

INSTALLATION & INSTRUCTION

LOCAL I/O PANEL A53406

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DOCUMENT HISTORY

Version	Release	Sections	Details of Change
	Date	Changed	
A	4-1-04		INITIAL RELEASE
A.1	2-18-14	ALL	Update Input limitation. Convert to Siemens format
A.2	2-28-14	ALL	Limit word inputs to 12 max from 18

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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:



If there are any questions, contact Siemens Rail Automation Corporation 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 Rail Automation has instituted these practices at its manufacturing facility and encourages its customers to adopt them as well to lessen the likelihood of equipment damage in the field due to ESD. Some of the basic protective practices include the following:

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

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

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SECTION 1 INTRODUCTION

1.0 INTRODUCTION

This document provides information for the installation, operation, and maintenance of the Siemens model A53406 Local I/O Panel.

WARNING THE A53406 LOCAL I/O PANEL IS A NON-VITAL DEVICE AND SHOULD NOT BE USED WHERE IT WOULD BE REQUIRED TO PERFORM A VITAL FUNCTION, OR WHERE IT MIGHT INTERFERE WITH THE OPERATIONS OF OTHER VITAL EQUIPMENT.

1.1 SYSTEM OVERVIEW

The Siemens model A53406 Local I/O Panel is a programmable input/output driver for non-vital applications. The A53406 was designed to be utilized in a variety of applications offering versatile control and monitoring capability. The A53406 Local I/O serves as a backup hardwire connection in the event of an ATCS communications failure.

The Local I/O is equipped with three DB-50 Telco connectors to interface up to 144 signal wires and 6 grounds (18 bi-directional 8-bit I/O ports) to and from railroad switching and safety equipment as well as a variety of support equipment like de-icing and snow melting units, door and equipment alarms.

Multiple A53406 Local I/O Units can be used for additional input/outputs to serve any size system. The A53406 Local I/O is controlled by an Echelon[®] LonTalk[®] network as used by the A53475 Communications Manager, A53105 CPU, A80273 SEAR II Event Analyzer Recorder, GEO, and the 80276 VHF Radio. The Local I/O is incorporated in a 19 inch rack mount cabinet requiring only 1RU of rack space.

Major features of the A53406 Local I/O Panel:

- Versatile I/O Programming
- 144 I/O connections and 6 Grounds (18 Bi-directional 8-Bit I/O Ports)
- Expandable I/O with multiple units
- Wide input voltage range (10 VDC 30 VDC)
- Reverse Polarity Protection
- Internal DC-DC Converter
- Echelon® LonTalk[®] Controlled



Figure 1-1 Local I/O Front Panel



Figure 1-2 Local I/O Rear Panel

1.2 SPECIFICATIONS

Power Requirements

Input Voltage	10 – 30 VDC
Input Current	380 mA @ 13.8 VDC
Input Protection	1 A Slo-Blo Fuse Reverse Polarity Protection Transorb Transient Surge Protection Common Mode Low Pass Filter

External Connectors

J1-J3 Inputs/Outputs:	Parallel DB-50 Telco Connector 144 I/O and 6 ground connections (18 Bi-Directional 8-Bit I/O Ports)
J1-J3 I/O Connection Voltage:	5 Volts Minimum, 45 Volts Maximum
J1-J3 I/O Connection Current:	250 mA Max, 1.5 A Pulsed per output
Power/Echelon® Connector:	10-Pin Male Cage Clamp Style

Controls

Input Power:	Panel Mount Single Throw Toggle Switch
Service :	Recessed PC Mount Momentary Push Button

Indicators

Input Power:	LED (Green)
Service :	LED (Yellow)
RX:	LED (Red)
TX:	LED (Red)
WDOG:	LED (Red)
Error:	LED (Red)

Mechanical

Dimensions:	17.25 inches (43.82 centimeters) Wide 1.7 inches (4.32 centimeters) High 8.25 inches (20.96 centimeters) Deep
Weight:	7.06 Pounds (3.2 Kilograms)

1.3 ORDERING INFORMATION

To order, specify the Local I/O Panel part number **9000-53406-0001**.

1.3.1 Local I/O Panel Interconnect Accessories

The following accessories are available for the A53406 Local I/O Panel:

9000-50618-0000	Rail mount I/O breakout panel with surge suppression
9000-50619-0000	I/O breakout panel with surge suppression
9000-50623-0000	Rack mount I/O breakout panel with opto-isolation
Z706-02025-0000	5 Ft. 25 Pair, Cat 2, Male-to-Male 180° Hood, Telco PBX DB-50 Cable Assembly

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SECTION 2 THEORY OF OPERATION

2.0 THEORY OF OPERATION

The A53406 Local I/O Panel is designed using CMOS and TTL logic. A block diagram of the A53406 Local I/O Panel is provided in



Figure 2-1 Local I/O Panel Block Diagram

2.1 POWER SUPPLY

The A53406 will accept a DC input source from 10 VDC to 30 VDC. A Single Pole Single Throw (SPST) panel mount toggle switch applies power to the unit through a 1 amp slow blow fuse. The input is reverse polarity protected and incorporates surge suppression and filtering to the DC-DC Converter that outputs 5 volts to supply the internal logic. A panel mounted green LED illuminates when power is on.

2.2 I/O CONNECTORS

Three DB-50 Telco connectors are mounted on the rear panel to connect the inputs and outputs to the unit. Each connector contains 48 connections with 2 grounds. Both grounds must be connected to provide ample ground wiring. For best results assign inputs and outputs separately to a single connector. Multiple units may be used in the event that additional inputs and outputs are necessary. The A53406 provides 18 bi-directional 8-bit I/O ports (6 per DB-50 connector). Each 8-bit port is programmable as an input or an output. The outputs are capable of 250 mA continuous current and 1.5 Amp pulsed current per output. Inputs will accommodate a range from 5 Volts to 45 Volts and outputs will accommodate a range from 10 Volts to 30 Volts.

2.3 POWER/ECHELON[®] CONNECTOR

A ten pin male cage clamp style connector is provided on the rear panel for termination of input power and the Echelon[®] twisted pair network connections. Input power has provisions for a primary power source and two secondary sources. All sources are attached to a common buss internally and are direct coupled. The connector includes an A+ and B+ power inputs for use with an ORed A-B Hot Swap Redundant Power Supply, three battery source plus, three source grounds, and two connections for Echelon[®] LonWorks[®] twisted pair.



Figure 2-2 Local I/O Rear Panel Connectors

CAUTION

A CAUTION ONLY ONE POWER SOURCE CAN BE CONNECTED TO THE LOCAL I/O PANEL AT ANY TIME. CONECTION OF MULTIPLE POWER SOURCES WILL RESULT IN DAMAGE TO EQUIPMENT AND WIRING. CALL SIEMENS CUSTOMER SERVICE WITH ANY QUESTIONS BEFORE INSTALLING POWER TO THIS UNIT.

2.4 CONTROLS AND INDICATORS

Figure 2-3 displays the locations of the front panel controls and indicators with descriptions and functions listed below.



Figure 2-3 Local I/O Front Panel - Controls and Indicators

- 1 Power Switch Turns unit on and off
- 2 Power LED (Green) Illuminates when power is on
- 3 Service Button Recessed button when pressed establishes connection with network
- 4 Service LED (Yellow) Illuminates during network connection procedure
- 5 RX LED (Red) Illuminates when receiving data
- 6 TX LED (Red) Illuminates when sending data
- 7 WDOG LED (Red) Illuminates when Watch Dog Timer is active
- 8 ERROR LED (Red) Illuminates when an error is detected extinguishes when cleared

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SECTION 3 INSTALLATION

3.0 INSTALLATION

Installation of the A53406 Local I/O should be in a clean and dry location. Figure 3-1 provides an overview of equipment the A53406 Local I/O supports. Accessory breakout boards and cable assemblies are available to complete the installation.



Figure 3-1 Local I/O Panel Installation Overview

3.1 PHYSICAL MOUNTING

The A53406 Local I/O Panel is designed for 19 inch rack mounting. Rack mounting "ears" are provided and can be attached in two locations on the cabinet for flush mounting or a forward extended mount. Two mounting holes per ear will accept standard rack hardware. Figure 3-2 displays mounting options.



Extended Mount



3.2 POWER AND ECHELON[®] CONNECTION

A ten pin male cage clamp style connector is provided on the rear panel for termination of input power and the Echelon[®] twisted pair network connections. Input power has provisions for a Redundant Power Supply, Single Output Power Supply or a Battery Set. The primary source is provided with three common plus and minus connections for daisy chaining of power to and from other equipment. All sources are attached to a common buss internally and are direct coupled. The connector includes an A+ and B+ power inputs for use with an ORed A-B Hot Swap Redundant Power Supply, three source ground, three source plus, and two connections for Echelon[®] LonWorks[®] twisted pair.

Figure 3-3 displays the wiring configuration for an office installation using an AC-DC Power Supply source. Figure 3-4 is the connection using the Power A+/B+ terminals and a Redundant Power Supply. Figure 3-5 displays connections using a Battery Set and Figure 3-6 has connection of the Battery Set through the Siemens A53106 DC-DC Converter to provide isolation of the Battery Set from equipment connected to the I/O inputs and outputs.

NOTE

NOTE

The Power A+, B+, and the three Battery plus (+) terminals are internally connected in a common positive buss. The three Battery minus (-) are also internally connected in a common negative buss.

CAUTION

ONLY ONE POWER SOURCE CAN BE CONNECTED TO THE LOCAL I/O PANEL AT ANY TIME. CONECTION OF MULTIPLE POWER SOURCES WILL RESULT IN DAMAGE TO EQUIPMENT AND WIRING. CALL SIEMENS CUSTOMER SERVICE WITH ANY QUESTIONS BEFORE INSTALLING POWER FROM MULTIPLE SOURCES TO THIS UNIT.



Figure 3-3 Power and Echelon[®] Connections - AC-DC Power Supply



Figure 3-4 Power and Echelon[®] Connections - Redundant Power Supply



Figure 3-5 Power and Echelon[®] Connections - Battery Set



Figure 3-6 Power and Echelon[®] Connections - Battery Set with Isolation

3.3 I/O CONNECTORS

Three DB-50 Telco connectors are mounted on the rear panel to connect the inputs and outputs to the unit as shown in Figure 3-7. Each connector contains 48 connections with 2 grounds. Both grounds must be connected to provide ample ground wiring. For best results, assign inputs and outputs to a single connector. Multiple units may be used in the event that additional inputs and outputs are necessary. The A53406 provides 18 bi-directional 8-bit I/O ports (6 per DB-50 connector). Each 8-bit port is programmable as an input or an output. It is not recommended to exceed 12 8-bit inputs (4 per DB-50 connector). Exceeding 96 8-bit inputs will result in the panel not properly reporting input status.







NOTE

NOTE

The ground connections on the I/O connectors (pins 49 and 50) are common to the Power Source minus (N) Installing the Siemens A53106 DC-DC Converter will provide isolation of the power source and I/O signals if required.

3.4 INTERCONNECT ACCESSORIES

Siemens provides a variety of accessories for interconnection of the Local I/O to other equipment. Contact Siemens Customer Service with any questions or assistance in obtaining accessories necessary to complete the desired installation.

3.4.1 A50618 Rail Mount I/O Breakout Panel with Surge Suppression

Figure 3-8 displays the A50618 rail mount I/O breakout panel with surge suppression. These units incorporate a DB-50 connector to screw terminals for wiring connection to equipment. Surge suppression is included for protection of equipment. A DIN-Rail is attached for mounting.



Figure 3-8 A50618 Rail Mount I/O Panel with Surge Suppression

3.4.2 A50619 I/O Breakout Panel with Surge Suppression

Figure 3-9 displays the Siemens I/O breakout panel with surge suppression. These units incorporate a DB-50 connector to screw terminals for wiring connection to equipment. Surge suppression is included for protection of equipment.



Figure 3-9 A50619 I/O Panel with Surge Suppression

3.4.3 A50623 I/O Panel with Opto-Isolation

Figure 3-10 displays the Siemens I/O breakout panel with opto-isolation. These units incorporate a DB-50 connector to 12-Pin connectors. Opto-Isolators provide total isolation between incoming equipment and the Local I/O Panel.



Figure 3-10 A50623 I/O Panel with Opto-Isolation

3.4.4 Telco DB-50 PBX Cable Assembly

The A53406 Local I/O Panel may be used with the A50618, A50619, and A50623 break-out panels. Interconnection between the Local I/O Panel and the break-out panels uses a customer supplied Telco PBX DB-50 25-pair, Category 2, male-to-male cable assembly like the Siemens Z706-02025-0000. These cables are available at various lengths through wire and cable suppliers.

SECTION 4 CONFIGURATION

4.0 CONFIGURATION

The A53406 Local I/O Panel operation is dependent on an attached Echelon[®] LonTalk[®] network device like the A53475 Communications Manager, A80273 SEAR II Event Analyzer Recorder, or the A53105 WCP CPU II to configure the Local I/O Panel to the network. The following procedures will detail the configuration process.

The Local I/O Panel has the following user adjustable parameters:

- **MODULE NAME:** This entry enables the user to enter a name for each I/O Panel installed.
- INPUT SIZE: This entry selects the number of 8 Bit Words required for the input of the Local I/O Panel. A maximum of 18 Input Bytes may be selected. The factory default is 9. The remaining Input Bytes (18 minus the number of Input Bytes) will be assigned as Output Bytes. Press the ENTER key to submit your selection. (Range: 0-18, Default = 9 *Exceeding 12 inputs will result in the panel not properly reporting input statuses*).
- **INPUT OFFSET:** This entry selects the value (in bytes) that the received data (S Bits) will start. (Range: 0-31, Default = 0)
- **OUTPUT OFFSET:** This entry selects the value (in bytes) that the Control Data (L and F Bits) will start. (Range: 0-31, Default = 0)
- **INDICATOR HOLDOFF:** This entry sets the amount of time the Panel will wait before sending the Indication Message. (Pre-select ranges: 50ms, 100ms, 200ms, 500ms, 1 sec, 2 sec) Default = 50ms.
- **CONTROL DELIVERY:** This entry sets the amount of time the Panel will wait before applying the control. (Pre-select ranges: 50ms, 100ms, 200ms, 500ms, 1 sec, 2 sec) Default = 50ms.

4.1 LOCAL I/O AND COMMUNICATIONS MANAGER

The A53406 Local I/O Panel interfaces with the A53475 Communications Manager. The following section describes installation and configuration of the Local I/O Panel with the Communications Manager. For detailed information refer to the Communications Manager Installation & Operation Manual (Document Number: COM-00-08-13).

4.1.1 Local I/O Panel/Communications Manager Connections

Figure 4-1 shows the connection between the Local I/O Panel and Communications Manager using the Echelon[®] Network.



Figure 4-1 Local I/O Panel Connection to Communication Manager

4.1.2 Local I/O Panel Configuration Using Communications Manager LUI

The Local I/O Panel can be configured and installed using the keypad and display on the front panel of the Communications Manager.







STEP 1 Select Change Settings.

STEP 2 Select Modules (On Next Page).







<u>STEP 3</u> Using the Communications Manager keypad and display, navigate through the series of parameters to setup the Local I/O Panel Node.



STEP 4 Upon completion of setting the Local I/O Panel Node parameters, return to the beginning of the Slot setup and select Panel IO and press ENTER. Select INSTALL and press the ENTER key. The display will advise to press the SERVICE Button on the front panel of the Local I/O Panel. The SERVICE LAMP will flash then extinguish. The Local I/O panel installation is complete.



4.1.3 Local I/O Panel Configuration Using Communications Manager WebUI

The Local I/O Panel can be configured and installed using the WebUI of the Communications Manager.

<u>STEP 1</u> Log in to WebUI and navigate to the NON VITAL CONFIG Menu.

# https://30.662.0.04.#https:			1(2 = 02) 🔛 - Osbola	P + n =		
			Loged	nto Correns Managat as admin , <u>logost</u>		
verstame verstame	too nave testiled use satisfait systems commis manager web based user menace. In ough mis easy to use web low, you can compare, control, and observe insidence by choosing use appropriate finds and butters throughout the system.					
NON VIENAL CONTRE ESIGN MARIETTENECE	You may select a system area from clicking on the "Home" link above and	the menu above, and then choose a more specific selection from the selecting the "WebUI Troubleshoot" link from the left.	menu that appears to the left. If you need help, you ma	ay return to this page by		
talaan armitti Marticologi		Номе				
		WELCOME				
Convertige a	personal (y) and a second (y)	> TROUBLESHOOT		nangkrið 2012 Sefeker Syskems, að fræstega som jærg		
		NON VITAL CONFIG				
		LOGS				
		MAINTENANCE				
		STATUS				
		REPORTS				
		APPLICATION				

Figure 4-3 WebUI Main Menu

STEP 2 From the Non Vital Config menu select **MODULES**.




<u>STEP 3</u> Select the Module Slot desired, either click on the text or click on the plus "+" to expand the parameters window.



Figure 4-5 WebUI Modules Menu

- **STEP 4** The expanded screen displays the configurable parameters as follows:
 - 1 Module Type: PANEL IO
 - 2 Module Name: Enter name desired for panel (e.g. Panel 1)
 - 3 Input Size: Enter the desired Word Size (Range: 1 -18, Default = 9)
 This entry selects the number of 8 Bit Words required for the input of the Local I/O Panel. A maximum of 12 Input Bytes is recommended. The factory default is 9. The remaining Input Bytes (18 minus the number of Input Bytes) will be assigned as Output Bytes.
 - 4 Input Offset: Enter desired value (Range: 0 31, Default = 0) A transmitted indication message will be copied into the S bits of the Ladder Logic bitmap starting at this offset (in bytes).
 - 5 **Output Offset:** Enter the desired value (Range: 0 31, Default = 0) A received control message will copy the control data from the L and F bits of the ladder logic bitmap starting at this offset (in bytes).
 - 6 **Indication Holdoff:** Select the desired value from the drop-down menu. The parameter sets the amount of time the panel should wait for all changes to settle before sending the indication message.
 - 7 **Control Delivery:** Select the desired value from the drop-down menu. The parameter sets the amount of time the panel should wait for all controls to be received before applying the control.
 - 8 **Install Module:** When all parameters have been configured click on the INSTALL MODULE button then press the SERVICE button on the front of the I/O Panel.





4.2 LOCAL I/O PANEL CONFIGURATION SET UP USING SEAR II LUI

The Local I/O can be easily configured using the Local User Interface (LUI) front panel controls of the SEAR II. With the Local I/O installed to the power source and the Echelon[®] network, as shown in Figure 4-7, apply power to the Local I/O Panel using the power switch on the front panel.



Figure 4-7 SEAR II - Local I/O Configuration using Local User Interface (LUI)

4.2.1 Local I/O Configuration Procedure SEAR II LUI

<u>STEP 1</u> Using the SEAR II Local User Interface (LUI) Keypad, as shown in Figure 4-8, press the Menu key.



Figure 4-8 SEAR II Keypad Entries - Main Menu

<u>Step 2</u> Pressing the Down Arrow key select Configuration and press the ENTER key as shown in Figure 4-9.



Figure 4-9 SEAR II Keypad Entries - Select Configuration

<u>STEP 3</u> Use the Down Arrow Key, select Modules and press the ENTER Key as shown in Figure 4-10.



Figure 4-10 SEAR II Keypad Entries - Module Selection

<u>STEP 4</u> Figure 4-11 displays the Module Menu. Select Add Module and press the ENTER key. For other options use the Down Arrow Key.



Figure 4-11 SEAR II LUI - Module Menu - Add Module

<u>STEP 5</u> Figure 4-12 shows the next screen. Use the DOWN ARROW Key to select the A53406 Panel and press the ENTER key.



Figure 4-12 SEAR II LUI - Add Module - A53406 Panel Selection

STEP 6 Using the LUI Keypad, spell out the desired name for the I/O Panel (e.g. IO Panel A). Up to 10 alphanumeric characters including spaces are permitted. Upon completion of the label, press ENTER to continue as shown in Figure 4-13.



Figure 4-13 SEAR II LUI - Add Module - Module Name

STEP 7 Figure 4-14 displays the entry for number of Input Bytes. This entry selects the number of 8 Bit Words required for the input of the Local I/O Panel. A maximum of 12 Input Bytes is recommended. The factory default is 9. The remaining Input Bytes (18 minus the number of Input Bytes) will be assigned as Output Bytes. Press the ENTER key to submit your selection.



Figure 4-14 SEAR II LUI - Add Module - Input Byte Entry

<u>STEP 8</u> The next parameter is Input Offset as shown in Figure 4-15. The default for the Local I/O Panel is zero.



Figure 4-15 SEAR II LUI - Add Module - Input Offset

<u>STEP 9</u> The following parameter is Output Offset as shown in Figure 4-16. The default setting for the Local I/O Panel is zero.



Figure 4-16 SEAR II LUI - Add Module - Output Offset

STEP 10 Indication Holdoff is the next parameter as shown in Figure 4-17. This entry sets the Delay Time following detection of an indication before the indication is read to ensure validity. Use the Up or Down Arrows to select from the available times: 50 ms, 100 ms, 200 ms, 500 ms, 1 sec, 2 sec. Press the ENTER key to submit your selection.



Figure 4-17 SEAR II LUI - Add Module - Indicator Holdoff

STEP 11 Figure 4-18 displays the Control Delivery parameter. This entry determines the amount of time an output will be delivered for control of stick relays. Use the Up or Down Arrows to select from the available times: 50 ms, 100 ms, 200 ms, 500 ms, 1 sec, 2 sec. Press the ENTER key to submit your selection.



Figure 4-18 SEAR II LUI - Add Module - Control Delivery

STEP 12 Pressing ENTER for the CTL Delivery will submit the entry and conclude the configuration and save the settings in the SEAR for the module as shown in Figure 4-19.



Figure 4-19 SEAR II LUI - Add Module - Saving Settings

STEP 13 The SEAR II will request the SERVICE BUTTON (Echelon Button) on the Local I/O Panel be pressed. This is a recessed button, as shown in Figure 4-20, and will require the use of a pen tip or small screwdriver. Press the Service Button on the Local I/O Panel. The Service Light to the left of the button will illuminate briefly during the transaction.



Figure 4-20 SEAR II LUI - Add Module - Add Module to Echelon® Network

STEP 14 Figure 4-21 and Figure 4-22 display the successive screens on the SEAR LUI readout during the handshake transaction over the Echelon[®] Network between the SEAR and the Local I/O Panel.



Figure 4-21 SEAR II LUI - Add Module - Waiting for Local I/O Module Status



Figure 4-22 SEAR II LUI - Add Module - Local I/O Module Installed

STEP 15 Once the module is installed, the LUI screen returns to the Module Menu as shown in Figure 4-23. To add another module press ENTER and repeat the module configuration steps. If no additional modules are required, press the EXIT key.



Figure 4-23 SEAR II LUI - Add Module - Exit

<u>STEP 16</u> Exiting the Module Menu returns the SEAR LUI to the Configuration Menu as shown in Figure 4-24. To end the Configuration Session, press the EXIT key.



Figure 4-24 SEAR II LUI - Exit Configuration

STEP 17 When exiting the Configuration session the SEAR will ask to save the configuration changes, as shown in Figure 4-25. To SAVE Configuration Changes press the ENTER key. The screen in Figure 4-26 displays the confirmation the parameters have been saved. To not save changes, press any arrow key and NO will appear. Press ENTER and the SEAR will end the session without saving the parameters.



Figure 4-25 SEAR II LUI - Save Configuration Changes



Figure 4-26 SEAR II LUI - Save Configuration Changes - Done

STEP 18 The screen in Figure 4-27 will appear at the conclusion of the Configuration session whether the parameters were saved or not saved. Press the EXIT key to return to the SEAR Monitoring screen as shown in Figure 4-28.



Figure 4-27 SEAR II LUI - Return to Main Menu



Figure 4-28 SEAR II - Return to Monitoring Screen

4.3 LOCAL I/O PANEL CONFIGURATION USING SEAR II USER INTERFACE

Connect the Local I/O Panel and a computer equipped with a Terminal Emulation program to the SEAR II User (J4) connector using straight through DB-9 serial cable as shown in Figure 4-29.



Figure 4-29 SEAR II - Local I/O Configuration Equipment Set Up - Computer RS-232

4.3.1 Local I/O Configuration Procedure SEAR II User Interface (RS232)

STEP 1 Open a Terminal Emulation program on the computer. Verify the User Port baud rate using the keypad on the SEAR II (MENU > MAIN MENU > CONFIGURATION > SERIAL PORTS > USER > BAUD). Configure the terminal program COM 1 to match the parameters of the SEAR II (default = 57600, 8, None, 1, None) as shown in Figure 4-30. Save the set up for future use. Press <Ctrl+L> to connect to the SEAR II.

Tera Term: Serial port set	up	×							
Port:	СОМ1 -	ок							
Baud rate:	57600 -								
Data:	8 bit 💌	Cancel							
Parity:	none 🔻								
Stop:	1 bit 💌	Help							
Flow control:	none 🔻								
Transmit delay 0 msec/char 0 msec/line									

Figure 4-30 SEAR II - RS-232 COM 1 Terminal Emulation Set Up Screen

STEP 2 Figure 4-31 shows the opening screen from the SEAR II. Using the arrow keys or type the letter value to the left of the menu item and select Configuration [F] and press <ENTER> as shown in Figure 4-32



Figure 4-31 SEAR II - Main Menu

Sear II - HyperTerminal				
Safetran Systems Cor	p.			Mon 10:11 07-23-2007
Main A) Date & Time B) Reports C) Event Stream D) Application E) Tests E) Configuration G) Monitor H) Incident Storage I) Repair History J) Passthrough K) Change Password L) Versions M) System N) Exit				
Change the system s	configuration	serrings		
Connected 0:21:16 ANSI	9600 8-N-1 SCROLL	CAPS NUM Ca	pture Print echo	11

Figure 4-32 SEAR II - Main Menu - Configuration [F]

STEP 3 Figure 4-33 shows the Configuration Menu. Select Modules [J].



Figure 4-33 SEAR II - Configuration Menu - Modules [J]

<u>STEP 4</u> From the Module Maintenance Menu select Add Module [A] and press <ENTER> as shown in Figure 4-34.

🏀 Sear II - HyperTerminal			×
Safetran Systems Corp.		Mon 10:15 07-23-2007	-
Module Maintenance	Echelon Modules		
 Add Module B) Change Module C) Replace Module D) Re-install Module E) Remove Module F) Identify Module G) Exit 	 Not configured: 		
Connected 0:25:02 ANSI 9600 8-N-1 50	ROLL CAPS NUM Capture Print echo		//.

Figure 4-34 SEAR II - Module Maintenance Menu - Add Module [A]

STEP 5 Figure 4-35 displays the Add Module screen. From the right side of the screen select the Module Type. [A53406 Panel] ^v indicates a menu option field, use the arrow keys to scroll through the list of modules and find A53406 Panel and press <ENTER>.

Sear II - HyperTerminal File Edit View Call Transfer Help		<u>_</u> D×
D@ @& DB @		
Safetran Systems Corp.	Mon 10	15 07-23-2007
Module Maintenance A) Add Module B) Change Module C) Replace Module D) Re-install Module E) Remove Module F) Identify Module G) Exit	Module Type: [<u>A</u> 53406 Panel	^ √[
Add a module to network		
Connected 0:26:10 ANSI 9600 8	N-1 SCROLL CAPS NUM Capture Print echo	

Figure 4-35 SEAR II - Module Maintenance - Select Module Type

STEP 6 Figure 4-36 shows the next screen. A request for Module Name is displayed. The brackets [] indicate a field that requires text to be entered (typed) within that area. Enter the desired label (up to ten alphanumeric characters) to identify the module. Press <ENTER> to continue.

Sear II - HyperTerminal File Edit View Call Transfer Help	
Safetran Systems Corp.	Mon 10:17 07-23-2007
Module Maintenance A) Add Module B) Change Module C) Replace Module D) Re-install Module E Remove Module F) Identify Module G) Exit Add a module to network	Module Type: R53406 Panel Module Name: [Local I/0_]
Connected 0:30:23 ANSI 9600 8-N-1 S	CROLL CAPS NUM Capture Print echo

Figure 4-36 SEAR II - Module Maintenance - Module Name Entry

<u>STEP 7</u> The next entry is Edit Settings, use the Arrow keys to select YES or NO as shown in Figure 4-37.



Figure 4-37 SEAR II - Module Maintenance - Edit Setting Selection

<u>STEP 8</u> Figure 4-38 displays the next screen to select Edit Settings or Exit. Select Edit Settings and press <ENTER>.

🇞 Sear II - HyperTerminal		<u>- </u>
File Edit View Call Transfer Help		
		1
Safetran Systems Corp.	M	on 10:22 07-23-2007
A) Edit Settings		
B) Exit		
	i 	
Connected 0:31:57 ANSI 9600 8-N-1	ROLL CAPS NUM Capture Print echo	



STEP 9 Figure 4-39 shows the Edit Settings Menu. Five parameters are available for configuration. The first parameter is Input Bytes. This entry selects the number of 8 Bit Words required for the input of the Local I/O Panel. A maximum of 12 Input Bytes is recommended. The factory default is 9. The remaining Input Bytes (18 minus the number of Input Bytes) will be assigned as Output Bytes. Type the number of Input Bytes desired and press the <ENTER> key to submit your selection.



Figure 4-39 SEAR II - Edit Settings - Input Bytes Entry

STEP 10 The next parameter is Input Offset as shown in Figure 4-40. The range is 0 - 15 with the default 0. Type in the desired value and press <ENTER> to submit your selection.

Sear II - HyperTerminal File Edit View Call Transfer Help Diff Diff	
Safetran Systems Corp. A53406 Panel A) Edit Settings B) Exit	Mon 10:22 07-23-2007 Slot: 1 Name: Local I/O Input Bytes: 10 Input Offset: [0_] Output Offset: 0 Ind Holdoff: 50 ms Ctl Delivery: 50 ms
Connected 0:33:15 ANSI 9600 8-N-1 50	ROLL CAPS NUM Capture Print echo

Figure 4-40 SEAR II - Edit Settings - Input Offset Entry

STEP 11 The following parameter is Output Offset as shown in Figure 4-41. The default setting for the Local I/O Panel is zero. Use the keyboard to enter the desired value and press the <ENTER> key.





STEP 12 Indication Holdoff is the next parameter as shown in Figure 4-42. This entry sets the Delay Time following detection of an indication before the indication is read to ensure validity. Use the Arrow Keys to select from the available times: 50 ms, 100 ms, 200 ms, 500 ms, 1 sec, 2 sec. Press the <ENTER> key to submit your selection.

Sear ii - HyperTerminal File Edit View Call Transfer Help Image: Search Call Image: Search Call <	× II ×
Safetran Systems Corp. A53406 Panel A) Edit Settings B) Exit	Thu 14:24 07-26-2007 Slot: 1 Name: Local I/O Input Bytes: 9 Input Offset: 0 Output Offset: 0 Ind Holdoff: I 50 ms 1^v Ctl Delivery: 50 ms
Connected 1:38:42 ANSIW 9600 8-N-1	CAPS NUM Capture Print echo

Figure 4-42 SEAR II - Edit Settings - Indication Holdoff Entry

STEP 13 Figure 4-43 displays the Control Delivery parameter. This entry determines the amount of time an output will be delivered for control of stick relays. Use the arrow keys to select from the available times: 50 ms, 100 ms, 200 ms, 500 ms, 1 sec, 2 sec. Press the <ENTER> key to submit your selection.

🏀 sear ii - HyperTerminal File Edit View Call Transfer Help	
Safetran Systems Corp.	Thu 15:00 07-26-2007
A53406 Panel	
A) Edit Settings B) Exit	Slot: 1 Name: Local I/O Input Bytes: 9 Input Offset: 0 Output Offset: 0 Ind Holdoff: 50 ms Ctl Delivery: [50 ms]^v
Connected 2:10:46 ANSIW 9600 8-N-1 54	ROLL CAPS NUM Capture Print echo

Figure 4-43 SEAR II - Edit Settings - Control Delivery

STEP 14 Once the Control Delivery settings are entered the Edit Settings screen will appear as shown in Figure 4-44. If all settings are satisfactory, use the arrow keys or type [B] to select EXIT and press <ENTER>. Should a setting require modification, simply remain in Edit Settings press <ENTER> and cycle through the settings and make corrections and adjustments as necessary and return to this screen.

Sear II - HyperTerr File Edit View Call	minal Transfer Help										_0	×
	8											
Safetran Sy	stems Cor	ъ.						Mon	10:25	07-23-2	2007	
A5	3406 Pane	2 1										
A) Edit Set	tings											
_												Ļ
Connected 0:35:43	ANSI	9600 8-N-1	SCROLL	CAPS	NUM	Capture	Print echo					

Figure 4-44 SEAR II - Edit Settings - Exit

<u>STEP 15</u> Exit of the Edit Settings session will Save Settings as shown in Figure 4-45. When complete, the screen in Figure 4-46 will appear to verify the settings were saved.

Sear II - HyperTer	rminal Transfer Help											×
Safetran S	ystems Cor	р.						Мо	n 10:34	07-23-	2007	
A!	53406 Pane	l	Sav	ing s	ettir							
A) Edit Se	ttings											
D) CXIT												
												Ļ
Connected 0:44:14	ANSI	9600 8-N-1	SCROLL	CAPS	NUM	Capture	Print echo					11.

Figure 4-45 SEAR II - A53406 Panel - Saving Settings

餋 Sear II - HyperTerm	inal											×
File Edit View Call T	ransfer Help											
	ð											
Safetran Sy	stems Cor	р.						М	lon 10:3	4 07-2	3-2007	
A5:	3406 Pane	2 1	Savi	ing se	ettir	ıgs(done					
A) Edit Set	tings											
b) Ent												
												Ţ
Connected 0:44:37	ANSI	9600 8-N-1	SCROLL	CAPS	NUM	Capture	Print echo					//.

Figure 4-46 SEAR II - A53406 Panel - Saving Settings - Done

STEP 16 The SEAR II will request the SERVICE BUTTON (Waiting for Service Message) on the Local I/O Panel be pressed. This is a recessed button, as shown in Figure 4-47, and will require the use of a pen tip or small screwdriver. Press the Service Button on the Local I/O Panel. The Service Light to the left of the button will illuminate briefly during the transaction.



Figure 4-47 SEAR II - Interface Local I/O Panel to Echelon® Network

SERVICE

۲

-LOCAL I/O·

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۲

A53406

STEP 17 During the handshake transaction between the Local I/O and the SEAR II, the terminal screen will track the progress as shown in Figure 4-48. When the Local I/O installed message appears, use the arrow keys or type [B] to select EXIT and press <ENTER> to conclude the configuration of the Local I/O Panel.

Sear II - HyperTerminal	×
Safetran Systems Corp.	Mon 10:34 07-23-2007
A53406 Panel	Saving settingsdone
A) Edit Settings B) Exit	Waiting for service messagedone. Configuring moduledone. Waiting for status messagedone. Local I/O installed_
Connected 0:45:15 ANSI 9600 8-N-1	SCROLL CAPS NUM Capture Print echo

Figure 4-48 SEAR II - Local I/O Panel Installation to Echelon[®] Network

<u>STEP 18</u> The screen displayed in Figure 4-49 will appear at the completion of the Local I/O installation. Use the arrow keys or type [G] to select EXIT and press <ENTER>.

File Edit View Call Transfer Help
Safetran Systems Corp. Mon 10:36 07-23-2007 Module Maintenance Echelon Modules A) Add Module 1) A53406 Panel: Local I/O B) Change Module 2) Not configured: C) Replace Module 3) Not configured: D) Re-install Module 4) Not configured: E) Remove Module 6) Not configured: F) Identify Module 6) Not configured: G) Exit 7) Not configured: B) Not configured: 10) Not configured: B) Change Module 6) Not configured: B) Revove Module 6) Not configured: B) Not configured: 10) Not configured: B) Not configured: 10) Not configured: B) Not configured: 10) Not configured:
111 Not configured: 121 Not configured: 131 Not configured: 141 Not configured: 155 Not configured: 161 Not configured: 161 Not configured: 161 Not configured: 162 Not configured: 163 Not configured: 164 Not configured: 165 Not configured: 16 Not configured: 16 Not configured: 16 Not configured: 16 Not configured: 17 Not configured: 18 Not configured: 19 Not configured: 19 Not configured: 10 Not configure

Figure 4-49 SEAR II - Module Maintenance - Exit

STEP 19 Exiting Module Maintenance will bring up the Configuration Menu. Use the arrow keys or type [L] to select SAVE CHANGES and press <ENTER> as shown in Figure 4-50.

Sear II - HyperTerminal File Edit View Call Transfer Help D D D D Safetran Systems Corp.		L□× Mon 10:56 07-23-2007
Configuration A) Site Information B) Communication C) Serial Ports D) Digital Inputs E) Battery Inputs F) Relay Outputs G) Test LED's H) Indicator LED's I) LED Mode J) Modules K) Restore Defaults L) Save Changes W) Exit (no save) Save the changed configurati	Saving Configdone.	
Connected 1:06:41 ANSI 9600 8-N-1	SCROLL CAPS NUM Capture Print echo	

Figure 4-50 SEAR II - Configuration Menu - Save Changes

STEP 20 To exit the Configuration session use the arrow keys or type [M] to select EXIT (no save), and press <ENTER> as shown in Figure 4-51.



Figure 4-51 SEAR II - Exit Configuration Menu

<u>STEP 21</u> The Main Menu will appear as shown in Figure 4-52. Use the arrow keys or type [N] to select EXIT and press <ENTER> to disconnect from the SEAR II.



Figure 4-52 SEAR II - Exit Terminal Program

4.4 LOCAL I/O CONFIGURATION USING WCP CPU II DIAGNOSTICS PORT

Configuring the Local I/O Panel using the Siemens A53105 WCP CPU II requires a DOS compatible computer or laptop with a serial port (USB type serial ports are not recommended) with the Utility Software (XCMMAINT.EXE) provided with the A53105 WCP CPU II installed. Figure 4-53 shows the equipment set up for configuration of the Local I/O Panel using the WCP CPU II. Apply power to the equipment and start the XCMMAINT utility software to begin the configuration process.

NOTE USB type serial ports will not work properly with this application.



Figure 4-53 CPU II - Local I/O Configuration Equipment Setup

4.4.1 CPU II - Local I/O Configuration Procedure – XCMMAINT.EXE

STEP 1 Starting the XCMMAINT.EXE program will open with the screen in Figure 4-54. The program will ask for a Codeplug File. To view saved files press the <ENTER> key.



Figure 4-54 CPU II XCMMAINT - Opening Screen

STEP 2 Figure 4-55 displays the saved files directory. Using the arrow keys to highlight the desired file and press the <ENTER> key. If existing files are not present, select the default and press the <ENTER> key.





<u>STEP 3</u> Figure 4-56 is the opening screen for the Main Editor. The screen has four sections, Radio Settings, Site Settings, and Lontalk-Network-Configuration, and Port-Protocol.

ex xcmm	aint.exe	
File	Edit Online H	Help Version
FILE:	C:\INPROG~1\IOPANE~1\XCM	MPR0~1\CP10123.XCM
- Rac	lio Settings ————	Site Settings
Type:	None Usage:	Local Addr: A.AAA.AA.AAAAA Disable
		FEPCC Addr: A.AAA.AA.AAAA Disable
		Radio CRC :8C34 Enable Code App: No
		Beacontime: 0000 Enable Simulation: No
		Logic CRC :0000 Enable Ladder Logic: No
	T + - 11.	Logic File:
Mada	Tune Decemintion	K-Network-Configuration CPC: CFOP
Note		Mode Type Description GAG: BEHD
02	Hooleod	04 Unused
05	Inused	04 Unused
0J	llnused	Mg Unused
66	llnused	10 linused
	onasca	10 0110300
Del	iver on Reset: No	
Port	-Protocol-Baud-Clock-Le	evel-CTS-TXC-FLG-Timer-Usage-LL-PL-IDLink/Max-
J1	Not Used 00300 SYNC RS	\$232.No Int No .00000 Grnd N N S
J2	Not Used 00300 SYNC RS	\$232 No Int No 00000 Grnd N N S 000/000
Lon	Not Used Subnet: 01 Sub	bnode:01
DC1	Not Used Grnd CRC: D	D397
DC2	Not Used Grnd	



STEP 4 Installation of the A53406 Local I/O Panel requires the configuration of following Site Settings elements. Using the arrow keys move to the Enable Code App: and using the <SPACE BAR> select YES. Figure 4-57 shows the location of the entry.

🔍 xcmm	aint.exe									_ 🗆 🗵
File	Edit	Online	Help	Ve	ersion					
FILE:	C:\INPROG^	1\IOPANE~1\	XCMPR0~1	CP101	L23.XCM					
- Rad	lio Setting	s ———				Site §	Settin	gs —		
Type :	None Usa	ge:		Local	Addr: A.				Dis	able
				FEPCC	Addr: A	AAQ		<u> </u>	Die	able
				Radio	CRC BC		lable	Code	нрр:	Yes
				Beaco	CPC - OO		able	Ladda	n Logio	• No
				Logic	File:	90 EI	lante	Lauue	ir rodic	- NU
		Lont	alk-Netu	iowk-Ci	riie.	tion-				
Node	Tune D	escription	ain nee	Node	Tune	Desci	intio	n	CRC	: E169 I
01	A53105/A5	3408 XCM		02	Unused		Thore			
03	Unused			04	Unused					
05	Unused			06	Unused					
07	Unused			08	Unused					
09	Unused			10	Unused					
	_									
Deli	ver on Res	et: No							n	
Port-	-Protocol-	Baud—Clock	-Level-(318-1X	S-FLG-I 1	ner-Usa	ide-rr	-PL-I	D	k/Max-
1 남	Not Used ,	00300,5YNG	N8232 P		C, NO , UUU	900 GPI 700 Cm		N A	80	0/000
1.02	Not Used ,	UUJUU SING	, Mazaz, r	10 . IN 101	C, NO , 886	ann Ch		n a		9/999
DC1	Not Used	Gend CRC:	n397							
DC2	Not Used	Grnd Grnd	0.071							
										·

Figure 4-57 CPU II XCMMAINT - Main Editor - Site Settings - Enable Code App

<u>STEP 5</u> Using the arrow keys move to Enable Simulation: and using the space bar select YES. Figure 4-58 shows the location of the entry.

🗪 xcmn	aint.exe					<u> </u>
File	Edit	Online	Help V	ersion		
FILE:	C:\INPROG~1\	IOPANE~1\X	CMPRO~1\CP10	123.XCM	ita Cattinua	
Tune:	None Usage		Local	Adde: A	AA_AA_AAAAA	Disable
1.310	nono ocugo		FEPCC	Addr: A.A	AA AA AAAA	Disable
			Radio	CRC :A40E	Enable Cod	le Appi Vee
			Beaco	ntime: 000	U Enable Sim	ulation Yes
			Logic	File:	LINGSTO Had	and hogic in
I		Lonta	1k-Network-C	onfigurati	on	
Node	Type Des	cription	Node	Туре	Description	CRC: E169
U1 02	A53105/A534	US XCM	U2 04	Unused		
0 5	llnused		0-1 Ø6	linused		
07	Unused		08	Unused		
09	Unused		10	Unused		
Del	iuon on Poost	• No				
Port	-Protocol-Ba	ud—Clock-	Level-CTS-TX	C-FLG-Time	r-Usage-LL-PL	-ID-Link/Max-
J1	Not Used ,00	300,SYNC ,	RS232, No , In	t,No ,0000	0 Grnd N N	S 000/000
J2	Not Used ,00	300 SYNC	RS232 No In	t,No ,0000	0 Grnd N N	S 000/000
LON DC1	Not Used Sub	net: 01 S	1297			
DC2	Not Used Gr	nd ono.	0371			
						·

Figure 4-58 COU II XCMMAINT - Main Editor - Site Settings - Enable Simulation

<u>STEP 6</u> If Ladder Logic is to be used use the arrow keys and move to Enable Ladder Logic: and using the <SPACE BAR> select YES. Figure 4-59 shows the location of the entry.

🛤 xcmmaint.exe	
File Edit Online Help	Version
FILE: C:\INPROG~1\IOPANE~1\XCMPRO	"1\CP10123.XCM
- Radio Settings	Site Settings
Type: None Usage:	EDCC odd. 0 000 00 0000 Disable
	Radio CBC '2603 Enable Code Opp' Vec
	Reacontime: 0000 Enable Cimulation: Ves
	Logic CRC :0000 Enable Ladder Logic: Yes
	Logic File: *
Lontalk-Net	twork-Configuration
Node Type Description	Node Type Description CRC: E169
01 A53105/A53408 XCM	02 Unused
03 Unused	04 Unused Of Henry J
05 Unused	06 Unusea 09 Upused
07 Unused	10 Unused
by onused	10 010300
Deliver on Reset: No	
-Port-Protocol-Baud-Clock-Level-	-CTS-TXC-FLG-Timer-Usage-LL-PL-IDLink/Max
J1 Not Used ,00300,SYNC ,RS232,	No Int No .00000 Grnd N N S 000/000
J2 Not Used ,00300,SYNC ,RS232,	No Int No .00000 Grnd N N S 000/000
Lon Not Used Subnet: 01 Subnode	e : 01
DC1 Not Used Grnd GRG: D397	
DG2 NOT USEU GPHU	

Figure 4-59 CPU II XCMMAINT - Main Editor - Site Settings - Enable Ladder Logic

<u>STEP 7</u> Selecting YES on the Enable Ladder Logic entry will launch a pop up screen requesting the path of the Ladder Logic file as seen in Figure 4-60 below.

🛤 xcmmaint.exe	
File Edit Online He FILE: C:\INPROG~1\IOPANE~1\XCMP	elp Version PRO*1\CP10123.XCM
Type: None Usage:	Local Addr: A.AAA.AAA.AAAAA. Disable Enter Filename
Leste lle	Logic CRC :0000 Enable Ladder Logic: Yes Logic File:
Node Type Description 01 03 05 07 09	Note Type Description CRC: E169 02 04 06 08 10
Deliver on Reset: -Port-Protocol-Baud-Clock-Lev J1 J2 Lon Subnet: Subn DC1 DC2 	vel-CTS-TXC-FLG-Timer-Usage-LL-PL-IDLink/Max- / / / / / / / / / / / / / / / / / / /



<u>STEP 8</u> Enter the Path and Filename of the Ladder Logic File or press ENTER and use the arrow keys to navigate through the system to locate the desired file. An example is shown in Figure 4-61.

C:V	хст	maint.ex	e								_ 🗆 ×
Fi	le	E	dit	Onlin	e He	lp V	ersion				
F		CINI	NPROC	"1\10PANE	~1\XCMI	PRO [®] 1\CP10	123.XCM	- 044	a Cattin	~~~	
T	уре	Non	e Us	age:		Local	Addr:	A.AAA		•••	Disable
		C:\A5	3105	NONAME.LL	W	Enter Fil	ename -				
						Logic	CRC :0	000	Enable	Ladder	Logic: Yes
⊩				L	ontalk-	Network-C	onfigur	ation			
	Nod	е Тур	e	Descripti	on	Node	Type	De	scriptio	n	CRC: E169
	01 03					02 04					
	05					06					
	07					08					
	613					TO		-			
	De	liver	on Re	set:							
	Port Ji	t-Prot	ocol-	—Baud—CI	ock-Lev	e I-CTS-TX	C-FLG-T	imer-	Usage-LL	-PL-ID	—Link/Max—
	J2			· ·	1.1	1.1.1	2. 2.				100
	Lon			Subnet:	Subr	iode:					
	DC1			C C	RC: D3	547					
Ľ											

Figure 4-61 CPU II XCMMAINT - Main Editor - Ladder Logic File Entry

<u>STEP 9</u> Press <ENTER> and the entry will appear in the Logic File: section of the Site Settings as seen in Figure 4-62.

ev xcmmaint.exe	
File Edit Online Help FILE: C:\INPROG~1\IOPANE~1\XCMPRO	Version 1\CP10123.XCM
Type: None Usage:	Local Addr: A.AAA.AA.AAAAA. Disable FEPCC Addr: A.AAA.AA.AAAA Disable
	Radio CRC :2603 Enable Code App: Yes Beacontime: 0000 Enable Simulation: Yes Logic CRC :0000 Enable Ladder Logic: Yes Logic File:C:\A53105\N0NAME.LLW
Lontalk-Net Node Type Description 01 A53105/A53408 XCM 03 Unused	work-Configuration Node Type Description CRC: 3C60 02 Unused 04 Unused
05 Unused 07 Unused 09 Unused	96 Unused 98 Unused 10 Unused
Deliver on Reset: No —Port-Protocol—Baud—Clock-Level-	CTS-TXC-FLG-Timer-Usage-LL-PL-IDLink/Max-
J1 Not Used ,00300,SYNC ,RS232, J2 Not Used ,00300,SYNC ,RS232, Lon Not Used Subnet: 01 Subnode DC1 Not Used Grnd CRC: D397 DC2 Not Used Grnd	No Int No 00000 Grnd N N S 000/000 No Int No 00000 Grnd N N S 000/000 :01

Figure 4-62 CPU II XCMMAINT - Main Editor - Logic File Path and Filename Entry

STEP 10 The LonTalk-Network-Configuration section of the Main Editor Screen seen in Figure 4-63 is where the Siemens A53406 Local I/O is assigned to an Echelon[®] Node. Node 01 is reserved for the A53105 WCP CPU or A53444 BCM and Node 02 is reserved for the A53325 SS (Spread Spectrum) Radio. Nodes 3 through 10 will accept all equipment.

🗪 xcmmaint.exe	
File Edit Online Help	Version
FILE: C:\INPROG ^{~1} \IOPANE ^{~1} \XCMPRO	~1\CP10123.XCM
- Radio Settings	Site Settings
Type: None Usage:	Local Addr: A.AAA.AA.AAAAA Disable
	FEPCC Addr: A.AAA.AA.AAAA Disable
	Radio GRU :2603 Enable Code Hpp: Yes
	Legie CPC :0000 Enable Simulation: Yes
	Logic Rile C-VAE210EVN0NAME IIW
Lontalk-Ne	twork-Configuration
Node Type Description	Node Type Description CRC: 3C60
01 A53105/A53408 XCM	02 Unused
03 Unused	04 Unused
05 Unused	06 Unused
U? Unused	U8 Unused
09 Unused	10 Unused
Dolivon on Poost: No	
Deut Dustanal David Cleak Level	OTO THO DIO TARAN HARMA II DI ID. IARAMAN
J1 Not Used 00300 SYNC RS232	No Int.No 00000 Grnd N N S 000/000
J2 Not Used ,00300,SYNC ,RS232	No Int No 00000 Grnd N N S 000/000
Lon Not Used Subnet: 01 Subnod	e:01
DC1 Not Used Grnd CRC: D397	
DC2 Not Used Grnd	

Figure 4-63 CPU II XCMMAINT - Main Editor - Lontalk® Network Configuration

.

The following are the equipment lists for the corresponding nodes:

Node 01 Selection:	A53105WCP CPU/A53444 BCM
Node 02 Selection:	Unused A53325 SS Radio
Nodes 03-10 Selections:	Unused A53101 Bipolar I/O A53102 Unipolar I/O A53103 Relay Output A53105/A53444 BCM A53325 SS Radio A53406 Local Panel A53XXX Geo Intlock A50692 Universal LCP

Each LanTalk® network node requires individual configuration and installation. Use the arrow key to place the cursor line on the Node to be configured (e.g. Node 3). Press the <Space Bar> until the A53406 Local Panel is displayed as shown in Figure 4-64

📧 C:\INPROG~1\IOPANE~1\XCMPRO~1\xcmmai	nt.exe	
File Edit Online Help	Version	
FILE: C:\INPROG~1\IOPANE~1\XCMPRO~1\CP10528.XCM		
	Site Settings	
Type: None Usage:	Local Addr: 7.125.AA5.AA1.A1.A1 En	able
	FEPCC Addr: 2.AAA.AA.AAAAA En	able
	Radio CRC :1D41 Enable Code App:	Yes
	Beacontime: Enable Simulation:	Yes
	Logic CRC :0000 Enable Ladder Logi	lc: Yes
	Logic File: C:\A53105\NONAME.LLW	
Lontalk-Net	twork-Configuration	
Node Type Description	Node Type Description CR	IC: EE7B
01 AE310E/AE3409 XCM	02 Unused	
03 A53406 Local Panel	04 Unused	
05 Unused	06 Unused	
07 Unused	08 Unused	
09 Unused	10 Unused	
Deliver on Reset: Yes		
-Port-Protocol-Baud-Clock-Level-	-CTS-TXC-FLG-Timer-Usage-LL-PL-IDLi	ink/Max—
J1 GENI (O) ,09600,ASYNC,RS232,	No,Int,No,00100 WIU N Y S 0.	01/001
J2 HDLC ABM ,09600,SYNC ,RS232,	.No ,Int,No ,00100 WIU N N S 0	101/001
Lon Normal Subnet: 01 Subnode	e : 01	
DC1 514 Code WIU CRC: FA5A		
DC2 506 Code WIU		

Figure 4-64 CPU II XCMMAINT - Main Editor - Node Configuration
STEP 11 Press <Alt + E> and the Local I/O Configuration screen displays as seen in Figure 4-65. Use the arrow keys to move through the window, the underscore _____ indicates where in the screen the user's cursor is and the field that the user can edit.

🔤 C:\INPROG~1\IOPANE~1\XCMPRO~1\xcmmaint.exe	
File Install Help Name: *Tupe: 053406 Local Papel I/0Node: 03	
Name: * Type: A53406 Local Panel I/O Node: 03 Control Offset :00 Input Words: 00 Indication Offset :00 Output Words: 18 Control Delivery :50ms Output enable: Local: No Remote: No Indication Holdoff :50ms Remote I/O: 701 I/O Assignments I/O Assignments	

Figure 4-65 CPU II XCMMAINT - Node Editor - I/O Configuration

STEP 12 Select the Name field and press <Enter>. The Enter String window displays as in Figure 4-66 Enter a descriptive name for the module to be configured (e.g. Local I/O 01).





STEP 13 Press <Enter>. The name entered appears in the Name field as seen in Figure 4-67. The options with yellow text are fields that can be changed by the user. Grayed out fields cannot be changed.

C:\INPROG~1\IOPANE~1\X	CMPRO~1\xcmmaint.exe	- 🗆 ×
Name: Local 1/0 01	Type: A53406 Local Panel I/O Node:	03
Control Offset Indication Offset Control Delivery Indication Holdoff	: 00 Input Words: 00 : 00 Output Words: 18 : 50ms Output enable: Local: No Remote: No : 50ms Remote I/O: 701 I/O Assignments	

Figure 4-67 CPU II XCMMAINT - Node Editor - Node Name Field

STEP 14 Using the arrow keys select the Input Words: field as shown in Figure 4-68.

C	C:\INPROG~1\IOPANE~1\	хсм	PRO~1\xcn	nmaint.exe						<u>- 0 ×</u>
F	ile Install He	1թ								
I	Name: Local I/O Ø1		Con	Type:	A53406	Local	Panel	1/0	Node :	03
	Control Offset		00	Ĭnput	Words:	08				
I	Indication Offset	1	00	Output	Words	10	- 1 - N-	Deseter	M	
I	Indication Holdoff		sems 50ms	Remote	I/0:	7.	Cal: NO	01	NO	
			— I∕0	Assignm	ents —					
I										'



The Input Words field is a keyboard selection. Enter the number of Input Words to be configured on this Local I/O Panel. The total number of input words available is 18. Any words remaining after the selection will be placed in the Output Words field (e.g. A selection of **8 Input Words** will net **10 Output Words**). It is recommended not to exceed 12 inputs as the panel will not properly report the input statuses.

STEP 15 Using the arrow keys to navigate through the display and select the Control Delivery field as shown in Figure 4-69. The Control Delivery field determines the duration time of the output signal. Press the <Space Bar>, to select the desired Control Delivery time. The Control Delivery Time is the duration of time that a requested output will stay energized.

Field selection range: 50ms 100ms 200ms 500ms 1sec

> 2sec Latch



Figure 4-69 CPU II XCMMAINT - Node Editor - Control Delivery Field

STEP 16 Select the Indication Holdoff field displayed in Figure 4-70. The Indication Holdoff field determines the delay time between the receipt of an input signal and initiation of an output signal. Press the <Space Bar> to select the desired Indication Holdoff time.

Field selection range:

50ms 100ms 200ms 500ms 1sec 2sec



Figure 4-70 CPU II XCMMAINT - Node Editor - Indication Holdoff Field

STEP 17 Press <Alt+I> and the Install drop-down menu will appear as in Figure 4-71.

C:\INPROG~1\IOPANE~1\XCMPRO~1\xcmmaint.exe	
File Install Help Type: A53406 Local Panel I/O Node: Name: Install Configuration Configuration 00 Input Words: 08 Indicat Wink : 00 Output Words: 10 00 Control Status : 50ms Output Words: 10 No Indicat Etest : 50ms Remote I/O: 701 Indicat I/O Assignments 01	03

Figure 4-71 CPU II XCMMAINT - Node Editor - Install Menu

STEP 18 Using the arrow keys highlight Install on the menu as shown in Figure 4-72.

C:\INPROG~1\IOPANE~1\XCMPRO~1\xcmmaint.exe	_O×
File Install Help	
Name: L Type: A53406 Local Panel I/O Node: 6	03
Read Configuration	
Control Install # :00 Input Words: 08	
Control Statue 500 Output words: 10	
Indicat Frest 5000 Remote $1/0$: 7 At an and $1/0$	
I/O Assignments	



STEP 19 Press the <Enter> key, a popup menu will appear requesting the Service Pushbutton on the Local I/O Panel be pressed as shown in Figure 4-73. The Service Pushbutton is recessed to avoid accidental activation, therefore a pen or stylus can be used to press the button. The Service LED (Yellow) will illuminate during the data exchange via the Echelon® network. This process identifies the Local I/O Panel and it's parameters to the network.





Figure 4-73 CPU II XCMMAINT - Node Editor - Install Menu - Service Pushbutton

STEP 20 The successful installation of the Local I/O Panel can be verified by using the WINK function located on the Install drop menu. From the Install (Alt+I) drop down menu, use the arrow keys to select the WINK command and press <ENTER>. The software will strobe the Local I/O Panel under configuration. If the Local I/O Panel has been properly installed, the RX, TX WDOG and ERROR LED's will flash once as shown in Figure 4-74.



\bigcirc	STATUS		\bigcirc
		ŵr 🗖	
\bigcirc	BERVICE SAFETRAN Made in USA	—A53406—	\bigcirc

Figure 4-74 CPU II XCMMAINT - Installation Verification

STEP 21 To exit the Configuration session, press <ALT+F> and the File Drop Menu will appear as displayed in Figure 4-75. Highlight RETURN and press <ENTER> to return to the Main Editor Screen as shown in Figure 4-76.

C:\INPROG~1\IOPANE~1\XCMPRO~1\xcmmaint.exe	
File Install Help File Install Help Configuration Ffset : 00 Input Words: 08 Indication Offset : 00 Output Words: 10 Control Delivery : 50ms Output enable: Local: No Remote: No Indication Holdoff : 50ms Remote I/O: 7	

Figure 4-75 CPU II XCMMAINT - Exit Configuration Session

File Edit Online Help Version	
FILE: C:\INPROG~1\IOPANE~1\XCMPRO~1\CP10528.XCM	
Radio Settings	
Type: None Usage: Local Addr: 7.125.AA5.AA1.A1.A1 Enabl	e
FEPCC Addr: 2.668.6868 Enabl	e
Radio CRC :1D41 Enable Code App:	Yes
Beacontime: Enable Simulation:	Yes
	res
Node Tune Description Node Tune Description CPC:	EE2B
All 053105/053408 20M All lowed	EETD
A3 A53496 Local Panel A4 Unused	
95 Unused 96 Unused	
07 Unused 08 Unused	
09 Unused 10 Unused	
Deliver on Reset: Yes	
-Port-Protocol-Baud-Clock-Level-CTS-TXC-FLG-Timer-Usage-LL-PL-IDLink/	Max—
J1 GENI (O) 09600 ASYNC RS232 No Int No 00100 WIU N Y S 001	001
J2 HDLC ABM 29600, SYNC RS232, No .Int.No .00100 WIU N N S 0012	001
Lon Normal Subnet: 01 Subnode:01	
DCI 514 CODE WIU CRC: FHSH	
	l l

Figure 4-76 CPU II XCMMAINT - Return to Main Editor

STEP 22 To exit the XCMMAINT Program press <ALT+F> and the FILE drop menu will appear as displayed in Figure 4-77. To save the configuration parameters by use the arrow keys to scroll to the SAVE or SAVE AS commands. The SAVE command will save the new Configuration Parameters in the file used to open the session. Use the SAVE AS command to make a new file to hold the Configuration data as shown in Figure 4-78. Rename the new file based upon the preference of the railroad or governing authority.

🔍 xcmm	aint.exe						_	
File	Edit	Online	Help	Version				
Load	INPROG ^{~1} Settings	L\IOPANE~1\}	CMPRO~1\CP1	0123.XCM	Site Settir	198		
Save Saue 6	ne Usag	je:	Loca	1 Addr: 7. C Addr: A	125 AA5 AA1	A1.AA	Enable	8
Save+f	iBs		Radi	o CRC :8EC	D Enable	Code App	:	les
EXIC			Logi Logi	c CRC :000 c File: *	10 Enable	Ladder L	ogic:	res Yes
		Lonta	alk-Network-	Configurat	ion		000	0000
Node	Type De	escription	Node	I ype	Descriptio)n	CRC:	8387
03	053406 Lov	al Papel	02 04	Unused				
as a	linused	al lanel		linused				
07	Unused		08	Unused				
09	Unused		10	Unused				
De li Port- J1 J2 Lon DC1 DC2	iver on Rest -Protocol GENI (0) ,(HDLC ABM ,(Not Used St 514 Code (506 Code (et: No Baud—Clock- 39600,SYNC 39600,SYNC Jonet: 01 Srnd CRC: Grnd	-Level-CTS-1 .RS232,No , 1 .RS232,No , 1 Subnode:01 FA5A	XC-FLG-Tim nt,No ,000 nt,No ,000	er-Usage-LI 100 Grnd N 100 Grnd N	PL-ID У S N S	-Link/ 000/ 000/	Max- 900 900

Figure 4-77 CPU II XCMMAINT - Saving Configuration Parameters

💌 xcm	maint.exe			
File FILE R	Edit Online He : C:\INPROG [~] 1\IOPANE [~] 1\XCMP adio Settings —	lp Version RO~1\CP10123.XCM	Site Settings	
Туре	: None Usage: CP10123.XCM	Local Addr: ?. Enter Filename —	125.AA5.AA1.A1.AA En	able ble Yes
	Lontalk	Logic CRC :000 Logic File: * Network-Configurat	0 Enable Ladder Logi	c: Yes
Nod 01 03 05 07 09	e Type Description A53105/A53408 XCM A53406 Local Panel Unused Unused Unused Unused	Node Type 02 Unused 04 Unused 06 Unused 08 Unused 10 Unused	Description CR	C: B387
De Por J1 J2 Lon DC1 DC2	liver on Reset: No t-Protocol-Baud-Clock-Lev GENI (O),09600,SYNC,RS2 HDLC ABM,09600,SYNC,RS2 Not Used Subnet: 01 Subn 514 Code Grnd CRC: FA 506 Code Grnd	el-CTS-TXC-FLG-Tim 32,No ,Int,No ,000 32,No ,Int,No ,000 ode:01 5A	er-Usage-LL-PL-IDLi 100 Grnd N Y S Ø 100 Grnd N N S Ø	nk/Max- 00/000 00/000



STEP 23 To conclude the Configuration session press <ALT+F> and use the arrow keys to scroll down to select EXIT or highlight EXIT, and press <ENTER> to close the program as shown in Figure 4-79.

🗪 xcmm	aint.exe	
File	Edit Online Help) Version
Load	INPROG ^{~1} \IOPANE ^{~1} \XCMPRO	CP10123.XCM Site Settings
Save	ne Usage:	Local Addr: 7.125.AA5.AA1.A1.AA Enable
Save H		FEPUC Hddr: H.HHH.HH.HHHHH Enable
Save Th	BS	Personation: 0000 Enable Code Hpp: Tes
EXIC		Logic CRC :0000 Enable Laddew Logic: Yes
		Logic File: *
	Lontalk-Ne	twork-Configuration-
Node	Type Description	Node Type Description CRC: B38'
01	A53105/A53408 XCM	02 Unused
03	A53406 Local Panel	04 Unused
05	Unused	06 Unused
1 107	Unused	U8 Unused
60.2	Unused	10 Unused
Deli	way on Pecat: No	
-Post-	-Pwotocol-Baud-Clock-Level	-CTS-TXC-FLC-Timew-Usage-LL-PL-IDLink/May-
	GENT (0) . 09600 SYNC . RS232	No Int No MAMA Grad N Y S MAA/MAA
J2	HDLC ABM 09600 SYNC RS232	No Int No 00000 Grnd N N S 000/000
Lon	Not Used Subnet: 01 Subnod	le : 01
DC1	514 Code Grnd CRC: FA5A	
DC2	506 Code Grnd	

Figure 4-79 CPU II XCMMAINT - Exiting Program

SECTION 5 MAINTENANCE & TROUBLESHOOTING

5.0 MAINTENANCE & TROUBLESHOOTING

The Siemens A53406 Local I/O Panel contains no user serviceable parts. This section will address maintenance and test procedures for the Local I/O Panel.

5.1 LOCAL I/O PANEL MAINTENANCE

Periodic maintenance of the Local I/O Panel is recommended. Inspect the unit for any damage. Clean any dirt and debris from the vent holes on the sides of the cabinet. Check the rear panel and verify the connectors installed are secure and wiring is properly terminated. The front panel Watch Dog (WDOG) LED flashes every 50 ms to 2 seconds depending on the setting for Control Delivery. This LED serves as an indicator that the unit is operating. Every few seconds the RX and TX LED's will flash indicating the Local I/O Panel is communicating with the network.

5.2 IDENTIFY A LOCAL I/O PANEL

The Local I/O Panel can be identified using the SEAR II or the WCP CPU II. The identify command will provide which node the Local I/O Panel is configured. Procedures to identify the Local I/O panel using the SEAR II or the WCP CPU II are detailed in the following paragraphs. The Communications Manager does not support an identify feature, however, refer to sections 4.1.2 or 4.1.3 and follow the installation procedure to view the configured parameters.

5.2.1 Identify a Local I/O Using the SEAR II LUI

Using the SEAR II LUI keypad press the MENU key to enter the Main Menu as shown in **Error! Reference source not found.** Perform the following procedure:



Figure 5-1 SEAR II LUI - Main Menu



<u>STEP 5</u> The information from the Local I/O Panel will be displayed on the SEAR II screen.

TYPE	A53406 PANEL
SLOT:	1 PANEL IO

STEP 6 Press the EXIT Button four (4) times to return to the Main Monitor Screen.

HIT SERVICE BUTTON	
OR EXIT TO QUIT	

5.2.2 Identify a Local I/O Using the SEAR II Terminal Program

Using the SEAR II Terminal Program navigate to the Module Maintenance Menu and select the Identify Module entry. Pressing ENTER will bring up a request to push the Echelon® Service Button on the Local I/O front panel. Pushing the service button will invoke a read out on the terminal screen with the Local I/O Panel information as shown in Figure 5-2.



Figure 5-2 SEAR II Terminal Program - Identify Module

5.2.3 Identify a Local I/O Using the WCP CPU II

To identify the Local I/O Panel using the WCP CPU II the use of the XCMMAINT.EXE program is required. Navigate to the Local I/O Configuration Menu press ALT+I select READ, and press ENTER as shown in Figure 5-3. A pop-up menu will appear as shown in Figure 5-4 while the data on the configuration of the Local I/O Panel is read.



Figure 5-3 WCP CPU II - Read Command

ex C:\INPROG~1\IOPANE~1\XCMPRO~1\xcmmaint.exe	<u>- 🗆 ×</u>
File Install Help	
Name: Local I/O 01 Type: A53406 Local Panel I/O Node:	03
Configuration Configuration	
Lontrol Viiset : 00 Input Words: 05	
Control Delivery : 50ms Output enable: Local: No Remote: No	
Indication Holdoff : 50ms Remote 1/0: 701	
I/O Assignments	
** Waiting for data **	

Figure 5-4 WCP CPU II - Reading Local I/O Panel Parameters

5.3 LOCAL I/O PANEL REPLACEMENT PROCEDURE

Should a Local I/O Panel require replacement, perform the following procedure:

- **STEP 1** Turn off the power to the Local I/O Panel to be replaced.
- **<u>STEP 2</u>** Remove the connectors from the rear panel. Mark the DB-50 connectors to assure their re-installation in the proper locations.
- **STEP 2A** Remove the Power/Echelon connector from the unit.
- **<u>STEP 3</u>** Unbolt the Local I/O Panel and remove from the rack.
- **STEP 4** Install replacement Local I/O Panel. Connect power and Echelon® connector and the DB-50 connectors. Make sure the DB-50 connectors are installed in the same locations (J1, J2, and J3) as the unit removed from service.
- **STEP 5** Apply power to the Local I/O Panel using the power switch on the front panel.

To install using the Communications Manager LUI go to <u>STEP 6A</u> To install using the Communications Manager WebUI go to <u>STEP 6B</u> To install using the SEAR II LUI go to <u>STEP 6C</u>. To install using the SEAR II Terminal Program go to <u>STEP 6D</u>. To install using the WCP CPU II go to <u>STEP 6E</u>.

STEP 6A Using the Communications Manager front panel keypad, perform the following procedure:



COM-00-07-02







STEP A3 Using the Communications Manager keypad and display, navigate through the series of parameters to setup the Local I/O Panel Node.



STEP A4 Upon completion of setting the Local I/O Panel Node parameters, return to the beginning of the Slot setup and select Panel IO and press ENTER. Select INSTALL and press the ENTER key. The display will advise to press the SERVICE Button on the front panel of the Local I/O Panel. The SERVICE LAMP will flash then extinguish. The Local I/O panel installation is complete.



Press the **SERVICE** Button on the Local I/O Panel



<u>STEP 6B</u> The Local I/O Panel can be configured and installed using the WebUI of the Communications Manager.

STEP B1 Log in to WebUI and navigate to the NON VITAL CONFIG Menu.



Figure 5-5 WebUI Main Menu

STEP B2 From the Non Vital Config menu select **MODULES**.

A March 13 (13 (13 (13 (13 (14))))	HOME	tir ≃ (tr)] 🖬 - Gebete	P 🕹 🕈 🐮
Supersonal States (States) (States	HON VITAL CONFIG ANALOG INPUT ATCS ROUTER COL LOS VERBOSITY D C CODE LINE DIAGNOSTIC LOG DIGITAL INPUT E THERNET E EVENT LOG GPS MODULES RELAY OUTPUT SERIAL PORT SITE INFO SIMP WAMS	Loge If guration options. urn to the home page by clicking on the "Home" in	end Cormit Manage as a which 10000
Economic Marcagne Mysters (1.3.2	CHANGE PASSWORD		Corperative 2012 Tariation Relations as broading considered
	LOGS MAINTENANCE STATUS REPORTS		

Figure 5-6 WebUI Non-Vital Config Menu

STEP B3 Select the Module Slot desired, either click on the text or click on the plus "+" to expand the parameters window.



Figure 5-7 WebUI Modules Menu

- **<u>STEP B4</u>** The expanded screen displays the configurable parameters as follows:
 - 1 Module Type: PANEL IO
 - 2 **Module Name:** Enter name desired for panel (e.g. Panel 1)
 - 3 **Input Size:** Enter the desired Word Size (Range: 1-18, Default =9) This entry selects the number of 8 Bit Words required for the input of the Local I/O Panel. A maximum of 12 Input Bytes is recommended. The factory default is 9. The remaining Input Bytes (18 minus the number of Input Bytes) will be assigned as Output Bytes.
 - 4 **Input Offset:** Enter desired value (Range: 0 31, Default = 0) A transmitted indication message will be copied into the S bits of the Ladder Logic bitmap starting at this offset (in bytes).
 - 5 **Output Offset:** Enter the desired value (Range: 0-31, Default = 0) A received control message will copy the control data from the L and F bits of the ladder logic bitmap starting at this offset (in bytes).

6 **Indication Holdoff:** Select the desired value from the drop-down menu. The parameter sets the amount of time the panel should wait for all changes to settle before sending the indication message.

7 **Control Delivery:** Select the desired value from the drop-down menu.

The parameter sets the amount of time the panel should wait for all controls to be received before applying the control.

8 **Install Module:** When all parameters have been configured click on the INSTALL MODULE button then press the SERVICE button on the front of the I/O Panel.



Figure 5-8 WebUI Module Editor

- <u>STEP 6C</u> Using the SEAR II LUI arrow keys on the front panel keypad, perform the following procedure:
 - **STEP C1** Press the MENU button on the SEAR II LUI keypad and the Main Menu will appear. Use the arrow keys to select CONFIGURATION.

MAIN MENU	
CONFIGURATION	

STEP C2 Use the arrow keys to select MODULES.

CONFIGURATION MENU	
MODULES	

STEP C3 Use the arrow keys to select REPLACE MODULE.

MODULE MENU REPLACE MODULE

STEP C4 Use the arrow keys to select the name of the module to be replaced.

MODULE TO REPLACE	
PANEL IO	
`	

<u>STEP C5</u> Press the SERVICE Button on the replacement Local I/O Panel.

HIT ECHELON BUTTON WAITING FOR SRVC MSG



STEP C6 The screen will advise the Local I/O Panel has been successfully installed.

HIT ECHELON BUTTON

<u>STEP C7</u> The screen will return to the Module Menu Screen. Press the EXIT key to navigate to the Main Menu

MODULE MENU REPLACE MODULE

- **STEP 6D** Using the SEAR II Terminal program perform the following procedure:
 - **STEP D1** Navigate to the MODULE MENU and select REPLACE MODULE and press ENTER. On the right side of the screen "Module to replace" will appear. Select the module name being replaced and press ENTER as shown in Figure 5-9.

Sear ii - HyperTerminal File Edit View Call Transfer Help D D D D	
Safetran Systems Corp.	Mon 14:47 08-06-2007
Module Maintenance A) Add Module B) Change Module C) Replace Module D) Re-install Module E) Remove Module F) Identify Module G) Exit	Module to replace: [PANEL01]^v
Connected 0:01:08 ANSIW 9600 8-N-1	SCROLL CAPS NUM Capture Print echo



STEP D2 On the right of the screen the text "Waiting for service message..." will appear. Press the service button on the front panel of the replacement Local I/O Panel as shown in Figure 5-10.





Figure 5-10 SEAR II Terminal - Request for Service Button

STEP D3 After pressing the Service Button on the replacement Local I/O Panel, the terminal service will track the installation process as shown in Figure 5-11 Exit out of the program. The replacement Local I/O Panel is now installed.

	1
Mon 14:47 08-06-2007 Module to replace: PANEL01 Waiting for service messagedone. Configuring moduledone. Waiting for status messagedone. PANEL01 installed	1
	Mon 14:47 08-06-2007 Module to replace: PANEL01 Waiting for service messagedone. Configuring moduledone. Waiting for status messagedone. PANEL01 installed

Figure 5-11 SEAR II Terminal - Replacement Local I/O Installed

- <u>STEP 6E</u> To replace the Local I/O Panel using the WCP CPU II, follow the following procedure:
 - **STEP E1** Boot up the XCMMAINT.EXE software and navigate to the Node where the Local I/O Panel is being serviced. (e.g. Node 3 as shown in Figure 5-12).

🖏 xcmmaint.exe	
File Edit Online Help	Version
FILE: C:\INPROG~1\IOPANE~1\XCMPRO~	1\CP10123.XCM
— Radio Settings ————	Site Settings
Type: MCS Usage: MCP	Local Addr: 7.125.A88.AA1.A1.A1 Disable
Channel: Min:01 Max:06 Def:03	FEPCC Addr: 2.AAA.AA.AAAA Disable
Invert: IX:Yes KX: Yes	Radio CRC :3FAF Enable Code App: Yes
KSS1: Scale: 009/025 Base:-137 dB	Beacontime: Enable Simulation: Yes
Radio Gain: In: 1024 Vut: 1250	Logic UKU :0000 Enable Ladder Logic: Yes
Lopto Ik-Not	Logic File:
Node Tune Description	Node Tune Description CRC: 5032
	A2 linused
03 953406 Local Panel	04 A53406 Local Panel
	06 Unused
07 Unused	08 Unused
09 Unused	10 Unused
Deliver on Reset: No	
-Port-Protocol-Baud-Clock-Level-	CTS-TXC-FLG-Timer-Usage-LL-PL-IDLink/Max
J1 GENI (F) ,09600, ASYNC, RS232,	No , Int, No , 00100 WIU Y N S 001/001
J2 GENI (F) U9600, RSYNC, RS232,	NO INT NO UUIUU WIU Y N S UU1/UU1
DC1 E14 Code UIU CPC: POEO	101
DC2 506 Code WIU CAC, FHSH	
202 300 0000 W10	

Figure 5-12 WCP CPU II - Select Node to Install

<u>STEP E2</u> Press ALT+E to open the Configuration Screen as shown in Figure 5-13. Verify all settings are correct and press ALT+I.

a xcmmaint.exe	
File Install Help	
Name: LOCAL I/O 3 Type: A53406 Local Panel I/O Node:	03
Name: LOCAL I/0 3 Type: A53406 Local Panel I/0 Node: Control Offset : 00 Input Words: 08 Indication Offset : 00 Output Words: 10 Control Delivery : 50ms Output enable: Local: Yes Remote: Yes Indication Holdoff : 50ms Remote I/0: 7	03

Figure 5-13 WCP CPU II - Configuration Screen

<u>STEP E3</u> A drop-down menu appears when the ALT+I command is pressed. Select INSTALL and press ENTER as shown in Figure 5-14.

🗠 xcmmaint.exe
File Install Help
Name: L Read Configuration Node: 03 Control Install : 00 Input Words: 08 00 Indicat Status : 00 Output Words: 10 10 Indicat Etest : 50ms Output enable: Local: Yes Remote: Yes : 50ms Remote I/0: 701 I/O Assignments



STEP E4 A pop-up window appears requesting the Service Button as shown in Figure 5-15. Press the service button on the replacement Local I/O Panel. The Service LED will flash once as the transaction is performed. The pop up window will close.

xcmmaint.exe		_ 0 2
ile Install Hel Name: LOGAL I/O 3 Control Offset Indication Offset Control Delivery Indication Holdoff	p Type: 053406 Local Panel I/0 Configuration : 00 Input Words: 08 : 00 Output Words: 10 : 50ms Output enable: Local: Yes Remot : 50ms Remote I/0: 7 0 I/O Assignments	Node: 03 e: Yes 1
	** Waiting for service pushbutton **	
<u>م</u>		
() (LOCAL 1/0	SAFE TRAN Systems Systems	
· · · · · ·		

Figure 5-15 WCP CPU II - Echelon® Install of Replacement Local I/O Panel

<u>STEP E5</u> Press ALT+F and the FILE drop-menu will appear. Select RETURN to navigate to the Main Menu as shown in Figure 5-16.

🗪 xcmmaint.exe		
File Install Hel	p	
AL I/O 3	Type: A53406 Local Panel I/O Node: 03	
Return	: OO Input Words: OS	
Indication Offset	: 00 Output Words: 10	
Control Delivery	: 50ms Output enable: Local: Yes Remote: Yes	
Indication Holdoff	50ms Remote 1/0: 701	
	170 Assignments	



<u>STEP E6</u> Press ALT+F and the FILE drop-menu will appear, select EXIT and close the program as shown in Figure 5-17.

🔍 xcmm	aint.exe	
File	Edit Online Hely) Version
	INPROG ^{~1} \IOPANE ^{~1} \XCMPRO	~1\CP10123.XCM
Load	Settings	Site Settings
Save	S Usage: MCP	Local Addr: 7.125.A88.AA1.A1.A1 Disable
Save H	S Min:01 Max:06 Def:0:	FEPCC Hddr: 2.HHH.HH.HHHHH
Save +H	BS IX Yes KX Yes	Radio GRU : 3FHF Enable Code Hpp: Yes
EXIC	1 10: 1004 Out: 1000	Beacontime: Enable Simulation: Yes
		Logic File: *
	Lontalk-Ne	twowk-Configuration
Node	Tune Description	Node Tune Description CRC: 1075
Ø1	853105/853408 XCM	A2 Unused
03	A53406 Local Panel	04 A53406 Local Panel
05	Unused	06 Unused
07	Unused	08 Unused
09	Unused	10 Unused
Deli	ver on Reset: No	
Port-	Protocol—Baud—Clock-Level	-CTS-TXC-FLG-Timer-Usage-LL-PL-IDLink/Max-
민원	GENI (F) UY6UU ASYNC RS232	No Int No UUIUU WIU Y N S UUI/UUI
32	GENI (F) ,09600,HSYNG,RSZ32	NO INT NO UUIUU WIU Y N S UUI/UUI
DC1	FIA Codo UTU CPC: POEC	le - OT
DC2	506 Code UIII	
002	500 000C #10	

Figure 5-17 WCP CPU II - Exit XCMMAINT Program

<u>STEP 7</u> The replacement Local I/O Panel is now installed on the network and will assume the tasks of the replaced unit.

5.4 TROUBLESHOOTING

The following table provides a guide to checking the Local I/O Panel to determine if a replacement unit is required.

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION	
	Open input fuse.	Check input fuse F1.	
	No input source.	Check input voltage.	
Power LED	Power switch off.	Verify power switch is on	
Power connector.		Verify power connector is wired properly, connections are secure, and connector is properly mated.	
Watchdog	Panel not configured.	Perform configuration procedures.	
(WDOG) LED not flashing	Control Delivery parameter is	Check configuration parameters.	
	A53105 Configuration Only)	Verify Latched Control Delivery is required.	
	Panel not configured properly.	Verify Input Words properly configured.	
Input or Output connections not being read or sent.		Verify connectors are wired and positioned properly.	
	Input or output wiring.	Verify DB-50 connectors are properly mated and secured.	
		Verify all ground wires are connected properly.	
	Defective Unit.	Replace Unit.	

Table 5-1 Troubleshooting C	Chart
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APPENDIX A SIGNAL DESIGNATION TABLES

APPENDIX A

The tables in this appendix are for reference use. Duplicate tables with additional blank columns are provided for use in the field.

REF POINT	NAME	RECEIVER CHANNEL	DRIVER CHANNEL	SIGNAL TYPE
J1-1	IO_0A0	IN_0A(0:7) 0	OUT_0A0	I/O
J1-2	IO_0A1	IN_0A(0:7) 1	OUT_0A1	I/O
J1-3	IO_0A2	IN_0A(0:7) 2	OUT_0A2	I/O
J1-4	IO_0A3	IN_0A(0:7) 3	OUT_0A3	I/O
J1-5	IO_0A4	IN_0A(0:7) 4	OUT_0A4	I/O
J1-6	IO_0A5	IN_0A(0:7) 5	OUT_0A5	I/O
J1-7	IO_0A6	IN_0A(0:7) 6	OUT_0A6	I/O
J1-8	IO_0A7	IN_0A(0:7) 7	OUT_0A7	I/O
J1-9	IO_1A0	IN_1A(0:7) 0	OUT_1A0	I/O
J1-10	IO_1A1	IN_1A(0:7) 1	OUT_1A1	I/O
J1-11	IO_1A2	IN_1A(0:7) 2	OUT_1A2	I/O
J1-12	IO_1A3	IN_1A(0:7) 3	OUT_1A3	I/O
J1-13	IO_1A4	IN_1A(0:7) 4	OUT_1A4	I/O
J1-14	IO_1A5	IN_1A(0:7) 5	OUT_1A5	I/O
J1-15	IO_1A6	IN_1A(0:7) 6	OUT_1A6	I/O
J1-16	IO_1A7	IN_1A(0:7) 7	OUT_1A7	I/O
J1-17	IO_2A0	IN_2A(0:7) 0	OUT_2A0	I/O
J1-18	IO_2A1	IN_2A(0:7) 1	OUT_2A1	I/O
J1-19	IO_2A2	IN_2A(0:7) 2	OUT_2A2	I/O
J1-20	IO_2A3	IN_2A(0:7) 3	OUT_2A3	I/O
J1-21	IO_2A4	IN_2A(0:7) 4	OUT_2A4	I/O
J1-22	IO_2A5	IN_2A(0:7) 5	OUT_2A5	I/O
J1-23	IO_2A6	IN_2A(0:7) 6	OUT_2A6	I/O
J1-24	IO_2A7	IN_2A(0:7) 7	OUT_2A7	I/O

Table A-1 "A" CHANNEL	LINE DESIGNATIONS for Parallel I/O J1
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REF POINT	NAME	RECEIVER		SIGNAL TYPE
.11-25	IO 3A0		OUT 3A0	1/0
11-26		IN 3A(0.7) 1		1/0
11-27		$IN_3A(0.7)$ 1		1/0
11.29		$IN_3A(0.7) 2$		1/0
J1-20	10_3A3	$IIN_3A(0.7) 3$		1/0
J1-29	IO_3A4	IN_3A(0:7) 4	001_3A4	1/0
J1-30	IO_3A5	IN_3A(0:7) 5	OUT_3A5	1/0
J1-31	IO_3A6	IN_3A(0:7) 6	OUT_3A6	I/O
J1-32	IO_3A7	IN_3A(0:7) 7	OUT_3A7	I/O
J1-33	IO_4A0	IN_4A(0:7) 0	OUT_4A0	I/O
J1-34	IO_4A1	IN_4A(0:7) 1	OUT_4A1	I/O
J1-35	IO_4A2	IN_4A(0:7) 2	OUT_4A2	I/O
J1-36	IO_4A3	IN_4A(0:7) 3	OUT_4A3	I/O
J1-37	IO_4A4	IN_4A(0:7) 4	OUT_4A4	I/O
J1-38	IO_4A5	IN_4A(0:7) 5	OUT_4A5	I/O
J1-39	IO_4A6	IN_4A(0:7) 6	OUT_4A6	I/O
J1-40	IO_4A7	IN_4A(0:7) 7	OUT_4A7	I/O
J1-41	IO_5A0	IN_5A(0:7) 0	OUT_5A0	I/O
J1-42	IO_5A1	IN_5A(0:7) 1	OUT_5A1	I/O
J1-43	IO_5A2	IN_5A(0:7) 2	OUT_5A2	I/O
J1-44	IO_5A3	IN_5A(0:7) 3	OUT_5A3	I/O
J1-45	IO_5A4	IN_5A(0:7) 4	OUT_5A4	I/O
J1-46	IO_5A5	IN_5A(0:7) 5	OUT_5A5	I/O
J1-47	IO_5A6	IN_5A(0:7) 6	OUT_5A6	I/O
J1-48	IO_5A7	IN_5A(0:7) 7	OUT_5A7	I/O
J1-49	GND	N/A	N/A	GROUND
J1-50	GND	N/A	N/A	GROUND

Table A-1 Continued

REF POINT	NAME	RECEIVER	DRIVER CHANNEL	SIGNAL TYPE
		CHANNEL		
J2-1	IO_0B0	IN_0B(0:7) 0	OUT_0B0	I/O
J2-2	IO_0B1	IN_0B(0:7) 1	OUT_0B1	I/O
J2-3	IO_0B2	IN_0B(0:7) 2	OUT_0B2	I/O
J2-4	IO_0B3	IN_0B(0:7) 3	OUT_0B3	I/O
J2-5	IO_0B4	IN_0B(0:7) 4	OUT_0B4	I/O
J2-6	IO_0B5	IN_0B(0:7) 5	OUT_0B5	I/O
J2-7	IO_0B6	IN_0B(0:7) 6	OUT_0B6	I/O
J2-8	IO_0B7	IN_0B(0:7) 7	OUT_0B7	I/O
J2-9	IO_1B0	IN_1B(0:7) 0	OUT_1B0	I/O
J2-10	IO_1B1	IN_1B(0:7) 1	OUT_1B1	I/O
J2-11	IO_1B2	IN_1B(0:7) 2	OUT_1B2	I/O
J2-12	IO_1BB3	IN_1B(0:7) 3	OUT_1B3	I/O
J2-13	IO_1B4	IN_1B(0:7) 4	OUT_1B4	I/O
J2-14	IO_1B5	IN_1B(0:7) 5	OUT_1B5	I/O
J2-15	IO_1B6	IN_1B(0:7) 6	OUT_1B6	I/O
J2-16	IO_1B7	IN_1B(0:7) 7	OUT_1B7	I/O
J2-17	IO_2B0	IN_2B(0:7) 0	OUT_2B0	I/O
J2-18	IO_2B1	IN_2B(0:7) 1	OUT_2B1	I/O
J2-19	IO_2B2	IN_2B(0:7) 2	OUT_2B2	I/O
J2-20	IO_2B3	IN_2B(0:7) 3	OUT_2B3	I/O
J2-21	IO_2B4	IN_2B(0:7) 4	OUT_2B4	I/O
J2-22	IO_2B5	IN_2B(0:7) 5	OUT_2B5	I/O
J2-23	IO_2B6	IN_2B(0:7) 6	OUT_2B6	I/O
J2-24	IO_2B7	IN_2B(0:7) 7	OUT_2B7	I/O

Table A-2 "B" CHANNEL LINE DESIGNATIONS for Parallel I/O J2

REF POINT	NAME	RECEIVER CHANNEL	DRIVER CHANNEL	SIGNAL TYPE
J2-25	IO_3B0	IN_3B(0:7) 0	OUT_3B0	I/O
J2-26	IO_3B1	IN_3B(0:7) 1	OUT_3B1	I/O
J2-27	IO_3B2	IN_3B(0:7) 2	OUT_3B2	I/O
J2-28	IO_3B3	IN_3B(0:7) 3	OUT_3B3	I/O
J2-29	IO_3B4	IN_3B(0:7) 4	OUT_3B4	I/O
J2-30	IO_3B5	IN_3B(0:7) 5	OUT_3B5	I/O
J2-31	IO_3B6	IN_3B(0:7) 6	OUT_3B6	I/O
J2-32	IO_3B7	IN_3B(0:7) 7	OUT_3B7	I/O
J2-33	IO_4B0	IN_4B(0:7) 0	OUT_4B0	I/O
J2-34	IO_4B1	IN_4B(0:7) 1	OUT_4B1	I/O
J2-35	IO_4B2	IN_4B(0:7) 2	OUT_4B2	I/O
J2-36	IO_4B3	IN_4B(0:7) 3	OUT_4B3	I/O
J2-37	IO_4B4	IN_4B(0:7) 4	OUT_4B4	I/O
J2-38	IO_4B5	IN_4B(0:7) 5	OUT_4B5	I/O
J2-39	IO_4B6	IN_4B(0:7) 6	OUT_4B6	I/O
J2-40	IO_4B7	IN_4B(0:7) 7	OUT_4B7	I/O
J2-41	IO_5B0	IN_5B(0:7) 0	OUT_5B0	I/O
J2-42	IO_5B1	IN_5B(0:7) 1	OUT_5B1	I/O
J2-43	IO_5B2	IN_5B(0:7) 2	OUT_5B2	I/O
J2-44	IO_5B3	IN_5B(0:7) 3	OUT_5B3	I/O
J2-45	IO_5B4	IN_5B(0:7) 4	OUT_5B4	I/O
J2-46	IO_5B5	IN_5B(0:7) 5	OUT_5B5	I/O
J2-47	IO_5B6	IN_5B(0:7) 6	OUT_5B6	I/O
J2-48	IO_5B7	IN_5B(0:7) 7	OUT_5B7	I/O
J2-49	GND	N/A	N/A	GROUND
J2-50	GND	N/A	N/A	GROUND
	NAME	RECEIVER	DRIVER CHANNEL	SIGNAL TYPE
-------	--------	--------------	----------------	-------------
FOINT		CHANNEL		
J3-1	IO_0C0	IN_0C(0:7) 0	OUT_0C0	I/O
J3-2	IO_0C1	IN_0C(0:7) 1	OUT_0C1	I/O
J3-3	IO_0C2	IN_0C(0:7) 2	OUT_0C2	I/O
J3-4	IO_0C3	IN_0C(0:7) 3	OUT_0C3	I/O
J3-5	IO_0C4	IN_0C(0:7) 4	OUT_0C4	I/O
J3-6	IO_0C5	IN_0C(0:7) 5	OUT_0C5	I/O
J3-7	IO_0C6	IN_0C(0:7) 6	OUT_0C6	I/O
J3-8	IO_0C7	IN_0C(0:7) 7	OUT_0C7	I/O
J3-9	IO_1C0	IN_1C(0:7) 0	OUT_1C0	I/O
J3-10	IO_1C1	IN_1C(0:7) 1	OUT_1C1	I/O
J3-11	IO_1C2	IN_1C(0:7) 2	OUT_1C2	I/O
J3-12	IO_1C3	IN_1C(0:7) 3	OUT_1C3	I/O
J3-13	IO_1C4	IN_1C(0:7) 4	OUT_1C4	I/O
J3-14	IO_1C5	IN_1C(0:7) 5	OUT_1C5	I/O
J3-15	IO_1C6	IN_1C(0:7) 6	OUT_1C6	I/O
J3-16	IO_1C7	IN_1C(0:7) 7	OUT_1C7	I/O
J3-17	IO_2C0	IN_2C(0:7) 0	OUT_2C0	I/O
J3-18	IO_2C1	IN_2C(0:7) 1	OUT_2C1	I/O
J3-19	IO_2C2	IN_2C(0:7) 2	OUT_2C2	I/O
J3-20	IO_2C3	IN_2C(0:7) 3	OUT_2C3	I/O
J3-21	IO_2C4	IN_2C(0:7) 4	OUT_2C4	I/O
J3-22	IO_2C5	IN_2C(0:7) 5	OUT_2C5	I/O
J3-23	IO_2C6	IN_2C(0:7) 6	OUT_2C6	I/O
J3-24	IO_2C7	IN_2C(0:7) 7	OUT_2C7	I/O

Table A-3 "C" CHANNEL LINE DESIGNATIONS for Parallel I/O J3

Table A-3 Continued

REF POINT	NAME	RECEIVER CHANNEL	DRIVER CHANNEL	SIGNAL TYPE
J3-25	IO_3C0	IN_3C(0:7) 0	OUT_3C0	I/O
J3-26	IO_3C1	IN_3C(0:7) 1	OUT_3C1	I/O
J3-27	IO_3C2	IN_3C(0:7) 2	OUT_3C2	I/O
J3-28	IO_3C3	IN_3C(0:7) 3	OUT_3C3	I/O
J3-29	IO_3C4	IN_3C(0:7) 4	OUT_3C4	I/O
J3-30	IO_3C5	IN_3C(0:7) 5	OUT_3C5	I/O
J3-31	IO_3C6	IN_3C(0:7) 6	OUT_3C6	I/O
J3-32	IO_3C7	IN_3C(0:7) 7	OUT_3C7	I/O
J3-33	IO_4C0	IN_4C(0:7) 0	OUT_4C0	I/O
J3-34	IO_4C1	IN_4C(0:7) 1	OUT_4C1	I/O
J3-35	IO_4C2	IN_4C(0:7) 2	OUT_4C2	I/O
J3-36	IO_4C3	IN_4C(0:7) 3	OUT_4C3	I/O
J3-37	IO_4C4	IN_4C(0:7) 4	OUT_4C4	I/O
J3-38	IO_4C5	IN_4C(0:7) 5	OUT_4C5	I/O
J3-39	IO_4C6	IN_4C(0:7) 6	OUT_4C6	I/O
J3-40	IO_4C7	IN_4C(0:7) 7	OUT_4C7	I/O
J3-41	IO_5C0	IN_5C(0:7) 0	OUT_5C0	I/O
J3-42	IO_5C1	IN_5C(0:7) 1	OUT_5C1	I/O
J3-43	IO_5C2	IN_5C(0:7) 2	OUT_5C2	I/O
J3-44	IO_5C3	IN_5C(0:7) 3	OUT_5C3	I/O
J3-45	IO_5C4	IN_5C(0:7) 4	OUT_5C4	I/O
J3-46	IO_5C5	IN_5C(0:7) 5	OUT_5C5	I/O
J3-47	IO_5C6	IN_5C(0:7) 6	OUT_5C6	I/O
J3-48	IO_5C7	IN_5C(0:7) 7	OUT_5C7	I/O
J3-49	GND	N/A	N/A	GROUND
J3-50	GND	N/A	N/A	GROUND

Table A-4 "A" CHANNEL LINE DESIGNATIONS for Parallel I/O J1

53406 Serial #: _____ Sub Assy. Serial #: _____

DEFAULT REF POINT	FIELD DESIGNATION	NAME	RECEIVER CHANNEL	DRIVER CHANNEL	SIGNAL TYPE	SIGNAL DESIGNATION	COLOR
J1-1		IO_0A0	IN_0A(0:7) 0	OUT_0A0	I/O		
J1-2		IO_0A1	IN_0A(0:7) 1	OUT_0A1	I/O		
J1-3		IO_0A2	IN_0A(0:7) 2	OUT_0A2	I/O		
J1-4		IO_0A3	IN_0A(0:7) 3	OUT_0A3	I/O		
J1-5		IO_0A4	IN_0A(0:7) 4	OUT_0A4	I/O		
J1-6		IO_0A5	IN_0A(0:7) 5	OUT_0A5	I/O		
J1-7		IO_0A6	IN_0A(0:7) 6	OUT_0A6	I/O		
J1-8		IO_0A7	IN_0A(0:7) 7	OUT_0A7	I/O		
J1-9		IO_1A0	IN_1A(0:7) 0	OUT_1A0	I/O		
J1-10		IO_1A1	IN_1A(0:7) 1	OUT_1A1	I/O		
J1-11		IO_1A2	IN_1A(0:7) 2	OUT_1A2	I/O		
J1-12		IO_1A3	IN_1A(0:7) 3	OUT_1A3	I/O		
J1-13		IO_1A4	IN_1A(0:7) 4	OUT_1A4	I/O		
J1-14		IO_1A5	IN_1A(0:7) 5	OUT_1A5	I/O		
J1-15		IO_1A6	IN_1A(0:7) 6	OUT_1A6	I/O		
J1-16		IO_1A7	IN_1A(0:7) 7	OUT_1A7	I/O		
J1-17		IO_2A0	IN_2A(0:7) 0	OUT_2A0	I/O		
J1-18		IO_2A1	IN_2A(0:7) 1	OUT_2A1	I/O		
J1-19		IO_2A2	IN_2A(0:7) 2	OUT_2A2	I/O		
J1-20		IO_2A3	IN_2A(0:7) 3	OUT_2A3	I/O		
J1-21		IO_2A4	IN_2A(0:7) 4	OUT_2A4	I/O		
J1-22		IO_2A5	IN_2A(0:7) 5	OUT_2A5	I/O		
J1-23		IO_2A6	IN_2A(0:7) 6	OUT_2A6	I/O		
J1-24		IO_2A7	IN_2A(0:7) 7	OUT_2A7	I/O		

Table A-4 Continued

DEFAULT	FIELD	NAME	RECEIVER	DRIVER	SIGNAL	SIGNAL	COLOR
REF POINT	DESIGNATION		CHANNEL	CHANNEL	TYPE	DESIGNATION	
J1-25		IO_3A0	IN_3A(0:7) 0	OUT_3A0	I/O		
J1-26		IO_3A1	IN_3A(0:7) 1	OUT_3A1	I/O		
J1-27		IO_3A2	IN_3A(0:7) 2	OUT_3A2	I/O		
J1-28		IO_3A3	IN_3A(0:7) 3	OUT_3A3	I/O		
J1-29		IO_3A4	IN_3A(0:7) 4	OUT_3A4	I/O		
J1-30		IO_3A5	IN_3A(0:7) 5	OUT_3A5	I/O		
J1-31		IO_3A6	IN_3A(0:7) 6	OUT_3A6	I/O		
J1-32		IO_3A7	IN_3A(0:7) 7	OUT_3A7	I/O		
J1-33		IO_4A0	IN_4A(0:7) 0	OUT_4A0	I/O		
J1-34		IO_4A1	IN_4A(0:7) 1	OUT_4A1	I/O		
J1-35		IO_4A2	IN_4A(0:7) 2	OUT_4A2	I/O		
J1-36		IO_4A3	IN_4A(0:7) 3	OUT_4A3	I/O		
J1-37		IO_4A4	IN_4A(0:7) 4	OUT_4A4	I/O		
J1-38		IO_4A5	IN_4A(0:7) 5	OUT_4A5	I/O		
J1-39		IO_4A6	IN_4A(0:7) 6	OUT_4A6	I/O		
J1-40		IO_4A7	IN_4A(0:7) 7	OUT_4A7	I/O		
J1-41		IO_5A0	IN_5A(0:7) 0	OUT_5A0	I/O		
J1-42		IO_5A1	IN_5A(0:7) 1	OUT_5A1	I/O		
J1-43		IO_5A2	IN_5A(0:7) 2	OUT_5A2	I/O		
J1-44		IO_5A3	IN_5A(0:7) 3	OUT_5A3	I/O		
J1-45		IO_5A4	IN_5A(0:7) 4	OUT_5A4	I/O		
J1-46		IO_5A5	IN_5A(0:7) 5	OUT_5A5	I/O		
J1-47		IO_5A6	IN_5A(0:7) 6	OUT_5A6	I/O		
J1-48		IO_5A7	IN_5A(0:7) 7	OUT_5A7	I/O		
J1-49		GND	N/A	N/A	GROUND		
J1-50		GND	N/A	N/A	GROUND		

	FIELD	NAME	RECEIVER	DRIVER		SIGNAL	COLOR
REF POINT	DESIGNATION		CHANNEL	CHANNEL	ITPE	DESIGNATION	
J2-1		IO_0B0	IN_0B(0:7) 0	OUT_0B0	I/O		
J2-2		IO_0B1	IN_0B(0:7) 1	OUT_0B1	I/O		
J2-3		IO_0B2	IN_0B(0:7) 2	OUT_0B2	I/O		
J2-4		IO_0B3	IN_0B(0:7) 3	OUT_0B3	I/O		
J2-5		IO_0B4	IN_0B(0:7) 4	OUT_0B4	I/O		
J2-6		IO_0B5	IN_0B(0:7) 5	OUT_0B5	I/O		
J2-7		IO_0B6	IN_0B(0:7) 6	OUT_0B6	I/O		
J2-8		IO_0B7	IN_0B(0:7) 7	OUT_0B7	I/O		
J2-9		IO_1B0	IN_1B(0:7) 0	OUT_1B0	I/O		
J2-10		IO_1B1	IN_1B(0:7) 1	OUT_1B1	I/O		
J2-11		IO_1B2	IN_1B(0:7) 2	OUT_1B2	I/O		
J2-12		IO_1BB3	IN_1B(0:7) 3	OUT_1B3	I/O		
J2-13		IO_1B4	IN_1B(0:7) 4	OUT_1B4	I/O		
J2-14		IO_1B5	IN_1B(0:7) 5	OUT_1B5	I/O		
J2-15		IO_1B6	IN_1B(0:7) 6	OUT_1B6	I/O		
J2-16		IO_1B7	IN_1B(0:7) 7	OUT_1B7	I/O		
J2-17		IO_2B0	IN_2B(0:7) 0	OUT_2B0	I/O		
J2-18		IO_2B1	IN_2B(0:7) 1	OUT_2B1	I/O		
J2-19		IO_2B2	IN_2B(0:7) 2	OUT_2B2	I/O		
J2-20		IO_2B3	IN_2B(0:7) 3	OUT_2B3	I/O		
J2-21		IO_2B4	IN_2B(0:7) 4	OUT_2B4	I/O		
J2-22		IO_2B5	IN_2B(0:7) 5	OUT_2B5	I/O		
J2-23		IO_2B6	IN_2B(0:7) 6	OUT_2B6	I/O		
J2-24		IO_2B7	IN_2B(0:7) 7	OUT_2B7	I/O		

Table A-5 "B" CHANNEL LINE DESIGNATIONS for Parallel I/O J2

Table A-5 Continu	ed
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	FIELD	NAME	RECEIVER	DRIVER	SIGNAL	SIGNAL	COLOR
ID 25	DESIGNATION					DESIGNATION	
JZ-20			$IIN_3D(0.7) 0$		1/0		ļ
J2-26		IO_3B1	IN_3B(0:7) 1	OUT_3B1	1/0		!
J2-27		IO_3B2	IN_3B(0:7) 2	OUT_3B2	I/O		
J2-28		IO_3B3	IN_3B(0:7) 3	OUT_3B3	I/O		
J2-29		IO_3B4	IN_3B(0:7) 4	OUT_3B4	I/O		
J2-30		IO_3B5	IN_3B(0:7) 5	OUT_3B5	I/O		
J2-31		IO_3B6	IN_3B(0:7) 6	OUT_3B6	I/O		
J2-32		IO_3B7	IN_3B(0:7) 7	OUT_3B7	I/O		
J2-33		IO_4B0	IN_4B(0:7) 0	OUT_4B0	I/O		
J2-34		IO_4B1	IN_4B(0:7) 1	OUT_4B1	I/O		
J2-35		IO_4B2	IN_4B(0:7) 2	OUT_4B2	I/O		
J2-36		IO_4B3	IN_4B(0:7) 3	OUT_4B3	I/O		
J2-37		IO_4B4	IN_4B(0:7) 4	OUT_4B4	I/O		
J2-38		IO_4B5	IN_4B(0:7) 5	OUT_4B5	I/O		
J2-39		IO_4B6	IN_4B(0:7) 6	OUT_4B6	I/O		
J2-40		IO_4B7	IN_4B(0:7) 7	OUT_4B7	I/O		
J2-41		IO_5B0	IN_5B(0:7) 0	OUT_5B0	I/O		
J2-42		IO_5B1	IN_5B(0:7) 1	OUT_5B1	I/O		
J2-43		IO_5B2	IN_5B(0:7) 2	OUT_5B2	I/O		
J2-44		IO_5B3	IN_5B(0:7) 3	OUT_5B3	I/O		
J2-45		IO_5B4	IN_5B(0:7) 4	OUT_5B4	I/O		
J2-46		IO_5B5	IN_5B(0:7) 5	OUT_5B5	I/O		
J2-47		IO_5B6	IN_5B(0:7) 6	OUT_5B6	I/O		
J2-48		IO_5B7	IN_5B(0:7) 7	OUT_5B7	I/O		
J2-49		GND	N/A	N/A	GROUND		
J2-50		GND	N/A	N/A	GROUND		

	FIELD	NAME	RECEIVER				COLOR
	DESIGNATION		CHANNEL	CHANNEL	ITE	DESIGNATION	
J3-1		IO_0C0	IN_0C(0:7) 0	OUT_0C0	I/O		
J3-2		IO_0C1	IN_0C(0:7) 1	OUT_0C1	I/O		
J3-3		IO_0C2	IN_0C(0:7) 2	OUT_0C2	I/O		
J3-4		IO_0C3	IN_0C(0:7) 3	OUT_0C3	I/O		
J3-5		IO_0C4	IN_0C(0:7) 4	OUT_0C4	I/O		
J3-6		IO_0C5	IN_0C(0:7) 5	OUT_0C5	I/O		
J3-7		IO_0C6	IN_0C(0:7) 6	OUT_0C6	I/O		
J3-8		IO_0C7	IN_0C(0:7) 7	OUT_0C7	I/O		
J3-9		IO_1C0	IN_1C(0:7) 0	OUT_1C0	I/O		
J3-10		IO_1C1	IN_1C(0:7) 1	OUT_1C1	I/O		
J3-11		IO_1C2	IN_1C(0:7) 2	OUT_1C2	I/O		
J3-12		IO_1C3	IN_1C(0:7) 3	OUT_1C3	I/O		
J3-13		IO_1C4	IN_1C(0:7) 4	OUT_1C4	I/O		
J3-14		IO_1C5	IN_1C(0:7) 5	OUT_1C5	I/O		
J3-15		IO_1C6	IN_1C(0:7) 6	OUT_1C6	I/O		
J3-16		IO_1C7	IN_1C(0:7) 7	OUT_1C7	I/O		
J3-17		IO_2C0	IN_2C(0:7) 0	OUT_2C0	I/O		
J3-18		IO_2C1	IN_2C(0:7) 1	OUT_2C1	I/O		
J3-19		IO_2C2	IN_2C(0:7) 2	OUT_2C2	I/O		
J3-20		IO_2C3	IN_2C(0:7) 3	OUT_2C3	I/O		
J3-21		IO_2C4	IN_2C(0:7) 4	OUT_2C4	I/O		
J3-22		IO_2C5	IN_2C(0:7) 5	OUT_2C5	I/O		
J3-23		IO_2C6	IN_2C(0:7) 6	OUT_2C6	I/O		
J3-24		IO_2C7	IN_2C(0:7) 7	OUT_2C7	I/O		

Table A-6 "C" CHANNEL LINE DESIGNATIONS for Parallel I/O J3

Table A-6 Continued

DEFAULT REF	FIELD	NAME	RECEIVER	DRIVER	SIGNAL TYPE	SIGNAL	COLOR
POINT	DESIGNATION		CHANNEL	CHANNEL		DESIGNATION	
J3-25		IO_3C0	IN_3C(0:7) 0	OUT_3C0	I/O		
J3-26		IO_3C1	IN_3C(0:7) 1	OUT_3C1	I/O		
J3-27		IO_3C2	IN_3C(0:7) 2	OUT_3C2	I/O		
J3-28		IO_3C3	IN_3C(0:7) 3	OUT_3C3	I/O		
J3-29		IO_3C4	IN_3C(0:7) 4	OUT_3C4	I/O		
J3-30		IO_3C5	IN_3C(0:7) 5	OUT_3C5	I/O		
J3-31		IO_3C6	IN_3C(0:7) 6	OUT_3C6	I/O		
J3-32		IO_3C7	IN_3C(0:7) 7	OUT_3C7	I/O		
J3-33		IO_4C0	IN_4C(0:7) 0	OUT_4C0	I/O		
J3-34		IO_4C1	IN_4C(0:7) 1	OUT_4C1	I/O		
J3-35		IO_4C2	IN_4C(0:7) 2	OUT_4C2	I/O		
J3-36		IO_4C3	IN_4C(0:7) 3	OUT_4C3	I/O		
J3-37		IO_4C4	IN_4C(0:7) 4	OUT_4C4	I/O		
J3-38		IO_4C5	IN_4C(0:7) 5	OUT_4C5	I/O		
J3-39		IO_4C6	IN_4C(0:7) 6	OUT_4C6	I/O		
J3-40		IO_4C7	IN_4C(0:7) 7	OUT_4C7	I/O		
J3-41		IO_5C0	IN_5C(0:7) 0	OUT_5C0	I/O		
J3-42		IO_5C1	IN_5C(0:7) 1	OUT_5C1	I/O		
J3-43		IO_5C2	IN_5C(0:7) 2	OUT_5C2	I/O		
J3-44		IO_5C3	IN_5C(0:7) 3	OUT_5C3	I/O		
J3-45		IO_5C4	IN_5C(0:7) 4	OUT_5C4	I/O		
J3-46		IO_5C5	IN_5C(0:7) 5	OUT_5C5	I/O		
J3-47		IO_5C6	IN_5C(0:7) 6	OUT_5C6	I/O		
J3-48		IO_5C7	IN_5C(0:7) 7	OUT_5C7	I/O		
J3-49		GND	N/A	N/A	GROUND		
J3-50		GND	N/A	N/A	GROUND		