ERICSSON

Mobile Communications

SIMULCAST ALARM SYSTEM

TABLE OF CONTENTS

Maintenance Manual

TABLE OF CONTENTS

DESCRIPTION

The Ericsson GE Simulcast Alarm/Status System is an overlay to the Mastr II **16**PLUS Simulcast Trunked System. It consists of a **M**aster **A**larm **S**tation (**MAS**) and up to 20 **R**emote **A**larm **S**tations (**RAS**). Each station is capable of monitoring and providing:

- 48 digital inputs + 25 PTT inputs
- Up to 32 analog inputs
- 32 digital outputs

An alarm station consist of the following modules in a 4 rack unit shelf:

- 1 - STD Card Cage
- 1 - STD Bus Backplane
- 1 to 2 - Hybrid Card Cages - Master Alarm System
- 1 - CPU Card
- 1 - Digital Input Card
- 1 To 4 - Analog Input Cards
- Digital Output Card - Remote Alarm Station
- 1 To 4 - Digital Output Cards - Master Alarm Station
- 1 To 20 - Modem/Hybrid per site-Master Alarm Station
- 1 - Modem/Hybrid per Remote Alarm Station
- 1 - Alarm Cross Connect Backplane

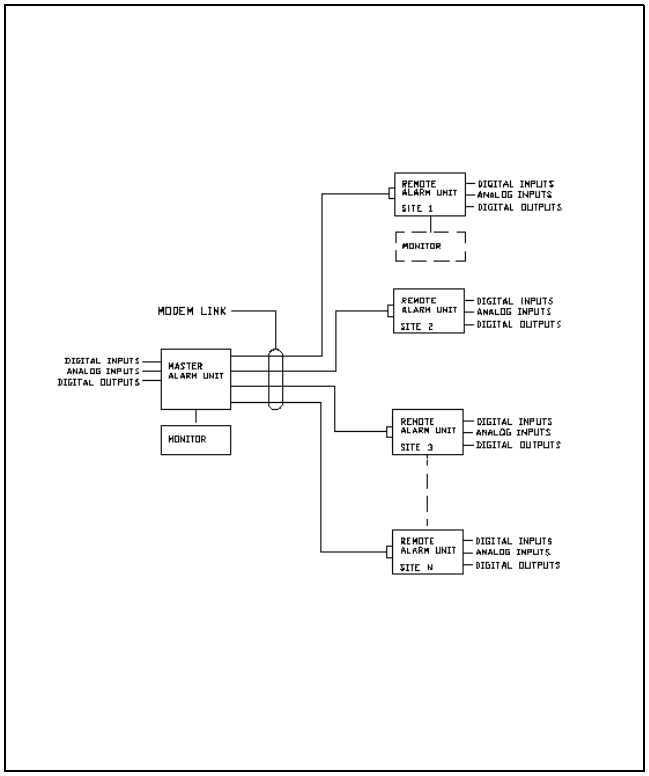
Power for the Alarm System comes from the redundant 5 and 12 volt power supplies of the Simulcast System.

Each digital input is a high impedance circuit capable of continuously withstanding voltage up to 50 Vdc. Maximum input current is 2.25 milliamperes at 50 volts dc. The On/Off threshold level is standard TTL.

Each analog input provides a 100 megohms input impedance and accepts input voltages from -2.5 to +2.5 volts (each differential pair).

Each digital output is an independent open-collector output circuit for switching control of dc loads to a maximum of +50 Vdc and a maximum current of 20 milliamperes. Each output is diode clamped.

The following figure shows a typical connection of the Alarm System. The monitor (PC compatible computer) can be connected to any site or all sites as desired. The monitor will show the status of all alarms and allow the operator to change the digital outputs to any one site or all sites from any point in the system.



Alarm System Interconnection Diagram

The software in the Alarm Stations (CPU board) is the same for all sites. It connects the information and sends it to the Master Alarm Station where it is sent to the Remote Sites or to the Monitor (refer to the **ALARM PROGRAM INSTRUCTIONS**).

Connection of the Alarm Monitor (PC compatible computer) to the Alarm System is through punchblocks that connect to the Alarm System Cross Connect Panel mounted on the back of the alarm shelf.

The Master Alarm System consists of two shelves:

- 1 - STD Bus System/Alarm Cross Connect (4 rack units)
- 1 - 2 Hybrid mounting shelves (each shelf will hold 12 hybrids (4 rack units)

The Remote Alarm System consist of one shelf.

The Alarm Unit is powered from the redundant power supplies of the Simulcast System (+5 Vdc and +12 Vdc).

CARD SLOT LOCATION

Control Point: (Site = 1-10)

1	Digital Input
2	CPU
3	Modem Site #1
4	Modem Site #2
5	Modem Site #3
6	Modem Site #4
7	Modem Site #5
8	Modem Site #6
9	Modem Site #7
10	Modem Site #9
11	Modem Site #10
12	Modem Site #11
13	Modem Site #12
14	Modem Site #13
15	Modem Site #14
16	Modem Site #15
17	Modem Site #16
18	Digital Output #4
19	Digital Output #3
20	Digital Output #2
21	Digital Output #1

Transmit Site:

1	Digital Input
2	CPU
3-4	Analog Input
5-6	Analog Input
7-8	Analog Input
9-10	Analog Input
11	Modem
12	Digital Output

X = Number of Transmitters (Include number to be expanded to in the future).

CI = **C**hannel **I**nhibit (CI's are created if a **T**est Unit Alarm **I**nterface (**TUAI**) failure occurs or a Digital Input Corresponding to a TUAI input at the control point is detected).

REMOTE SITE

48 Digital Inputs

1 To X = TUAI Inputs

(X + 1) To 48 = General Purpose Inputs

1 To 25 PTT Inputs [Connect to J01 from GETC's (TB1-8)]

32 Analog Inputs

1 To X = Power (Analog Input)

(X + 1) To 28 = General Purpose Inputs

29 = Antenna 1 Forward Power

30 = Antenna 1 Reverse Power

31 = Antenna 2 Forward Power

32 = Antenna 2 Reverse Power

32 Digital Outputs #1

1 To 31 = General Purpose Output

32 = Site Monentary Reset (Set to 6 seconds)

CONTROL POINT

48 Digital Inputs

1 To X = Channel Status Inputs (Same effect as TUAI input at TX Site)

(X + 1) To 48 = General Purpose inputs

32 Analog Inputs

Not available in Control Point Shelf

32 Digital Outputs

1 To 31 General Purpose Outputs
32 = Control Point Monentary Reset (Set to 6 seconds)

Second Digital Outputs Module (Control Point Only)

1 To 25 Channel Inhibit
25 To 30 Any Control Point Alarm Outputs OR'd Together
31 To 35 Any Site 1 Alarm Output OR'd Together
36 To 40 Any Site 2 Alarm Output OR'd Together
41 To 45 Any Site 3 Alarm Output OR'd Together
46 To 50 Any Site 4 Alarm Output OR'd Together
51 To 55 Any Site 5 Alarm Output OR'd Together

Additional Digital Cards will be added for Site 6 to Site 20. Alarm outputs can be used only in one set of system outputs. These Alarms are present only at the Control Point.

FUNCTIONS

Digital Inputs

- Enable/Disable
- Output Matrix Connection
- Alarm Level
- Latch/Unlatch

Analog Inputs

- Threshold
- Alarm Level
- Enable/Disable
- Output Matrix Connection
- Latch/Unlatch

Digital Outputs

1 To 32 = Output Matrix or manual controlled outputs.

Digital Outputs (Control Point Only (Digital Output Card #2))

- 25 Channel Inhibits
- 5 System Matrix outputs for Control Point
- 5 System Matrix outputs for each Tx site

For external connections to the Alarm System, see the Alarm Cross Connect **Wiring List** and **Function List** (refer to the **Table of Contents**). These lists list all connections and punchblocks used in the Alarm System.

ALARM PROGRAM INSTRUCTIONS

GENERAL INFORMATION

<**Enter**> means the Enter or Return key on your keyboard.

To answer any additional questions on how to do the following procedures, refer to your computer **D**isk **O**perating **S**ystem (**DOS**) Manual.

INSTALLATION

CONFIG.SYS must contain the following:

- **FILES=30**
- **BUFFERS=30**

Create a sub-directory named **"ALARMS"** and copy all files from the supplied **"Alarms Diskette"** to the sub-directory. Then copy the **ALARMS.BAT** file to the route directory

Example:

MD\ALARMS **<Enter>**

COPY A: *.* \ALARMS **<Enter>**

COPY\ALARMS\ALARMS.BAT **<Enter>**

PROGRAM START

Change to the **"ALARMS"** sub-directory and type **"ALARMS"** then press the **<Enter>** key.

Example:

CD\ALARMS <**Enter**>

ALARMS <**Enter**>

The first time the **"Alarms Monitoring"** program is started the **"Configuration"** program will execute first, followed by the **"System Alarm Monitoring"** program. At all other times the "System Alarm Monitoring" program will be executed.

GENERAL DESCRIPTION

The Alarms Monitor System contains a **P**ersonal **C**omputer (**PC**) to gather information about the Alarms and to control the Outputs to all sites. Included in the following pages are the descriptions of these functions.

Basic Functions

- System Alarms Monitoring
- System Configuration
- Site Specific Alarms Monitoring
- Site Specific Alarms Set Up

System Alarms Monitoring

The System Alarms Monitoring function displays the following information for all sites;

- Site name
- Alarms Disable Flag
- Digital Alarm Flag
- Analog Alarm Flag
- System Outputs
- Channel Inhibit Data

System Configuration

The System Configuration function:

- Defines the number of Sites
- Defines the number of Channels for each site
- Defines the Site Name
- Defines that site's number of Digital Alarms
- Defines that site's number of Analog Alarms
- Defines that site's number of Outputs

Site Specific Alarms Monitoring

The Site Specific Alarms Monitoring function:

- Allows the monitoring of all of that site's alarms
- Allows the changing of that site's Manual Outputs

Site Specific Alarms Set Up

The Site Specific Alarm Set Up function displays the following information:

- Site name
- Digital alarm information:
  - Alarm number
  - Alarm Level
  - Status
  - Parameter settings
- Analog Alarm Information
  - Alarm Number
  - Alarm Level
  - Status
  - Parameter settings
- Output Information
  - Output Number
  - Status
  - Type
  - Control Matrix
  - Parameter Settings
- System Outputs Information
  - System Output Number
  - Status
  - Control Matrix

The Specific Alarm Set Up allows the following parameters settings to be changed.

- Digital Alarm
  - Alarm Name
  - Alarm Level High/Low
  - Disable On/Off
  - Latch On/Off
- Alarm
  - Alarm Name
  - Alarm Level High/Low
  - Disable On/Off
  - Threshold Level 0.00/9.99
  - Latch On/Off
- Outputs
  - Output Name
  - Type
  - Control Matrix
- System Outputs
  - Control Matrix

CHANNEL INHIBIT LOGIC DESCRIPTION

The first twenty five (25) Digital Alarm inputs for each site are reserved for connecting to the channel **T**est **U**nit **A**larm **I**nterface (**TUAI**) outputs. They are also fed to the logic in the Master Alarm Shelf where they are **OR**'d with other sites to produced Channel Inhibits outputs. At certain times it would be desirable to cause a channel's TUAI effect on the rest of the system to be disabled. To accomplish this, set the Disable alarm **"ON"** for that channel and site. This function and others are explained on the pages of instructions that follow.

ERICSSON - GE COMMUNICATIONS **VER 2.0 (C) 1990**
Master Alarms Status Screen **ALARM & CONTROL STATION**

(1)	(2)	(3)	(4)	(5)	(6)
SYSTEM SITE NAMES	**ALARM DISABLE**	**DIGITAL ALARMS**	**ANALOG ALARMS**	**SYSTEM OUTPUTS**	**CHANNEL INHIBITS DATA**
MOUNTAIN VIEW RD	Y		Y	00000	1111111110
JOHNSON MOUNTAIN		Y	Y	00000	0000000000

(7)	(8)	(9)	(10)	(11)
<F1> ALARMS	**<F2> CONFIG**	**<F3> RESET**	**<F9> SETUP**	**<F10> QUIT**

(1) Names that are assigned and changed thru System Configuration. **<F2>**

(2) **"Y"** indicates that Alarm(s) conditions are Disabled at that site. **<F9>**

(3) **"Y"** indicates that Digital Alarm(s) conditions exist at that site. **<F9>**

(4) **"Y"** indicates that Analog Alarm(s) conditions exist at that site.**<F9>**

(5) Created thru a system matrix from all the standard outputs. **<F9>**

(6) Channel Inhibit input from the Alarm Control Shelf for this site. **<F9>**

(7) Function Key to run the Alarm/Manual Outputs program.

(8) Function Key to run the System Configuration program.

(9) Function Key to produce a 6 second reset signal on Output #32.

(10) Function Key to run the individual site Setup program.

(11) Function Key to exit to DOS

SYSTEM CONFIGURATION

SITE Qty (Transmit Sites + 1) ... : 3 3 To 12

Channel Qty ..... : 10 3 To 25

ANSWER CORRECT (Y/N)

This screen is the first of the Configuration program. There are two ways that you can get here: (1) by pressing the function key when you are at the **"System Alarm Monitoring Screen"** and (2) if this is the first time the "Alarms Monitoring" programs have been executed on this system.

SITE CONFIGURATION

Site Name for SITE 1 . . . . . : Control Point

QTY RANGE

Digital Alarm Input . . . . . : 48 25 To 48

Analog Alarm Input . . . . . : 10 10 To 32

Analog Output . . . . . : 32 10 To 32

ANSWER CORRECT (Y/N)

This screen is the second or next screen of the Configuration program. For each additional site to be configured this screen will appear for the configuration of that site.

The minimum number of Digital Alarms is 25.

The minimum number of Analog Alarms and Outputs are equal to the number of channels.

ALARMS: MOUNTAIN VIEW RD

DIGITAL				ANALOG			OUTPUTS	
T CALL 1	>MW-AIS	33		T CALL 1	17		M1	
T CALL 2	MW-RXSUM	34		T CALL 2	18		M2	
T CALL 3	MW-TXSUM	35		T CALL 3	19		M3	
T CALL 4	20	36		T CALL 4	20		M4	ACTIVE
A VOTR 1	21	37		ANT PRFL	21		M5	
A VOTR 2	22	38		6	22		M6	ACTIVE
A VOTR 3	23	39		7	23		M7	
A VOTR 4	24	40		8	24		M8	ACTIVE
CC RX	25	41		CC RX	25		M9	
CS SYNC	26	42		CS SYNC	26		M10	
TS SYNC	27	43		11	27		M11	
WWVB RX	28	44		12	28		M12	
DIGP A/B	29	45		13	29		M13	
14	30	46		14	30		M14	
15	31	47		15	31		M15	
16	32	48		16	32		M16	

<F9> <F10>
ACTIVE RETURN

Digital and Analog

Names displayed in reverse video indicates an Alarm condition exist.

Names with a ">" on their left side indicates a Latched Alarm condition.

Outputs

Names displayed in reversed video indicates an **"ACTIVE"** output at that site.

Names with **"ACTIVE"** indicates an **"ACTIVE"** output is being sent to that site.

<UP> and **<DOWN>** Arrow keys selects the Output.

<F9> Toggles the **"ACTIVE"** condition for the selected Output

<F10> Returns to the Master Alarms Status Screen.

COMMON SETUPS Fields Overview

	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx
DIGITAL	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx
	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Setups	aaaaaaaa	aaaaaaaa	aaaaaaaa	aaaaaaaa	aaaaaaaa
Alarms	bbbbbbb	bbbbbbb	bbbbbbb	bbbbbbb	bbbbbbb
Matrix	ddddddd	ddddddd	ddddddd	ddddddd	ddddddd

ALARMS SETUP
(site name)

	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxx
ANALOG	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxx
	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - -
Setups	aaaaaaaa	aaaaaaaa	aaaaaaaa	aaa
Alarms	bbbbbbb	bbbbbbb	bbbbbbb	bbb
Matrix	ddddddd	ddddddd	ddddddd	ddd

PARAMETER SETTINGS

DISPLAY AND UPDATE BOX

	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxx		xxxxx
OUTPUTS	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxx	SYSTEM	xxxxx
	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - -		- - - - -
Output	ccccccccc	ccccccccc	ccccccccc	ccc	Output	ccccc
Status	eeeeeeee	eeeeeeee	eeeeeeeee	eee		
System	fffffffffff	fffffffffff	ffffffffffff	ffff		

(UP), (DOWN), (LEFT), (RIGHT) Arrow keys use to select an alarm or output and display it in reversed video.

x = Alarm and Output numbers.

a = expected condition to produce an alarm:
"0" - Low
"1" - High

b = Alarm Status
"D" - Alarm is Disabled.
"A" - Alarm condition exist.
"L" - NO Alarm condition exit, but an Alarm condition has occurred since the LATCH was last armed.

c = Outputs condition
"0" - Inactive
"1" - Active

d = Output mactix
"Y" - Includes this alarm in the OR'd matrix for the selected output.

e = Output setup
"P" - Automaitc with selected inputs to its matrix.
"?" - Automatic with no selected inputs to its matrix.
" " - Manual.

f = System Matrix
"0" - Exclude this output from any ORing.
"1" - Include this output to OR with any other "1"'s to activate the #1 System output.
"2" - Include this output to OR with any other "1"'s to activate the #2 System output.
"3" - Include this output to OR with any other "1"'s to activate the #3 System output.
"4" - Include this output to OR with any other "1"'s to activate this #4 System output.
"5" - Include this output to OR with any other "1"'s to activate this $5 System output.

DIGITAL SETUPS Example

```
          000000000  1111111111  2222222222  3333333333  4444444444
DIGITAL   123456789  0123456789  0123456789  0123456789  0123456789
          ---------- ----------------------------------------------
Setups    000000000  1100000000  0000000000  0000000000  0000000000
Alarms    A  B       A  LL   L

          000000000  1111111111  2222222222  333
ANALOG    123456789  0123456789  0123456789  012
          ---------- ---------- ---------- ---
Setup     000010000  0000000000  0000000000  000
Alarms     LLAL

          000000000  1111111111  2222222222  333                          00000
OUTPUTS   123456789  0123456789  0123456789  012          SYSTEM          12345
          ---------- ---------- ---------- ---                          ------
Output    000010000  0000000000  0000010000  000          Output          00000
Status    pppppppp   p p     ? ? ?   ? ? ?   ??*
```

```
ALARMS SETUP
MOUNTAIN VIEW RD
```

```
DIGITAL ALARM  . . .:  T CALL 1
ALARM LEVEL    . . . .:  Low
DISABLE        . . . . . .:  Yes
LATCH          . . . . . . . . . . .:  No
```

<F7> <F8> <F9> <F10>
DISABLE LATCH UPDATE RETURN

<F7> Toggles Alarm Disable "on" and "off" for the selected alarm. When toggled "on", a "D" will be displayed for that alarm.When toggled "off", normal alarm status will be displayed.

<F8> Toggles Latch Alarm "on" and "off" for the selected alarm. When toggled "on" anytime the alarm is on, the normal "A" will be shown, but when the alarm is off a "L" will remain to indicate an alarm has occurred since the latch was last armed.
To clear the latched condition and arm it up to remember an alarm again, simply toggle it "off" then toggle it back "on".

<F9> Used to start updating the setup parameters for the one selected. Each entry is prompted at the bottom of the update box.

1
```
DIGITAL ALARM  . . .:  T CALL 1
ALARM LEVEL    . . . .:  Low
DISABLE        . . . . . .:  No
LATCH          . . . . . . . . . . .:  No
```
Input NAME of Alarm

2
```
DIGITAL ALARM  . . .:  T CALL 1
ALARM LEVEL    . . . .:        Low
DISABLE        . . . . . .:  No
LATCH          . . . . . . . . . . .:  No
```
Input = High or Low (H/L)

3
```
DIGITAL ALARM  . . .:  T CALL 1
ALARM LEVEL    . . . .:  Low
DISABLE        . . . . . .:        No
LATCH          . . . . . . . . . . .:  No
```
Input = YES or NO (Y/N)

4
```
DIGITAL ALARM  . . .:  T CALL 1
ALARM LEVEL    . . . .:  Low
DISABLE        . . . . . .:  No
LATCH          . . . . . . . . . . .:        No
```
Input = YES or NO (Y/N)

ANALOG SETUPS Example

```
            000000000  1111111111  2222222222  3333333333  4444444444
DIGITAL     123456789  0123456789  0123456789  0123456789  0123456789
            ---------- ----------------------------------------------
Setups      000000000  1100000000  0000000000  0000000000  0000000000
Alarms       D            L

            000000000  1111111111  2222222222  333
ANALOG      123456789  0123456789  0123456789  012
            ---------- ---------- ---------- ---
Setup       000010000  0000000000  0000000000  000
Alarms      L    A D   L      DD

            000000000  1111111111  2222222222  333                    00000
OUTPUTS     123456789  0123456789  0123456789  012        SYSTEM      12345
            ---------- ---------- ---------- ---                    ------
Output      000010000  0000000000  0000010000  000        Output      00000
Status      pppppppp   p p    ? ? ?  ? ? ?     ??*
```

```
ALARMS SETUP
MOUNTAIN VIEW RD
```

```
ANALOG ALARM . . .:  T CALL 1
ALARM LEVEL . . . .:  Low
DISABLE . . . . . .:  Yes
THRESHOLD. . . . . .:  7.00
LATCH . . . . . .:  Yes
```

<F7> **<F8>** **<F9>** **<F10>**
DISABLE **LATCH** **UPDATE** **RETURN**

<F7> Same as Digital.

<F8> Same as Digital.

<F9> Used to start updating the setup parameters for the one selected. Each entry is prompted at the bottom of the update box.

1
```
ANALOG ALARM . . .:  T CALL 1
ALARM LEVEL . . . .:  Low
DISABLE . . . . . .:  No
THRESHOLD. . . . . .:  7.00
LATCH . . . . . .:  Yes
```
Input NAME of Alarm

2
```
ANALOG ALARM . . .:  T CALL 1
ALARM LEVEL . . . .:  Low
DISABLE . . . . . .:  No
THRESHOLD. . . . . .:  7.00
LATCH . . . . . .:  Yes
```
Input = High or Low (H/L)

3
```
ANALOG ALARM . . .:  T CALL 1
ALARM LEVEL . . . .:  Low
DISABLE . . . . . .:  No
THRESHOLD. . . . . .:  7.00
LATCH . . . . . .:  Yes
```
Input = YES or NO (Y/N)

4
```
ANALOG ALARM . . .:  T CALL 1
ALARM LEVEL . . . .:  Low
DISABLE . . . . . .:  No
THRESHOLD. . . . . .:  7.00
LATCH . . . . . .:  Yes
```
Input = 0.00 Thru 9.99

5
```
ANALOG ALARM . . .:  T CALL 1
ALARM LEVEL . . . .:  Low
DISABLE . . . . . .:  No
THRESHOLD. . . . . .:  7.00
LATCH . . . . . .:  Yes
```
Input = YES or NO (Y/N)

<F10> Return to the Master Alarms Status Screen.

OUTPUTS SETUPS Example

```
          000000000  1111111111  2222222222  3333333333  4444444444
DIGITAL   123456789  0123456789  0123456789  0123456789  0123456789
          ---------- ----------------------------------------------
Setups    000000000  1100000000  0000000000  0000000000  0000000000
Alarms    D                L
Matrix    Y

          000000000  1111111111  2222222222  333
ANALOG    123456789  0123456789  0123456789  012
          ---------- ---------- ---------- ---
Setup     000010000  0000000000  0000000000  000
Alarms
Matrix    Y

          000000000  1111111111  2222222222  333                    00000
OUTPUTS   123456789  0123456789  0123456789  012        SYSTEM      12345
          ---------- ---------- ---------- ---                    ------
Output    00010000   0000000000  0000010000  000        Output      00000
Status    pppppppp   p p    ? ? ?  ? ? ?    ??*
System    000000000  000000000   000000000   000
```

```
ALARMS SETUP
MOUNTAIN VIEW RD
```

```
OUTPUT Alarm  . . .:  T CALL 1
RECV'ING      . . . .:  Inactive
TYPE          . . . . . .:  Automatic
```

<F4> SYSTEM **<F5> TYPE** **<F6> MATRIX** **<F9> UPDATE** **<F10> RETURN**

<F4> Activated the System outputs matrix entry.

<F5> Toggles Outputs type between "Automatic" and "Manual".

<F6> Activated the Outputs matrix entry.

<F9> Used to start updating the setup parameters for the one selected.Each entry is prompted at the bottom of the update box.

1

```
OUTPUT/ ALARM  . . .:  T CALL 1
RECV'ING       . . . .:  Inactive
TYPE           . . . . . .:  Automatic
Input NAME of Output
```

2

```
OUTPUT/ ALARM  . . .:  T CALL 1
RECV'ING       . . . .:  Inactive
TYPE           . . . . . .:  A
Input  = AUTO or MANUAL (A/M)
```

<F10> Returns to the Master Alarms Status Screen.

Ericsson GE Mobile Communications Inc.
Mountain View Road • Lynchburg, Virginia 24502

Printed in U.S.A.

WIRING LIST

ALARM CROSS-CONNECT PANEL

FROM	TO	FUNCTION	PUNCH BLOCK
H01 - 01	J15 - 58	PTTGETC RTN TB1-8	
H02 - 01	J05 - 49	GNDDIN	
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 11		
	S01 - 12		
	S01 - 13		
	S01 - 14		
	S01 - 15		
	S01 - 16		
H03 - 01	J14 - 60	+5 DIN	
H04 - 01	J20 - 60	+5 DOUT	
H05 - 01	J45 - 01	+12 F01-1	
	J45 - 02		
H06 - 01	H06 - 02	+12 F01-2 / RS01-2	
	H06 - 03		
H06 - 02	H06 - 01	+12 F01-2 / RS01-2	
	H06 - 03		
H06 - 03	H06 - 01	+12 F01-2 / RS01-2	
	H06 - 02		
H07 - 01	J44 - 19	RS01-1	
J01 - 01	J02 - 01	PTTGETC CH01 TB1-8	PB7AL - 01
	J15 - 31		
J01 - 02	J02 - 02	PTTGETC CH02 TB1-8	PB7AL - 26
	J15 - 32		
J01 - 03	J02 - 03	PTTGETC CH03 TB1-8	PB7AL - 02
	J15 - 33		
J01 - 04	J02 - 04	PTTGETC CH04 TB1-8	PB7AL - 27
	J15 - 34		
J01 - 05	J02 - 05	PTTGETC CH05 TB1-8	PB7AL - 03
	J15 - 35		
J01 - 06	J02 - 06	PTTGETC CH06 TB1-8	PB7AL - 28
	J15 - 36		
J01 - 07	J02 - 07	PTTGETC CH07 TB1-8	PB7AL - 04
	J15 - 37		
J01 - 08	J02 - 08	PTTGETC CH08 TB1-8	PB7AL - 29
	J15 - 38		
J01 - 09	J02 - 09	PTTGETC CH09 TB1-8	PB7AL - 05
	J15 - 39		
J01 - 10	J02 - 10	PTTGETC CH10 TB1-8	PB7AL - 30
	J15 - 40		
J01 - 11	J02 - 11	PTTGETC CH11 TB1-8	PB7AL - 06
	J15 - 41		

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J01 - 12	J02 - 12 J15 - 42	PTTGETC CH12 TB1-8	PB7AL - 31
J01 - 13	J02 - 13 J15 - 43	PTTGETC CH13 TB1-8	PB7AL - 07
J01 - 14	J02 - 14 J15 - 44	PTTGETC CH14 TB1-8	PB7AL - 32
J01 - 15	J02 - 15 J15 - 45	PTTGETC CH15 TB1-8	PB7AL - 08
J01 - 16	J02 - 16 J15 - 46	PTTGETC CH16 TB1-8	PB7AL - 33
J01 - 17	J02 - 17 J15 - 47	PTTGETC CH17 TB1-8	PB7AL - 09
J01 - 18	J02 - 18 J15 - 48	PTTGETC CH18 TB1-8	PB7AL - 34
J01 - 19	J02 - 19 J15 - 49	PTTGETC CH19 TB1-8	PB7AL - 10
J01 - 20	J02 - 20 J15 - 50	PTTGETC CH20 TB1-8	PB7AL - 35
J01 - 21	J02 - 21 J15 - 51	PTTGETC CH21 TB1-8	PB7AL - 11
J01 - 22	J02 - 22 J15 - 52	PTTGETC CH22 TB1-8	PB7AL - 36
J01 - 23	J02 - 23 J15 - 53	PTTGETC CH23 TB1-8	PB7AL - 12
J01 - 24	J02 - 24 J15 - 54	PTTGETC CH24 TB1-8	PB7AL - 37
J01 - 25	J02 - 25 J15 - 55	PTTGETC CH25 TB1-8	PB7AL - 13
J02 - 01	J01 - 01 J15 - 31	PTTGETC CH01 TB1-8	
J02 - 02	J01 - 02 J15 - 32	PTTGETC CH02 TB1-8	
J02 - 03	J01 - 03 J15 - 33	PTTGETC CH03 TB1-8	
J02 - 04	J01 - 04 J15 - 34	PTTGETC CH04 TB1-8	
J02 - 05	J01 - 05 J15 - 35	PTTGETC CH05 TB1-8	
J02 - 06	J01 - 06 J15 - 36	PTTGETC CH06 TB1-8	
J02 - 07	J01 - 07 J15 - 37	PTTGETC CH07 TB1-8	
J02 - 08	J01 - 08 J15 - 38	PTTGETC CH08 TB1-8	
J02 - 09	J01 - 09 J15 - 39	PTTGETC CH09 TB1-8	
J02 - 10	J01 - 10 J15 - 40	PTTGETC CH10 TB1-8	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J02 - 11	J01 - 11	PTTGETC CH11 TB1-8	
	J15 - 41		
J02 - 12	J01 - 12	PTTGETC CH12 TB1-8	
	J15 - 42		
J02 - 13	J01 - 13	PTTGETC CH13 TB1-8	
	J15 - 43		
J02 - 14	J01 - 14	PTTGETC CH14 TB1-8	
	J15 - 44		
J02 - 15	J01 - 15	PTTGETC CH15 TB1-8	
	J15 - 45		
J02 - 16	J01 - 16	PTTGETC CH16 TB1-8	
	J15 - 46		
J02 - 17	J01 - 17	PTTGETC CH17 TB1-8	
	J15 - 47		
J02 - 18	J01 - 18	PTTGETC CH18 TB1-8	
	J15 - 48		
J02 - 19	J01 - 19	PTTGETC CH19 TB1-8	
	J15 - 49		
J02 - 20	J01 - 20	PTTGETC CH20 TB1-8	
	J15 - 50		
J02 - 21	J01 - 21	PTTGETC CH21 TB1-8	
	J15 - 51		
J02 - 22	J01 - 22	PTTGETC CH22 TB1-8	
	J15 - 52		
J02 - 23	J01 - 23	PTTGETC CH23 TB1-8	
	J15 - 53		
J02 - 24	J01 - 24	PTTGETC CH24 TB1-8	
	J15 - 54		
J02 - 25	J01 - 25	PTTGETC CH25 TB1-8	
	J15 - 55		
J05 - 01	J14 - 11	DIN01	PB1AL - 01
J05 - 02	J14 - 12	DIN02	PB1AL - 26
J05 - 03	J14 - 13	DIN03	PB1AL - 02
J05 - 04	J14 - 14	DIN04	PB1AL - 27
J05 - 05	J14 - 15	DIN05	PB1AL - 03
J05 - 06	J14 - 16	DIN06	PB1AL - 28
J05 - 07	J14 - 17	DIN07	PB1AL - 04
J05 - 08	J14 - 18	DIN08	PB1AL - 29
J05 - 09	J14 - 19	DIN09	PB1AL - 05
J05 - 10	J14 - 20	DIN10	PB1AL - 30
J05 - 11	J14 - 21	DIN11	PB1AL - 06
J05 - 12	J14 - 22	DIN12	PB1AL - 31
J05 - 13	J14 - 23	DIN13	PB1AL - 07
J05 - 14	J14 - 24	DIN14	PB1AL - 32
J05 - 15	J14 - 25	DIN15	PB1AL - 08
J05 - 16	J14 - 26	DIN16	PB1AL - 33
J05 - 17	J14 - 27	DIN17	PB1AL - 09
J05 - 18	J14 - 28	DIN18	PB1AL - 34
J05 - 19	J14 - 29	DIN19	PB1AL - 10

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J05 - 20	J14 - 30	DIN20	PB1AL - 35
J05 - 21	J14 - 31	DIN21	PB1AL - 11
J05 - 22	J14 - 32	DIN22	PB1AL - 36
J05 - 23	J14 - 33	DIN23	PB1AL - 12
J05 - 24	J14 - 34	DIN24	PB1AL - 37
J05 - 25	J14 - 35	DIN25	PB1AL - 13
J05 - 26	J14 - 36	DIN26	PB1AL - 38
J05 - 27	J14 - 37	DIN27	PB1AL - 14
J05 - 28	J14 - 38	DIN28	PB1AL - 39
J05 - 29	J14 - 39	DIN29	PB1AL - 15
J05 - 30	J14 - 40	DIN30	PB1AL - 40
J05 - 31	J14 - 41	DIN31	PB1AL - 16
J05 - 32	J14 - 42	DIN32	PB1AL - 41
J05 - 33	J14 - 43	DIN33	PB1AL - 17
J05 - 34	J14 - 44	DIN34	PB1AL - 42
J05 - 35	J14 - 45	DIN35	PB1AL - 18
J05 - 36	J14 - 46	DIN36	PB1AL - 43
J05 - 37	J14 - 47	DIN37	PB1AL - 19
J05 - 38	J14 - 48	DIN38	PB1AL - 44
J05 - 39	J14 - 49	DIN39	PB1AL - 20
J05 - 40	J14 - 50	DIN40	PB1AL - 45
J05 - 41	J14 - 51	DIN41	PB1AL - 21
J05 - 42	J14 - 52	DIN42	PB1AL - 46
J05 - 43	J14 - 53	DIN43	PB1AL - 22
J05 - 44	J14 - 54	DIN44	PB1AL - 47
J05 - 45	J14 - 55	DIN45	PB1AL - 23
J05 - 46	J14 - 56	DIN46	PB1AL - 48
J05 - 47	J15 - 11	DIN47	PB1AL - 24
J05 - 48	J15 - 12	DIN48	PB1AL - 49
J05 - 49	H02 - 01	GNDDIN	PB1AL - 25
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 11		
	S01 - 12		
	S01 - 13		
	S01 - 14		
	S01 - 15		
	S01 - 16		
J05 - 50	H02 - 01	GNDDIN	PB1AL - 50
	J05 - 49		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 11		
	S01 - 12		

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
	S01 - 13		
	S01 - 14		
	S01 - 15		
	S01 - 16		
J06 - 01	J16 - 01	AIN+01	PB2AL - 01
J06 - 02	J16 - 02	AIN-01	PB2AL - 26
J06 - 03	J16 - 03	AIN+02	PB2AL - 02
J06 - 04	J16 - 04	AIN-02	PB2AL - 27
J06 - 05	J16 - 07	AIN+03	PB2AL - 03
J06 - 06	J16 - 08	AIN-03	PB2AL - 28
J06 - 07	J16 - 11	AIN+04	PB2AL - 04
J06 - 08	J16 - 12	AIN-04	PB2AL - 29
J06 - 09	J16 - 15	AIN+05	PB2AL - 05
J06 - 10	J16 - 16	AIN-05	PB2AL - 30
J06 - 11	J16 - 19	AIN+06	PB2AL - 06
J06 - 12	J16 - 20	AIN-06	PB2AL - 31
J06 - 13	J16 - 23	AIN+07	PB2AL - 07
J06 - 14	J16 - 24	AIN-07	PB2AL - 32
J06 - 15	J16 - 25	AIN+08	PB2AL - 08
J06 - 16	J16 - 26	AIN-08	PB2AL - 33
J06 - 17	J17 - 01	AIN+09	PB2AL - 09
J06 - 18	J17 - 02	AIN-09	PB2AL - 34
J06 - 19	J17 - 03	AIN+10	PB2AL - 10
J06 - 20	J17 - 04	AIN-10	PB2AL - 35
J06 - 21	J17 - 07	AIN+11	PB2AL - 11
J06 - 22	J17 - 08	AIN-11	PB2AL - 36
J06 - 23	J17 - 11	AIN+12	PB2AL - 12
J06 - 24	J17 - 12	AIN-12	PB2AL - 37
J06 - 25	J17 - 15	AIN+13	PB2AL - 13
J06 - 26	J17 - 16	AIN-13	PB2AL - 38
J06 - 27	J17 - 19	AIN+14	PB2AL - 14
J06 - 28	J17 - 20	AIN-14	PB2AL - 39
J06 - 29	J17 - 23	AIN+15	PB2AL - 15
J06 - 30	J17 - 24	AIN-15	PB2AL - 40
J06 - 31	J17 - 25	AIN+16	PB2AL - 16
J06 - 32	J17 - 26	AIN-16	PB2AL - 41
J06 - 33	J18 - 01	AIN+17	PB2AL - 17
J06 - 34	J18 - 02	AIN-17	PB2AL - 42
J06 - 35	J18 - 03	AIN+18	PB2AL - 18
J06 - 36	J18 - 04	AIN-18	PB2AL - 43
J06 - 37	J18 - 07	AIN+19	PB2AL - 19
J06 - 38	J18 - 08	AIN-19	PB2AL - 44
J06 - 39	J18 - 11	AIN+20	PB2AL - 20
J06 - 40	J18 - 12	AIN-20	PB2AL - 45
J06 - 41	J18 - 15	AIN+21	PB2AL - 21
J06 - 42	J18 - 16	AIN-21	PB2AL - 46
J06 - 43	J18 - 19	AIN+22	PB2AL - 22
J06 - 44	J18 - 20	AIN-22	PB2AL - 47
J06 - 45	J18 - 23	AIN+23	PB2AL - 23

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J06 - 46	J18 - 24	AIN-23	PB2AL - 48
J06 - 47	J18 - 25	AIN+24	PB2AL - 24
J06 - 48	J18 - 26	AIN-24	PB2AL - 49
J06 - 49		n/c	PB2AL - 25
J06 - 50		n/c	PB2AL - 50
J07 - 01	J19 - 01	AIN+25	PB3AL - 01
J07 - 02	J19 - 02	AIN-25	PB3AL - 26
J07 - 03	J19 - 03	AIN+26	PB3AL - 02
J07 - 04	J19 - 04	AIN-26	PB3AL - 27
J07 - 05	J19 - 07	AIN+27	PB3AL - 03
J07 - 06	J19 - 08	AIN-27	PB3AL - 28
J07 - 07	J19 - 11	AIN+28	PB3AL - 04
J07 - 08	J19 - 12	AIN-28	PB3AL - 29
J07 - 09	J19 - 15	AIN+29	PB3AL - 05
J07 - 10	J19 - 16	AIN-29	PB3AL - 30
J07 - 11	J19 - 19	AIN+30	PB3AL - 06
J07 - 12	J19 - 20	AIN-30	PB3AL - 31
J07 - 13	J19 - 23	AIN+31	PB3AL - 07
J07 - 14	J19 - 24	AIN-31	PB3AL - 32
J07 - 15	J19 - 25	AIN+32	PB3AL - 08
J07 - 16	J19 - 26	AIN-32	PB3AL - 33
J07 - 17	J20 - 27	DOUT17	PB3AL - 09
J07 - 18	J20 - 28	DOUT18	PB3AL - 34
J07 - 19	J20 - 29	DOUT19	PB3AL - 10
J07 - 20	J20 - 30	DOUT20	PB3AL - 35
J07 - 21	J20 - 31	DOUT21	PB3AL - 11
J07 - 22	J20 - 32	DOUT22	PB3AL - 36
J07 - 23	J20 - 33	DOUT23	PB3AL - 12
J07 - 24	J20 - 34	DOUT24	PB3AL - 37
J07 - 25	J20 - 35	DOUT25	PB3AL - 13
J07 - 26	J20 - 36	DOUT26	PB3AL - 38
J07 - 27	J20 - 37	DOUT27	PB3AL - 14
J07 - 28	J20 - 38	DOUT28	PB3AL - 39
J07 - 29	J20 - 39	DOUT29	PB3AL - 15
J07 - 30	J20 - 40	DOUT30	PB3AL - 40
J07 - 31	J20 - 11	DOUT01	PB3AL - 16
J07 - 32	J20 - 12	DOUT02	PB3AL - 41
J07 - 33	J20 - 13	DOUT03	PB3AL - 17
J07 - 34	J20 - 14	DOUT04	PB3AL - 42
J07 - 35	J20 - 15	DOUT05	PB3AL - 18
J07 - 36	J20 - 16	DOUT06	PB3AL - 43
J07 - 37	J20 - 17	DOUT07	PB3AL - 19
J07 - 38	J20 - 18	DOUT08	PB3AL - 44
J07 - 39	J20 - 19	DOUT09	PB3AL - 20
J07 - 40	J20 - 20	DOUT10	PB3AL - 45
J07 - 41	J20 - 21	DOUT11	PB3AL - 21
J07 - 42	J20 - 22	DOUT12	PB3AL - 46
J07 - 43	J20 - 23	DOUT13	PB3AL - 22
J07 - 44	J20 - 24	DOUT14	PB3AL - 47

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J07 - 45	J20 - 25	DOUT15	PB3AL - 23
J07 - 46	J20 - 26	DOUT16	B3AL - 48
J07 - 47	J20 - 41	DOUT31	PB3AL - 24
J07 - 48	J20 - 42	DOUT32	PB3AL - 49
J07 - 49	J07 - 50	GNDDOUT	PB3AL - 25
	J20 - 58		
	J20 - 59		
J07 - 50	J07 - 49	GNDDOUT	PB3AL - 50
	J20 - 58		
	J20 - 59		
J08 - 01		n/c	
J08 - 02	J21 - 05	TXDA	
J08 - 03	J21 - 03	RXDA	
J08 - 04		n/c	
J08 - 05	J21 - 01	GNDCPUA	
J08 - 06		n/c	
J08 - 07		n/c	
J08 - 08		n/c	
J08 - 09		n/c	
J09 - 01	J15 - 13	DIN49	
J09 - 02	J15 - 14	DIN50	
J09 - 03	J15 - 15	DIN51	
J09 - 04	J15 - 16	DIN52	
J09 - 05	J15 - 17	DIN53	
J09 - 06	J15 - 18	DIN54	
J09 - 07	J15 - 19	DIN55	
J09 - 08	J15 - 20	DIN56	
J09 - 09	J15 - 21	DIN57	
J09 - 10	J15 - 22	DIN58	
J09 - 11	J15 - 23	DIN59	
J09 - 12	J15 - 24	DIN60	
J09 - 13	J14 - 01	DIN61	
J09 - 14	J14 - 02	DIN62	
J09 - 15	J14 - 03	DIN63	
J09 - 16	J14 - 04	DIN64	
J09 - 17	J14 - 05	DIN65	
J09 - 18	J14 - 06	DIN66	
J09 - 19	J14 - 07	DIN67	
J09 - 20	J14 - 08	DIN68	
J09 - 21	J14 - 09	DIN69	
J09 - 22	J14 - 10	DIN70	
J09 - 23	J15 - 01	DIN71	
J09 - 24	J15 - 02	DIN72	
J09 - 25	J15 - 03	DIN73	
J09 - 26	J15 - 04	DIN74	
J09 - 27	J15 - 05	DIN75	
J09 - 28	J15 - 06	DIN76	
J09 - 29	J15 - 07	DIN77	
J09 - 30	J15 - 08	DIN78	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J09 - 31	J15 - 09	DIN79	
J09 - 32	J15 - 10	DIN80	
J09 - 33		n/c	
J09 - 34		n/c	
J09 - 35		n/c	
J09 - 36		n/c	
J09 - 37		n/c	
J09 - 38		n/c	
J09 - 39		n/c	
J09 - 40		n/c	
J09 - 41		n/c	
J09 - 42		n/c	
J09 - 43		n/c	
J09 - 44		n/c	
J09 - 45		n/c	
J09 - 46		n/c	
J09 - 47		n/c	
J09 - 48		n/c	
J09 - 49	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 11		
	S01 - 12		
	S01 - 13		
	S01 - 14		
	S01 - 15		
	S01 - 16		
J09 - 50		n/c	
J10 - 01	J23 - 02	M TIP S01	See Note 1
	J44 - 41		
J10 - 02	J23 - 03	M RING S01	See Note 1
	J44 - 47		
J10 - 03	J24 - 02	M TIP S02	See Note 1
J10 - 04	J24 - 03	M RING S02	See Note 1
J10 - 05	J25 - 02	M TIP S03	See Note 1
J10 - 06	J25 - 03	M RING S03	See Note 1
J10 - 07	J26 - 02	M TIP S04	See Note 1
J10 - 08	J26 - 03	M RING S04	See Note 1
J10 - 09	J27 - 02	M TIP S05	See Note 1
J10 - 10	J27 - 03	M RING S05	See Note 1
J10 - 11	J28 - 02	M TIP S06	See Note 1
J10 - 12	J28 - 03	M RING S06	See Note 1
J10 - 13	J29 - 02	M TIP S07	See Note 1
J10 - 14	J29 - 03	M RING S07	See Note 1
J10 - 15	J30 - 02	M TIP S08	See Note 1
J10 - 16	J30 - 03	M RING S08	See Note 1
J10 - 17	J31 - 02	M TIP S09	See Note 1

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J10 - 18	J31 - 03	M RING S09	See Note 1
J10 - 19	J32 - 02	M TIP S10	See Note 1
J10 - 20	J32 - 03	M RING S10	See Note 1
J10 - 21	J33 - 02	M TIP S11	See Note 1
J10 - 22	J33 - 03	M RING S11	See Note 1
J10 - 23	J34 - 02	M TIP S12	See Note 1
J10 - 24	J34 - 03	M RING S12	See Note 1
J10 - 25		n/c	See Note 1
J10 - 26		n/c	See Note 1
J10 - 27		n/c	See Note 1
J10 - 28		n/c	See Note 1
J10 - 29		n/c	See Note 1
J10 - 30		n/c	See Note 1
J10 - 31		n/c	See Note 1
J10 - 32		n/c	See Note 1
J10 - 33		n/c	See Note 1
J10 - 34		n/c	See Note 1
J10 - 35		n/c	See Note 1
J10 - 36		n/c	See Note 1
J10 - 37		n/c	See Note 1
J10 - 38		n/c	See Note 1
J10 - 39		n/c	See Note 1
J10 - 40		n/c	See Note 1
J10 - 41		n/c	See Note 1
J10 - 42		n/c	See Note 1
J10 - 43		n/c	See Note 1
J10 - 44		n/c	See Note 1
J10 - 45		n/c	See Note 1
J10 - 46		n/c	See Note 1
J10 - 47	J44 - 55	XMT T S01	See Note 1
J10 - 48	J44 - 49	XMT R S01	See Note 1
J10 - 49	J44 - 05	RCV T S01	See Note 1
J10 - 50	J44 - 15	RCV R S01	See Note 1
J11 - 01	J35 - 02	M TIP S13	See Note 1
J11 - 02	J35 - 03	M RING S13	See Note 1
J11 - 03	J36 - 02	M TIP S14	See Note 1
J11 - 04	J36 - 03	M RING S14	See Note 1
J11 - 05	J37 - 02	M TIP S15	See Note 1
J11 - 06	J37 - 03	M RING S15	See Note 1
J11 - 07	J38 - 02	M TIP S16	See Note 1
J11 - 08	J38 - 03	M RING S16	See Note 1
J11 - 09	J39 - 02	M TIP S17	See Note 1
J11 - 10	J39 - 03	M RING S17	See Note 1
J11 - 11	J40 - 02	M TIP S18	See Note 1
J11 - 12	J40 - 03	M RING S18	See Note 1
J11 - 13	J41 - 02	M TIP S19	See Note 1
J11 - 14	J41 - 03	M RING S19	See Note 1
J11 - 15	J42 - 02	M TIP S20	See Note 1
J11 - 16	J42 - 03	M RING S20	See Note 1

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J11 - 17		n/c	See Note 1
J11 - 18		n/c	See Note 1
J11 - 19		n/c	See Note 1
J11 - 20		n/c	See Note 1
J11 - 21		n/c	See Note 1
J11 - 22		n/c	See Note 1
J11 - 23		n/c	See Note 1
J11 - 24		n/c	See Note 1
J11 - 25		n/c	See Note 1
J11 - 26		n/c	See Note 1
J11 - 27		n/c	See Note 1
J11 - 28		n/c	See Note 1
J11 - 29		n/c	See Note 1
J11 - 30		n/c	See Note 1
J11 - 31		n/c	See Note 1
J11 - 32		n/c	See Note 1
J11 - 33		n/c	See Note 1
J11 - 34		n/c	See Note 1
J11 - 35		n/c	See Note 1
J11 - 36		n/c	See Note 1
J11 - 37		n/c	See Note 1
J11 - 38		n/c	See Note 1
J11 - 39		n/c	See Note 1
J11 - 40		n/c	See Note 1
J11 - 41		n/c	See Note 1
J11 - 42		n/c	See Note 1
J11 - 43		n/c	See Note 1
J11 - 44		n/c	See Note 1
J11 - 45		n/c	See Note 1
J11 - 46		n/c	See Note 1
J11 - 47		n/c	See Note 1
J11 - 48		n/c	See Note 1
J11 - 49		n/c	See Note 1
J11 - 50		n/c	See Note 1
J14 - 01	J09 - 13	DIN61	
J14 - 02	J09 - 14	DIN62	
J14 - 03	J09 - 15	DIN63	
J14 - 04	J09 - 16	DIN64	
J14 - 05	J09 - 17	DIN65	
J14 - 06	J09 - 18	DIN66	
J14 - 07	J09 - 19	DIN67	
J14 - 08	J09 - 20	DIN68	
J14 - 09	J09 - 21	DIN69	
J14 - 10	J09 - 22	DIN70	
J14 - 11	J05 - 01	DIN01	
J14 - 12	J05 - 02	DIN02	
J14 - 13	J05 - 03	DIN03	
J14 - 14	J05 - 04	DIN04	
J14 - 15	J05 - 05	DIN05	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J14 - 16	J05 - 06	DIN06	
J14 - 17	J05 - 07	DIN07	
J14 - 18	J05 - 08	DIN08	
J14 - 19	J05 - 09	DIN09	
J14 - 20	J05 - 10	DIN10	
J14 - 21	J05 - 11	DIN11	
J14 - 22	J05 - 12	DIN12	
J14 - 23	J05 - 13	DIN13	
J14 - 24	J05 - 14	DIN14	
J14 - 25	J05 - 15	DIN15	
J14 - 26	J05 - 16	DIN16	
J14 - 27	J05 - 17	DIN17	
J14 - 28	J05 - 18	DIN18	
J14 - 29	J05 - 19	DIN19	
J14 - 30	J05 - 20	DIN20	
J14 - 31	J05 - 21	DIN21	
J14 - 32	J05 - 22	DIN22	
J14 - 33	J05 - 23	DIN23	
J14 - 34	J05 - 24	DIN24	
J14 - 35	J05 - 25	DIN25	
J14 - 36	J05 - 26	DIN26	
J14 - 37	J05 - 27	DIN27	
J14 - 38	J05 - 28	DIN28	
J14 - 39	J05 - 29	DIN29	
J14 - 40	J05 - 30	DIN30	
J14 - 41	J05 - 31	DIN31	
J14 - 42	J05 - 32	DIN32	
J14 - 43	J05 - 33	DIN33	
J14 - 44	J05 - 34	DIN34	
J14 - 45	J05 - 35	DIN35	
J14 - 46	J05 - 36	DIN36	
J14 - 47	J05 - 37	DIN37	
J14 - 48	J05 - 38	DIN38	
J14 - 49	J05 - 39	DIN39	
J14 - 50	J05 - 40	DIN40	
J14 - 51	J05 - 41	DIN41	
J14 - 52	J05 - 42	DIN42	
J14 - 53	J05 - 43	DIN43	
J14 - 54	J05 - 44	DIN44	
J14 - 55	J05 - 45	DIN45	
J14 - 56	J05 - 46	DIN46	
J14 - 57		n/c	
J14 - 58	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J09 - 49		
	J14 - 59		
	J15 - 59		
	S01 - 11		

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
	S01 - 12		
	S01 - 13		
	S01 - 14		
	S01 - 15		
	S01 - 16		
J14 - 59	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J15 - 59		
	S01 - 11		
	S01 - 12		
	S01 - 13		
	S01 - 14		
	S01 - 15		
	S01 - 16		
J14 - 60	H03 - 01	+5 DIN	
J15 - 01	J09 - 23	DIN71	
J15 - 02	J09 - 24	DIN72	
J15 - 03	J09 - 25	DIN73	
J15 - 04	J09 - 26	DIN74	
J15 - 05	J09 - 27	DIN75	
J15 - 06	J09 - 28	DIN76	
J15 - 07	J09 - 29	DIN77	
J15 - 08	J09 - 30	DIN78	
J15 - 09	J09 - 31	DIN79	
J15 - 10	J09 - 32	DIN80	
J15 - 11	J05 - 47	DIN47	
J15 - 12	J05 - 48	DIN48	
J15 - 13	J09 - 01	DIN49	
J15 - 14	J09 - 02	DIN50	
J15 - 15	J09 - 03	DIN51	
J15 - 16	J09 - 04	DIN52	
J15 - 17	J09 - 05	DIN53	
J15 - 18	J09 - 06	DIN54	
J15 - 19	J09 - 07	DIN55	
J15 - 20	J09 - 08	DIN56	
J15 - 21	J09 - 09	DIN57	
J15 - 22	J09 - 10	DIN58	
J15 - 23	J09 - 11	DIN59	
J15 - 24	J09 - 12	DIN60	
J15 - 25	S01 - 01	SITE A1	
J15 - 26	S01 - 02	SITE A2	
J15 - 27	S01 - 03	SITE A3	
J15 - 28	S01 - 04	SITE A4	
J15 - 29	S01 - 05	SITE A5	
J15 - 30	S01 - 06	CNT/TX	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J15 - 31	J01 - 01	PTTGETC CH01 TB1-8	
	J02 - 01		
J15 - 32	J01 - 02	PTTGETC CH02 TB1-8	
	J02 - 02		
J15 - 33	J01 - 03	PTTGETC CH03 TB1-8	
	J02 - 03		
J15 - 34	J01 - 04	PTTGETC CH04 TB1-8	
	J02 - 04		
J15 - 35	J01 - 05	PTTGETC CH05 TB1-8	
	J02 - 05		
J15 - 36	J01 - 06	PTTGETC CH06 TB1-8	
	J02 - 06		
J15 - 37	J01 - 07	PTTGETC CH07 TB1-8	
	J02 - 07		
J15 - 38	J01 - 08	PTTGETC CH08 TB1-8	
	J02 - 08		
J15 - 39	J01 - 09	PTTGETC CH09 TB1-8	
	J02 - 09		
J15 - 40	J01 - 10	PTTGETC CH10 TB1-8	
	J02 - 10		
J15 - 41	J01 - 11	PTTGETC CH11 TB1-8	
	J02 - 11		
J15 - 42	J01 - 12	PTTGETC CH12 TB1-8	
	J02 - 12		
J15 - 43	J01 - 13	PTTGETC CH13 TB1-8	
	J02 - 13		
J15 - 44	J01 - 14	PTTGETC CH14 TB1-8	
	J02 - 14		
J15 - 45	J01 - 15	PTTGETC CH15 TB1-8	
	J02 - 15		
J15 - 46	J01 - 16	PTTGETC CH16 TB1-8	
	J02 - 16		
J15 - 47	J01 - 17	PTTGETC CH17 TB1-8	
	J02 - 17		
J15 - 48	J01 - 18	PTTGETC CH18 TB1-8	
	J02 - 18		
J15 - 49	J01 - 19	PTTGETC CH19 TB1-8	
	J02 - 19		
J15 - 50	J01 - 20	PTTGETC CH20 TB1-8	
	J02 - 20		
J15 - 51	J01 - 21	PTTGETC CH21 TB1-8	
	J02 - 21		
J15 - 52	J01 - 22	PTTGETC CH22 TB1-8	
	J02 - 22		
J15 - 53	J01 - 23	PTTGETC CH23 TB1-8	
	J02 - 23		
J15 - 54	J01 - 24	PTTGETC CH24 TB1-8	
	J02 - 24		

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J15 - 55	J01 - 25	PTTGETC CH25 TB1-8	
	J02 - 25		
J15 - 56		n/c	
J15 - 57		n/c	
J15 - 58	H01 - 01	PTTGETC RTN TB1-8	
J15 - 59	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	S01 - 11		
	S01 - 12		
	S01 - 13		
	S01 - 14		
	S01 - 15		
	S01 - 16		
J15 - 60		n/c	
J16 - 01	J06 - 01	AIN+01	
J16 - 02	J06 - 02	AIN-01	
J16 - 03	J06 - 03	AIN+02	
J16 - 04	J06 - 04	AIN-02	
J16 - 05		n/c	
J16 - 06		n/c	
J16 - 07	J06 - 05	AIN+03	
J16 - 08	J06 - 06	AIN-03	
J16 - 09		n/c	
J16 - 10		n/c	
J16 - 11	J06 - 07	AIN+04	
J16 - 12	J06 - 08	AIN-04	
J16 - 13		n/c	
J16 - 14		n/c	
J16 - 15	J06 - 09	AIN+05	
J16 - 16	J06 - 10	AIN-05	
J16 - 17		n/c	
J16 - 18		n/c	
J16 - 19	J06 - 11	AIN+06	
J16 - 20	J06 - 12	AIN-06	
J16 - 21		n/c	
J16 - 22		n/c	
J16 - 23	J06 - 13	AIN+07	
J16 - 24	J06 - 14	AIN-07	
J16 - 25	J06 - 15	AIN+08	
J16 - 26	J06 - 16	AIN-08	
J17 - 01	J06 - 17	AIN+09	
J17 - 02	J06 - 18	AIN-09	
J17 - 03	J06 - 19	AIN+10	
J17 - 04	J06 - 20	AIN-10	
J17 - 05		n/c	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J17 - 06		n/c	
J17 - 07	J06 - 21	AIN+11	
J17 - 08	J06 - 22	AIN-11	
J17 - 09		n/c	
J17 - 10		n/c	
J17 - 11	J06 - 23	AIN+12	
J17 - 12	J06 - 24	AIN-12	
J17 - 13		n/c	
J17 - 14		n/c	
J17 - 15	J06 - 25	AIN+13	
J17 - 16	J06 - 26	AIN-13	
J17 - 17		n/c	
J17 - 18		n/c	
J17 - 19	J06 - 27	AIN+14	
J17 - 20	J06 - 28	AIN-14	
J17 - 21		n/c	
J17 - 22		n/c	
J17 - 23	J06 - 29	AIN+15	
J17 - 24	J06 - 30	AIN-15	
J17 - 25	J06 - 31	AIN+16	
J17 - 26	J06 - 32	AIN-16	
J18 - 01	J06 - 33	AIN+17	
J18 - 02	J06 - 34	AIN-17	
J18 - 03	J06 - 35	AIN+18	
J18 - 04	J06 - 36	AIN-18	
J18 - 05		n/c	
J18 - 06		n/c	
J18 - 07	J06 - 37	AIN+19	
J18 - 08	J06 - 38	AIN-19	
J18 - 09		n/c	
J18 - 10		n/c	
J18 - 11	J06 - 39	AIN+20	
J18 - 12	J06 - 40	AIN-20	
J18 - 13		n/c	
J18 - 14		n/c	
J18 - 15	J06 - 41	AIN+21	
J18 - 16	J06 - 42	AIN-21	
J18 - 17		n/c	
J18 - 18		n/c	
J18 - 19	J06 - 43	AIN+22	
J18 - 20	J06 - 44	AIN-22	
J18 - 21		n/c	
J18 - 22		n/c	
J18 - 23	J06 - 45	AIN+23	
J18 - 24	J06 - 46	AIN-23	
J18 - 25	J06 - 47	AIN+24	
J18 - 26	J06 - 48	AIN-24	
J19 - 01	J07 - 01	AIN+25	
J19 - 02	J07 - 02	AIN-25	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J19 - 03	J07 - 03	AIN+26	
J19 - 04	J07 - 04	AIN-26	
J19 - 05		n/c	
J19 - 06		n/c	
J19 - 07	J07 - 05	AIN+27	
J19 - 08	J07 - 06	AIN-27	
J19 - 09		n/c	
J19 - 10		n/c	
J19 - 11	J07 - 07	AIN+28	
J19 - 12	J07 - 08	AIN-28	
J19 - 13		n/c	
J19 - 14		n/c	
J19 - 15	J07 - 09	AIN+29	
J19 - 16	J07 - 10	AIN-29	
J19 - 17		n/c	
J19 - 18		n/c	
J19 - 19	J07 - 11	AIN+30	
J19 - 20	J07 - 12	AIN-30	
J19 - 21		n/c	
J19 - 22		n/c	
J19 - 23	J07 - 13	AIN+31	
J19 - 24	J07 - 14	AIN-31	
J19 - 25	J07 - 15	AIN+32	
J19 - 26	J07 - 16	AIN-32	
J20 - 01		n/c	
J20 - 02		n/c	
J20 - 03		n/c	
J20 - 04		n/c	
J20 - 05		n/c	
J20 - 06		n/c	
J20 - 07		n/c	
J20 - 08		n/c	
J20 - 09		n/c	
J20 - 10		n/c	
J20 - 11	J07 - 31	DOUT01	
J20 - 12	J07 - 32	DOUT02	
J20 - 13	J07 - 33	DOUT03	
J20 - 14	J07 - 34	DOUT04	
J20 - 15	J07 - 35	DOUT05	
J20 - 16	J07 - 36	DOUT06	
J20 - 17	J07 - 37	DOUT07	
J20 - 18	J07 - 38	DOUT08	
J20 - 19	J07 - 39	DOUT09	
J20 - 20	J07 - 40	DOUT10	
J20 - 21	J07 - 41	DOUT11	
J20 - 22	J07 - 42	DOUT12	
J20 - 23	J07 - 43	DOUT13	
J20 - 24	J07 - 44	DOUT14	
J20 - 25	J07 - 45	DOUT15	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J20 - 26	J07 - 46	DOUT16	
J20 - 27	J07 - 17	DOUT17	
J20 - 28	J07 - 18	DOUT18	
J20 - 29	J07 - 19	DOUT19	
J20 - 30	J07 - 20	DOUT20	
J20 - 31	J07 - 21	DOUT21	
J20 - 32	J07 - 22	DOUT22	
J20 - 33	J07 - 23	DOUT23	
J20 - 34	J07 - 24	DOUT24	
J20 - 35	J07 - 25	DOUT25	
J20 - 36	J07 - 26	DOUT26	
J20 - 37	J07 - 27	DOUT27	
J20 - 38	J07 - 28	DOUT28	
J20 - 39	J07 - 29	DOUT29	
J20 - 40	J07 - 30	DOUT30	
J20 - 41	J07 - 47	DOUT31	
J20 - 42	J07 - 48	DOUT32	
J20 - 43		n/c	
J20 - 44		n/c	
J20 - 45		n/c	
J20 - 46		n/c	
J20 - 47		n/c	
J20 - 48		n/c	
J20 - 49		n/c	
J20 - 50		n/c	
J20 - 51		n/c	
J20 - 52		n/c	
J20 - 53		n/c	
J20 - 54		n/c	
J20 - 55		n/c	
J20 - 56		n/c	
J20 - 57		n/c	
J20 - 58	J07 - 49	GNDDOUT	
	J07 - 50		
	J20 - 59		
J20 - 59	J07 - 49	GNDDOUT	
	J07 - 50		
	J20 - 58		
J20 - 60	H04 - 01	+5 DOUT	
J21 - 01	J08 - 05	GNDCPUA	
J21 - 02		n/c	
J21 - 03	J08 - 03	RXDA	
J21 - 04		n/c	
J21 - 05	J08 - 02	TXDA	
J21 - 06		n/c	
J21 - 07		n/c	
J21 - 08		n/c	
J21 - 09		n/c	
J21 - 10		n/c	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J22 - 01	J43 - 01	GNDCPUB	
J22 - 02		n/c	
J22 - 03	J43 - 05	RXDB	
J22 - 04		n/c	
J22 - 05	J43 - 03	TXDB	
J22 - 06		n/c	
J22 - 07		n/c	
J22 - 08		n/c	
J22 - 09		n/c	
J22 - 10		n/c	
J23 - 01		n/c	
J23 - 02	J10 - 01	M TIP S01	
	J44 - 41		
J23 - 03	J10 - 02	M RING S01	
	J44 - 47		
J23 - 04		n/c	
J24 - 01		n/c	
J24 - 02	J10 - 03	M TIP S02	
J24 - 03	J10 - 04	M RING S02	
J24 - 04		n/c	
J25 - 01		n/c	
J25 - 02	J10 - 05	M TIP S03	
J25 - 03	J10 - 06	M RING S03	
J25 - 04		n/c	
J26 - 01		n/c	
J26 - 02	J10 - 07	M TIP S04	
J26 - 03	J10 - 08	M RING S04	
J26 - 04		n/c	
J27 - 01		n/c	
J27 - 02	J10 - 09	M TIP S05	
J27 - 03	J10 - 10	M RING S05	
J27 - 04		n/c	
J28 - 01		n/c	
J28 - 02	J10 - 11	M TIP S06	
J28 - 03	J10 - 12	M RING S06	
J28 - 04		n/c	
J29 - 01		n/c	
J29 - 02	J10 - 13	M TIP S07	
J29 - 03	J10 - 14	M RING S07	
J29 - 04		n/c	
J30 - 01		n/c	
J30 - 02	J10 - 15	M TIP S08	
J30 - 03	J10 - 16	M RING S08	
J30 - 04		n/c	
J31 - 01		n/c	
J31 - 02	J10 - 17	M TIP S09	
J31 - 03	J10 - 18	M RING S09	
J31 - 04		n/c	
J32 - 01		n/c	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J32 - 02	J10 - 19	M TIP S10	
J32 - 03	J10 - 20	M RING S10	
J32 - 04		n/c	
J33 - 01		n/c	
J33 - 02	J10 - 21	M TIP S11	
J33 - 03	J10 - 22	M RING S11	
J33 - 04		n/c	
J34 - 01		n/c	
J34 - 02	J10 - 23	M TIP S12	
J34 - 03	J10 - 24	M RING S12	
J34 - 04		n/c	
J35 - 01		n/c	
J35 - 02	J11 - 01	M TIP S13	
J35 - 03	J11 - 02	M RING S13	
J35 - 04		n/c	
J36 - 01		n/c	
J36 - 02	J11 - 03	M TIP S14	
J36 - 03	J11 - 04	M RING S14	
J36 - 04		n/c	
J37 - 01		n/c	
J37 - 02	J11 - 05	M TIP S15	
J37 - 03	J11 - 06	M RING S15	
J37 - 04		n/c	
J38 - 01		n/c	
J38 - 02	J11 - 07	M TIP S16	
J38 - 03	J11 - 08	M RING S16	
J38 - 04		n/c	
J39 - 01		n/c	
J39 - 02	J11 - 09	M TIP S17	
J39 - 03	J11 - 10	M RING S17	
J39 - 04		n/c	
J40 - 01		n/c	
J40 - 02	J11 - 11	M TIP S18	
J40 - 03	J11 - 12	M RING S18	
J40 - 04		n/c	
J41 - 01		n/c	
J41 - 02	J11 - 13	M TIP S19	
J41 - 03	J11 - 14	M RING S19	
J41 - 04		n/c	
J42 - 01		n/c	
J42 - 02	J11 - 15	M TIP S20	
J42 - 03	J11 - 16	M RING S20	
J42 - 04		n/c	
J43 - 01	J22 - 01	GNDCPUB	
J43 - 02		n/c	
J43 - 03	J22 - 05	TXDB	
J43 - 04		n/c	
J43 - 05	J22 - 03	RXDB	
J43 - 06		n/c	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J43 - 07		n/c	
J43 - 08		n/c	
J43 - 09		n/c	
J43 - 10		n/c	
J44 - 01		n/c	
J44 - 02		n/c	
J44 - 03		n/c	
J44 - 04		n/c	
J44 - 05	J10 - 49	RCV T S01	
J44 - 06		n/c	
J44 - 07		n/c	
J44 - 08		n/c	
J44 - 09		n/c	
J44 - 10		n/c	
J44 - 11		n/c	
J44 - 12		n/c	
J44 - 13		n/c	
J44 - 14		n/c	
J44 - 15	J10 - 50	RCV R S01	
J44 - 16		n/c	
J44 - 17	J44 - 27	GND1	
	J45 - 03		
	J45 - 04		
J44 - 18		n/c	
J44 - 19	H07 - 01	RS01-1	
J44 - 20		n/c	
J44 - 21		n/c	
J44 - 22		n/c	
J44 - 23		n/c	
J44 - 24		n/c	
J44 - 25		n/c	
J44 - 26		n/c	
J44 - 27	J44 - 17	GND1	
	J45 - 03		
	J45 - 04		
J44 - 28		n/c	
J44 - 29		n/c	
J44 - 30		n/c	
J44 - 31		n/c	
J44 - 32		n/c	
J44 - 33		n/c	
J44 - 34		n/c	
J44 - 35		n/c	
J44 - 36		n/c	
J44 - 37		n/c	
J44 - 38		n/c	
J44 - 39		n/c	
J44 - 40		n/c	

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
J44 - 41	J10 - 01	M TIP S01	
	J23 - 02		
J44 - 42		n/c	
J44 - 43		n/c	
J44 - 44		n/c	
J44 - 45		n/c	
J44 - 46		n/c	
J44 - 47	J10 - 02	M RING S01	
	J23 - 03		
J44 - 48		n/c	
J44 - 49	J10 - 48	XMT R S01	
J44 - 50		n/c	
J44 - 51		n/c	
J44 - 52		n/c	
J44 - 53		n/c	
J44 - 54		n/c	
J44 - 55	J10 - 47	XMT T S01	
J44 - 56		n/c	
J45 - 01	H05 - 01	+12 F01-1	
	J45 - 02		
J45 - 02	H05 - 01	+12 F01-1	
	J45 - 01		
J45 - 03	J44 - 17	GND1	
	J44 - 27		
	J45 - 04		
J45 - 04	J44 - 17	GND1	
	J44 - 27		
	J45 - 03		
S01 - 01	J15 - 25	SITE A1	
S01 - 02	J15 - 26	SITE A2	
S01 - 03	J15 - 27	SITE A3	
S01 - 04	J15 - 28	SITE A4	
S01 - 05	J15 - 29	SITE A5	
S01 - 06	J15 - 30	CNT/TX	
S01 - 07		n/c	
S01 - 08		n/c	
S01 - 09		n/c	
S01 - 10		n/c	
S01 - 11	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 12		
	S01 - 13		
	S01 - 14		
	S01 - 15		
	S01 - 16		

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
S01 - 12	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 11		
	S01 - 13		
	S01 - 14		
	S01 - 15		
	S01 - 16		
S01 - 13	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 11		
	S01 - 12		
	S01 - 14		
	S01 - 15		
	S01 - 16		
S01 - 14	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 11		
	S01 - 12		
	S01 - 13		
	S01 - 15		
	S01 - 16		
S01 - 15	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 11		
	S01 - 12		
	S01 - 13		
	S01 - 14		
	S01 - 16		

Continued

Continued

FROM	TO	FUNCTION	PUNCH BLOCK
S01 - 16	H02 - 01	GNDDIN	
	J05 - 49		
	J05 - 50		
	J09 - 49		
	J14 - 58		
	J14 - 59		
	J15 - 59		
	S01 - 11		
	S01 - 12		
	S01 - 13		
	S01 - 14		
	S01 - 15		

NOTE 1 - See Alarm Hybrid Shelf J01

FUNCTION LIST

ALARMS CROSS CONNECT PANEL / FUNCTION LIST REV. __

+12 F01-1	H05(01),J45(01),J45(02);
+12 F01-2 / RS01-2	H06(01),H06(02),H06(03);
+5 DIN	H03(01),J14(60);
+5 DOUT	H04(01),J20(60);
AIN+01	J06(01),J16(01);
AIN+02	J06(03),J16(03);
AIN+03	J06(05),J16(07);
AIN+04	J06(07),J16(11);
AIN+05	J06(09),J16(15);
AIN+06	J06(11),J16(19);
AIN+07	J06(13),J16(23);
AIN+08	J06(15),J16(25);
AIN+09	J06(17),J17(01);
AIN+10	J06(19),J17(03);
AIN+11	J06(21),J17(07);
AIN+12	J06(23),J17(11);
AIN+13	J06(25),J17(15);
AIN+14	J06(27),J17(19);
AIN+15	J06(29),J17(23);
AIN+16	J06(31),J17(25);
AIN+17	J06(33),J18(01);
AIN+18	J06(35),J18(03);
AIN+19	J06(37),J18(07);
AIN+20	J06(39),J18(11);

Continued

Continued

AIN+21	J06(41),J18(15);
AIN+22	J06(43),J18(19);
AIN+23	J06(45),J18(23);
AIN+24	J06(47),J18(25);
AIN+25	J07(01),J19(01);
AIN+26	J07(03),J19(03);
AIN+27	J07(05),J19(07);
AIN+28	J07(07),J19(11);
AIN+29	J07(09),J19(15);
AIN+30	J07(11),J19(19);
AIN+31	J07(13),J19(23);
AIN+32	J07(15),J19(25);
AIN-01	J06(02),J16(02);
AIN-02	J06(04),J16(04);
AIN-03	J06(06),J16(08);
AIN-04	J06(08),J16(12);
AIN-05	J06(10),J16(16);
AIN-06	J06(12),J16(20);
AIN-07	J06(14),J16(24);
AIN-08	J06(16),J16(26);
AIN-09	J06(18),J17(02);
AIN-10	J06(20),J17(04);
AIN-11	J06(22),J17(08);
AIN-12	J06(24),J17(12);
AIN-13	J06(26),J17(16);
AIN-14	J06(28),J17(20);

Continued

Continued

AIN-15	J06(30),J17(24);
AIN-16	J06(32),J17(26);
AIN-17	J06(34),J18(02);
AIN-18	J06(36),J18(04);
AIN-19	J06(38),J18(08);
AIN-20	J06(40),J18(12);
AIN-21	J06(42),J18(16);
AIN-22	J06(44),J18(20);
AIN-23	J06(46),J18(24);
AIN-24	J06(48),J18(26);
AIN-25	J07(02),J19(02);
AIN-26	J07(04),J19(04);
AIN-27	J07(06),J19(08);
AIN-28	J07(08),J19(12);
AIN-29	J07(10),J19(16);
AIN-30	J07(12),J19(20);
AIN-31	J07(14),J19(24);
AIN-32	J07(16),J19(26);
CNT/TX	J15(30),S01(06);
DIN01	J05(01),J14(11);
DIN02	J05(02),J14(12);
DIN03	J05(03),J14(13);
DIN04	J05(04),J14(14);
DIN05	J05(05),J14(15);
DIN06	J05(06),J14(16);
DIN07	J05(07),J14(17);

Continued

Continued

DIN08	J05(08),J14(18);
DIN09	J05(09),J14(19);
DIN10	J05(10),J14(20);
DIN11	J05(11),J14(21);
DIN12	J05(12),J14(22);
DIN13	J05(13),J14(23);
DIN14	J05(14),J14(24);
DIN15	J05(15),J14(25);
DIN16	J05(16),J14(26);
DIN17	J05(17),J14(27);
DIN18	J05(18),J14(28);
DIN19	J05(19),J14(29);
DIN20	J05(20),J14(30);
DIN21	J05(21),J14(31);
DIN22	J05(22),J14(32);
DIN23	J05(23),J14(33);
DIN24	J05(24),J14(34);
DIN25	J05(25),J14(35);
DIN26	J05(26),J14(36);
DIN27	J05(27),J14(37);
DIN28	J05(28),J14(38);
DIN29	J05(29),J14(39);
DIN30	J05(30),J14(40);
DIN31	J05(31),J14(41);
DIN32	J05(32),J14(42);
DIN33	J05(33),J14(43);

Continued

Continued

DIN34	J05(34),J14(44);
DIN35	J05(35),J14(45);
DIN36	J05(36),J14(46);
DIN37	J05(37),J14(47);
DIN38	J05(38),J14(48);
DIN39	J05(39),J14(49);
DIN40	J05(40),J14(50);
DIN41	J05(41),J14(51);
DIN42	J05(42),J14(52);
DIN43	J05(43),J14(53);
DIN44	J05(44),J14(54);
DIN45	J05(45),J14(55);
DIN46	J05(46),J14(56);
DIN47	J05(47),J15(11);
DIN48	J05(48),J15(12);
DIN49	J09(01),J15(13);
DIN50	J09(02),J15(14);
DIN51	J09(03),J15(15);
DIN52	J09(04),J15(16);
DIN53	J09(05),J15(17);
DIN54	J09(06),J15(18);
DIN55	J09(07),J15(19);
DIN56	J09(08),J15(20);
DIN57	J09(09),J15(21);
DIN58	J09(10),J15(22);
DIN59	J09(11),J15(23);

Continued

Continued

DIN60	J09(12),J15(24);
DIN61	J09(13),J14(01);
DIN62	J09(14),J14(02);
DIN63	J09(15),J14(03);
DIN64	J09(16),J14(04);
DIN65	J09(17),J14(05);
DIN66	J09(18),J14(06);
DIN67	J09(19),J14(07);
DIN68	J09(20),J14(08);
DIN69	J09(21),J14(09);
DIN70	J09(22),J14(10);
DIN71	J09(23),J15(01);
DIN72	J09(24),J15(02);
DIN73	J09(25),J15(03);
DIN74	J09(26),J15(04);
DIN75	J09(27),J15(05);
DIN76	J09(28),J15(06);
DIN77	J09(29),J15(07);
DIN78	J09(30),J15(08);
DIN79	J09(31),J15(09);
DIN80	J09(32),J15(10);
DOUT01	J07(31),J20(11);
DOUT02	J07(32),J20(12);
DOUT03	J07(33),J20(13);
DOUT04	J07(34),J20(14);
DOUT05	J07(35),J20(15);

Continued

Continued

DOUT06	J07(36),J20(16);
DOUT07	J07(37),J20(17);
DOUT08	J07(38),J20(18);
DOUT09	J07(39),J20(19);
DOUT10	J07(40),J20(20);
DOUT11	J07(41),J20(21);
DOUT12	J07(42),J20(22);
DOUT13	J07(43),J20(23);
DOUT14	J07(44),J20(24);
DOUT15	J07(45),J20(25);
DOUT16	J07(46),J20(26);
DOUT17	J07(17),J20(27);
DOUT18	J07(18),J20(28);
DOUT19	J07(19),J20(29);
DOUT20	J07(20),J20(30);
DOUT21	J07(21),J20(31);
DOUT22	J07(22),J20(32);
DOUT23	J07(23),J20(33);
DOUT24	J07(24),J20(34);
DOUT25	J07(25),J20(35);
DOUT26	J07(26),J20(36);
DOUT27	J07(27),J20(37);
DOUT28	J07(28),J20(38);
DOUT29	J07(29),J20(39);
DOUT30	J07(30),J20(40);
DOUT31	J07(47),J20(41);

Continued

Continued

DOUT32	J07(48),J20(42);
GND1	J44(17),J44(27),J45(03),J45(04);
GNDCPUA	J08(05),J21(01);
GNDCPUB	J22(01),J43(01);
GNDDIN	H02(01),J05(49),J05(50),J09(49),J14(58),J14(59),J15(59), S01(11),S01(12),S01(13),S01(14),S01(15),S01(16);
GNDDOUT	J07(49),J07(50),J20(58),J20(59);
M RING S01	J10(02),J23(03),J44(47);
M RING S02	J10(04),J24(03);
M RING S03	J10(06),J25(03);
M RING S04	J10(08),J26(03);
M RING S05	J10(10),J27(03);
M RING S06	J10(12),J28(03);
M RING S07	J10(14),J29(03);
M RING S08	J10(16),J30(03);
M RING S09	J10(18),J31(03);
M RING S10	J10(20),J32(03);
M RING S11	J10(22),J33(03);
M RING S12	J10(24),J34(03);
M RING S13	J11(02),J35(03);
M RING S14	J11(04),J36(03);
M RING S15	J11(06),J37(03);
M RING S16	J11(08),J38(03);
M RING S17	J11(10),J39(03);
M RING S18	J11(12),J40(03);
M RING S19	J11(14),J41(03);

Continued

Continued

M RING S20	J11(16),J42(03);
M TIP S01	J10(01),J23(02),J44(41);
M TIP S02	J10(03),J24(02);
M TIP S03	J10(05),J25(02);
M TIP S04	J10(07),J26(02);
M TIP S05	J10(09),J27(02);
M TIP S06	J10(11),J28(02);
M TIP S07	J10(13),J29(02);
M TIP S08	J10(15),J30(02);
M TIP S09	J10(17),J31(02);
M TIP S10	J10(19),J32(02);
M TIP S11	J10(21),J33(02);
M TIP S12	J10(23),J34(02);
M TIP S13	J11(01),J35(02);
M TIP S14	J11(03),J36(02);
M TIP S15	J11(05),J37(02);
M TIP S16	J11(07),J38(02);
M TIP S17	J11(09),J39(02);
M TIP S18	J11(11),J40(02);
M TIP S19	J11(13),J41(02);
M TIP S20	J11(15),J42(02);
PTTGETC CH01 TB1-8	J01(01),J02(01),J15(31);
PTTGETC CH02 TB1-8	J01(02),J02(02),J15(32);
PTTGETC CH03 TB1-8	J01(03),J02(03),J15(33);
PTTGETC CH04 TB1-8	J01(04),J02(04),J15(34);
PTTGETC CH05 TB1-8	J01(05),J02(05),J15(35);

Continued

Continued

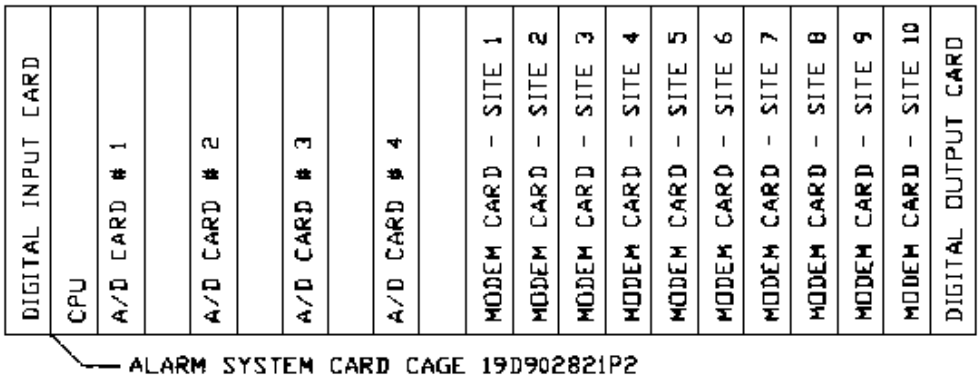
PTTGETC CH06 TB1-8	J01(06),J02(06),J15(36);
PTTGETC CH07 TB1-8	J01(07),J02(07),J15(37);
PTTGETC CH08 TB1-8	J01(08),J02(08),J15(38);
PTTGETC CH09 TB1-8	J01(09),J02(09),J15(39);
PTTGETC CH10 TB1-8	J01(10),J02(10),J15(40);
PTTGETC CH11 TB1-8	J01(11),J02(11),J15(41);
PTTGETC CH12 TB1-8	J01(12),J02(12),J15(42);
PTTGETC CH13 TB1-8	J01(13),J02(13),J15(43);
PTTGETC CH14 TB1-8	J01(14),J02(14),J15(44);
PTTGETC CH15 TB1-8	J01(15),J02(15),J15(45);
PTTGETC CH16 TB1-8	J01(16),J02(16),J15(46);
PTTGETC CH17 TB1-8	J01(17),J02(17),J15(47);
PTTGETC CH18 TB1-8	J01(18),J02(18),J15(48);
PTTGETC CH19 TB1-8	J01(19),J02(19),J15(49);
PTTGETC CH20 TB1-8	J01(20),J02(20),J15(50);
PTTGETC CH21 TB1-8	J01(21),J02(21),J15(51);
PTTGETC CH22 TB1-8	J01(22),J02(22),J15(52);
PTTGETC CH23 TB1-8	J01(23),J02(23),J15(53);
PTTGETC CH24 TB1-8	J01(24),J02(24),J15(54);
PTTGETC CH25 TB1-8	J01(25),J02(25),J15(55);
PTTGETC RTN TB1-8	H01(01),J15(58);
RCV R S01	J10(50),J44(15);
RCV T S01	J10(49),J44(05);
RS01-1	H07(01),J44(19);
RXDA	J08(03),J21(03);
RXDB	J22(03),J43(05);

Continued

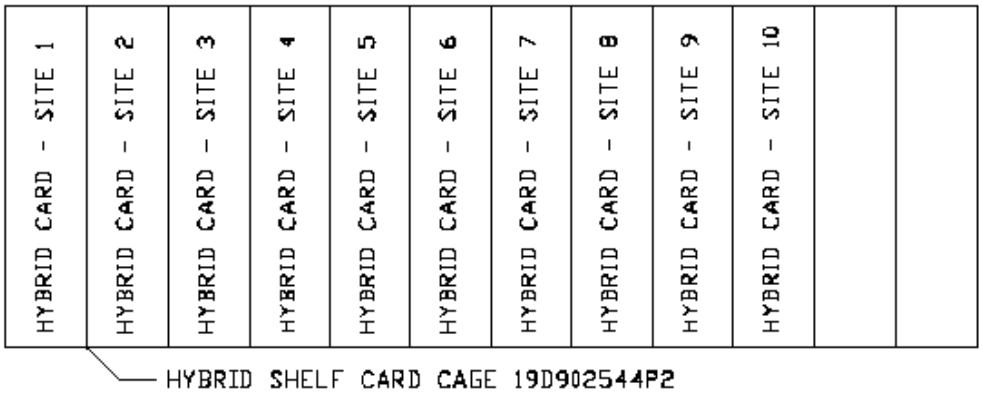
Continued

SITE A1	J15(25),S01(01);
SITE A2	J15(26),S01(02);
SITE A3	J15(27),S01(03);
SITE A4	J15(28),S01(04);
SITE A5	J15(29),S01(05);
TXDA	J08(02),J21(05);
TXDB	J22(05),J43(03);
XMT R S01	J10(48),J44(49);
XMT T S01	J10(47),J44(55);

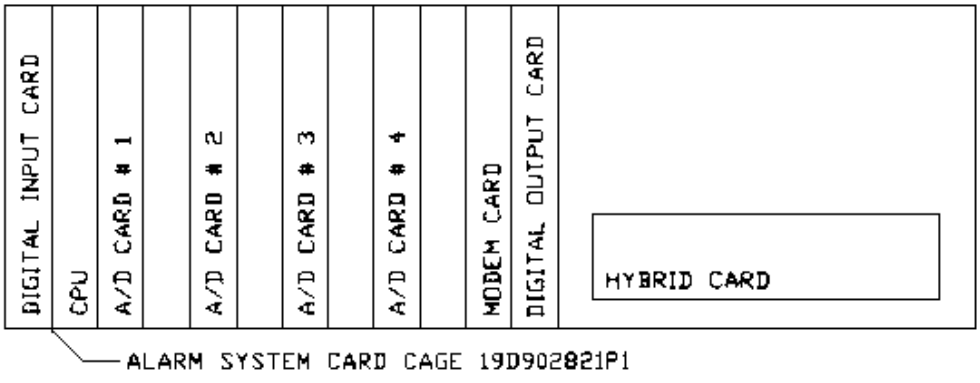
CONTROL POINT 1 TO 10 SITES



HYBRID SHELF - SITES 1 TO 10



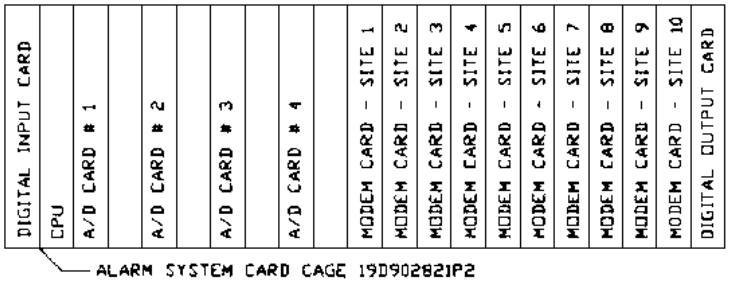
TX SITE - REMOTE



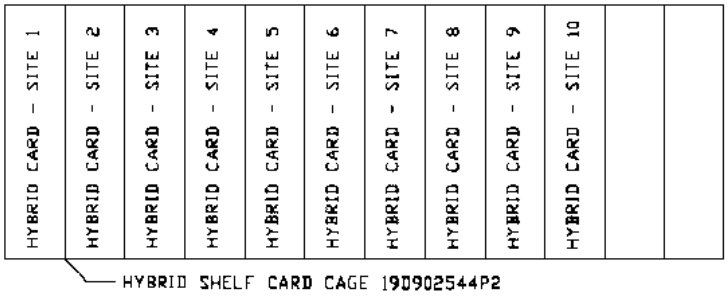
Alarm System

(19D902831, Sh. 1, Rev. 0)

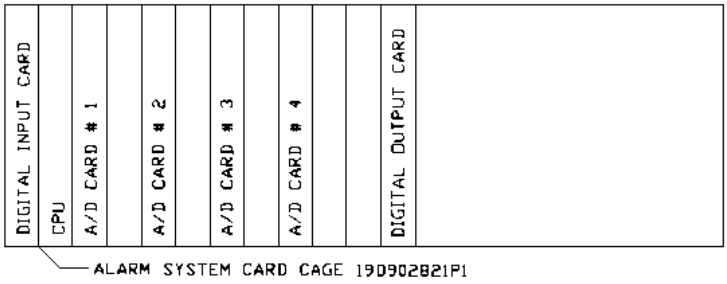
CONTROL POINT 1 TO 10 SITES



HYBRID SHELF - SITES 1 TO 10



TX SITE - COLOCATED



MODULE NAME	MODULE IDENTIFICATION	SIMILAR TO
CPU	19C337515P1	WINSYSTEMS, INC. LPM-SBC5-6
A/D CARD	19C337515P2	WINSYSTEMS, INC. LPM-A/D12M
DIGITAL INPUT CARD	19C337515P3	ENLODE INC-1 339C-1
DIGITAL OUTPUT CARD	19C337515P4	ENLODE INC. 338C-1
MODEM CARD (1200 BAUD)	19C337515P5	WINSYSTEMS, INC. LPM-MODEM
MODEM CARD (2400 BAUD)	19C337515P6	ZIATECH CORP. ZT8843
HYBRID CARD	19C337515P7	TELLABS 4201

(1) PST SIMULCAST ALARM SYSTEM

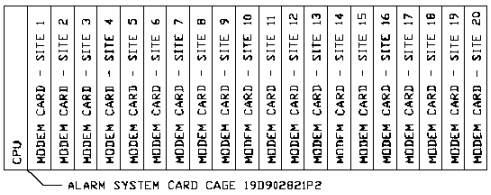
NOTES:

1. MODULE JUMPERS TO BE POSITIONED PER JUMPER TABLES ON SHEET 3 OF THIS DRAWING.
2. JUMPERS ARE SUPPLIED AS PART OF INSTALLATION KIT
3. CONNECTORS ARE SUPPLIED AS PART OF INSTALLATION KIT
4. WIRE LENGTHS MAY VARY WITH INSTALLATION. STAGING AREA WILL SUPPLY WIRE AND CONSTRUCT CABLES.

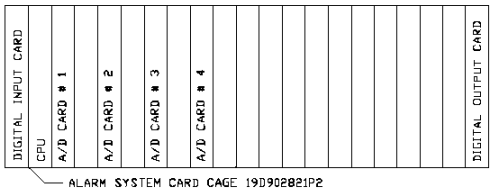
Alarm System

(19D902831, Sh. 1, Rev. 0)

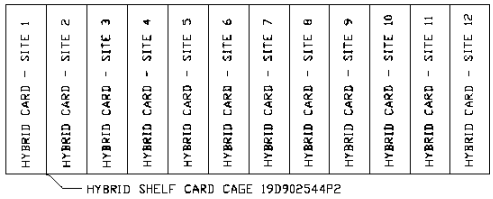
CONTROL POINT 1 TO 20 SITES (MASTER)



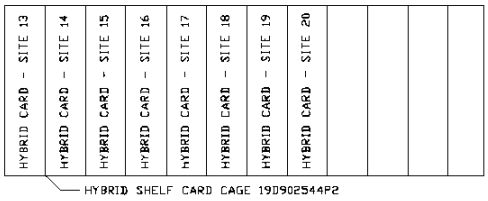
CONTROL POINT 1 TO 20 SITES (SLAVE)



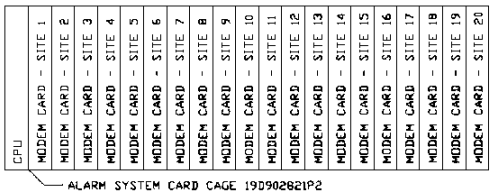
HYBRID SHELF - SITES 1 TO 12



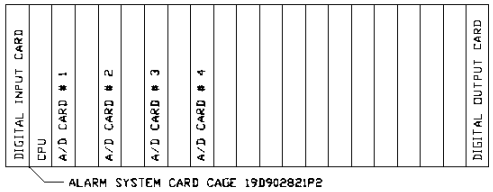
HYBRID SHELF - SITES 13 TO 20



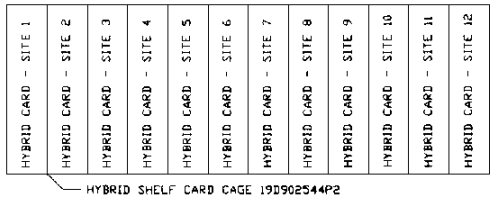
CONTROL POINT 1 TO 20 SITES (MASTER)



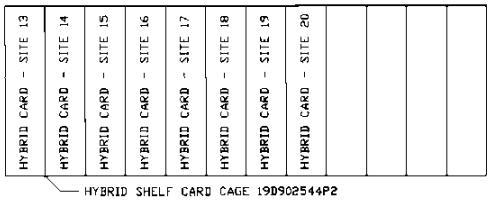
CONTROL POINT 1 TO 20 SITES (SLAVE)



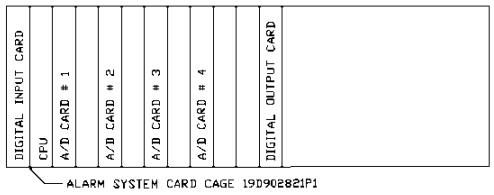
HYBRID SHELF - SITES 1 TO 12



HYBRID SHELF - SITES 13 TO 20



TX SITE - COLOCATED



Alarm System

(19D902831, Sh. 2, Rev. 0)

MODEM CARD
(1200 BAUD)

JUMPER	PINS	REMARKS
J4 J5	5-6 3-4	CARD MUST BE JUMPERED EXACTLY AS SHOWN FOR OPERATION IN PST SIMULCAST SYSTEM. NO ADDITIONAL JUMPERS PERMISSIBLE.
J6 J6 J6 J6 J6	15-16 (LSB) 13-14 11-12 9-10 7-8 (MSB)	1's POSITION 2's POSITION 4's POSITION 8's POSITION 16's POSITION

BINARY SUM MUST EQUAL MODEM NUMBER PLUS 3
(MODEM NO. 3 = BINARY SUM 6)
(VALID RANGE 4 TO 23 FOR MODEMS 1 THRU 20)
(OPEN JUMPER = BINARY 1)

J6 JUMPER TABLE - (MODEM NUMBER)

PIN NUMBERS	7-8	9-10	11-12	13-14	15-16
BINARY VALUE	16 (MSB)	8	4	2	1 (LSB)
FOR MODEM 1	JUMPER	JUMPER	OMIT	JUMPER	JUMPER
FOR MODEM 2	JUMPER	JUMPER	OMIT	JUMPER	OMIT
FOR MODEM 3	JUMPER	JUMPER	OMIT	OMIT	JUMPER
FOR MODEM 4	JUMPER	JUMPER	OMIT	OMIT	OMIT
FOR MODEM 5	JUMPER	OMIT	JUMPER	JUMPER	JUMPER
FOR MODEM 6	JUMPER	OMIT	JUMPER	JUMPER	OMIT
FOR MODEM 7	JUMPER	OMIT	JUMPER	OMIT	JUMPER
FOR MODEM 8	JUMPER	OMIT	JUMPER	OMIT	OMIT
FOR MODEM 9	JUMPER	OMIT	OMIT	JUMPER	JUMPER
FOR MODEM 10	JUMPER	OMIT	OMIT	JUMPER	OMIT
FOR MODEM 11	JUMPER	OMIT	OMIT	OMIT	JUMPER
FOR MODEM 12	JUMPER	OMIT	OMIT	OMIT	OMIT
FOR MODEM 13	OMIT	JUMPER	JUMPER	JUMPER	JUMPER
FOR MODEM 14	OMIT	JUMPER	JUMPER	JUMPER	OMIT
FOR MODEM 15	OMIT	JUMPER	JUMPER	OMIT	JUMPER
FOR MODEM 16	OMIT	JUMPER	JUMPER	OMIT	OMIT
FOR MODEM 17	OMIT	JUMPER	OMIT	JUMPER	JUMPER
FOR MODEM 18	OMIT	JUMPER	OMIT	JUMPER	OMIT
FOR MODEM 19	OMIT	JUMPER	OMIT	OMIT	JUMPER
FOR MODEM 20	OMIT	JUMPER	OMIT	OMIT	OMIT

Alarm System

(19D902831, Sh. 3, Rev. 1)

MODEM CARD
(2400 BAUD)

JUMPER	REMARKS
W2 W9 W12 W13 W14 W16 W18 W20 W21 W22 W23 W24 W25 W26 W36 W37	CARD MUST BE JUMPERED EXACTLY AS SHOWN FOR OPERATION IN PST SIMULCAST SYSTEM NO ADDITIONAL JUMPERS PERMISSIBLE.

W31 (LSB)	1's POSITION	BINARY SUM MUST EQUAL
W30 ▲	2's POSITION	MODEM NUMBER PLUS 3
W29 ▲	4's POSITION	(MODEM NO. 3 = BINARY SUM 6)
W28 ▼	8's POSITION	(VALID RANGE 4 TO 23 FOR MODEMS 1 THRU 20)
W27 (MSB)	16's POSITION	(OPEN JUMPER = BINARY 1)

CARD MODIFICATIONS:
REMOVE 4E (SOCKETED IC)
REPLACE 4E WITH PL 344A3098

JUMPER TABLE - (MODEM NUMBER)

JUMPER NUMBERS	W2	W28	W29	W30	W31
BINARY VALUE	16 (MSB)	8	4	2	1 (LSB)
FOR MODEM 1	JUMPER	JUMPER	OMIT	JUMPER	JUMPER
FOR MODEM 2	JUMPER	JUMPER	OMIT	JUMPER	OMIT
FOR MODEM 3	JUMPER	JUMPER	OMIT	OMIT	JUMPER
FOR MODEM 4	JUMPER	JUMPER	OMIT	OMIT	OMIT
FOR MODEM 5	JUMPER	OMIT	JUMPER	JUMPER	JUMPER
FOR MODEM 6	JUMPER	OMIT	JUMPER	JUMPER	OMIT
FOR MODEM 7	JUMPER	OMIT	JUMPER	OMIT	JUMPER
FOR MODEM 8	JUMPER	OMIT	JUMPER	OMIT	OMIT
FOR MODEM 9	JUMPER	OMIT	OMIT	JUMPER	JUMPER
FOR MODEM 10	JUMPER	OMIT	OMIT	JUMPER	OMIT
FOR MODEM 11	JUMPER	OMIT	OMIT	OMIT	JUMPER
FOR MODEM 12	JUMPER	OMIT	OMIT	OMIT	OMIT
FOR MODEM 13	OMIT	JUMPER	JUMPER	JUMPER	JUMPER
FOR MODEM 14	OMIT	JUMPER	JUMPER	JUMPER	OMIT
FOR MODEM 15	OMIT	JUMPER	JUMPER	OMIT	JUMPER
FOR MODEM 16	OMIT	JUMPER	JUMPER	OMIT	OMIT
FOR MODEM 17	OMIT	JUMPER	OMIT	JUMPER	JUMPER
FOR MODEM 18	OMIT	JUMPER	OMIT	JUMPER	OMIT
FOR MODEM 19	OMIT	JUMPER	OMIT	OMIT	JUMPER
FOR MODEM 20	OMIT	JUMPER	OMIT	OMIT	OMIT

DIGITAL INPUT CARD

JUMPER	REMARKS	
JS1	I/O	
JS2	NON EXP	CARD MUST BE JUMPERED EXACTLY
JS4	A4	AS SHOWN FOR OPERATION IN PST
JS4	A5	SIMULCAST SYSTEM.
JS5	EXP	NO ADDITIONAL JUMPERS PERMISSIBLE

DIGITAL OUTPUT CARD

JUMPER	PINS	REMARKS	
JS1	C TO A	(NON EXP)	CARD MUST BE JUMPERED EXACTLY
			AS SHOWN FOR OPERATION IN PST
BLOCK X	6		SIMULCAST SYSTEM.
BLOCK Y	5		NO ADDITIONAL JUMPERS PERMISSIBLE

CPU CARD

JUMPER	PINS	REMARKS
J7	5-6	
J7	7-8	
J8	1-2	
J8	3-4	
J12	3-4	
J14	1-2	
J14	3-4	
J14	5-6	
J14	7-8	CARD MUST BE JUMPERED EXACTLY
J14	9-10	AS SHOWN FOR OPERATION IN PST
J14	11-12	SIMULCAST SYSTEM.
J14	13-14	NO ADDITIONAL JUMPERS PERMISSIBLE.
J14	15-16	
J15	1-2	
J16	1-2	
J16	5-6	
J16	9-10	
J17	3-4	
J17	7-8	
J17	9-10	
J19	1-2	

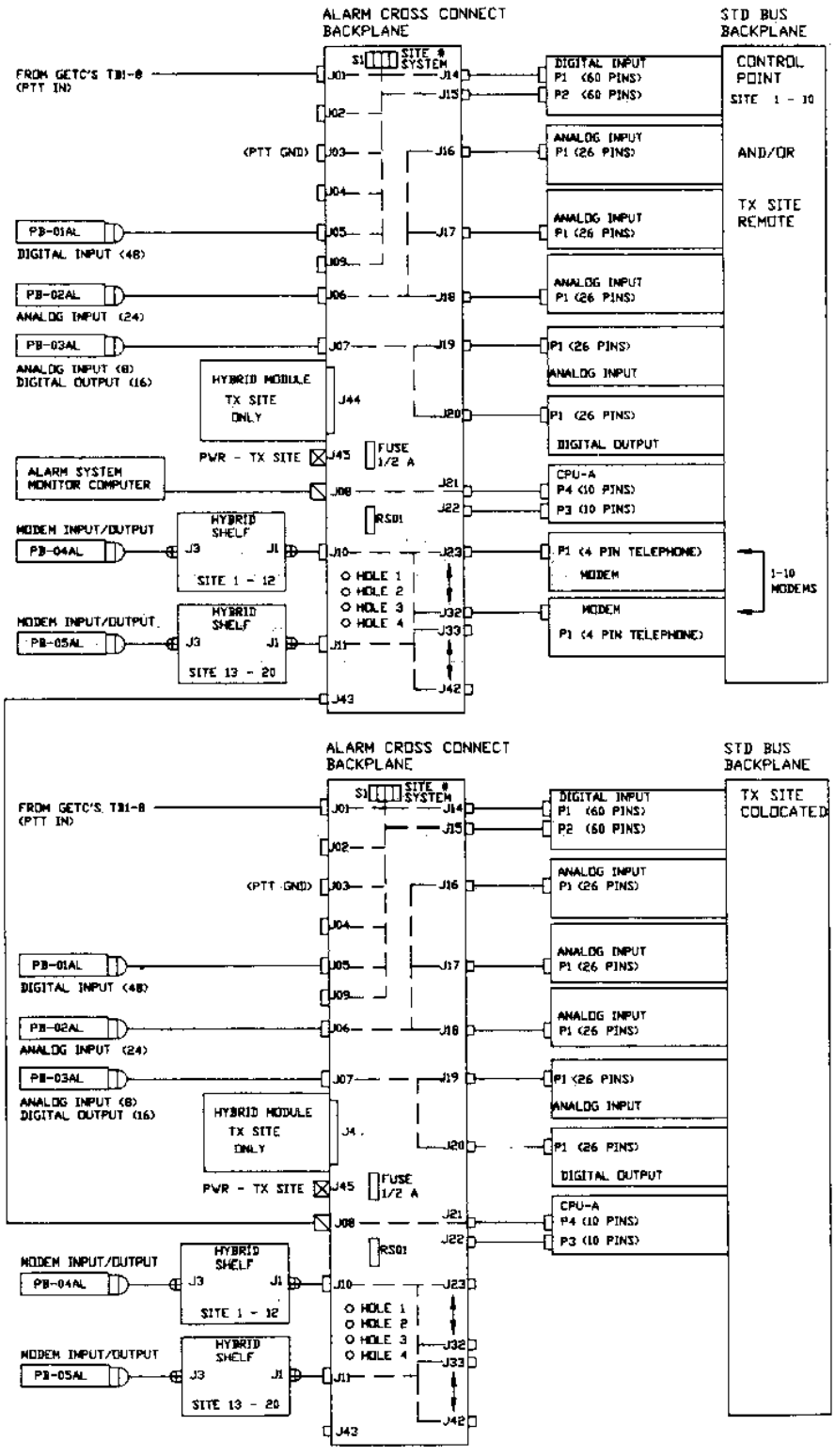
CARD MODIFICATIONS:
INSTALL U11 PL 344A3095 EPROM
INSTALL U12 19A705981P102 32K X 8 RAM

NOTES

1. REFER TO INSTRUCTION MANUAL FOR JUMPER LOCATIONS

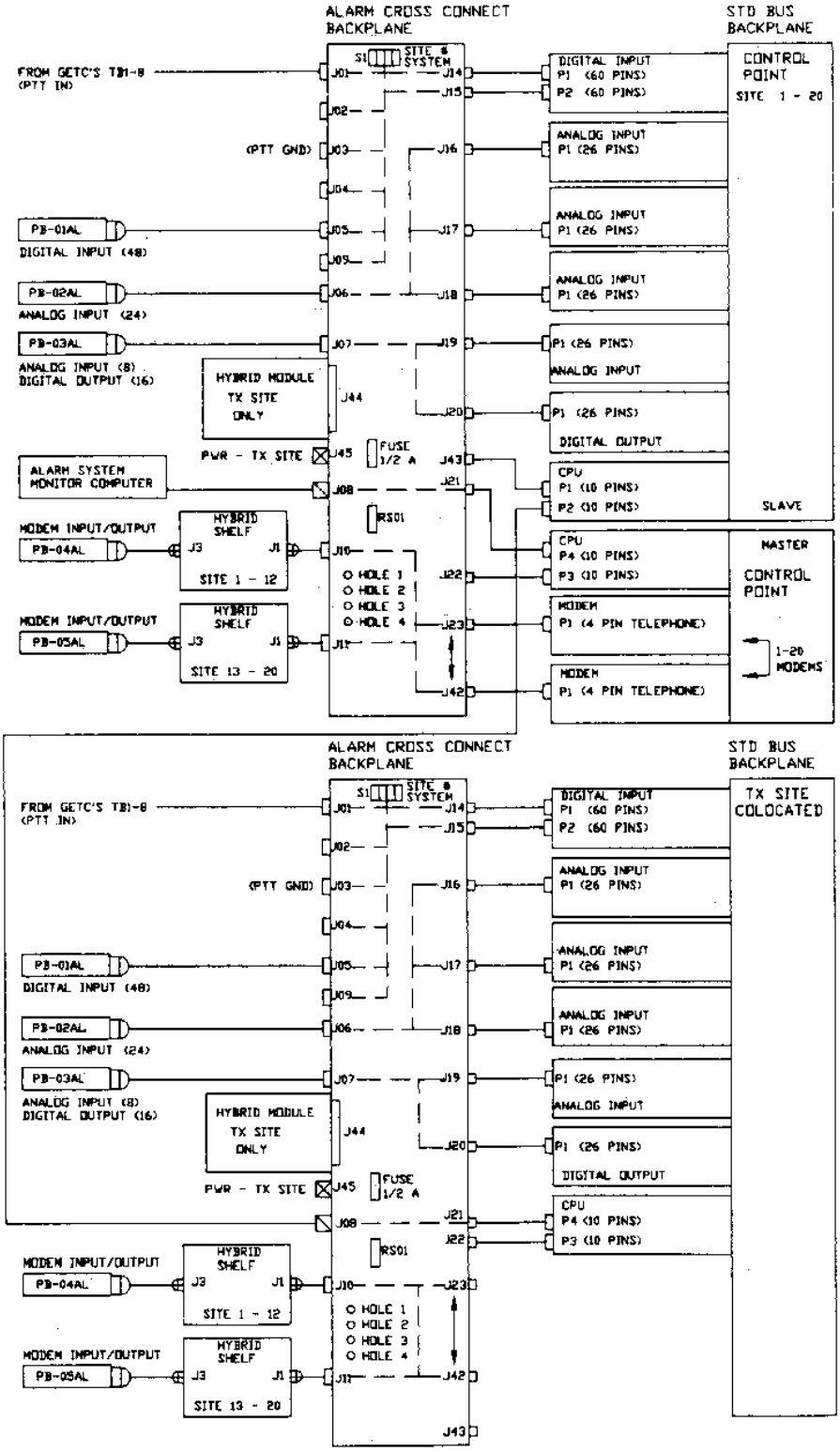
Alarm System

(19D902831, Sh. 3, Rev. 1)



Alarm System

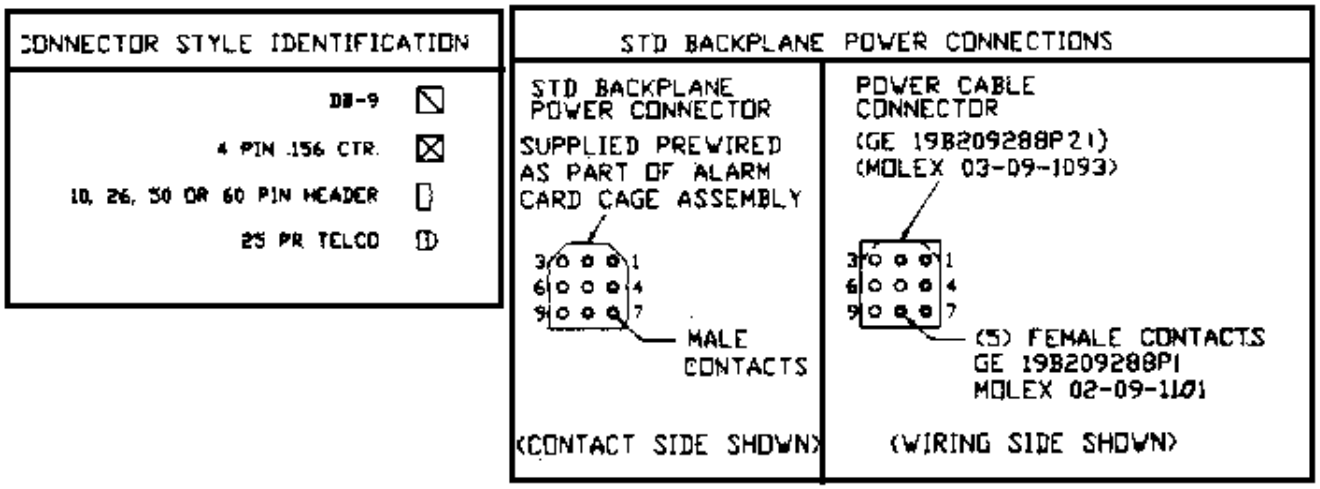
(19D902831, Sh. 4, Rev. 0)



Alarm System

(19D902831, Sh. 4, Rev. 0)

POWER CONNECTION CHART	+12	-12	+5	GND
HYBRID SHELF STD BACKPLANE	PWR PIN 7	—— PIN4	—— PIN 1	GND PIN 2, 8



Alarm System

(19D902831, Sh. 4, Rev. 0)