



## **CONFIGURATION SUMMARY**

# **SEAR II APPLICATION 9V899-A01D PREPARED FOR NICTD**

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VERSION D.1

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The equipment covered in this manual has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

## DOCUMENT HISTORY

Version	Release Date	Details of Change
D	April 2008	<ul style="list-style-type: none"><li>• General – minor formatting changes throughout document.</li><li>• <b>Section 2.0</b> User Menu Items – Site Setup - Updated table to reflect following change:<ul style="list-style-type: none"><li>○ Added Question and parameters – iLOD READING DELAY (SECONDS)?</li></ul></li><li>• <b>Section 8.0</b> Application Alarms – added sentence to first paragraph stating that “These alarms will be preceded by two asterisks in the event log for easier viewing.”</li><li>• <b>Section 9.0</b> Application Alarm Clears – added sentence to first paragraph stating that “These messages will be preceded by a single asterisk in the event log for easier viewing.”</li></ul>
D.1	May 2014	Rebrand for Siemens

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## 1.0 INTRODUCTION

This document supports installation and maintenance of SEAR II units configured with the 9V899-A01D user program stored in flash memory. This document:

- Explains LED indications
- Lists setup steps unique to 9V899-A01D
- Lists all messages generated by 9V899-A01D
- Lists connector / wire tag assignments

For further information on SEAR II, including configuration of executive software, refer to the SAFETRAN EVENT ANALYZER RECORDER (SEAR II) – Installation & Operation manual (Siemens Rail Automation document no. SIG-00-02-07).

## 2.0 USER MENU ITEMS – SITE SETUP

The following table lists configuration settings that are unique to 9V899-A01D. Each row presents an entry in the site setup sequence. The first column shows the text that appears on the SEAR II screen or in the terminal display. The next two columns give the options or define the range of values that may be entered.

<b>QUESTION</b>	<b>MINIMUM / SELECTION 1</b>	<b>MAXIMUM / SELECTION 2</b>	<b>MENU CONDITION FOR DISPLAY</b>
CROSSING CONTROLLER?	YES	NO	
NUMBER OF TRACKS?	1	2	
ALARM TIMER (MINUTES)?	5	30	
iLOD's?	0	4	
iLOD READING DELAY (SECONDS)?	10	30	iLOD's > 0
BULB OUTS REQUIRED TO SEND ALARM?	1	3	iLOD's > 0
BATTERY BANKS?	1	2	
GATES?	YES	NO	
SEND FLASH RATE/INT BATT ALARMS?	YES	NO	

### 3.0 DIGITAL INPUT CONFIGURATION

The SEAR II provides 18 digital inputs or channels. The two tables below indicate the SEAR II digital input assignments for 9V899-A01D when the SEAR II is used both with and without the Safetran Solid-State Crossing Controller III Plus (SSCC III Plus).

**SEAR II Digital Input Assignments With SSCC III Plus**

CHANNEL	NAME	WIRE TAG	NORMAL	ENERGIZED	DE-ENERGIZED
01	GDPA	GDPAMON	OFF	ON	OFF
02	GDPB	GDPBMON	OFF	ON	OFF
03	DI03	DI03	OFF	ON	OFF
04	DI04	DI04	OFF	ON	OFF
05	DI05	DI05	OFF	ON	OFF
06	DI06	DI06	OFF	ON	OFF
07	DI07	DI07	OFF	ON	OFF
08	DI08	DI08	OFF	ON	OFF
09	DI09	DI09	OFF	ON	OFF
10	DI10	DI10	OFF	ON	OFF
11	DI11	DI11	OFF	ON	OFF
12	DI12	DI12	OFF	ON	OFF
13	DI13	DI13	OFF	ON	OFF
14	DI14	DI14	OFF	ON	OFF
15	DI15	DI15	OFF	ON	OFF
16	POR	PORMON	OFF	ON	OFF
17	BUR	BURMON	OFF	ON	OFF
18	FIR	FIRMON	OFF	ON	OFF



## SEAR II Digital Input Assignments Without SSCC III Plus

CHANNEL	NAME	WIRE TAG	NORMAL	ENERGIZED	DE-ENERGIZED
01	1TEXR	1TEXRMON	OFF	ON	OFF
02	1TISL	1TISLMON	OFF	ON	OFF
03	1TWXR	1TWXRMON	OFF	ON	OFF
04	2TEXR *	2TEXRMON	OFF	ON	OFF
05	2TISL *	2TISLMON	OFF	ON	OFF
06	2TWXR *	2TWXRMON	OFF	ON	OFF
07	DI07	DI07	OFF	ON	OFF
08	DI08	DI08	OFF	ON	OFF
09	DI09	DI09	OFF	ON	OFF
10	DI10	DI10	OFF	ON	OFF
11	DI11	DI11	OFF	ON	OFF
12	DI12	DI12	OFF	ON	OFF
13	DI13	DI13	OFF	ON	OFF
14	DI14	DI14	OFF	ON	OFF
15	XPR	XPRMON	OFF	ON	OFF
16	POR	PORMON	OFF	ON	OFF
17	BUR	BURMON	OFF	ON	OFF
18	FIR	FIRMON	OFF	ON	OFF

\* These inputs will be assigned if NUMBER OF TRACKS = 2, otherwise they remain at default.

### 4.0 BATTERY INPUT CONFIGURATION

The following table shows the 9V899-A01D channel assignments, default names, battery designators and voltage resolutions for the possible battery inputs to the SEAR II.

CHANNEL	NAME	DESIGNATOR	RESOLUTION
01	B14	B14	1 VDC
02	Battery Monitor 2	BM2	0.5 VDC
03	Battery Monitor 3	BM3	0.5 VDC

## 5.0 RELAY OUTPUT CONFIGURATION

The table below shows the 9V899-A01D default names and software designators for the two relay outputs at the lower right-hand corner of the SEAR II front panel.

CHANNEL	NAME	DESIGNATOR	NORMAL	IN ALARM
01	MUX	MUX	CLOSED	OPEN
02	Relay Output 2	RLY2	CLOSED	N/A

## 6.0 INDICATOR LED CONFIGURATION

This table and the following material on LED conventions define operation of the 16 front-panel red Indicator LEDs for 9V899-A01D.

LED	ALARM NUMBERS	DESIGNATOR
I01	1	POR ALARM
I02	2	INTRUSION ALARM
I03	3	FIRE ALARM
I04	4,5	LOW BATTERY
I05	6,7,8	BULB(S) OUT
I06	9,10	FLASH RATE ALARM
I07	11	ECHELON INTERFACE FAILURE
I08	12	GATE NOT UP
I09	13	LAMPS ON TOO LONG
I10	14	BELL ON TOO LONG
I11	15	INPUT TRACK CIRCUIT DOWN TOO LONG
I12	16	STICK CANCELLATION ALARM INFERENCE
I13	17	XPR ACTIVE TOO LONG
I14	18	MAINTENANCE CALL ALARM
I15	19	CROSSING CONTROLLER FAILURE
I16	20	LOW INTERNAL BACKUP BATTERY

### Standard LED Conventions:

1. LEDs are ON (RED) steady when in Normal Mode.
2. LEDs FLASH FAST when an alarm condition exists.
3. LEDs FLASH SLOW if an alarm has occurred since the last time the CLEAR ALARM key was pressed, but has been cleared.
4. The CLEAR ALARM key will not clear out alarms that currently exist.

## 7.0 TEST LED CONFIGURATION

The next two tables and the Conventions information that follows define the operation of the eight tri-color Test LEDs as they operate under 9V899-A01D when the SEAR II is used both with and without the Safetran Solid-State Crossing Controller III Plus (SSCC III Plus).

### SEAR II Test LED Configuration With SSCC III Plus

LED	MAPPED INPUTS
T1	GDPA
T2	GDPB
T3	NONE
T4	NONE
T5	NONE
T6	NONE
T7	NONE
T8	POR, BUR, FIR

### SEAR II Test LED Configuration Without SSCC III Plus

LED	MAPPED INPUTS
T1	1TEXR
T2	1TISL
T3	1TWXR
T4	2TEXR *
T5	2TISL *
T6	2TWXR *
T7	XPR
T8	POR, BUR, FIR

\* These LED's will be mapped if NUMBER OF TRACKS = 2.

#### Test LED Conventions:

1. Test LED's with one mapped input will directly reflect the state of that input.
2. Test LED's with multiple mapped inputs will be RED if all inputs are ON and OFF if any input is OFF.
3. Test LED's with no mapped inputs will always be RED.

## 8.0 APPLICATION ALARMS

The 9V899-A01D application generates the following alarms. These alarms will be preceded by two asterisks in the event log for easier viewing.

LED	NAME	DESCRIPTION	ALARM #
I01	POR Alarm	POR de-energized	1
I02	Intrusion Alarm	BUR de-energized	2
I03	Fire Alarm	FIR de-energized	3
I04	B14 Low Voltage	B14 voltage is $\leq$ 85% of calibrated value for at least 20 seconds	4
I04	BM2 Low Voltage	BM2 voltage is $\leq$ 85% of calibrated value for at least 20 seconds	5
I05	Bulb Out	A single bulb out condition exists 10 seconds after XPR drops (non SSCC III sites) or 10 seconds after any lamp output = ON (SSCC III plus sites).	6 ***
I05	Two Bulbs Out	Two bulbs have been detected out 10 seconds after XPR drops (non SSCC III sites) or 10 seconds after any lamp output = ON (SSCC III plus sites).	7 ***
I05	Multiple Bulbs Out	More than two bulbs have been detected out 10 seconds after XPR drops (non SSCC III sites) or 10 seconds after any lamp output = ON (SSCC III plus sites).	8 ***
I06	Flash Rate too Slow	Flash rate is less than 35 FPM 10 seconds after XPR drops (non SSCC III sites) or 10 seconds after any lamp output = ON (SSCC III plus sites).	9 ***
I06	Flash Rate too Fast	Flash rate is greater than 65 FPM 10 seconds after XPR drops (non SSCC III sites) or 10 seconds after any lamp output = ON (SSCC III plus sites).	10 ***
I07	Echelon Interface Failure	SEAR II has lost communication with an external module via echelon.	11
I08	Gate Not Up	1GC or 2GC or GDPA or GDPB are DOWN for more than the user-configurable limit.**	12
I09	Lamps On too Long	1L1 or 1L2 or 2L1 or 2L2 is ON for more than the user-configurable limit.*	13
I10	Bell On too Long	Bell output is ON for more than the user-configurable limit.*	14
I11	Input Track Circuit Down too Long	Any crossing controller status inputs 1-7 are DOWN for more than the user-configurable limit.*	15
I12	Stick Cancellation Alarm Inference	SSCC In1=DOWN or In3=DOWN or In4=DOWN or In6=DOWN and In2=UP and 1L1=DOWN and 1L2=DOWN and 2L1=DOWN and 2L2=DOWN for more than user-configurable limit, minus 1 minute.*	16
I13	XPR Active too Long	XPR has been active longer than the user-configurable limit.	17
I14	Maintenance Call Alarm	Maintenance Call output drops.*	18
I15	Crossing Controller Failure	SSCC III PLUS vital health bit = bad for $\geq$ 30 seconds.*	19
I16	Low Internal Backup Battery	Internal backup battery is low and requires replacement.	20 ***

\* SSCC III Plus sites only. Inputs 4-6 are bypassed when NUMBER OF TRACKS = 1.

\*\* SSCC III Plus site only, where GDPA and GDPB are hard-wired to SEAR II inputs.

\*\*\* These alarms will not open the MUX relay if that feature is disabled during site setup.

## 9.0 APPLICATION ALARM CLEARS / RESETS

The 9V899-A01D application generates the following alarm clear and reset indications. These messages will be preceded by a single asterisk in the event log for easier viewing.

LED	Name	Description
I01	POR Normal	POR energizes
I02	Intrusion Cleared	BUR energizes
I03	Fire Cleared	FIR energizes
I04	B14 Normal	B14 low voltage alarm clears for 5 seconds.
I04	BM2 Normal	BM2 low voltage alarm clears for 5 seconds.
I05	Bulbs Normal	All bulb alarms are cleared on next XPR drop (non SSCC III plus sites), or next lamp output ON (SSCC III plus sites).
I06	Flash Rate Normal	All flash rate alarms are cleared on next XPR drop (non SSCC III plus sites) or on next lamp output ON (SSCC III plus sites).
I07	Echelon Normal	All SEAR II communications report good status.
I08	Gate Not Up Clear	1GC and 2GC and GDPA and GDPB are UP.*
I09	Lamps On Alarm Clear	All lamp outputs are OFF.*
I10	Bell On Alarm Clear	All bell outputs are OFF.*
I11	Input Track Circuit Down Alarm Clear	All SSCC inputs 1-7 are UP.*
I12	Stick Cancellation Alarm Inference Reset	Alarm resets 1 minute after Stick Cancellation Alarm Inference.*
I13	XPR Normal	XPR de-activates.
I14	Maintenance Call Clear	Maintenance Call Output is UP.*
I15	Crossing Controller Normal	SSCC III PLUS vital health bit = good for 1 minute.*
I16	Internal Backup Battery Normal	The internal backup battery has been replaced and reads normal voltage.

\* SSCC III Plus sites only. Inputs 4-6 are bypassed when NUMBER OF TRACKS = 1.

## NOTES

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