250			
Key Up Delay (ms):	Key Down Delay (ms):		DELL 202 12000P3	
200	250		BELL 202 ISUBPS	
Tx Fsk Mode:	RX Esk Made.			
BELL 202 1200BPS	BELL 202 1200BPS	*		

Figure 4-39 VHF Communicator (VHFC)

📔 Save 🌀 Discard 🧔	💪 Re	fresh 💊 Default			
Module Type:		Module Name:			
Remote CM/SEAR II	~	Remote CM/SEAR II 6		<u>Б</u> О1	×
ATCS Address:				SO1	
7.620.100.100.03				 SO2	
Send Map:		Send Man Officet:	Send Map Size:		
<u></u> ј601	~	Ū.	1	Б11	~
Receive Map:		Receive Map Offset:	Receive Man Size	SI1	
SI1	*	0	1	SI2	

Figure 4-40 Remote CM/SEAR II

The following are the user configurable settings specific to the Remote CM/SEAR II:

Setting	Range	Description
ATCS Address	Type 7 ATCS Address	The ATCS address of the remote unit.
Send Map	SO1 (X bits) or SO2 (Y	The CM will copy the bits from this area of
	bits)	the bitmap into the messages it sends to the remote unit.
Send Map Offset	0 – 31	The offset into the selected Send Map for the
(bytes)		bits to send to the remote unit, in bytes, and
		starting at 0.
Send Map Size (bytes)	0 – 32	The number of bytes of ladder logic bits to
		send in the message to the remote unit.
Receive Map	SI1 (A bits) or SI2 (B	The area of the ladder logic bit map the CM
	bits)	will copy received bits from the remote unit
		into.
Receive Map Offset	0 – 31	The offset into the selected Receive Map for
(bytes)		the bits copied from messages received from
		the remote unit.
Receive Map Size	0 – 32	The number of bytes of ladder logic bits
(bytes)		copied from the message from the remote
		unit.

Table 4-6	Remote CM/SEAR II Configurable Parameters
	Remote On/OLAN II Configurable I diameters

4.3.4.11 Relay Output

To configure the Relay Output click on the *Relay Output* sub-menu on the Non Vital Config Menu.



Figure 4-41 Configuration Menu – Relay Output

The Relay Output page has tabs for the two relay output configurations.

1	· Home · Mort Vital C	Ten	» Home » Non Vit	tal Config » Delay Output	
ATAL CONING	B - Greet	S Referin to Default	" Home " Home V	tai connig » <u>Relay Output</u>	
AMOS RIPUT	Name:	Duty Cycle (percent):			
	rell	50	Output One Ou	utput Two	
COOK LINE	Open State Name:	Closed State Name:	1 11		
CUTAL INPUT	Tonde State Hame:	Toonle Pariod (ma):	E Gauge A Discourd	Refrech Default	
	toook	1000	E pave OI Discard	Breiresh Buelauit	
VENTION					
			Name:	Duty Cycle:	
SALOUPS!					
THE PORT			RELAY 1	50	
445 54/52			Open State Name:	Closed State Name:	
INVOE PASSBORD			0.55	011	
			OFF	ON	
			Toggle State Name	: Toggle Period:	
2ATEM	i		TOGGLING	1000	

Figure 4-42 Relay Output Configuration Page

Click on the **Refresh** button to populate the relay output boxes with the current configuration parameters. Clicking on the **Default** button will insert all of the default values in each parameter.



Save the new entries by clicking on the **Save** button. The **Discard** button will remove all changes and restore all configuration parameters to the values prior to making the changes.



The figure and chart below details the parameters for each Relay I/O port and their default settings.

	Output One Outp	ut Two	
\frown	🔚 Save 🚮 Discard 🥰	🖢 Refresh 💊 Default	
(a)	Name:	Duty Cycle:	b
	RELAY 1	50	
\frown	Open State Name:	Closed State Name:	d
(C) →	OFF	ON	
-	Toggle State Name:	Toggle Period:	
	TOGGLING	1000 🔸	(f

	Parameter	Range	Default
а	Name	0 to 10 characters	RELAY X
			(where X is the input number)
b	Duty Cycle	0 to 100 percent	50
С	Open State Name	0 to 10 characters	OPEN
d	Closed State Name	0 to 10 characters	CLOSED
е	Toggling State Name	0 to 10 characters	TOGGLING
f	Toggle Period	0 to 60000 milliseconds	1000

i igule 4-45 i Kelay i/O i al ameters	Figure 4-43	Relay I/O Parameters
---------------------------------------	-------------	-----------------------------

4.3.4.12 Serial Ports

The Serial Ports are configured by clicking on the **Serial Port** sub-menu on the Non Vital Config Menu.

			НОМЕ
Comparing a second	See Nume: Safeton Systems ATI Nei Pott: 122.4 DO > 100m Pott: 122	SS Address: 7420-777.100 T flumder: 1234500 Ist Port Defaut PortTime / PortFour Defaut SS: Ports SS: Ports SS: Ports	NON VITAL CONFIG ANALOG INPUT ATCS ROUTER COL LOG VERBOSITY DC CODE LINE DIAGNOSTIC LOG DIAGNOSTIC LOG DIAGNOSTIC LOG DIAGNOSTIC LOG CONTAL INPUT ETHERNET EVENT LOG GPS MODULES RELAY OUTPUT SITE INFO SIMP WAMS MIGUED
ATUT PORTS TUDE ATUDE EQUINE Mar	Augur Vanche 13.3		WSA/S2 CHANGE PASSWORD LOGS MAINTENANCE
			STATUS
			REPORTS
			APPLICATION

Figure 4-44 Serial Port Menu

• Laptop Port

The first tab is the *Laptop Port*. The following screen and chart detail the user configurable parameters.

Laptop Port Port One (*) Port Two Port Three Port Four						
Esave 🚮 Discard 💋 Refresh 📎 Default						
Baud Rate:		Flow Control:				
9600	~	None	*			
Data Bits:		Stop Bits:	Parity:			
8	~	1	▼ None ▼			

Parameter	Range	Default
Baud Rate	1200, 9600, 57600,	9600
	or 115200	
Flow Control	None or Hardware	None
Data Bits	7 or 8	8
Parity	None, even, or odd	None
Stop Bits	1 or 2	1

Figure 4-45	Serial Laptop	Port Parameters
-------------	---------------	------------------------
• Serial Ports 1-2 (Full-Feature) – Field Path Type

The following are configuration options for full-featured serial ports 1-2 when the **Path Type** configuration parameter is selected as "**Field**". With Path Type set to "**Field**", this allows for nine protocol configuration parameter selections.

Laptop Port Port One (*) Port Two Port Three Port Four		
Save Discard Schefresh Default	Laptop Port Port One (*) Port Two Port Three Port Four	
Baud Rate: Flow Control: Parity:	📙 Save 🕤 Discard 🚳 Refresh 🗞 Default	
9600 × None × None ×	Baud Rate: Flow Control: Parity:	Laptop Port One (*) Port Two Port Three Port Four
Data Bits: Stop Bits: Path Type:	9600 Y None Y None Y	Save CDiscard Schresh Sa Default
8 💙 1 💙 Field 🌱	Data Bits: Stop Bits: Path Type:	Baud Rate: Flow Control: Parity:
Protocol:	8 ¥ 1 ¥ Field ¥	9600 None None Y
Gen/ATCS Office Y	Protocol:	Data Bits: Stop Bits: Path Type:
Retry Count: Polling Range Start: Number Of Stations:	Belling Papers Starts - Short Bell Debug - Long Bell Debug	8 ¥ 1 ¥ Field ¥
D I I I	1 1000 10000	rotocol:
Short Poli Delay: Long Poli Delay: Response Fail Count:	Number Of Stations' ATCS Address'	ATCS/HDLC ADM
	1 7.620.100.01.01	Line Mode: TX Clock Source:
Gen/AICS Office	Retry Count:	RS232 Internal
	5	Message Response Timer: Retry Counter:
Lapton Port Dec (*) Port Two Port Three Port Four	Conjeve Office	1000 3
Save A Discord & Defrech & Defruit	Genisys Onice	ATCS/HDLC ADM
Baud Pater Elaw Controls Darity	Lankar Dank Dank Orga (*) Dank Tura Dank Throad Dank Faur	
0600 V None V None	Laptop Port One (-) Port INO Port Innee Port Pour	
Data Bits: Stop Bits: Path Type:	Save 🔄 Discard 😤 Refresh 🏠 Default	Laptop Port Port One Port Two (*) Port Three Port Four
8 Y 1 Field Y	Baud Rate: Flow Control: Parity:	Save Discard SRefresh Default
Protocol:	9600 Y None Y None Y	Baud Rate: Flow Control: Parity:
ATCS/HDLC UI	Data Bits: Stop Bits: Path Type:	9600 Y None Y None Y
Line Mode: TX Clock Source:	8 1 Held	Data Bits: Stop Bits: Path Type:
RS422 V External V	CN2000A ×	8 💙 1 💙 Field 🌱
Message Response Timer: First Station Number:	Polling Range Start: Short Poll Delay: Long Poll Delay:	Protocol:
Number Of Stations: Poter Counter:	1 1000 10000	CN2000B
1 3	Number Of Stations: ATCS Address:	Polining Range Start: Short Poli Delay: Long Poli Delay:
	1 7.620.100.100.01.01	Number Of Stations' ATCS Address'
	CN2000 A	1 7.620.100.01.01
·		
Laptop Port Port One (*) Port Two Port Three Port Four		CN2000B
Save A Discard Secrets Default	Laptop Port Port One (*) Port Two Port Three Port Four	
Baud Rate: Flow Control: Parity:	Save Discard Brefresh Default	
9600 None None	Baud Rate: Flow Control: Parity:	Laptop Port Port One (*) Port Two Port Three Port Four
Data Bits: Stop Bits: Path Type:	9600 None None	Save CDiscard SaRefresh Default
8 Y 1 Field Y	Data Bits: Stop Bits: Path Type:	Baud Rate: Flow Control: Parity:
Protocol:	8 ¥ 1 ¥ Field ¥	
Dumb Terminal 🗸	Protocol:	Data Bits' Stop Bits' Path Type'
SSH Port Number: Session Time-out:	Diagnostic Text 💌	
10021 10	SSH Port Number: Session Time-out:	Protocol:
Dumb Terminal	10021 10	BCM Diag
	Diagnostic Text	
	Diagnostic TEAL	BCM Diag

Figure 4-46 Serial Port 1-2 Field Path and Protocols

• Serial Ports 1-2 (Full-Feature) – Office Primary/Office Backup 1,2, or 3 Path Type

The following are configuration options for full-featured serial ports 1-2 when the **Path Type** configuration parameter is selected as "**Office Primary/Office Backup 1, 2, or 3**". With **Path Type** set to "**Office Primary/Office Backup 1, 2, or 3**", this allows for the following protocol configuration parameter selections.

Laptop Port	Port Or	e (*) Port Two	Po	ort Three	Port Four													
Save 🔐 D)iscard 🥵	Refresh \}Defau	lt			11				~) (_						
Baud Rate:		Flow Control:		Parity:		Т	Laptop Port	Port O	ne (*) Port Two	Po	ort Three Port Fo	ur						
9600	~	None	~	None	~		ESave 🔂 Disc	card 🗟	Refresh 🗞 Default				Lanton Port	Port On	Port Two	Po	rt Three Port Four	
Data Bits:		Stop Bits:		Path Typ	pe:		Baud Rate:		Flow Control:		Parity:		Captop Port	Port OI	le (·) Port Iwo	PO	PortFour	
8	~	1	~	Office P	Primary Y		9600	~	None	v	None	~	Save 🚮 Dis	card 🚱	Refresh 🗞 Default			
Path Recover	y Time:	Path Test Period	:				Data Bits:		Stop Bits:		Path Type:		Baud Rate:		Flow Control:		Parity:	
300		60					8	v	1	×	Office Primary	~	9600	*	None	*	None	
Path Fail Cour	nt:	RSSI Value:					Path Recovery	Time:	Path Test Period:		onicorninary		Data Bits:		Stop Bits:		Path Type:	
6		61					300		60				8	*	1	*	Office Primary	
Operational	l Traffic O	nly					Path Fail Count		RSSI Value:				Path Recovery	Time:	Path Test Period:	_		
Protocol:							6		61				300		60			
Gen/ATCS Fie	eld 🎽						- Doperational 3	Traffic 0) ph					:	KSSI Value:	-		
Poll Address:		Link Fail Timer:		Comms E	Device Addres	5S	Protocol:		/my					T				
1		1000		7.000.0	00.000.00.00		Contract Field	~					Drotocoli	Trame Of	nıy			
Con/AT	<u> </u>	أماط					Poll Address:	· ·	Link Fail Timer				Protocol.					
Gen/AT	СЭГ	ieid				_	1		1000				Line Mode:		TX Clock Source:			
							-		1000	_			R5232	~	Internal	×		
						(Genisys	Fiel	d				Message Respo	nse Tim	er: Poll Address:		Retry Counter:	
													1000		1		3	
													ATOOUU					
													ATCS/H	DLC	POLL			

Figure 4-47 Serial Port 1-2 Office Primary and Backup 1, 2, & 3 Paths and Protocols

• Serial Ports 3-4 (Partial-Feature) – Field Path Type

The following are configuration options for partial-featured serial ports 3-4 when the **Path Type** configuration parameter is selected as "**Field**". With **Path Type** set to "**Field**", this allows for seven protocol configuration parameter selections.

		-										
Laptop Port Port	One (*) Port Two F	Port Three Port Four	Lastes Dect.	Part One (\$) Dest Tu	a Dart Three Dart F							
ESave 🕤 Discard 4	🚰 Refresh 💊 Default		Laptop Port	ort One (*) Port Iw	o Port Inree Port	-our						
Baud Rate:	Flow Control:	Parity:	Save j Disca	rd 🕵 Refresh 🍾 Defa	ult		Laster Part	D. I.O.		Dent The	Deal D	
9600	 None 	None 💙	Baud Rate:	Flow Control:	Parity:		Laptop Port	Port On	le (*) Port Two	Port Inr	ee Port Fo	sur
Data Bits:	Stop Bits:	Path Type:	9600	 None 	None	~	Save 🕤 Dis	scard 😤	Refresh 💊 Default			
8	* 1	Field 💙	Data Bits:	Stop Bits:	Path Type:		Baud Rate:		Flow Control:	Parit	y:	
Protocol:			8	▶ 1	Field	*	9600	~	None	Non	1e	~
Gen/ATCS Office			Conjoys Office	-			Data Bits:		Stop Bits:	Path	Туре:	
Ketry Count:	Poling Kange Start:	Number Of Stations:	Polling Range Sta	rt: Short Pol Delay	Long Poll Delay:		8 Decto colo	*	1	 Field 	d	~
Short Poll Doby:	Long Boll Dobyg	Posponco Epil Count:	1	1000	10000		Protocol:	×				
1000	10000	5	Number Of Statio	ons: ATCS Address:			Polling Range	Start:	Short Poll Delay:	Long	1 Poll Delay:	
1000		5	1	7.620.100.100	.01.01		1	Jearer	1000	100	00	
Gen/ATCS	Office		Retry Count:				Number Of Sta	ations:	ATCS Address:			
			5				1		7.620.100.100.01	.01		
Laptop Port Port On	e Port Two (*) Por	rt Three Port Four	Gonieve	Office			CN2000	٨				
Save Si Discard	Refresh Schefault		Genisys	Office			CINZUUUA	A				
Baud Rate:	Flow Control:	Parity:										
9600	None	None	Laptop Port F	Port One (*) Port Tw	o Port Three Port F	Four	Lanton Port	Port Or	ne (*) Port Two	Port Th	Port F	Four
Data Bits:	Stop Bits:	Path Type:	🔚 Save 🌀 Disca	rd 😼Refresh 📎Defa	ult		Captop Fort	TOILO	ne() Portino	Porem	ree Portr	oui
8	1 💌	Field 💌	Baud Rate:	Flow Control:	Parity:		Save 🔄 Di	iscard 😴	Refresh Oefault			
Protocol:			9600	✓ None	✓ None	~	Baud Rate:		Flow Control:	Pari	ty:	
CN2000B			Data Bits:	Stop Bits:	Path Type:		9600	*	None	No	ne	*
Polling Range Start:	Short Poll Delay: 1	Long Poll Delay:	8	▼ 1	Y Field	~	Data Bits:		Stop Bits:	Pati	n Type:	
1 Number Of Stationer	ATCC Address	10000	Protocol:				8 Protocol:		1	Fie	ld	•
1	7 620 100 100 01 01		pumb Terminal		÷.		biagnostic Tex	xt 💌				
-	7.020.100.100.01.01		10021	10			SSH Port Num	ber:	Session Time-out:			
CN2000B			10021				10021		10			
			Dumb ler	minal			Diamag	(i.e. T				
							Diagnos	TIC I	ext			
							-					
			Laptop Port P	ort One (*) Port Tv	vo Port Three Port	t Four						
			🔚 Save 🌀 Disca	rd 😼 Refresh 💊 Defa	ult							
			Baud Rate:	Flow Control:	Parity:							
			9600	➤ None	 None 	~						
			Data Bits:	Stop Bits:	Path Type:		1					
			8	▼ 1	➤ Field	~	1					
			Protocol:									
			BCM Diag	*			1					
		1	DCIVI DIAG									

Figure 4-48 Serial Port 3-4 Field Path and Protocols

• Serial Ports 3-4 (Partial-Feature) – Office Primary/Office Backup 1,2, or 3 Path Type

The following are configuration options for partial-featured serial ports 3-4 when the **Path Type** configuration parameter is selected as "**Office Primary/Office Backup 1, 2, or 3**". With **Path Type** set to "**Office Primary/Office Backup 1, 2, or 3**", this allows for two protocol configuration parameter selections.



Genisys Field



4.3.4.13 Site Info

Click on the *Site Info* selection in the Non Vital Config menu to bring up the Site Info configuration page.

			NON VITAL CONFIG	
CAL SAFETRAN	Ste Name: Safetran Sys	tems ATCS Address: 7.6	ANALOG INPUT	Logged into Converts Manager as admin, logout
e l'anterna	Mie Post: 123,4	DOT Number: 12	ATCS ROUTER	
Ciones	E tere al baret	Refresh Default	CDL LOG VERBOSITY	
NUN WITAL CONFIG	Site Name:	Milepost;	DC CODE LINE	
ARCS ROUTER	Safetran Systems	123.4		
F COLLOG VERICORTY	DOT Number:	Time zone:	> DIAGNOSTIC LOG	
OC CODE LINE OC CODE LINE	Site ATCS Address:	Ste CAD Address	DIGITAL INPUT	
• pigner meur	7.620.777.100.01	2.620.00.0000	ETHERNET	
+ ATHENNET	Indication Holdoff (s):	Indication Refresh Pe	EVENT LOG	
+ ors	D Path Selection Mode:	60	GPS	
+ MODULES	Primary/Backup	M	MODULES	
 BERIAL PORT 				
* MILINEQ				
+ salars			SERIAL PORT	
+ WIAVED			SITE INFO	
+ CHANGE PASSWORD			SNMP	
1063			▶ WAMIS	
MARTINANCE			▶ WSA/S2	
ALIANAS			CHANGE PASSWORD	
Entering and the				
Contraction of				
Comme Maria	ger Version 1.3.3		MAINTENANCE	Copyright & 2014 Starture
			STATUS	
			REPORTS	

Figure 4-50 Site Info Configuration Menu

The Site Info configuration window is shown in the figure below. The following table lists and describes all of the available user options.

SAFETRAN	Site Name: Safetran Syst Nile Post: 123,4 > Home > Non Vital C	ems I ATCS Address: 7.620.777.100.0) I DOT Number: 1234560 contig = Site_Info	» Home » Non Vital C	onfig » Site Info			Pacific	~
ROR VITAL CORPUS + ANALOG REVIT	Safetran Systems	Refresh b Default Hispost: 123.4	🔚 Save 🕤 Discard 💈	🛚 Refresh 🛛 🗞 Defau	lt		GMT Eastern	Ŀ
APES REALTER COLLOG VERBORITY OC CODE LINE	DOT Number: 1234560	Time zone: Pacific X	Site Name:	Milepost:			Central	
BACHOSTIC LOG DIGUTAL SUPUT	Ste ATCS Address 7.620.777.100.01	Ste CAD Address: 2.620.00.0000	Safetran Systems	123.4			Mountain	
EVENTLOG	0	Indication Refresh Period (s): 60	DOT Number:	Time zone:			Pacific	
* MODILES * RELAY OUTPUT	Path Selection Mode: Primary/Backup	*	123456D	Pacific	~		Alaska	
BERGAL PORT MOLESRED			Site ATCS Address:	Site CAD Addre	ess:		Atlantic	
• WANE			7.620.777.100.01	2.620.00.000)		Arizona (No DST)	
+ CHANGE PRESSIOND			Indication Holdoff (s):	Indication Refre	esh Period (s):		Newfoundland	
ALCONTRACK			0	60			Aus Western	
HDPORTS			Path Selection Mode:		Path Selection M	ode:	Aus Central (No DST)	
ANUCATOR			Primary/Backup	v	Primary/Backup	~	Aus Eastern	
Comme Maria	plei Vanjoon 1.3.3	-u			Primary/Backup		Aus Eastern (No DST)	
					Redundant			

Figure 4-51 Site Info Configuration

Parameter	Range	Default	Description
Site Name	1 - 20 Characters	Safetran	Communications Manager
		Systems	site name
Milepost	0 - 20 Characters	000.0	
DOT Number:	1 - 7 Characters	000000A	
Time zone:	GMT, EASTERN, CENTRAL, MOUNTAIN, PACIFIC, ALASKA, ATLANTIC, ARIZONA (NO DST), NEWFOUNDLAND, AUS WESTERN, AUS CENTRAL, AUS CENTRAL, AUS CASTERN, AUS EASTERN, AUS EASTERN, AUS EASTERN (NO DST)	EASTERN	
Site ATCS Address	7.000.000.000.00 - 7.999.999.999.99	7,620.100.100.01	Communications Manager ATCS address
CAD Address	2.000.00.0000 - 2.999.99.9999	2.620.00.0000	Office Dispatch ATCS address
Path Selection Mode	Primary/Backup or Redundant	Primary/Backup	Determines the method Communications Manager will use to send messages
Indication Refresh Period	0 (no refresh) - 600 seconds	60 seconds	Time interval for sending locally-generated indications
Indication Holdoff	0 (no holdoff) - 10 seconds	0 seconds	

4.3.4.14 SNMP Configuration

			HOME				
			NON VITAL CONFIG				
			ANALOG INPUT				
97			ATCS ROUTER			201 <mark>9</mark> - 4	
SAFETRAN			CDL LOG VERBOSITY				
1 galante	» Home » Non Vital C	onfig + SNMP	DC CODE LINE				
	Blue Grove S	Infind Donalt	DIAGNOSTIC LOG				
ANALOIS WHIT	Primary Destination IP:	Primary Destinatio	DIGITAL INPUT				
ATCS ROUTER	Backup 1 Destination IP:	Backup 1 Destruct	ETHERNET				
DC CODE LINE	Parking 2 Destruction By	Backup 2 Destant	EVENTLOG				
DVAGHOSTIC LOG	backap 2 Descration P1	BYCKED 2 DESCRIPTION	h opo				
CHERNET	Backup 3 Destination IP:	Backup 3 Destinat	, urs				
473			MODULES				
MODILE 2			RELAY OUTPUT				
SERIAL PORT			SERIAL PORT				
Instatt			SITE INFO				
WARE			• <u>SNMP</u>				
CHANGE PASSINGED			▶ WAM S				
4			▶ WSA/S2				
NTERANCE:			CHANGE PASSWORD				
M11.							
UNATION :			LOGS				
			MAINTENANCE				
Comme Mana	per Verson 133		STATUS				Converges # 20
			STATUS	disciplination and a statement of the second s	*****	*********************	

Select the **SNMP** sub-menu on the Non Vital Config menu to bring up the SNMP configuration window.



The SNMP configuration window is shown in the figure below. The following table lists and describes the user options. The SNMP trap can be disabled by entering **0.0.0.0** as the IP Address.

0.0				50 5					
	r				Losin				
NON VIZAL COMPIG	 Home > Non Vital Co Home Gl travel G Primary Destruction IP: 	onfig = <u>SNMP</u> Initial _g_Drinult Primary Destaution Port:	» Home » Non Vital Co	» <u>Home</u> » <u>Non Vital Config</u> » <u>SNMP</u>					
ANALOG WHIT ATCS ROUTER COLLOG VERIODATY DO CODE LINE	Backup 1 Destruction IP:	Backup 1 Destruction Port:	🗎 Save 🕤 Discard 💈	Refresh 💊 Default					
Deconstruction County on the county Endenet	Backup 2 Destruction IP: Backup 3 Destruction IP:	Backup 2 Destination Port: Backup 3 Destination Port:	Primary Destination IP:	Primary Destination Port:					
 SPE MODELES BELAY CUTHAT 			10.232.48.155	162					
SERIE PORT SERIE PORT SERIE PORT SERIE SERIE SERIE			Backup 1 Destination IP:	Backup 1 Destination Port:					
WSA-S2 COMVOE PASSHORD			10.232.48.155	161					
STATESANCE STATES SERVICES			Backup 2 Destination IP:	Backup 2 Destination Port:					
ANTRATIS				0					
Commit Mar	nagar Vantin 7.3.3		Backup 3 Destination IP:	Backup 3 Destination Port:	Copyright & 2014 Stamens				
				0					



Option	Range	Default	Description
Primary	0.0.0.0 -	0.0.0.0	The destination IP address to send
Destination IP	255.255.255.255 or	(disabled)	SNMP traps when the currently active
	symbolic name		path is the primary path.
Primary	0 - 65535	162	The destination IP Port Number to send
Destination Port			SNMP Traps when the currently active
			path is the primary path.
Backup 1	0.0.0.0 -	0.0.0.0	The destination IP address to send
Destination IP	255.255.255.255 or	(disabled)	SNMP traps when the currently active
	symbolic name		path is the backup 1 path.
Backup 1	0 - 65535	162	The destination IP Port Number to send
Destination Port			SNMP Traps when the currently active
			path is the backup 1 path.
Backup 2	0.0.0.0 -	0.0.0.0	The destination IP address to send
Destination IP	255.255.255.255 or	(disabled)	SNMP traps when the currently active
	symbolic name		path is the backup 2 path.
Backup 2	0 - 65535	162	The destination IP Port Number to send
Destination Port			SNMP Traps when the currently active
			path is the backup 2 path.
Backup 3	0.0.0.0 -	0.0.0.0	The destination IP address to send
Destination IP	255.255.255.255 or	(disabled)	SNMP traps when the currently active
	symbolic name		path is the backup 3 path.
Backup 3	0 - 65535	162	The destination IP Port Number to send
Destination Port			SNMP Traps when the currently active
			path is the backup 3 path.

Table 4-8 SNMP Configuration Parameters

NOTE

NOTE

SNMP Traps can be disabled by setting the Destination IP addresses to the default value (0.0.0.0).

4.3.4.15 WAMS Configuration

 Image: Spectrum
 For the schedule (2014 Address / 2017 9) and (2016 PDF)

 Image: Spectrum
 For the schedule (2014 Address / 2017 9) and (2016 PDF)

 Image: Spectrum
 For the schedule (2014 Address / 2017 9) and (2016 PDF)

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 For the schedule (2014 Address / 2017 9) and (2016 PDF)

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 For the schedule (2014 Address / 2017 9) and (2016 PDF)

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 For the schedule (2014 Address / 2014 PDF)

 Image: Spectrum
 For the schedule (2014 PDF)

 Image: Spectrum

Click on the **WAMS** sub-menu on the Non Vital Menu to bring up the WAMS Configuration window.

Figure 4-54 WAMS Configuration Menu

The WAMS Configuration window is shown in the figure below. The table describes the user configurable parameters.

SAFETRAN	Ina Name Bahasa Baham I ANG Astrona 7450 777 2010 Net Nami (10.1 – 1407 Namiani 10000) * 5000 + 1000 XIII Config. • Green ■		Laged ten Genera Mongen en adeile (anal
 Antonio control Antonio cont	Kong Adrives. Kaki Anno Tine (s). 3 Alfé de Setel 19	> <u>Home</u> > <u>Non Vit</u> ☐ Save	al Config » <u>Wams</u>
 A const A const A constant 		WAMS Messaging	()
· man		WAMS Address:	Alarm Retry Time (s):
1994 Berlin Hanne Berlin Hanne Berlin Hanne		2.620.01.9100	75
Energia de la composición de	p inser 114		i for Barry 100 barry

Figure 4-55 WAMS Configuration Window

Parameter	Range	Default	Description
WAMS Address	2.RRR.NN.DDDD	2.620.01.9100	When sending unsolicited messages to WAMS, the Communications Manager will send them to this destination ATCS address
Alarm Retry Time	0 - 65535 seconds	75 seconds	When Communications Manager sends an alarm to WAMS it will wait the retry time for WAMS to acknowledge. If WAMS does not acknowledge within the retry time Communications Manager will send the alarm again.

Table 4-9	WAMS	Configuration	Parameters
-----------	------	---------------	------------

4.3.4.16 WSA/S2 Configuration

Click on the WSA/S2 sub-menu on the Non Vital Menu to bring up the Westrace Freight configuration window.

	Site Name: Sefetan Systems ATCS Address: 7.420.108.107 Hile Post: 000.0 DOT Number: 000080A = Home = Non Vital Config	HOME	Logged into Comms Manager as admin, logout
Index EXEMPTIAL CORPUS	* isone ion/tracConfig This is the Non-Vital Configuration (configuration options). Choose which options you would like t home page by clicking on the "Home" I	NON VITAL CONFIG ANALOG INPUT ATCS ROUTER CDL LOG VERBOSITY D C COOE LINE DIAGNOSTIC LOG DIAGNOSTIC LOG DIAGNOSTIC LOG DIAGNOSTIC LOG ETHERNET ETHERNET EVENT LOG GPS MODULES NELAY OUTPUT SERIAL PORT SERIAL PORT SITE INFO SINP VAM S	can modify the Comms Manager's general ir left. If you need help, you may return to the sbUI Troubleshoot" ink from the left.
Sec. 199		• <u>W3AU32</u>	
		CHANGE PASSWORD	
Commi Maria	ga yason 13.8	1000	Copyright & 2015 Semena
		LUGS	
		MAINTENANCE	
		STATUS	
		REPORTS	
		APPLICATION	

Figure 4-56 WSA/S2 (Westrace Freight) Configuration Menu

The WSA/S2 configuration window in shown in Figure 4-57. Table 4-10 details the WSA/S2 parameters and the setting limits.

	Ste Name: Safetran System	ma ATCS Address: 7.620	100.100.01		Logged into Comms Manager as admin, logo	8	Input Size:	
1.000 Control 1.0000 Control 1.0000 Control 1.0000 Control 1.000 Control 1.000 Control	> Home > Non Vital Co	nfig = WSA/S2	04				32	×
121	Store (Cheered State	hesh operault					4	
NON VITAL CONFIG	EDWSA/52 Enabled						4	
+ ACCS ROUTER	WSA/S2 Destination IP:	WSA/S2 UDP Port:					6	
+ COLLOG VERIDOSITY	10.163.3.195	- 3800 Addaese Min		Mile Post: 000.0	DOT Number: 000000A			
1 DC CODE LINE	t .	1		» Home » Non Vital Con	fig » WSA/S2		4 8	
DIAGNOSTIC LOG	1 Loss Of Comme Temport In	malk Transmission			<u></u>		12	
* ETHERNET	5000	1000		Save S Discard S Refre	sh 💊 Default			
+ EVENTLOG	Input Offset:	Induit Site:		—	0		16	
P. OPS	0	32	*	WSA/S2 Enabled			32	
+ RELAY OUTPUT	Output Offset:	Output See:					52	
 SERIAL PORT 	0	32	~	WSA/S2 Destination IP:	WSA/S2 UDP Port:			
· SHE BITO				10.163.3.198	3800	1/		
+ IRSA/52				Session ID:	Address ID:	1/		
1001				1	1	₩	Output Size:	
ALA NUTLEASE 1				Loss Of Comms Timeout (m	s): Transmit Pate (ms):	1	32	~
ATATU'S				Loss of Commis Timeouc (m	s). Hansmic Nace (His).			
menalia -				5000	1000		4	
APPLICATED				Input Offset:	Input Size:	7	6	
							8	
e South Albert	01-6.0500-2			0	32			
Comms Mana	per Version 1.3.5			Output Officiate	Outout Cizer		12	
				output onset:	output size.		16	
				0	32	4	10	
							32	

Figure 4-57 WSA/S2 Parameters

Parameter Name	Range	Default	Description
WSA/S2 Enabled	Yes or No	No	Set to Yes to enable the WSA/S2 protocol
			functions.
WSA/S2 UDP Port	065535	3800	The UDP port number used to send and
			receive WSA/S2 messages.
WSA/S2 Destination IP	<ipv4 address=""></ipv4>	192.168.1.1	The IP address of the Westrace Freight
			unit.
Session ID	1255	1	An identifier associated with the
			session. Must match the ID provided in
			WTFR.
Address ID	162	1	The WSA/S2 address of the WTFR.
Loss of Comms Timeout	10030000 (ms)	5000 (ms)	If no WSA/S2 messages are received
	in 100 ms		within this timeout, the Comms Manager
	increments		will declare the session as "failed".
Transmit Rate	10030000 (ms)	1000 (ms)	The rate at which the Comms Manager
	in 100 ms		will transmit WSA/S2 control messages
	increments		to the destination system.
Input Offset	028	0	Offset, in bytes, into the input logic
			states ("I" bits) of the ladder logic bitmap
			to copy the received WSA/S2 logic states.
Input Size	4, 6, 8, 12, 16,	4	The size, in bytes, of data to copy from
	or 32		the received WSA/S2 logic states.
			Selected from drop down menu.
Output Offset	028	0	Offset, in bytes, into the output logic
			states ("O" bits) of the ladder logic
			bitmap to copy the sent WSA/S2 logic
			states.
Output Size	4, 6, 8, 12, 16,	4	The size, in bytes, to copy the sent
	or 32		WSA/S2 logic states. Selected from drop
			down menu.

Table 4-10 WSA/S2 Parameters

4.3.4.17 Change Password

A password may be set up in conjunction with a CDL application to limit access to system parameters. A default password is programmed into the Communications Manager. For default password contact Railroad Field Support at: 1-800-793-7233. This password is not used unless incorporated into a CDL program. To change the password, click on **CHANGE PASSWORD** on the Non-Vital configuration menu.

	HOME	
	NON VITAL CONFIG	
	ANALOG INPUT	
SAFETRAN' Ste Hame: Safetran Systems ATCS Address: 7.62	ATCS ROUTER	Logged into Comms N
* Home * Non Vital Config * Change Passed	CDL LOG VERBOSITY	
HOR VITAL COMPS	DC CODE LINE	
ANALOS NIPUT	DIAGNOSTIC LOG	
CON LOG VERBORITY	DIGITAL INPUT	
DECCODELINE DIAGNOLEELLOG	• ETHERNET	
• Incluse server	EVENT LOG	
+ EVENTLOS	▶ GPS	
• des • MODILES	MODULES	
meLarouthut	RELAY OUTPUT	
* sett meo	SERIAL PORT	
· man	SITE INFO	
* WIM32	▶ SNMP	
105	▶ WAMS	
BAARTTBANCE	▶ WSA/S2	
STATUS	CHANGE PASSWORD	
REPORTS .		
ATTRAIST.	LOGS	
Commit Manager Venion 1.5.3	MAINTENANCE	
	STATUS	
	REPORTS	

Figure 4-58 Change Password Sub-menu

The Change Password screen will appear as shown in the figure below.

SAFEIKAN	Mie Post: 123.4 * Home = Noti.Vital.	DOT Number: 12) Config = Change Passe	4560 920			Logger mo Cerriers nersiger as an
	Effect - Of Decer					
ALOG MPNT	Old Password:	New Password:	Reenter Password:			
CLOS VEIMOSITY CODE LINE				» <u>Home</u> » <u>Non Vita</u>	al Config » <u>Change Passw</u>	<u>/ord</u>
enostic Los Hitu Influt Istitutos				📙 Save 🌀 Discard		
E CALLE LAY GUTTUE				Old Password:	New Password:	Reenter Password:
sila, Point - C IMPO -				•••••		
87 83. 8452						
ANDE PAR BOORD						
CALLENT						
100 C 100 C	10100100000					

Figure 4-59 Change Password Screen

Using the procedure outlined in the figure below, a new password will be saved into the Communications Manager.



Figure 4-60 Change Password Procedure

4.3.5 Logs

The WebUI Logs Menu provides sub menus to the Diagnostic Log, Event Log, and CDL Log.



Figure 4-61 Logs Menu

4.3.5.1 Diagnostic Log

Click on the *Diagnostic Log* sub-menu to bring up the Diagnostic Log page.



Figure 4-62 Diagnostic Log Menu

• Diagnostic Log – Basic View

The Diagnostic Log defaults to the **Basic View** (Figure 4-63).

SAFETRAN	Site Name: Safetran Systems ATCS Address: 7.620.777.10	0.01		Logged	l into Comms Manager as adm
systems	No. tools and a construction of the second statements				
	a Home a Logs a Diagnostic Log				
	- mens - wege - wegeners.weg				
	Basic M Prst (1) Previous (1) Next (1) Lest	Deunicad A	Events		
	54a3 Julio 09:30:33.36 CONDER Safetran Systems	C90 1	7 BASIC IX Deep:7.620.600.100.00 01 Label:0600		
	babd Juloo 09:00:03.97 COMMGR Refetran Nystems	CRD -1	1 BASIC 03 41 00		
Ku3-	4ac2 Jul02 09:30:33.37 CONNER Estates Systems	CPG	3 SASIC TX Dess:7.620.600.100.03.01 Label:0733		
TRAINING STREELING	#828.24102 09:30:23.07 COUDER Safatean Systems	650	1 BAVIC 83 41 09 00 00		
singurat Links	er65 Julco 05:50121.55 CONDERN Exferies Systems	. C\$0	7 BASIC 78 Deet17.430.03.9150 Label1780		
	1648 Juloy Opino 31 by CONDUX Defetion Tystees	610	T BASIC 09 18 40 18 01 00 00 40 85 73 73 81 87 45 20 94		
CDL 1.00	HATE CALCO 09130123.59 CORDER Salesian Systems	680	1 BASIC DE 00 00 00 00 00 00 00 00 00 00 00 00 00		
	4400 Julos 09:30:31.69 CUMBLA Deretran systems	040	WARTC DD		
	Alls clice op. 53:51.08 computer referred systems	0.00	ANALC 03 40 00 00 00 00 00 00 00 00 00 00 00 00		
	ands Julio Driving of Compare Deferres Pysters	CAO .	BASIL DO DU		
	CONTRACTOR OF ALL AN CONTRACTOR STREET	0.00	and the set of the set		
1000 T	HERE CALLS OF DELEG IN COMMA SALESERS TYPESTS.	10.00	7 MARIE 18 1991 7.440.499.100.02.03 14041.0595		
	DESC ALLS OF PILES OF COMMON SACASESS SYSTEMS	1000	BATAN DE 11 JUN AND AND AND AND AND AND AND AND AND AN		
	ALFS ALVAS ABLANIES OF AMARIN REFERENCES DISTANCE	4000	BARRY AN ANTICIDAL TOPIC DECIDE ANTICIDATE		
	ATT ALLON DE DA TE LE PRAIRE SALESSE ALTERN	0.000	and the second s		
	The party of the second second systems	0.00	The second secon		
	has all and a state of the second second second second	0.00	1 10177 AD A1 10 21 22 24 74 72 21 27 25 25 75 75 75 75 75 75 27		
	hid hill of the state of the states by the	1000	1 BARTO ED 12 DE 00		
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	ales hilds of start as contain selected Systems	1000	The second secon		
	Table 5,105 05 51.15 45 Constant Salarian Systems	- over	The second second second second second		
	a754 3,172 05/21/23 26 CORDER Estation Systems	0.00	The second secon		
	2718 3uld2 08-31-19 97 Confeil Tafatyan Dustana	0.000	1 BARTO 53 41 05		
	5474 5-103 05-11-25 37 COMMIN Seferran Everant	0.00	BILL D TO		
	1145 3-102 05-51-23 ST COMMON Referred Distance	000	1 BLOTT 51 41 05 35 50		
	Hid Juld Ob-21-18 46 COMUN Cafetran Distant	000	TE WARW Decommend Show (no. studie) 7, 420, 400, 100, 01, 01, 70, 7, 420, 400, 100, 01, 01		
	5442 Julto 09:31-44 TE COMMEN Bafatran Svatama	CEU	1 BASIC TH Desc. 1 520 01 9103 Label 7000		
	0470 Juliz 05:51(44.75 COMMER Safetras Preters	020	Y BASE D3 00 05 00 00 00 00 00 00 00 00 00		
	1910 Julit Ob. H. 48, 56 CORDER Safetran Postana	0.00	SANDE TH Deserg ADD 00 Wind Label 7880		
	Radd Julio D9:31:48.50 CODD2 Eafairan Distance	090	5 BARTO DS 18 40 18 01 00 00 40 45 73 73 41 47 45 20 34		
	They Julio Dististies, 58 CONDER Safetran Systems	0.000	1 BASIC 00 00 00 00 00 00 00 00 00 00 00 00 00		
	Sale Juldz 09:31:45.50 CONNER Safetran Eveneme	- 090	7 BASIC 00 00 00 00 00 00 00 00 00 00 00 00 00		
	601f Julio 09:31:45.90 COMMON Enferran Distance	070	1 BARIC 00 00 00 00 00 00 00 00 00 00 00 00 00		
	forb Juld2 09:51:45.55 CONMUN Enferten Dysteme	090	7 BASIC 00 00 00 00 00 00 00 00 00 00 00 00 00		
	aTeb Juld2 09:31:48.95 COMMER Safetian Systems	090	T BASIC 00 00 00 00 00 00 00		
	58ed Julds 05:82:02.37 CONDIA Batetran Systems	090 1	7 BANDO TA Dest(7, 620, 600, 100, 03, 01, Label/CEEC		
	S187 Julio 05:32:02.37 COMMEN Safetran Systems	1000	7 BAFIC 53 41 00		
	8892 Julit 05:32:02.28 CORDUR Rafetran Systems	090	7 BARIC 7N Deck 7,820,450,100,03,01 Label; C723		
	990A Julio 09:32:00.38 COMMIN Safatess Systems	090	1 85820 81 41 02 00 00		

Figure 4-63 Diagnostic Log – Basic View

Buttons provided at the top of the log display allow the user to view the first events in the log, the last events in the log and to progress through the log one screen-full at a time using **Next** and **Previous** buttons. A button is also provided to download the entire log contents to a PC.



	Selection	Description
а	Search Level	Basic, Advanced, Trace Events
b	First	Events at the beginning of the log are displayed.
С	Previous	Selects the previous group of events.
d	Next	Selects the next group of events.
е	Last	Events at the end of the log are displayed.
f	Download All Events	Downloads all events to text file.

Figure 4-64 Diagnostic Log Basic View Navigation Buttons

• Diagnostic Log – Advanced View

The *Advanced* view provides the same navigation buttons as the Basic view (Figure 4-65). However, below these buttons are additional buttons for data entry fields that allow the log to be searched within date and time parameters.

SAFETRAN	Site Name: Safetran Systems ATCS Address: 7.620.777.10	1.01		Logged into Commis Manager as admit
systems	Mile Post: 123.4 I DOT Number: 1234560 + Home + Logs > Diagnostic Log			
612 I I	Advarced	theory and All For		
A MARK & HTTP	Start Date: Start Time: End Date:	End Time:		
1. A.		Abarrent M		
CONTRACTOR OF A	101/01/2008 Ed. 0000000 [2] [/[2/14]	OPTIMAL INT		
SMGNO2TIC.LOS	hand helds on high of the borners for the	CPU 21	BANK OF ALL ALL ALL ALL ALL ALL ALL ALL ALL AL	
EVENT LOD	Aard Julos Ob-20-13 37 COMMEN Estation Bystams	CH1 13	BATC 21 Date 1 420 400 101 01 01 1441-0115	
1000	add Julio of the 15 ST COMPER Enfatured Eveneme	000 33	BANTO AN AT AN AN AN	
And the	ards Julio DF: 50101 49 CONDER Safetran Pretana	090 1.9	BARIC TX Dest(2,820.01.8100 Label/7880	
NUMBER OF STREET	losf Julco 09:30:31.59 COMMIN Exferran Doutane	CP2 1.9	BARIC 05 18 40 18 01 00 00 40 45 73 73 41 47 89 20 34	
	Rafe Julo2 09:30:31.59 COMMON Exfetran Systems	C20 5.7	BARTC DS DO DD DS DO DD DS GO DD DS GO DD DS DO DD DS	
1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	480e Julo2 09 30 31.59 COMMIX Exferran Evetems	CPG 1.7	BARIC 00 00 00 00 00 00 00 00 00 00 00 00 00	
	alfe Juld2 09:50:91.69 COMMER Eafetran Systems -	010 17	BASIC 05 00 00 00 00 00 00 00 00 00 00 00 00	
1.11	didi Julco 09:30:31 63 COMMUN Safetian Systems	010 17	BASIC 50 00 05 55 00 05 55 00 05 55 00 05 55 00 05 55	
	odib Julii 09:00:01:00 CONNER Safetram Systems	090 1.3.7	BASIC 00 00 00 00 00 00 00	
	ad41 Julop 09:00:56 36 COMMER Safetran Systems	CP0 1.1	BASIC 7X Dest: 7.420.400.100.00.01 Label: D660	
	#104 Juloy 09:30:58.37 CONNER Estatem Pyrtams	CIG 5.3	SAUC 53 41 0D	
	0590 Julii 09:30 86.07 CONSUL Safatean Systems	010 11	BARIC IN Dest:7.420.400.100.03.01 Label:0723	
	Sets Julco 05:50:56.07 CORDOL Enfetran Systems	CEO L7	HARIC 11 41 03 00 00	
	475c 3ulog 09:30:58.49 COMMUN Exferen Tyrtsen	C20 378	WARM Drepped Fin (no route): 7.420.400.100.03.01 no 7.420.400.100.01.01	
	5765 Julo2 09/31/11.43 CONDEX Suferian Systems	CEQ 5.7	BASIC IX Dess:2.429.09.0000 Label:00CD	
	b393 Juld2 09:31:11.43 COMBER Bafetran Systems	CPG 17	BASIC 00 01 03 01 00 06 74 72 42 00 03 79 73 74 00	
	55df Juld2 09:31:51.43 COMMUN Safetian Systems	010 17	BASIC 6D 73 00 00 00 00 00 00 00 00 00 00 00 00 00	
	0d94 Jul02 09:31:11.43 CONDER Defetrat Systems	C50 7.1	BASIC 00 00 01 01 00 00 00 00 00 00 00 00 00	
	alf3 Jul00 09:31:11.43 COMMON Hafetran Hystems	C60 T4	BASIC 00 00	
	Gald Ould2 05:31:13.47 CONDUL Bafetran Bystems	CPC RIE	MADN Clearing office queies	
	#284.24102 09:01:29.04 CONDOL Faretenn Eystenn	650 73	BAR2C TH Dest:7.420.400.100.03.01 Label.0500	
	2219 Julco OP EL 29.07 COMBESS Bafelean Dystame	C10 1.7	BASIC 53 81 00	
	Note Julio 09/01/29.27 CORNER Referren Eystena	G10 . 7.4	BARIC TR Devisit.810 400 100 03 01 Label/CTIP	
	75f5 Jul02 U9:31:29.37 CODDGR Safetran Systems	CPO 17	BASIC 55 41 05 00 00	
	DETI JULGI UBIDIISB.44 CONDER DATetrat Dystems .	CAO NIE	WARN DESped Frt ins Ebuter: 7.440.400.100.03.01 to 7.420.400.100.01.01	
	Allo bill ob billing to compare by former	CPU 57	BARC IN Destration of the second seco	
	DATE VALUE OF FLIGHT, TO COMPANY DETECTION OFFICE	1000 100	and a set of the set of the set of the set	
	1810 VALUE OF DIGITS, SE COMMEN RAFELYAN RYSTERS	549 53	BARYS IN DESCINATION STORES AND	
	That while of at at an enderty s. farters fortage	0000 22	manan un an	
	have being of strates of thereas parates frates	ALC: 1 1	The set of the set	
	Ente hilds on-hilds an orderin Rafation Distance	000 1.5	BARY2 AS NO OS AS NO AS AS	
	Rafe 5-102 05-31-45 50 COMPOS Safettes Systems	000 17		
	a7ab Julo2 05-31-45 56 COMMC2 Enforman Protons	000 17		
	Aleg Juldi 09-32-02.31 COMMER Extense Preters	000 17	BARTO TX Deat 7 610 600 103 03 01 Label:0600	
	NIST 34100 08-82-05 37 COMMENT Referrers Fristens	Ctrl 2.3	BATTC A3 43.00	
	\$892 Juliz 05 32:12 16 COMMER Extens	020 5.7	BART TH Desk 7.610.600.102.03.01 Label C723	
	balls Auldo 05:32.20 28 Confill Esferren Furtame	000 23	HARTY AS AT 02 CO OF	
	the card drive stress second stress			
Commis Manag	per Verson 7.3.3			Civitian e

Figure 4-65 Diagnostic Log – Advanced View

In the *Advanced* Mode, dates can be entered either directly in the date fields or the calendar icon at the right end of the date field can be selected to display a calendar. The time fields are similar except that a drop down list provides a list of times or the time can be entered directly in the field.





• Diagnostic Log – Trace Events View

The final selection from the view drop down list is **Trace Events** (Figure 4-67). Select this view to see events as they are logged into the Diagnostic Log. This screen refreshes every 5 seconds so there is a short delay between the time the event occurs and it is displayed. As the screen becomes full, the screen will scroll up to show new events.

SAFETRAN	Ste Name: Safetran Systems ATCS Address: 7.620.777.10	0.01			Logged into Commis Manager as admin, log
1 aysteina	Mie Fork: 123.4 j DOT Number: 1234560 * Horps + Logs > Diagnostic Log				
	Trace Events M. P. Pres Witnesses (P. Just Witness		ATT	e.	
IN MILLER PRIME	9017 Julos 09:32:11 36 COMMER Referran Evenene	CPD	11	BASIC 7X Dest:1.620.00.0000 Label:0000	
presented to the second second	2765 Julio 09:82:13.96 COMMUN Safatran Systems	CPC	35	BASIC 00 01 03 61 66 68 76 72 61 66 20 53 73 74 65	
005	Tele Julii 09:32:11.96 COMMGR Sefetran Systems	CPD	3.7	BASIC KD 18 00 00 00 00 00 00 00 00 00 00 00 00 00	
* 046040510100	92a1 Julco 09:32:11.94 CONDICK Exfetres Systems	C\$0	2.7	BARIC 00 00 01 01 01 00 00 00 00 00 00 00 00	
and the second se	1903 Julo2 09:32:11 96 CONDOD Exfer/an Systems	C\$0	2.7	BASIC 00 10	
Contraction of the second	3343 Julo2 09/32/18.50 CODDUX Jafetran Systems	640	928	RASN Dropped Fis ine rester: 7.620.400.100.03.01 to 7.620.400.100.01.01	
001100	alle Julie 09:32(27.96 Colocal Saletian Systems	000	878	RADE Clearing office games	
CONTRACTOR OF THE OWNER	The oute of stars, se county seturist systems	CRO	818	WARD Dropped 1 persent inct operational	
	alle Julio 08-32 15 55 COMMENT Extense Distance	Carl	18.8	make as a set of the set of the set of the set of the	
1 m m	0975 Julop 09:02:30.30 CONDER Estatum Distant	CPU	3.3	BASIC IN Dest 7 600 600 100 00 01 1abel: C128	
1112	1444 Julio 09:12:10 09 000000 Safatran Fratama	0.000	1.0	BARIC 83 41 03 00 00	
COULT -	ch94 Julco 09:52:68.64 CORDED. Exfetyan Systems	C20	222	WASH Deopped Stt (no route): 7.620.400.100.03.01 to 7.430.400.100.01.01	
649.4 U	52a3 3u102 09:33:00.24 COMMUN Exterion Pystems	020	2.7	BARIC TX Dest(2.620.01.9100 Label)7800	
	45c1 Jul02 09:33:00.30 CODDDX Safetran Systems	C20	1.7	BASIC 05 18 40 18 01 00 00 40 65 73 73 61 67 85 20 54	
- 2115	b315 Jul02 09:33:00.35 CONNER Safetzan Systems	C20	14	BARIC 02 00 00 00 00 00 00 00 00 00 00 00 00	
	2247 Suld2 09:33:50.30 COMMUN Safetian Systems	0.50	1.7	BASIC 50 00 00 00 00 00 00 00 00 00 00 00 00	
	402d Julop 09:53:50.50 CONDER Defetrat Dystems	C20	- 41	BASIC 00 00 00 00 00 00 00 00 00 00 00 00 00	
	1908 Julos OF:33-30.30 COMMER Extens	CEO	11	BASIC 00 00 00 00 00 00 00 00 00 00 00 00 00	
	1001 Julion Official of Controls Encentral Systems	0.90	1000	BASIC OF SO OF OF SO OF OF SO	
	SALE ALLE OF BALES OF COMMAN EXCLUSION DESCRIPTIONS	1000	-14	BANKS IN DESTITION RECEIPTING IN AND INTERVIEW	
	Alof Julo2 09:33:09 39 COMMON Estation Systems	020	1.7	BASIC 1X Dest. 7, 610, 400, 100, 03, 01, 140-110719	
	\$108 Jul03 09:33:09.39 CONDEX Exfertes Evetens	C20	1.7	BABIC 53 41 03 00 00	
	6665 Juldi 03:53:11.65 COMMUN Exfecten Dystems	000	1.7	BASIC TX Dest 2 410 00 0000 Label 06CD	
	fdel 31103 09:39:11.43 COMMER Safetian Systems	020	1.7	BASIC 50 01 83 41 46 45 74 72 41 46 20 53 73 73 74 45	
	8460 Juldo 09:33:51.43 CONNER Defetran Dystems	090	2.5	BARIC 4D 73 00 00 00 00 00 00 00 00 00 00 00 00 00	
	East Julop 09:33:11.44 COMMER Eafetran Systems	CRD	- 22	RATE 00 00 01 01 01 00 00 00 00 00 00 00 00	
	8784 Julo3 09:33:11.44 CONNCR Estatzan Eyeteme	CIC	2.7	BARIC 00 00	
	fra5.24102 09:00:00.00 CODD22 Safatess Systems	. ctd	ATE	MADM Drogged Fits (No route) 7,820,600,100,03,01 ht 7,820,600,100,01,01	
	0943 Julco 09:33:41.40 CONDELL Exferies Systems	C50	27	BASIC 73 Deet 7, 420 400,100,03.01 Label (CHEC	
	dire Juloy OF 33141 40 CONCLA Defeties Fystees	Card		BARIC 53 43 00	
	Test with the state of contract services Systems	Print	120	BARTA SA ANA SA	
	-Shi hild 05-13 41 47 COMUL Safarran Distant	0.00	178	12320 Classics office method	
	f491 Jul02 09:54:11.43 CONDER Defetran Dustana	C20	- 27	BASIC TX Dest.2 420.00.0000 Label 00CD	
	4010 Julop 09:34:11.49 COMMER Safetran Evelens	CPU	1.1	BASIC 00 01 00 61 66 60 74 72 61 65 10 00 79 73 74 68	
	2441 Julio Ob:54111.43 COMBER Rafetran Protone	020	123	BARIC 8D 78 00 00 00 00 00 00 00 00 00 00 00 00 00	
	0445 Julco 09:34:11.63 CO00522 Safetean Systems	090	2.7	BARIC 00 00 01 01 01 00 00 00 00 00 00 00 00	
	2788 Juld2 09:34:11.64 CONDICK Safetran Systems	C\$0	2.7	BASIC 09 00	
	a308 34102 09134 14.45 C000003 Safetran Systems	080	5.7	BASIC 2X Dees: 7,820,400,300,00,01 14841/0660	
	2055 Julo2 09:34:14.49 CONNEX Safetran Systems	CPO	2.7	BASIC 60 41 00	
	921e Juloz 09:34:14.40 COMMER Safetran Systems	C50	- 27	BASIC TR Dest:7.620.400.100.03.01 Label:0722	
	Deas coine oprovine ap compare datation pystens	0.20		BARAC 52 43 05 00 50 BARAC 52 43 05 00 50	
	sets 3/10 15-14/14 25 COMMENTER STREET	000	11	MANTA AN IN AN IN AN AN AN AT AL AL AT AN AT AL AT AL AT AL AL	
	ally Julio Obilation To CONCE Eafaires France	090	2.5	BARIC CO ON CO CO ON CO CO ON CO CO CO CO CO CO CO CO	
	8408 Juli2 09:34:14.79 CONDER Safetran Pretame	010	- 17	BARIC 00 00 00 00 00 00 00 00 00 00 00 00 00	
	hdef Julco 05:34:14.79 CORDIN Exferran Systems	680	2.9	BASIC 00 00 00 00 00 00 00 00 00 00 00 00 00	
	55c1 Julio 09:54:54.79 CODECA Hafetran Rystems	020	147	BARIC 00 00 00 00 00 00 00 00 00 00 00 00 00	
	345e Jul02 09:54:14.75 COMMGN Safetran Systems	CPU	3.7	BASIC 00 00 00 00 00 00	
	7sba Jul02 09:34:18.40 COMMGR Safetran Systems	090	RTE	WARK Dropped Fit (no route): 7 420.400.100.03.01 to 7.420.400.100.01.01	
	4800 Juldi 09:34:47.42 CONNER Safetzan Systems	0.80	57	BASIC IX Dest:7.620.400.100.00.01 Label:0640	
	fa97 Jul02 09:34:47.42 CONDER Safetran Systems	C\$0	- 44	BASIC 53 41 00	
	Hors Julio Obistis7.43 CONDELS Safetran Systems	090	5.7	BARIC 78 Deet(1.420.400.100.03.01 Label(C723	
	ster Cally OF 184 97.63 CONDER Tafetran Pystems	1120	1.6.7	AATIC 53 41 02 00 00	
	fait outer UP:34 16 41 CONSULT Datation Dystams	1000	ATE	WANT NAMESING VILLEY DISCHARTS IN AND AND AN AN AN A WANT AND AND AND AN	
	5744 3ulos Ob-15-11 ES COMPOS Referres Diverses	1000	11	BARTO THE DEAR 12 220 00 0000 Langl 0000	
	cale 5-102 09-16-11 45 COMMC2 Exterior Evenues	C20	1.1	BARTO DO AT	
	same same average of the contrast strains		100		

Figure 4-67 Diagnostic Log – Trace Events

4.3.5.2 Event Log

Click on the *Event Log* sub-menu to bring up the Event Log Page.





• Event Log – Basic View

The Event Log defaults to the **Basic** view.



Figure 4-69 Event Log Menu Basic View

Buttons provided at the top of the log display allow the user to view the *First* events in the log, the *Last* events in the log. The *Next* and *Previous* buttons navigate through events a screen full at a time. A button is also provided to *Download All Events* in the log contents to a PC.

(a)	Event Log	b c d e f)
\smile \rightarrow	Basic 💌	😢 First 🕜 Previous 🕑 Next 🕑 Last 📄 Downloa	d All Events
	Basic		
Advanced	Advanced	12:36:27.35 COMMGR Safetran Systems	CPU CFG
	Auvanceu	12:36:51.13 COMMGR Safetran Systems	CPU CFG
	Trace Events	12:36:51.56 COMMGR Safetran Systems	CPU CFG
	25.0.5 0.0.0. M 0.5		anu ana

	Selection	Description
а	Search Level	Basic, Advanced, Trace Events
b	First	Events at the beginning of the log are displayed.
С	Previous	Selects the previous group of events.
d	Next	Selects the next group of events.
е	Last	Events at the end of the log are displayed.
f	Download All Events	Downloads all events to text file.

Figure 4-70 Event Log Basic View Navigation Buttons

• Event Log – Advanced View

The **Advanced** view provides the same navigation buttons as the **Basic** view (Figure 4-71). Below these buttons are additional buttons for entry fields that allow the log to be searched within date and time parameters.

SAFETRAN	Site Name: Safetran Systems ATCS Address: 7.620.777.100.01			Logged into Comms Manager as ade
1 lystens	Me Post: 123.4 DOT Number: 1234560 + Home + Logs + Event Log			
NINE!	Advanced W B Fest B Previous B Next B Last	an Althouse		
CHANTER CORDS	Start Date: Start Terre: End Date: End 1	ame:		
	provide the second seco	10000		
06.8	01/01/2008 2 00:00:00 2 7/2/14 2 12:3	2:10		
040803703200	3751 2014-Jun-20 18:51:40.00 CODMGR Safetran Systems	. CPG 810	Clock adjusted by 5.96 seconds	
and the second se	66a5 2014-2un-29 7:20:51.00 COMMIN Safetran Systems	090 830	Clock adjusted by 5.63 seconds	
EVENIT100	3dc7 2014-Jun-29 15:49:54.00 CONDIGN Sefetran Dysteme	CPG A30	Clock adjusted by 0.46 seconds	
 COL100 	409b 1014-Jun-DO 0:00:10.04 COBDIGR Exfetran Dystems	C90 #83	User has logged into the RebUI	
	3103 JUL4-JUN-30 LOTBETLE. 71 CORDER Decetran systems	CVU - NEI	user cas logged into the vecui	
	News 2014-Jun-30 11/10/45 84 CODDIN Reference Systems	CPU	User nes logges into the WebUI	
	Blas 1012- house 10 10112 to 14 Company Defection Systems		They has longed into the Manual	
	and this buy to the to be present to be and the second		Hard has looved into the Manual	
	Adda Antig Town to 12-25-28 AD COMMENT Enformer Reasons	1011 241	Clock adjusted by 5.11 seconds	
	alar 2014-Down 10 12-12-07 04 COMMENT Referran Brazana	- mart 1493	Dar has loaded into the TabIT	
	Sedf 2014-2un-50 15:35:55 18 CODDER Seferren Dvateme	CPU WER	Deer has lowned into the Web071	
	hdbb 2014-Jun-50 20143-00 00 COMUS Safetran Dvatens	C90 970	Clock adjusted by 5, 52 seconds	
	042f 2014-Jul-D1 9:11:03.00 CONDIGE Safetran Systems	CPU RTV	Clock adjusted by 5.60 seconds	
	sale 2014-541-01 B(40:00.02 CC0000 Safetant Systems	C2U 1023	User has looped into the ValdT	
	fb2:6 2014-5:1-01 8:40:10.02 COMDON Nafetran Pystems	'citi 'waa	Uses has lopped out of the MabOI.	
	1393 3014-Jul-01 8(40)55.83 CONDUM Defenses Fystems	CPC 1883	User has logged into the Web01	
	0423 2014-Jul-01 5:52:32.03 COROLD Safetran Systems	C20 C20	Configuration settings committed to flash	
	74f4 2014-Jul-D1 9:62:32.23 CONDER Safetran Systems	CP0 VIII	C slot 2 comms failure	
	Swal 2014-Jul-01 10:41:07.41 COMMUN Safetran Systems	C90 NE	User has logged into the WebUI	
	7939 2014-2u1-01 11:07:50.48 COM052 Sefetran Dystems	CPG - W23	User has logged into the Web01	
	Hade 2014-2u1-01 11:14:43.79 COBDIGR Hafwiran Dystams	C90 W83	User has logged into the HebUI	
	7279 2014-201-01 13:00:16.22 CODDIR Sefectan Systems	C90 WES	User has logged into the WebUI	
	AB26 2014-241-01 14/48:54,48 COROLI Haferran Systems	C20 1153	User hes logged into the MahUT	
	abf3 2014-541-01 14(49:04 10 CODDOR Mafetran Systems	C20 WE3	Uses has logged into the West?!	
	2413 J014-Jul-C1 14:49:35 34 CORDER Defetion Systems	090 404	User has ingped into the webut .	
	Sept 2014-201-01 15:57:57.78 CORDER Safetran Systems	CP0 1.01	site Setup Started	
	bids Jule-Jul-01 15:58:05,34 CORDUS Defetran Systems	C95 C25	cit ingine stopped	
	tery avia-via-via in the second of control defection devices		Consequences secondy completed to fight	
	3300 2014-2-1-01 12-18-17 18 COMMIN Services Proveme	1000 1000	Size Seruh Complete	
	#198 2014-241-02 \$100:44 00 CONCE Safation Frances	C20	Clark assurted by 1 15 generate	
	1454 2014-5-1-02 # 12101 #2 CODDIN Safetyan Systems	C201 1023	Hans has looped into the Mahilt	
	ho42 2014-541-02 \$111.89.64 CODOD Refetren Fretene	cht was	User has looped into the Wahl?!	
	\$546 3014-Jul-02 Bill5:89.28 COMMIN Dafetreen Pysteme	C20 923	User has logged out of the WebUI	
	Subb 2014-Jul-02 S.17:07.91 COMMON Safetran Systems	CPU 1025	Crex has logged into the WebUI	
	Sal7 2014-Jul-02 10:15:50.00 CONDER Safetran Systems	CPU 870	Clock adjusted by 5.01 seconds	
	0355 2014-201-02 11:13:13.46 COMMUN Safetran Systems	C90 1923	User has logged into the WebUI	
	cSc6 2014-2u1-02 11:14:43.01 COM052 Sefetran Dysteme	CPC #23	User has logged into the Web01	
	657a 2014-2u1-02 12:20:24.04 COMMER Hafetran Operana	C90 W83	User has logged into the RebUI	



In the **Advanced** view, dates can be entered either directly in the date fields or the calendar icon at the right end of the date field can be selected to display a calendar. The time fields are similar except that a drop down list provides a list of times or the time can be entered directly in the field.



Figure 4-72 Event Log Advanced View Navigation Buttons

• Event Log – Trace Event View

SAFETRAN	Site Name: Safetran Systems ATCS Address: 7.620.777.100.01			Logged into Comms Manager as admin, loge
e l'systems	Mile Post: 123.4 DOT Number: 123456D » Home » Logs » Event Log			
4111411	Trace Events (#) (#) vives (#) Henrice (#) head (#) Last (*) Decen	pl Freeing		
AUG (1752 1799) 1003 100400370 (200 100400370 (200 10040370) 1005100 100701- 101701- 101701- 101701-	1076 1074 - Au-CO II (410) 8 COMEN Servers System 84 2014 - Au-CO II (410) 8 COMEN Servers System 84 2014 - Au-CO II (410) 8 COMEN Servers System 94 2014 - Au-CO II (410) 8 COMEN Servers System 94 2014 - Au-CO II (410) 8 COMEN Servers System 94 2014 - Au-CO II (410) 8 COMEN Servers System 94 2014 - Au-CO II (410) 9 COMEN SERVER 94 2014 - Au-CO II (410) 9 COMEN	CTP 127 Alte Beign Distent CTP 127 Alte Beign Distent CTP 276 Configuration extinge CTP 276 Configuration extinge CTP 276 Configuration CTP 276 Configurat	condited to fieth	
Course times	an (anim) 113			

Figure 4-73 Event Log – Trace Events

4.3.5.3 CDL Log

The Communications Manager will generate a log of CDL program information. The CDL Log is generated during the compilation of a CDL program. This function is only useful to the Application Engineer writing CDL Logic.



Figure 4-74 CDL Log

4.3.6 Maintenance

The Maintenance Menu can be accessed by clicking on the Maintenance menu.



Figure 4-75 Maintenance Menu

4.3.6.1 Software Upgrade

The following is the procedure for software upgrade using Web UI. First, click on **SOFTWARE UPDATE**. Then, follow the steps below.





4.3.6.2 System Time

The System Time can be set using Web UI. Communications Manager derives its time source from manual setting, network system time, or GPS if the receiver is enabled and a GPS antenna is installed. First, click on **SYSTEM** TIME. Then, to manually set the time click on the **Date** drop menu and either select the date from the calendar or manually type it in using the proper format. Click on the **Time** drop menu and either select the time or type it in using the proper format. Then, click **Set Time** to save the entry. To set Communications Manager to the Network Time, simply click on **Computer Time** icon. The computer date and time will display in the Time Window. Click the **Set Time** button to set the time.

SI + B MIN-19938384	M.		er 🖓 🚺 - Saayle	P & # 0 0 1
	Ita fare folder (1494): 1502-1502-1513 Internet: 151 State (152) State (152)			Logged into Commis Manager as admin. babad
100 - California 1001	» Home » Maintenance » System Time			
MARTINACI • scattering orders • accession	😥 Set Time 💷 Computer Time 💿 Comms Manager Time			
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	10:47:26	~		
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	Date: 00:15:00	=		
	06/26/2014 🔤 00:30:00			
	June 2014 ▼ ▼ 00:45:00			
	25 26 27 28 29 30 31 01:00:00			
	<u>1 2 3 4 5 6 7</u> 01:15:00			
	8 9 10 11 12 13 14 15 16 17 18 19 20 21 01:30:00			
	22 23 24 25 26 27 28 01:45:00			
	<u>29 30 1 2 3 4 5</u> 02:00:00			
	02:15:00			
	02:30:00			
	02:45:00			
	03:00:00			
	02:15:00	-		

Figure 4-77 Maintenance Menu – Setting System Time

4.3.6.3 Configuration

The Communication Manager's configuration can be downloaded and saved to a computer file. Also, a configuration file can be uploaded and installed into the Communications Manager. The following procedures detail the processes.

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* Home * Mainten	nce + Configuration NON VITAL C	ONFIG		
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Comma Managai Vireico 133	STATUS			Copyright @ 201
	REPORTS			
	APPLICATIO	N		



• Downloading a Configuration File

Click on the *Configuration* sub-menu on the Maintenance menu. The following procedure is used to download the Configuration file.

0		
Septement Action Systems (ACS Address: 7,602.7) With Mark Control Mark Control With Mark Control Mark Control	» <u>Home</u> » <u>Maintenance</u> » <u>Configuration</u> Upload <u>Download</u> • • • • • • • • • • • • • • • • • • •	Logged into Commis Manager as admin, <u>logged</u>
	Browse No file selected.	
Click Save and OK to download file. b Computer will indicate the download is complete. Click arrow to view download file.	Vou have chosen to open: ▲ nvconfig.bin which is: VLC media file (.bin) from: https://10.163.3.6 What should Firefox do with this file? Open with VLC media Open with VLC media Open with VLC media Open with VLC media ObwnThemAll! C\Downloads\ Ø Gave File Oothic automatically for files like this from now on. OK Cancel	
		Click on the Arrow to show the downloads. Verify the desired file was downloaded.
4	nvconfig.bin 4 as admin, logout	
	Show All Downloads	

Figure 4-79 Downloading the Configuration File

• Uploading a Configuration File

The figure below details the Configuration Uploading process in order to save a new configuration file to ECD (flash memory).





4.3.7 Status

The Status Menu is accessed by clicking on the *Status* interactive text on the Menu. The Status Menu has eleven sub-menus. Each sub-menu provides a live status screen for the application selected.



Figure 4-81 Status Menu

4.3.7.1 Status Menu - GPS

Selecting the **GPS** sub-menu will display the GPS information as shown below.

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Safetran Systems WebUI - Comm	n4					
S) 🗲 🔒 https://10.163.3.6/#	lgi	V C Scopie	P 4	Ĥ	☆ E	e =
	Ste Rume: Safetran Systems ATCS Address: 7620.777.100.01 Mile Post: 123.4 » <u>Home » Status</u> » <u>GPS</u>	Logged into Commis 1	Manage	as adn	.sin. <u>Ioo</u>	<u>tout</u>
HUN YATAG DUBPHI 1990 P	General Investe ut a la la 0 Status Vola Hours 20, Minutes 30: Secondo 30	Site Name: Safetran Systems ATCS Address: 7.620.777.100.01				
autate + cu+s + co	Latitude Degree 34 Minute 5.27010, Director N Longitude	Mile Post: 123.4 DOT Number: 123456D <u>» Home</u> » <u>Status</u> » <u>GPS</u>				
+ RO LED + UNER LED + ROVELOB	Degrees 117, Minutes 34 40160, Drectum W	General				
whats white white white white white		Status: Active				
ALABEE LADER LODIC MELAY OUTPUT		Hours 20, Minutes 39, Seconds 36				
• ADJER BARRE		Latitude				
Annabation		Degrees 34, Minutes 5.27010, Direction N				
		Longitude				
Commis Maria	get Vernio 1.5.3	Degrees 117, Minutes 34.40180, Direction W		Cipyright	e 2014 S	lan tara

Figure 4-82 GPS Status

4.3.7.2 Status Menu – I/O

Selecting the *I/O* sub-menu displays the Relay Out, Analog Input, Ground Fault Tester (GFT), and Digital Input status as shown in the figure below.



Figure 4-83 I/O Status

4.3.7.3 Status Menu – I/O LED

Selecting the *I/O LED* sub-menu will display the Input and Output LED status information. The *I/O LED* status provides information of the live status of the Communications Manager's **Digital**, **Analog**, and **Relay Output** LEDs. The *I/O LED* status will identify the *Input Name* as well as the *LED indication state*, whether it is *ON*, *OFF*, or *TOGGLING*.

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Saletian Systems WebC4 - Comm	n			×.۲	😒 = Google	アキキ☆白三
	Ste Name: Safetran Systems ATCS Address: 7.620.777.100.01 Mie Polt: 123.4 DOT Number: 1234560				Logged into Con	ens Manager as admin , <u>logout</u>
Contract (199	Digital LED Status	Analog LED St	atus	Relay LED	tatus	
	Nyuf Neme SAle Dulito UTF Dulito UTF Dulito UTF Dulito UTF Dulito UTF	Movi Na ALID ALID ans ALED	the Skille 1 GFF 2 GFF 4 GFF 4 GFF	ingut 18 78	Name State 10 off 20 off	
+ 6+5 + 10 + 10 HD	04205 044 04206 044 80 84 DLID6 077					
 VACH LED RCHELOS VALUE VALUE VALUE 	Digital LED Status					
+ ALANNE + LADER LOOK	Input Name	State	Analog LED Status			
AREAN OUTPUT HOUTE DAILE	DILED1	OFF	Input Name	State	Relay LED Status	
Annalis	DILED2	OFF	AILED1	OFF		
	DILED3	OFF	AILED2	OFF	Input Name	State
Commit Maria	DILED4	OFF T	ana3	off	rel10	off
	DILED5	OFF	AILED4	OFF	rel20	off
	DILED6	OFF				
	di7	off				
	DILED8	OFF				

Figure 4-84 I/O LED Status

4.3.7.4 Status Menu - User LED

Selecting the **User LED** sub-menu will display the **User LED** live status. The **User LED** status will identify the **Input Name** as well as the **LED indication state**.

SAFETRAN'	SRe Rame: Safetran Systems ATCS Address: 7.620.777 Mile Post: 123.4 DOY Number: 1234560 * Horps * Status * User: LED User LFD Status	User LED Status		Legged into Commis Manager as admin; logout
menunace control 1000 100	Importance Date ULCDI OHEN ULDDI OH ULDI OH ULDI	Input Name ULED01 ULED02 ULED03 ULED04 ULED05 ULED06 ULED07 ULED08 ULED09	State GREEN GREEN GREEN GREEN GREEN GREEN OFF	
Conves Mana	per Vancen 1.3.3	ULED10 ULED11	OFF	Copyrages & 2014 Tare
		ULED12 ULED13 ULED14 ULED15 ULED16	OFF OFF OFF OFF OFF	

Figure 4-85 User LED Status

4.3.7.5 Status Menu – Echelon[®]

Selecting the *Echelon* sub-menu will display the status of the 16 Echelon Nodes, listing the *Slot Number, Module Name*, and *Status*. The figure below displays the Echelon screen.

Elle Edit Yew History Bookmu Safetxan Systems WebUI - Comm	nts Itoli Hitp	» <u>Home</u> » <u>S</u>	<u>Status</u> » <u>Eche</u>	lon			- 10	-	2 ×
S) (A https://1016336/#	ech	Echelon Sta	tus		ood glucose test strips	٩	÷ n	\$	0 =
Particle Control of Control	Ste Name: Shiften System AFCS Address: 7420-77.00.01 High Sut: 122 COT Number: 1204560 High Sut: 122 Cotton Cotton Cotton Sut: Shiften Cotton Cotton Cotton Sut: Shiften Cotton Cotton Sut: Shiften Cotton Sut: Shiften Cotton Sut: Shiften Cotton Shiften Co	Slot Number 1 2 3 4 5 6 7 8 9	 Module Name GEO 1 Not configured 	Status OK Bad Bad Bad Bad Bad Bad Bad	Logged in	o Commis Man	ager as a	i denin, lo	gout
Connt Neo	get Hansen 1.3.3	11 12 13 14 15 16	Not configured Not configured Not configured Not configured Not configured Not configured	Bad Bad Bad Bad Bad Bad			Conjug	pri 8-2014	



4.3.7.6 Status Menu – WAMS

Selecting the **WAMS** sub-menu displays the WAMS Test Packet screen. Click on the **Send WAMS** Test Packet button. A test packet will be sent to WAMS which will respond with an acknowledge message. If the acknowledge is successfully received a message will be displayed "**WAMS** Test Packet Status OK". If the acknowledge is not successfully received, a message will be displayed "**WAMS** Test Packet Status NOK".

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S) (+) @ https://10.163.3.6/#	les .		V C S v low cost blood glucose test strips	P	+ +	1 12	e	=
SAFETRAN Submitted Su	Ste Name: Safetzer Systems ATCS Address: 7.430.777.100.01 Mik Page 122.4 DOT Number: 12.M550	» <u>Home</u> » <u>Status</u> » <u>Wams</u> General Send Wams Test Packet Wams Test Packet Status NOK		Logged into Commis Mar	ager as a	admin,	logout	
Comme Maria	age Weeks 1.3.3				City	्रम e 20	old Signa	

Figure 4-87 WAMS Status

4.3.7.7 Status Menu - Path

Selection of the *Path* sub-menu displays the Communications Manager's path status information and their operational status. The figure below shows the Path information screen.

(+) & https://10.163.3.6/*)	pi l		V C Socie	2 本 合 白 日
	Ste Name: Safetran Systems ATCS Address: 7620-777.100.01 Mie Pott: 123.4 * Idante - Stathan - Eath; General	» <u>Home</u> » <u>Status</u> » <u>Path</u>	Lindov V.	ogged into Commis Manager as admin , <u>logout</u>
Hellis VITACICCHELLS	System Uode - Preserv/Beckup System State: Operational (Preserv) Preserv Peth State: Faled Backup! Path State: Not Used	General		
3767193 * dahs * col sco * col	Nexted Next Tanker Next (Cancel Haved Total Offermane): # Innex Path Toti: Tere (m): Total Total	System Mode : Primary/Backup System State : Operational (Primary Primary Path State : Failed Backup1 Path State : Not Used Backup2 Path State : Not Used Backup3 Path State : Not Used	у)	
ARLAY OCHUY NOUTE WALE		Enable/Cancel Manual Mode		
Network S Constant with		Permanent Timed		
		Path Type:	Time [min]:	
Comina Iliano	pe Verian 133	×	60	Copyright & 2014 Samara
		Enable		

Figure 4-88 Path Status

4.3.7.8 Status Menu – BCM Diagnostics

The **BCM Diagnostics** selection on the Status Menu opens the BCM Diagnostics window which consists of a list of buttons to interrogate and test the BCM module. Click on each button to view the status of that function.

SAFETRAN	Site Name: Safetnan Systems ATCS Address: 7,620.777.100.01		Logged into Comms Manager as admin, logout
	* Home * Status * BCM Diagnostics	» Home » Status » BCM Diagnostics	
	General	a <u>Homo</u> a <u>Bom Braghotico</u>	
	Clerif List	Ceneral	
	Service Mode	General	and the second
ATATAL CONTRACTOR	System Restart	Version	
+ ors	Disable Tracing	1	
	Push-To-Taik-On	Client List	
	Push-To-Tak-Off		
* EDHELDN	Communication Stats	Service Mode	
	HDLC Serial Port Stats	System Destart	
 Mail Mail 	Enable Tracing: Layer 1 Port 12	System Restal C	
+ ALADAS	Enable Racing: Layer 1 RF Port	Disable Tracing	
	Bcm Diag Status		
IELAK OUTPUT IOUTE MARKE	Version: So Response Received	Error Rate Test	
		Durk Ta Talk Oa	
		Push-to-taik-On	
11015210.1		Push-To-Talk-Off	
Comms Ma	Nagar Vancon 1.1.3	Communication Stats	Copyright & 2014 Biamana
a a second a second day		HDLC Serial Port Stats	
		Enable Tracing: Layer 1 Port J1	
		Enable Tracing: Layer 1 Port J2	
		Enable Tracing: Laver 1 RF Port	
		Bcm Diag Status	
		Version :	
		BCM-II Ver 1,11,00	

Figure 4-89 BCM Diagnostics

4.3.7.9 Status Menu – Alarms

The *Alarms* selection displays a list of alarms sent to WAMS or SNMP. The alarm list can be saved. Alarms can be selected and disabled.

SAFETRAN Statum: Safetan: Statum: ATGS Addres: 7.630.777.109.01 Lossenumder: 1234580 Sec Safetan Sec Safetan Mada Satur Anna Satur Sec Safetan Mada Satur Satur Satur Sec Safetan Mada Satur Satur		Logged into Comms Manager as admin, logost
 reconstruction reconstruction reconstruction reconstruction reconstruction reconstruction 	Save Refresh	
 NELAR CONTACT NELAR DATE NELAR DATE 	Disable the selected alarms	
annistatea	WAMS SNMP	
	Current Mode =	
	16	

Figure 4-90 Status Menu - Alarms

4.3.7.10 Status Menu – Ladder Logic

Selection of *Ladder Logic* on the Status Menu brings up the Ladder Logic matrix. The matrix consists of individual bitmap areas, each of which are 256 bits(32 bytes) big. If a ladder logic program is installed, the program will process specific bitmap areas, resulting in updates to various bitmap areas. The net result of a ladder logic program's processing is the updating of bitmap areas that cause output messages to be generated to office system or CDL engine.

The ladder logic matrix is dynamically updated as the input and output statuses that the bitmap areas represent change. The matrix may also be manually changed by double-clicking on an individual bit. This will cause its value to change from 1 to 0 or 0 to 1. Then, upon either a dynamic or manual change to ladder logic matrix, ladder logic program will automatically process the ladder logic matrix.

The bitmap areas represent the various functions used in the processing of input and output data statuses. These functions include office indication bits, office control bits, GEO control bits, GEO indication bits, executive bits, etc.



Figure 4-91 Status Menu – Ladder Logic

4.3.7.11 Status Menu – Relay Outputs

The *Relay Output* selection of the Status Menu shows the present status of the relay outputs. The user can also change the relay output state to one of three selections, **ON**, **OFF**, and **TOGGLING**. The figure below details the procedure to change the relay states. As a relay is driven to the selected output state, the 'Present State of Relays' window will be update with the new output state. For TOGGLING output state, the relay will be toggled according the relay's configured toggle rate.

Statement Selection 22.4 Statement Selectio	Inorth Andrea Andrea Andrea Andrea Dort Investment (224560) Relay Colland Relay Colland Market (2000) Market (2000	-	74			
NO LED NACE LED REMELTIN	Change Relay	ys State				
INAME INAME SUMMANY STREET	Relay1:	Relay2:	:	Change		
LADNER LOGIC RELEY OUTPUT NOUTE INSLE		~	~			
an y Marian	Present Stat	e of Relays		1		
Commit Manager Ventor 133	Relay1 State:0f Relay2 State:0f	ff				Complete 2.2
ange Relays State	DebvQr		(a) Click of the de	on the pull desired relay s	own menu. tate	. Select
ange Relays State	Relay2: Charles Startes Starte	ange	(a) Click of the de	on the pull d sired relay s	own menu tate	. Select k on the <i>Change</i> on to activate the
ange Relays State ay1:	Relay2: Char s Change Relays Sta Relay1:	nge Ite Relay2:	(a) Click of the de	on the pull d sired relay s	b Clic	. Select k on the <i>Change</i> on to activate the y output selection.
ange Relays State ay1: V F DGGLING	Relay2: S Change Relays Sta Relay1: DN	ange ate Relay2:	(a) Click of the der	on the pull desired relay s	bown menu tate b Clici butt relay	. Select k on the <i>Change</i> on to activate the y output selection.
ange Relays State ay1: F)GGLING	Relay2: Change Relays Star Relay1: DN Present State of R	ange Ite Relay2: elays	(a) Click of the de	on the pull desired relay s	bwn menu tate b Clicl butt relay	. Select k on the <i>Change</i> on to activate the y output selection.
ange Relays State ay1: V F DGGLING	Relay2: Change Relays Sta Relay1: DN Present State of R Relay1 State:Off Picker Off	elays	Change	on the pull desired relay s	by Clic b Clic butt relay	. Select k on the <i>Change</i> on to activate the y output selection.
ange Relays State ay1: F)GGLING	Relay2: Change Relays Sta Relay1: DN Present State of R Relay1 State:Off Relay2 State:Off	ange ate Relay2: Selays Change Relays S Relay1:	Change Change	on the pull desired relay s	b Clici b Clici butt relay	. Select k on the <i>Change</i> on to activate the y output selection.
ange Relays State ay1: V I GGGLING	Relay2: Change Relays Sta Relay1: DN Present State of R Relay1 State:Off Relay2 State:Off	ange Relay2: Change Relays S Relay1: ON	Change Change	on the pull desired relay s	b Clici b Clici butt relay	. Select k on the <i>Change</i> on to activate the y output selection.
ange Relays State ay1:	Relay2: Change Relays Sta Relay1: DN Present State of R Relay1 State:Off Relay2 State:Off	ange Relay2: Change Relays S Relay1: ON Present State of	Change Change	on the pull desired relay s	b Clici b Clici butt relay	. Select k on the <i>Change</i> on to activate the y output selection.
ange Relays State ay1: V FF DGGLING View outp	Relay2: Change Relays Sta Relay1: DN Present State of R Relay1 State:Off Relay2 State:Off Relay2 State:Off	ange Relay2: Change Relays S Relay1: ON Present State on Relay1 State:On Relay1 State:Off	Change Change State Relay2: f Relays Change Relays Relay1:	Char State Relay2:	b Clic: b Clic: butt relay	k on the <i>Change</i> on to activate the y output selection.
iange Relays State	Relay2: Change Relays Sta Relay1: DN Present State of R Relay1 State:Off Relay2 State:Off rthe present relay ut status	ange Relay2: Change Relays S Relay1: ON Present State of Relay1 State:On Relay2 State:Off	Change Change State Relay2: f Relays Change Relays Relay1: ON	State Relay2: TOGGLI	b Clic b tit relay	. Select k on the <i>Change</i> on to activate the y output selection.
Ange Relays State ay1: F DGGLING View outp Rela toge	Relay2:	ange ate Relay2: Change Relays S Relay1: ON Present State of Relay1 State:On Relay2 State:Off	A Click of the deal of the dea	Char State Relay2: TOGGLI of Relays	NG	. Select k on the <i>Change</i> on to activate the y output selection.

Figure 4-92 Relay Outputs – Change Relay State

4.3.7.12 Status Menu – Route Table

The **Route Table** selection of the Status Menu displays the ATCS route table. These routes are placed in the table as ATCS messages are received from various stations using Ethernet ports, serial ports, and the Echelon port. The Table lists the **Address, Path Type, Port Number**, and **Timer Setting**.



Figure 4-93 Route Table

4.3.8 Reports

Click on the *Reports* menu, two sub menus are available, *Configuration Report* and *Versions Report*.



Figure 4-94 Reports Menu

4.3.8.1 Reports – Config Report

The first of the two sub-menus is the Configuration Report. To view the report information click on the *Config Report* sub-menu. The report will appear on the screen. The *Refresh* button updates the screen. The configuration report contains all the configuration parameters as they are stored on ECD (flash memory).



Figure 4-95 Reports Menu – Config Report

Click on the *Download* button to *Open* the file or *Save* the file to the computer as shown below.





4.3.8.2 Reports – Version Report

The second of the two sub-menus is the *Version Report*. To view the report information click on the *Version Report* interactive text. The report will appear on the screen. The *Refresh* button updates the screen. The version report will contain version numbers for executive software, CDL program (if installed), ladder logic program(if installed), Linux kernel, FPGA, CPLD, and hardware modules.



Figure 4-97 Version Report

Click on the *Download* button to *Open* the file or *Save* the file to the computer as shown below.





4.3.8.3 Application

The Communications Manager is designed to support applications written in the CDL programming language. The *Application* menu is used to upload and install CDL applications and upload or remove ladder logic. The *Application* menu has three sub-menus for *Site Setup, Uploading Ladder Logic,* and *Upload CDL*.

Conna Mana	ye Veer 13	REPORTS APPLICATION SITE SETUP	Suppl 5211 here
New WMAL EXEMPT EXOLOGY MAXIMUM REPORTS P CONTIN ASHINIT > VERMON REPORT	Choose which report you would like to gene "WebUI Troubleshoot" link from the left.	NON VITAL CONFIG	d help, you may return to the home page by clicking on the "Home" link above and selecting the
	ste hame: Safetran Systems ATCS Address: 7.620.777.100.01 Me Four: 123.4 DOT Number: 1234560 * Home * Reports This is the Reports page. From this screen yo	НОМЕ	Logged into Commis Manager as admin, logged is system reports.

Figure 4-99 Application Menu

• Site Setup

The Site Setup sub-menu allows the user to run Site Setup with a CDL application that has been previously installed as detailed in the Section above.

veters Systems ATG Address: 7428-777-104.09 23.4 e reached the Safetran Systems roppriate links and buttons throug y select a system area from the on the "Home" link above and so	HOME NON VITAL CONFIG LOGS MAINTENANCE	Logged into Commis Manager as admin, togged into Commis Manager as admin, togged into Commis Manager as admin, togg enface. Through this easy to use web tool, you can configure, control, and observe this device by clicking specific selection from the menu that appears to the left. If you need help, you may return to this page by
Aftran Systems ATCS Adverse, 7428-777.108.01 22A Applications reported inks and buttons througi y select a system area from the on the "Home" link above and se	NON VITAL CONFIG LOGS MAINTENANCE	Logged into Commis Manager as admin. bog enface. Through this easy to use web tool, you can configure, control, and observe this device by clicking specific selection from the menu that appears to the left. If you need help, you may return to this page by
Application re reached the Safetran Systems ropriate links and buttons through y select a system area from the on the "Home" link above and se	LOGS MAINTENANCE	erface. Through this easy to use web tool, you can configure, control, and observe this device by clicking specific selection from the menu that appears to the left. If you need help, you may return to this page by
v select a system area from the on the "Home" link above and se	LOGS MAINTENANCE	specific selection from the menu that appears to the left. If you need help, you may return to this page by
y select a system area from the on the "Home" link above and se	MAINTENANCE	specific selection from the menu that appears to the left. If you need help, you may return to this page by
		rom the left.
	REPORTS	
	APPLICATION	
	▶ <u>SITE SETUP</u>	
	UPLOAD LADDER	Converse # 2014 Ex
	LOGIC	
	UPLOAD CDL	
	>	REPORT S APPLICATION SITE SETUP UPLOAD LADDER LOGIC UPLOAD CDL

Figure 4-100 Applications – Site Setup Using CDL Application
Click on 'Start' to run Site Setup.

» <u>Home</u> » <u>Application</u> » <u>Site Setup</u> (8) Back (9) Next (2) Start

When Site Setup is completed the following screen will appear. Click on '*Finish*'. Note that '*Restart*' will run the Site Setup again.

The CDL file will be saved to ECD's flash memory Observe the following status window will appear in lower right corner.



• Upload Ladder Logic

The *Upload Ladder Logic* selection is used to manage Ladder Logic files for uploading into the Communications Manager.

SAFETRAN 9/stems	Ste Name: Safetran Systems ATCS Address: 7.620.777.100.01 Mie Post: 123.4 DOT Number: 123456D » Home » Application » Unipad Ladder Logic	Logged into Comms Manager as admin, logout	
IICAM BON VITAL COMPAG LOGS MARTEXANCE SLATERS REPORTS APPLICATION • SITE SERUP • UPLOND LADGEN LOGIC • UPLOND COL	Browse. IOTCON		2/2 2/2 2/2 3/1 3/1
Comma Ma	mager Vesion 1.3.3	Copyright © 2014 Stermens	

- 1 Click on upper *Browse* button.
- 2 A Choose-file-to-Upload window will appear. Select the Ladder Logic File with the .LLB extension.
- 3 Click the **Open** button.

Figure 4-101 Upload Ladder Logic Files – Select First File (LLB)

C T Systems	Mie Post: 123.4 DOT Number: 123456D » Home » Application » Upload Ladder Logic 4	C Tartyland	
	Browse INTESTILLB Browse RESTILLW	Cigaria • New Yolker (B) + Als/Progress • Ceremes Mar Cigaria • New Yolker	2/
LOGS	Upload Remove Ladder Looir	Facebac COUND-LCOM COUN	2/
		Consuprover Interes	2/
		B Counters	3/.
APPLICATION		PERFOR Date modified: 2/24/2011 1:5	55 PM 3/
SITE SETUP UPLOAD LADDER LOGIC UPLOAD COL		Comptor Conjunce DITIST 1, W 20/0001 155% CC1% 1 of Conjunce Conju	
		Fierance · Alfine ·	

- 4 Click on lower *Browse* button.
- 5 A Choose-file-to-Upload window will appear. Select the Ladder Logic File with the .LLW extension.
- 6 Click the **Open** button.

Figure 4-102 Upload Ladder Logic Files – Select Second Files (LLW)



7 Click on the **Upload** button.

Figure 4-103 Upload Ladder Logic Files - Upload

Communications Manager will display the uploading progress.



Figure 4-104 Upload Ladder Logic Files – Uploading in Progress

Communications Manager will display a message that the upload was successful.



Figure 4-105 Upload Ladder Logic Files – Files Uploaded Successfully

• Remove Ladder Logic



REMOVING LADDER LOGIC FILES WILL AFFECT PERIPHERAL EQUIPMENT USING LADDER LOGIC. ENSURE LADDER LOGIC IS NOT REQUIRED BEFORE DELETING FILES.

CAUTION

To remove an existing Ladder Logic file click on the **Remove Ladder Logic** button. Communications Manager will remove the previously installed Ladder Logic file.

	Site Name: Safetran Systems ATCS Address: 7.620.777.100.01	Logged into Comms Manager as admin, logout
VI 1 STEPS VIOLAL NON VITAL CONFIS LOGS MAINTENANCE STATUS APPLICATION	Mile Post: 123.4 DOT Number: 1234560 » Home » Acquisition = upload Ladder Logic Browse	1
Sing Serup S	er Version 13.3	Copyright & 2014 Stemans

1 Click on the *Remove Ladder Logic* button.

Figure 4-106 Remove Ladder Logic Files

Communications Manager will confirm the removal of the Ladder Logic files and listed the file names that were deleted. At this point the Ladder Logic engine will not be running.

Home » Application » Upload Ladder Logic	
Browse IOTEST1.LLB	
Browse IOTEST1.LLW	
lpload	
temove Ladder Logic	
ptest1.11b file deleted	
ptest1.11w file deleted	
ll ladder logic files have been deleted successfully. The ladderlogic engine is not running.	

Figure 4-107 Ladder Logic Files Removed

• Upload CDL

The Upload CDL selection uploads a CDL application file into the Communications Manager.

SAFETRAN		2005 - A	Logit
Tigstees	* Home * Application * Uptoint CDL		
TRACTORIA		We have a second secon	
KINE SETUR UNX.OAD CADDEN LODIC UNX.OAD CDL		Browse No file selected.	
Comma Manag	ai Vegon 133		Copyright & 2014 Teamens

Figure 4-108 Upload CDL Application File

The following procedure details uploading the CDL into Communications Manager:

Click on Application from WebUI's main menu. Select '*Upload CDL*'. Observe the following window.

Select '*Browse*' and select file from list of CDL files.

	Ste Name: Safetran Systems ATCS Address: 7.620.772.101.01 NGB Post: 123.4 DOT Number: 123456D + Home + Application + Upstand, CDL & Mond		Logged into Comms Manager as admin, loggy
Herri Mille Conves Edita Edita Materia Edita Edi	(Beess.) KHESTI ad	» <u>Home</u> » <u>Application</u> » <u>Upload CDL</u> Upload Browse IOTEST1.cdl	
Comma Mana	spe Verson 1.2.5		Copyright 2 2014 Elements

Click on 'Upload'.

SAFETRAN Set Set Set	Ste lame: Safetan Systems ATCS Address: / Addb. 77.100.01 Ne Four: 123.4 ID OT humber: 1234580 Hottops - Accuston = UsBass.CDL States Network: OTESTICAL Walking for Comes Manage.	 » Home » Application » Upload CDL Upload Browse IOTEST1.cdl Waiting for Comms Manager 	Logged into Commo Manager as admin, logged
Conves blace	çer Venuer 13.3		Capyroper & 2014 (January

When uploading is finished observe the following window and click on '*Click here to run site setup*'

	Ste Name: Safetzan Systems ATCS Address: 7.626.777.100.01 Mile Sour: 122.4 DOCT Number: 1234560 + Ibama - Application = Ibesid CDL	» Home » Application » Upload CDI	Logged into Commis Manager as admin, logout
LOGI LOGI MANIFERRALET JAARITI	Browne OTEST of COL transford successful Click here to run site setup		
APPLICATION + MITL SETUP + UPLOBAL LADDER: CODE:		Browse IOTEST1.cdl CDL transfered successfully.	
 GPLOAD CD. Convert Mana 	per Version 1.5.3	Click here to run site setup	Copyright & 2014 Elements

Click on 'Start'

» Home » Application » Site Setup



Click on 'Finish'.

» Home » Application » Site Setup

📧 Back 🕝 Finish 🤹 Restart 👘

The CDL file will be saved to ECD's flash memory Observe the following status window will appear in lower right corner.

Site Setup CDL compiled successfully

4.3.9 Web UI Logout

To logout of a Web UI session, click on the *logout* interactive text in the upper right corner of the page as shown in the figure below.

GISACETDAN	Se linner Gebrer (ATTC Aldren: 7-00-772 100-01	ogged into Comms Manager as admin, loggut
SAFE I RAN	Nie Politi 122.4 DOT humber: 1234560 + Home	and the second sec
HOME + INFLCOME + TROUGLESHOOT	You have reached the Safetran Systems Comms Manager web based user interface. Through this easy to use web tool, you can configure, control, of the appropriate links and buttons throughout the system.	observe this device by clicking
HERVILL CORDI	You may select a system area from the menu above, and then choose a more specific selection from the menu that appears to the left. If you need help, clicking on the "Home" link above and selecting the "WebUI Troubleshoot" link from the left.	you may return to this page by
BAARTY PARATA DIATUS HEFKOTA Arres Economic	Logged into Comms Manager as admin, logou	t
		1
Cimme Marte	a Varian 111	Copyright & 2014 Stervers



A window will appear verifying the logout procedure is complete, as shown in the figure below.

SAFETRAN			Losie		
HORE + WELCOME + TROUBLE INCOT	 Hinter You have reached the Safetran Systems Comms Manager web based user interfact the appropriate links and buttons throughout the system. 	e. Through this easy to use web tool, you can configure, or	ontrol, and observe this device by clicking		
	You may select a system area from the menu above, and then choose a more spec clicking on the "Home" link above and selecting the "WebUI Troubleshoot" link from t	ific selection from the menu that appears to the left. If you the left.	need help, you may return to this page by		
AVATURE	Please Login to begin using the Comms Manager WebUI				
area parent		Comms Manager WebUI			
Convis Mara	aper Venices 1.3.3	Goodbye admin, You have been	Corpus of a 2014 Biamers		
		logged out.			
https:/10.163.3.5/#login			Controls Manager Web/II Goodbye admin, You have been logged out.		

Figure 4-110 Web UI Logout Confirmation

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SECTION 5 LOCAL USER INTERFACE

5.0 LOCALUSER INTERFACE

The Communications Manager comes equipped with a 2X20 Alphanumeric Vacuum Fluorescent Display (VFD) and a 5 \times 5 matrix keypad for configuration, option selections, and data entry.



Figure 5-1 Local User Interface Display and Keypad

5.1 LOCAL USER INTERFACE KEYPAD

The Local User Interface keypad is provided for local navigation through the Communications Manager Menus and data entry. The Keypad Key functions are detailed in Figure 5-2.



- TEXT KEYS These keys operate in the same manner as a Cell Phone Keypad. Letters and numbers cycle as the key is pressed.
- SHORTCUT KEYS These keys are shortcuts to specific menus.
- **ACTION KEYS** These keys Enter, Exit, or Cancel an entry.
- DIRECTION KEYS These keys move through the menus horizontally and vertically. Pressing an action key enters or exits the entry or menu.

Figure 5-2 Local User Interface Keypad Functions

5.2 LOCAL USER INTERFACE MENUS

The Local User Interface provides access to all of the Communications Manager menus from the front panel. Set up and configuration functions can be performed locally without the need of a computer or other external interface.

5.2.1 Shortcut Keys

Shortcut keys provide direct access to key menus. The following details the available shortcut keys and their respective function.

- **MENU** Opens the Main Menu which contains all sub menus. Press Menu from any sub menu to return to the Main Menu starting point.
- SITE SETUP Open Site Setup Menu.
- **DIAG** Open the Diagnostic Log.
- VIEW ALARMS Open the Alarm Log. (Future Use)
- **CLEAR ALARMS** Resets alarms in all applications.
- VERSIONS Opens the Display Version Menu which details the current versions of
 - o Software Version, Build Date, and ID number
 - o CDL Name and Version
 - Ladder Logic Name, Revision, ID number, and Checksum
 - Linux Kernel Version
 - o FPGA Version
 - o CPLD Version
 - o Top Assembly Part Number, Serial Number, and Revision
 - o Carrier Part Number, Serial Number, and Revision
- **STATUS** Opens Status display menu for:
 - Digital Inputs
 - o Analog Inputs
 - Relay Outputs
 - o GPS Info
- **USER TEST** Trigger CDL function if programmed.

5.2.2 Test Keys

These keys function in the same manner as most cell phone keypads. Entering text for Site Info or naming inputs and outputs can be performed using the text keys. Each key steps through the letters and numbers associated to that key.

5.2.3 Direction Keys

The Action keys provide the following functions:

- **CANCEL** Cancels the entry, exits all menus, and returns to the Home Information display screen.
- **ENTER** Enters the Menu or Data Entry information.
- **EXIT** Exits to the top of the current menu. Repeat entry will cycle back up through the menu structure to the Home Information display.

5.3 MENU STRUCTURES

The following Menu Structure displays provide the path of each Menu and Sub-menu. Configuration, Function, and Data options are listed for each entry. Structure for the Main Menu will be detailed first, followed by details of the Menu using the Shortcut keys.

5.3.1 Menu



COM-00-08-13 Version No.: A.3

5.3.1.1 Set Date/Time







5.3.1.3 View Report



• Event Log



Diagnostic Log







5.3.1.5 Change Settings



Continued from previous page See SNMP Trap Handling Page 5-40 INTER <SNMP TRAP HANDLING> See Modules Page 5-41 MODULES < > See WAMS Page 5-47 WAMS < > See WSA/S2 Page 5-48 WSA/S2 < > See ATCS Router Page 5-48 INTER ATCS ROUTER < > See GPS Page 5-48 NTER GPS < > See Advanced Page 5-49 ADVANCED < > See Password Page 5-51 ENTER PASSWORD < > See Restore Defaults Page 5-51 < RESTORE DEFAULTS

• Site Info



• Serial Ports



NOTE

NOTE

Serial and Ethernet Ports can be configured using several paths and protocols. The following menus describe various options relative to each path and protocol combination.

• Laptop Serial Port



• Serial Ports 1 – 4 (Path Type: NONE)



NONE> <FIELD> <OFFPRI> <OFFBU1> <OFFBU2> <OFFBU3

• Serial Ports 1 – 4 (Path Type: FIELD)



GEN ATCS OFFICE><GENISYS OFFICE><ATCS HDLC ADM>ATCD HDLC UI> <CN2000A><CN2000B><BCM DIAG><DUMB TERM><DIAGNOSTIC TEXT • Serial Ports 1 – 4 (Protocol: GEN ATCS OFFICE)



• Serial Ports 1 – 4 (Protocol: GENISYS OFFICE)



• Serial Ports 1 – 4 (Protocol: ATCS HDLC ADM)



• Serial Ports 1 – 4 (Protocol: ATCS HDLC UI)



• Serial Ports 1 – 4 (Protocol: CN2000A & CN2000B)



• Serial Ports 1 – 4 (Protocol: BCM Diag)



• Serial Ports 1 – 4 (Protocol: Dumb Terminal & Diagnostic Text)



• Serial Ports 1 – 4 (Path Type: Office Primary, Office Backup 1, 2, & 3)



GEN ATCS FIELD><GENISYS OFFICE><ATCS HDLC POLL

• Serial Ports 1 – 4 (Protocol: GEN ATCS FIELD)



• Serial Ports 1 – 4 (Protocol: GENISYS FIELD)



• Serial Ports 1 – 4 (Protocol: ATCS HDLC POLL)



• Ethernet Ports



• Laptop Ethernet Port



• Ethernet Ports 1 – 4 (DHCP Client Disable)



• Ethernet Ports 1 – 4 (DHCP Client Enable)






Logging Options



• Event Log



Diagnostic Log



• Digital Inputs



• Digital Inputs 1 - 8



• Analog Inputs



• Analog Inputs 1 - 4



Relay Outputs



• Relay Outputs 1 - 2



• DC Code Line - NONE



• DC Code Line – K2



Continued from previous page



Continued from previous page



• DNS



• SNMP Trap Handling



• Modules



Modules - GEO



• Modules – Panel I/O



Modules – ULCP



• Modules – VHFC



• Modules – Remote



See Table 4-6 for configurable parameters specific to the Remote CM/SEAR II.

• Modules Install (Panel I/O, ULCP, VHFC)



• WAMS



• WSA/S2



• ATCS Router



• GPS



Advanced



• Advanced – Digital Inputs 1 - 8



• Advanced – Analog Inputs 1 - 4



• Advanced – Relay Outputs 1 - 2



• Password



• Restore Defaults



5.3.1.6 Monitor I/O



• Monitor I/O – Path Selection





• Monitor I/O – Digital Inputs

• Monitor I/O – Analog Inputs



• Monitor I/O – Relay Output



• Monitor I/O – GPS Info



• Monitor I/O – Modules



5.3.1.7 Application



5.3.1.8 WAMS Test



5.3.1.9 Site Setup



• Site Setup – Set Date/Time



• Site Setup – Battery Calibration



5.3.1.10 System Reset


5.3.2 Shortcut Key – Site Setup



5.3.2.1 Shortcut Key – Site Setup – Set Date/Time



• Site Setup – Battery Calibration



5.3.3 Shortcut Key - Diag





5.3.3.1 Shortcut Key – Diag – Exit to Event Log

5.3.4 Shortcut Key - Versions





Continued From Previous Page

5.3.5 Shortcut Key - Status



SECTION 6 OPERATION AND MAINTENANCE

6.0 OPERATION AND MAINTENANCE

6.1 **GENERAL**

The Communications Manager operates transparently once setup and configuration is completed. Monitoring of the Communications Manager is available locally or via the Web UI utility.

6.2 MAINTENANCE

Periodic housekeeping maintenance is advised, to remove dirt and debris on and around the unit. Verify all connections are secure and wiring is not damaged. Keep mating connectors on unused connections to avoid dirt and debris build up.

6.3 **USER USB CONNECTOR**

The User USB Connector is used to download logs and upload software upgrades and configuration information. Use of a flash memory stick is ideal for this operation, or a computer may be used as well.





6.3.1 USB Connector Operation

Inserting a USB Flash Memory Stick will automatically activate the USB port. Upon insertion of the USB Stick the green LED will illuminate and the first of a series of interactive messages will appear in the text window as shown in the figure below.



Figure 6-2 USB Connector Operation

6.3.1.1 USB Port Interactive Menus

Inserting the USB Flash Memory Stick will activate a series of interactive menus for downloading reports and configuration data, as well as uploading configuration data and software upgrades. The following figures display the order in which the Menu text appears.





6.4 SOFTWARE UPGRADE

Software upgrades may be installed from a flash drive via the User USB Port. Ensure that the USB drive file structure and file type locations are as indicated below.

safetran
application
CMPath.cdl
CommsManager_CNE05.cdl
ctlind.llb
ctlind.llw
Configuration
nvconfig.bin
nvconfxxx.bin
Executive
cm_mef_X.X.XXr.tgz
<pre>commgr_initfs_X.X.XXr.tar.gz</pre>
<u>commgr-setup.sh</u>
fpga
<u>fpga_v1_8.rpd</u>

Figure 6-3 USB Drive File Structure

6.5 STATUS INDICATORS

The Communications Manager is equipped with a series of status indicators that provide a visual of system operation as well as input and output status at a glance.

6.5.1 System Status Indicators

The Communications Manager has three System Status Indicators that provide the Health, GPS, and ECD status as shown in Figure 6-4.

Health	GPS	ECD



6.5.1.1 Health Status

Health status of the Communications Manager is provided by the **Health LED**. The Health LED flashes 1 Hz to indicate good health. Bad health is indicated by an indicator flashing rate of 4 Hz.

6.5.1.2 GPS

GPS signal status is provided by the **GPS LED**. A flashing GPS LED indicates satellite signals are being received. GPS information may be viewed using the Local User Interface (LUI) or the Web UI via a web browser. A steady indication occurs when GPS signals are not being received.

6.5.1.3 ECD

The **External Configuration Device (ECD) LED** flashes periodically when data is being sent to or received from the ECD.

6.5.2 Ethernet Ports Status

Each of the four Ethernet Ports has two LED indicators that provide active connection and data transfer status as shown in Figure 6-5. Each port is equipped with a yellow LED indicator that flashes when data is transferred through the port. A green LED represents the connection status of the port. An active connection will illuminate the LED.



Figure 6-5 Ethernet Port Status Indicators

6.5.3 Serial Port Status

Each of the four Serial Ports has LED indicators to provide a visual indication of the operation as displayed in Figure 6-6. Each port is equipped with a data transmit (TX) and receive (RX) LED. Ports 1 and 2 have a third LED to indicate if the port has been configured for RS-422 operation.





6.5.4 Relay / Code Line Output Status

The Relay Outputs have LED indicators to provide the relay output status as shown in Figure 6-7. No indication represents an Open relay output (de-energized state). An illuminated LED indicates the relay output is Closed (energized). A toggling relay output is indicated with a flashing LED. The Relay 2 Output may also be configured for DC Code Line Output. The Code Line LED will illuminate when the Code Line is active. Relay Output LEDs may be controlled by a CDL program. Refer to the CDL reference manual for details.



Figure 6-7 Relay / Code Line Output Status

6.5.5 Analog Inputs/Code Line Input

There are four Analog Inputs available on the Communications Manager, with the fourth input capable of being configured as a DC Code Line Input. Active inputs will illuminate the yellow Status LED as shown in Figure 6-8 below. Analog Input LEDs may be controlled by a CDL program. Refer to the CDL reference manual for details.



Figure 6-8 Analog Inputs / DC Code Line Input Status

6.5.6 User Defined Status

The Communications Manager is equipped with 16 User Status Indicators, displayed in Figure 6-9, that may be configured via the CDL software. These indicators may be configured to indicate device status, alarms, etc. A label area is provided adjacent the indicators for local identification of the device or condition being monitored.



Figure 6-9 User Defined Status Indicator

6.5.7 Digital Input Status

The eight Digital Inputs are equipped with LEDs to indicate input activity, as shown in Figure 6-10. A label area adjacent to the status LED is available for local identification of the input source. Digital Input LEDs may be controlled by a CDL program. Refer to the CDL reference manual for details.



Figure 6-10 Digital Input Status and Identification

6.5.8 Isolated Power Supply / Echelon[®]

The Communications Manager is equipped with a 12 VDC, 3 Ampere Isolated Power Supply Output for use with non-vital equipment. A red LED illuminates when the power supply output is enabled via software control. The default setting enables the output. An Echelon[®] connection provided for interfacing with Echelon[®] Lon-Talk[®] network equipped devices. The Echelon[®] connection is a non-polarized twisted-pair. A dual color (Green/Yellow) LED indicates connection and data transfer.



Figure 6-11 12 VDC Isolated Power Supply / Echelon[®]

SECTION 7 TROUBLESHOOTING

7.0 TROUBLESHOOTING

7.1 GENERAL

Operation of the Communications Manager in most cases will be transparent. If a problem arises, the following table may be used for troubleshooting. Any questions may be directed to Siemens Customer Service.

Problem	Possible Causes	Corrective Action
Green Power LED not	No power to the	Check power supply input
illuminated.	Communications Manager	and polarity.
12 VDC Isolated Power	An over current situation has	Clear the over current and
Supply LED is not illuminated.	occurred.	reset the Communications
		Manager.
12 VDC Isolated Power	Excessive Load or Short Circuit	Remove load and check
Supply Output Voltage is		output voltage. If 12 VDC
below 12 VDC.		returns verify load is under
		3A.
Ethernet Port inoperative.	Parameters not properly set.	Check port settings.
Serial Port inoperative.	Parameters not properly set.	Check port settings.
No GPS information available.	No satellite signal available.	Check GPS Antenna
		installation.
USB Error LED illuminates	Flash Drive corrupted or	Use a different USB Flash
when attaching Flash Drive.	inoperative.	Drive.
Site ATCS Address changes	When VHLC code unit performs	This is normal behavior.
when Communications	XID operation with	
Manager restarts.	Communications Manager, if the	
	ATCS provided in XID message	
	is different than the current Site	
	ATCS address, the current Site	
	ATCS Address is overwritten	
	with that contained in the XID	
	message.	

Table 7-1 Troubleshooting Chart

		-
Genisys Office polling stops	When Communications	This is normal behavior.
	Manager receives an indication	
	from a Genisys code unit,	
	indication is sent to the office.	
	Then, Communications	
	Manager suspends polling until	
	office replies with an RF	
	acknowledge, Communications	
	Manager resumes polling. On	
	the other hand, if after 60	
	seconds, no RF	
	acknowledgement is received,	
	poll automatically resumes.	

Table 7-1 Troubleshooting Chart (Continued)

7.2 REPLACING COMMUNICATIONS MANAGER UNIT

Replacing a Communications Manager unit is a quick and simple procedure. The following procedure details exchanging a Communications Manager unit:

- 1. Verify connected equipment is shutdown and secured to enable disconnection from Communications Manager.
- 2. Mark connector locations and remove all connectors as shown in Figure 7-1.



Figure 7-1 Uninstall Communications Manager – Unplug Connectors

3. Remove unit to be exchanged and install new unit as shown in Figure 7-2.



Figure 7-2 Uninstall Communications Manager – Remove and Replace Unit

- 4. Install GPS antenna cable as shown in Figure 7-3
- 5. Install Power/ECD connector as shown in Figure 7-3 (do not connect any external equipment at this time) and allow Communications Manager to boot up.



Figure 7-3 Re-install Communications Manager – Connect Power and GPS

- 6. Verify using Keypad and display (LUI) Site configuration information has been transferred to the replacement unit. Note: Configuration information is stored in the ECD and automatically is loaded at unit start up.
- 7. Once Communications Manager's operation and configuration are verified, power down Communications Manager and insert the peripheral equipment connectors taking care to return connectors to their proper location.





8. Power up Communications Manager and perform necessary tests to verify system is operating properly.



Figure 7-5 Re-install Communications Manager – Returning System On-Line

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