DENSITÉ series

GPI-1501 General Purpose Interface I/O Module Guide to Installation and Operation

.

M906-9900-100 30 Mar 2009



Miranda Technologies Inc. 3499 Douglas-B.-Floreani St-Laurent, Québec, Canada H4S 1Y6 Tel. 514-333-1772 Fax. 514-333-9828 www.miranda.com

© 2009 Miranda Technologies Inc.

Safety Compliance Information

Safety Compliance

This equipment complies with:

- CSA C22.2 No. 60950-1-03 / Safety of Information Technology Equipment, Including Electrical Business Equipment.
- UL 60950-1 (1st Edition) / Safety of Information Technology Equipment, Including Electrical Business Equipment. IEC 60950-1 (1st Edition) / Safety of Information Technology Equipment, Including Electrical Business Equipment.
- _

CAUTION

These servicing instructions are for use by gualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are gualified to do so. Refer all servicing to qualified service personnel. Servicing should be done in a static-free environment.

Electromagnetic Compatibility

- This equipment has been tested for verification of compliance with FCC Part 15, Subpart B, class A requirements for Digital Devices.
- This equipment complies with the requirements of: EN 55022 Class A, Electromagnetic Emissions, EN 61000-3-2 & -3-3, Disturbance in Supply Systems EN 61000-4-2, -3, -4, -5, -6, -8 & -11 Electromagnetic Immunity

How to contact us:

For technical assistance, please contact the Miranda Technical support centre nearest you:

Americas Telephone: +1-800-224-7882 e-mail: techsupp@miranda.com Asia Telephone: +852-2539-6987 e-mail: asiatech@miranda.com

China Telephone: +86-10-5873-1814 e-mail: asiatech@miranda.com Europe, Middle East, Africa, UK Telephone: +44 (0) 1491 820222 e-mail: eurotech@miranda.com

France (only) Telephone: +33 (0) 1 55 86 87 88 e-mail: eurotech@miranda.com

Visit our web site at www.miranda.com

Table of Contents

1	GPI-1501 General Purpose Interface I/O Module1						
	1.1	Introdu	ction	1			
	1.2	Feature	2S	1			
	1.3	Block [Diagram	1			
	1.4	Front C	Card-edge Interface	2			
2	Inst	allatior]	3			
	2.1	Unpacl	king	3			
	2.2	Installa	tion in the Densité frame	3			
	2.3	Rear P	anel Connections	3			
3	Оре	ration		5			
	3.1	Contro	l options	5			
	3.2	Card-E	dge Status LED	5			
	3.3	Local c	control using the Densité frame control panel	5			
		3.3.1	Overview	5			
		3.3.2	Menu for local control	6			
	3.4	Remot	e control using iControl	6			
		3.4.1	The iControl graphic interface window	7			
		3.4.2	The Status panel	8			
		3.4.3	The GPI Configuration panel	9			
		3.4.4	The Time Stamp Source panel	10			
		3.4.5	The Factory panel	10			
		3.4.6	The Alarm Config panel	11			
		3.4.7	The Info panel	13			
4	Spe	cificati	ons	15			
AN	NEX	1 – GP	PI-1501 Card Menu	16			
AN	NEX	2 – GF	PI Relay Configurator	17			

1 GPI-1501 General Purpose Interface I/O Module

1.1 Introduction

The GPI-1501 is a 2RU Densité card that provides 20 dedicated GPI (General Purpose Interface) inputs plus eight terminals that can be individually configured as either a GPI input or GPI output. When paired with an iControl Application Server, the GPI-1501 provides alarm aggregation from older devices that do not offer ethernet port connectivity. The Application Server can report alarm status information to operators via iControl or SNMP. It can also trigger external events, such as selecting an alternate source. The card can interface with automation systems via its GPI outputs for the control of legacy devices. Each incoming GPI is time-stamped, either with incoming timecode or using the card's internal clock, for accurate logging and report generation. The GPI-1501 is also very useful in unmanned locations for reporting environmental anomalies (intrusion, high humidity, temperature, smoke, etc.) when connected to GPI-equipped sensors. Multiple GPI-1501 cards can be ganged together to meet the requirements of larger installations.

1.2 Features

- Provides GPI alarm aggregation for older devices, bridging the gap to modern IP-enabled control systems
- Interfaces seamlessly with most automation systems
- Alarm aggregation and control of virtually any GPI-enabled device
- Scalable to address large systems
- Time-stamped events for accurate logging and root cause analysis
- 20 dedicated GPI inputs and 8 individually-configurable as GPI In/Out per card
- SMPTE-12M LTC timecode input
- SNMP support (status reporting) through an iControl Application Server
- Accurate internal clock with NTP protocol support

1.3 Block Diagram



1.4 Front Card-edge Interface

The front card-edge of the GPI-1501 incorporates two elements:

- Status LED (see section 3.2)
- Select Button (see section 3.3)



2 Installation

2.1 Unpacking

Make sure the following items have been shipped with your GPI-1501. If any of the following items are missing, contact your distributor or Miranda Technologies Inc.

- GPI-1501 GPI I/O Module
- GPI-1501-SRP Rear Panel (see figure 2.1)
- GPI-1501-TBA 44-pin terminal block adapter (optional)

2.2 Installation in the Densité frame

The GPI-1501 and its associated rear connector rear panel must be mounted in a DENSITÉ frame. It is not necessary to switch off the frame's power when installing or removing the card.

• Install the rear panel with the card out of the frame, then insert the card

See the DENSITÉ Frame manual for detailed instructions for installing cards and their associated rear panels.

2.3 Rear Panel Connections

The rear panel holds a single DB-44 connector, through which all signal inputs and outputs are routed.

The pinout of this connector is as follows:

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GPIO-1 +	12	GPI-I 7	23	RS422-TX +	34	GPIO-5 –
2	GPIO-3 –	13	GPI-I 4	24	GPI-I 19	35	GND
3	GPIO-4 +	14	GPI-I 1	25	GPI-I 17	36	GPIO-7 +
4	GPIO-6 –	15	GND	26	GPI-I 13	37	RS422-RX –
5	GPIO-7 –	16	GPIO-1 –	27	GPI-I 11	38	GPI-I 20 / LTC
6	GPIO-8 +	17	GPIO-2 +	28	GPI-I 8	39	GPI-I 16
7	RS422-TX –	18	GPIO-4 –	29	GPI-I 5	40	GPI-I 14
8	GPI-I 18	19	GPIO-5 +	30	GPI-I 2	41	GND
9	GPI-I 15	20	GPIO-6 +	31	GND	42	GPI-I 9
10	GPI-I 12	21	GPIO-8 –	32	GPIO-2 –	43	GPI-I 6
11	GPI-I 10	22	RS422-RX +	33	GPIO-3 +	44	GPI-I 3



For ease of connection, the GPI-1501-TBA terminal block adapter with integral 44-pin connector can be used.

- Wire all the GPI inputs and outputs onto the adapter
- LTC time code can be connected to GPI IN 20 if desired
- RS 422 connections are provided
- Plug the adapter directly into the connector on the GPI-1501 rear panel.



3 Operation

3.1 Control options

The GPI-1501 can be controlled in two different ways:

- The local control panel and its push-buttons can be used to move through a menu of parameters and to adjust parameter values (see section 3.3)
- Miranda's iControl system can be used to access the card's operating parameters from a remote computer, using a convenient graphical user interface (GUI). (see section 3.4)

3.2 Card-Edge Status LED

The status monitor LED is located on the front card-edge of the GPI-1501, and is visible through the front access door of the DENSITÉ frame. This multi-color LED indicates the status of the GPI-1501 by color, and by flashing/steady illumination.

The chart shows how the various error conditions that can be flagged on the GPI-1501 affect the LED status.

- If a cell is gray, the error condition cannot cause the LED to assume that status
- If more than one LED status is possible for a particular error condition, the status is configurable. See Section 3.4.6 for details.
- The factory default status is shown by a O

The LED will always show the most severe detected error status that it is configured to display, and in the chart error severity increases from left to right, with green representing no error/disabled, and flashing red the most severe error.

	LED Status				
Error Condition	Green	Yellow	Red	Flashing Red	
No errors	٥				
Hardware failure				0	
No rear				0	

If the LED is Flashing Yellow, it means that the card is selected for local control using the Densité frame's control panel. See Section 3.3 for details.

3.3 Local control using the Densité frame control panel

3.3.1 Overview

Push the SELECT button on the GPI-1501 card edge (see Section 1.4) to assign the local control panel to operate the GPI-1501. Use the control panel buttons to navigate through the menu, as described below.

All of the cards installed in a Densité frame are connected to the frame's controller card, which handles all interaction between the cards and the outside world. There are no operating controls located on the cards themselves. The controller supports remote operation via its Ethernet ports, and local operation using its integrated control panel.

GUIDE TO INSTALLATION AND OPERATION

The local control panel is fastened to the controller card by a hinged connector, and when installed is located in the front center of the frame, positioned in front of the power supplies. The panel consists of a display unit capable of displaying two lines of text, each 16 characters in length, and five pushbuttons.

The panel is assigned to operate any card in the frame by pushing the SELECT button on the front edge of that card.

- Pushing the CONTROLLER button on the control panel selects the Controller card itself.
- The STATUS LED on the selected card flashes yellow.



Figure 3.1 Densité Frame local control panel

The local control panel displays a menu that can be navigated using the four pushbuttons located beneath the display. The functionality of the pushbuttons is as follows:

- [+] [–] Used for menu navigation and value modification
- [SELECT] Gives access to the next menu level. When a parameter value is shown, pushing this button once enables modification of the value using the [+] and [–] buttons; a second push confirms the new value
- [ESC] Cancels the effect of parameter value changes that have not been confirmed. Pushing [ESC] causes the parameter to revert to its former value.

Pushing [ESC] moves the user back up to the previous menu level. At the main menu, [ESC] does *not* exit the menu system. To exit, re-push the [SELECT] button for the card being controlled.

If no controls are operated for 30 seconds, the controller reverts to its normal standby status, and the selected card's STATUS LED reverts to its normal operating mode.

3.3.2 Menu for local control

The GPI-1501 has operating parameters which may be adjusted locally at the controller card interface.

- Press the SELECT button on the GPI-1501 front card edge to assign the Densité frame's local control panel to the GPI-1501
- Use the keys on the local control panel to step through the displayed menu to configure and adjust the GPI-1501

The complete menu structure is shown in the Annex to this document, beginning on page 16.

3.4 Remote control using iControl

The operation of the GPI-1501 may be controlled using Miranda's iControl system.

- This manual describes the control panels associated with the GPI-1501 and their use.
- Please consult the iControl User's Guide for information about setting up and operating iControl.

In iControl Navigator or iControl Websites, double-click on the GPI-1501 icon to open the control panel.

3.4.1 The iControl graphic interface window

The basic window structure for the GPI-1501 is shown in figure 3.2. The window identification line gives the card type (*GPI-1501*) and the slot number where the card installed in its Densité frame.

		GPI-1501 [SLOT :	: 16]					_ 🗆 🗵	1	
	$\left(\right)$	Status		0				Miranda		1
		GPI Configuration				GPI Con	figuration			
		Time Stamp Source	GPI I/0) Config	GPI IN C	onfig				
			Config	uration Label		I/O	Trigger Alarm On	State		
			1/0 1	GPI ID1		Out	▼ Pressed ▼	Released		
			1/0 2	GPI 102		Out	▼ Pressed ▼	Pressed		
			1/0 3	GPI IO3		Out	▼ Pressed ▼	Released		
			1/0 4	GPI 104		Out	▼ Pressed ▼	Pressed		
			1/0 5	GPI IO5		In	▼ Pressed ▼	Released		
			1/0.6	GPI IO6		Out	Pressed	Pressed		
2		•	1/0 7	GPI 107		Out	Pressed	Pressed		_
			1/0 8	GPI IO8		Out	▼ Pressed ▼	Pressed		3
			Control							
			Label		State]				
			GPIIO	1	Release					
			GPU0	2	Released	- -				
			GPLID	1	Pressed	T				
			GPLID	5	Release	d 💌				
			GPI IO	3	Pressed	-				
		Factory	GPI IO	7	Pressed	-				
		Alarm config.	GPIIO	3	Pressed	•				
		Info								

Figure 3.2 GPI-1501 iControl graphic interface window

There are three main sections in the window itself, identified in figure 3.2:

1. The Status Icon area shows a series of six icons that report the status of some card parameters. Figure 3.3 shows the various forms that may appear; their meaning is described below.

Icon 1 – Control status

- A: Green Remote Control via iControl
- B: Yellow Local control using the menu

Icon 2 - Rear status

- A: Green Rear panel is present
- B: Red Rear panel is missing

Icon 3 – Card Heath status

- A: Green OK
- B: Red Hardware failure





When an icon shows an error state, a message describing the error in more detail will appear beneath the icons. If there is more than one error, they will cycle through the display.

In all cases, mousing over an icon will cause a more detailed description of its current status to appear in the message area. Error message cycling will resume when the cursor is no longer over an icon.

Move the mouse over an icon and a status message appears below the icon providing additional information. If there is an error, the error status message appears in the message area without mouse-over.

- If there are multiple errors, the error messages cycle so all can be seen
- The icon whose status or error message is shown is highlighted with a mauve background
- 2. The left-hand side of the panel contains a series of buttons that control the contents of the main window (section 3). Click on one to access the indicated controls. The selected button is highlighted (darker) and the main panel heading matched the button name.
- 3. This section contains the main operating controls and displays for managing the GPI-1501's feature set. The contents are selected by clicking a button on the left-hand side of the screen.

The left side of the window (i.e. section 2) can be hidden or revealed by clicking the arrow icon at the center of the left side border.

Each of the panels associated with the groups accessed from the buttons in Section 2, and shown in Section 3, is described individually in the following sections.

3.4.2 The Status panel

This panel shows the status of the two available time code inputs to this card.

- Green icon signal available
- Red icon signal not available

URS TC – time code transferred to the card through the Universal Reference Signal that is available to all cards in this Densité frame.

• The URS is generated by a reference module (REF-XXXX) which must be installed in the frame for the URS TC to be available. See the Miranda website for information about currently-available REF-series cards.

LTC – longitudinal time code per SMPTE 12M may be connected to the GPI-1501 on GPI 20 through the rear panel connector.

💻 GPI-1501 [SLOT :	16]	
Status		Miranda
GPI Configuration	Status	
Time Stamp Source		
	Status	
	URS TC LTC	.
×		
Factory		
Alarm config.		
Info		

Figure 3.4 Status panel

3.4.3 The GPI Configuration panel

GPI I/O Config tab

Use these controls to configure the eight GPIs that can be set as inputs or outputs.

GPIs set to OUT can be configured to respond to alarms generated on another card in the iControl network – see Annex 2 beginning on page 18.

I/O pulldown – select the operating mode for this GPI:

- Out
- In

Trigger Alarm On – select the state that will trigger an alarm on this GPI input (disabled for GPIs whose mode is selected as OUT)

- Pressed
- Released

State - shows the current state of the GPI

- Pressed
- Released

Figure 3.5 GPI Configuration – GPI I/O Config tab

Control Section:

The pulldowns allow manual control of the state (*Pressed* or *Released*) of those GPIs configured as OUT. This is useful for testing purposes.

GPI IN Config tab

Use these controls to configure the twenty GPI inputs.

Label – type in the data box to change the GPI label from the default, which is GPI INx where x = the GPI number.

Alarm pulldown

- Pressed
- Released

State

- Pressed
- Released

Status		0		MI
GPI Configuration			GPI Configura	tion
Time Stamp Source	GPI I/0	Config GPI	IN Config	
	GPIIN	Label	Trigger Alarm On	State
	IN 1	GPI IN1	Pressed 💌	Released
	IN 2	GPI IN2	Pressed 💌	Released
	IN 3	GPI IN3	Pressed 🔻	Released
	IN 4	GPI IN4	Pressed 💌	Released
	IN 5	GPI IN5	Pressed 🔻	Released
	IN 6	GPI IN6	Pressed 🔻	Released
	IN 7	GPI IN7	Pressed 💌	Released
	IN 8	GPI INS	Pressed 🔻	Released
	IN 9	GPI IN9	Pressed 🔻	Released
	IN 10	GPI IN10	Pressed 🔻	Released
	IN 11	GPI IN11	Pressed 🔻	Released
	IN 12	GPI IN12	Pressed 🔻	Released
	IN 13	GPI IN13	Pressed 🔻	Released
	IN 14	GPI IN14	Pressed 🔻	Released
	IN 15	GPI IN15	Pressed 🔻	Released
	IN 16	GPI IN16	Pressed 🔻	Released
	IN 17	GPI IN17	Pressed 🔻	Released
actory	IN 18	GPI IN18	Pressed 🔻	Released
Alarm config	IN 19	GPI IN19	Pressed 💌	Released
	IN 20	GPI IN20	Pressed 🔻	Released

Figure 3.6 GPI Configuration – GPI IN config tab

PI Configuration me Stamp Source PI Londiguration PI Londiguration PI Londiguration Point Configuration Configuration Label Point Pressed P	Status		0					Mirar
GPI I/O Config GPI IN Config Configuration Configuration V0 1 OPI 101 V0 2 OPI 102 V0 3 OPI 103 V0 4 OPI 103 V0 4 OPI 104 V0 5 OPI 106 V0 6 OPI 106 V0 7 OPI 107 V0 8 OPI 107 V0 8 Out Pressed Pressed V0 7 OPI 108 Out Pressed Pressed Presse V0 8 Out Pressed Pressed Pressed Pressed Pressed Out Pressed Pressed Pressed Out Pressed Pressed Pressed Out Pressed Pressed Pressed Out OPI 103 Released OPI 104 Pressed OPI 107 Pressed	GPI Configuration			(GPI Con	figuration		
Configuration Label LO Trigger Marmon State V0 1 GPI 101 Dut Pressed Release V0 2 GPI 102 Dut Pressed Presse V0 3 GPI 103 Dut Pressed Pressed V0 4 GPI 104 Dut Pressed Release V0 5 GPI 106 In Pressed Release V0 6 GPI 106 Dut Pressed Release V0 7 GPI 106 Dut Pressed Presse V0 8 GPI 108 Dut Pressed Presse GPI 101 Released GPI 102 Pressed GPI 103 GPI 102 Pressed GPI 103 Released GPI 104 GPI 103 Released GPI 105 GPI 106 GPI 107 GPI 106 Pressed GPI 107 GPI 107 GPI 107 GPI 107 Pressed GPI 107 GPI 107 <td>'ime Stamp Sourc</td> <td>e GPI I/0</td> <td>) Config</td> <td>GPI IN Cor</td> <td>nfig</td> <td></td> <td></td> <td></td>	'ime Stamp Sourc	e GPI I/0) Config	GPI IN Cor	nfig			
Label I/O Trigger Trigger Pressed Siste I/O 1 OPI 101 Out Pressed Release I/O 2 OPI 102 Out Pressed Presse I/O 3 OPI 103 Out Pressed Pressed I/O 4 OPI 104 Out Pressed Pressed I/O 4 OPI 106 In Pressed Pressed I/O 6 OPI 106 Out Pressed Pressed I/O 7 OPI 108 Out Pressed Pressed I/O 8 OPI 108 Out Pressed Pressed I/O 9PI 103 Released Out Pressed Pressed I/O 101 Released OPI 103 Released OPI 104 OPI 103 Released OPI 106 Pressed OPI 106 OPI 106 Pressed OPI 106 OPI 106 OPI 106		Config	uration					
UO 1 OPI 101 Out Pressed Release VO 2 OPI 102 Out Pressed Presse VO 3 OPI 103 Out Pressed Release VO 4 OPI 104 Out Pressed Release VO 6 OPI 106 In Pressed Presse VO 6 OPI 106 Out Pressed Presse VO 7 OPI 106 Out Pressed Presse VO 8 OPI 108 Out Pressed Presse VO 9 OPI 108 Out Pressed Presse Control Released Out Pressed Presse GPI 101 Released Out Pressed Presse GPI 102 Pressed Out Pressed Out Pressed Out GPI 103 Released OPI 104 OPI 105 Out OUT OUT GPI 106 Pressed OUT OUT OUT OUT OUT <			Label	1	vo	Trigger Alarm On		State
V0 2 GPI 102 Out Pressed Pressed V0 3 GPI 103 Out Pressed Release V0 4 GPI 104 Out Pressed Release V0 5 GPI 106 In Pressed Pressed Presse V0 6 GPI 106 Out Pressed Pressed <t< td=""><td></td><td>I/O 1</td><td>GPI ID1</td><td></td><td>Out</td><td>▼ Pressed</td><td>-</td><td>Released</td></t<>		I/O 1	GPI ID1		Out	▼ Pressed	-	Released
V0 3 GPI 103 Out Pressed Release V0 4 GPI 104 Out Pressed Pressed Presse V0 5 GPI 105 In Pressed Release Pressed Pressed <td< td=""><td></td><td>1/0 2</td><td>GPI 102</td><td></td><td>Out</td><td>▼ Pressed</td><td>-</td><td>Pressed</td></td<>		1/0 2	GPI 102		Out	▼ Pressed	-	Pressed
VO 4 OPI IO4 Out Pressed Pressed VO 5 OPI IO5 In Pressed Release VO 6 OPI IO5 Out Pressed Release VO 7 OPI IO7 Out Pressed Presse VO 8 OPI IO7 Out Pressed Presse VO 8 OPI IO7 Out Pressed Presse VO 8 OPI IO8 Out Pressed Presse VO 8 OPI IO8 Out Pressed Presse Control Released GPI IO2 Pressed GPI IO3 Released GPI IO3 Released GPI IO3 GPI I		I/O 3	GPI IO3		Out	▼ Pressed	-	Released
V0.6 OPI 106 In Pressed Release V0.6 OPI 106 Out Pressed Presse V0.7 OPI 107 Out Pressed Presse V0.8 OPI 107 Out Pressed Presse V0.8 OPI 107 Out Pressed Presse Control Tabel State OPI 101 Released OPI 102 Pressed OPI 103 Released OPI 103 OPI 103 Released OPI 104 OPI 103 OPI 103 OPI 104 Pressed OPI 105 OPI 107 OPI 106 OPI 107 OPI 107 OPI 106 Pressed OPI 107 OPI 107 OPI 108 Pressed OPI 107		1/0 4	GPI IO4		Out	▼ Pressed	-	Pressed
r06 GPI 106 Out Pressed Pressed r07 GPI 107 Out Pressed Pressed r08 GPI 108 Out Pressed Pressed r08 GPI 108 Out Pressed Pressed r08 GPI 101 Released GPI 102 GPI 102 Pressed GPI 103 Released GPI 103 Released GPI 103 GPI 106 Pressed GPI 106 GPI 107 Pressed GPI 107 GPI 108 Pressed GPI 108		1/0 5	GPI IO5		In	 Pressed 	•	Released
I/O 7 OPI 107 Out Pressed Presse I/O 8 OPI 108 Out Pressed Pressed Control Iabel State OPI 101 Released OPI 101 Released OPI 102 Pressed OPI 102 Pressed OPI 103 Released OPI 103 Released OPI 106 OPI 106 Pressed OPI 107 OPI 107 Pressed OPI 108 OPI 108 Pressed OPI 108		1/0.6	GPI IO6		Out	Pressed	-	Pressed
VO 8 OPI 103 Out Pressed Presse Control Tabel State Pressed		1/0 7	GPI 107		Out	Pressed	-	Pressed
Actory arm config.		1/0 8	GPI IO8		Out	Pressed	-	Pressed
ctory Config.		Control		State				
ctory CFI IO2 Pressed T CFI IO3 Released CFI IO3 Released CFI IO3 Released CFI IO5 Released CFI IO5 Released CFI IO5 Pressed		GPI IO	1	Released	-			
ctory CPI IO3 Released CPI IO4 Pressed CPI IO5 Released CPI IO5 Released CPI IO5 Pressed CPI IO7 Pressed CPI IO8 Pressed CPI IO8 CPI IO8		GPI IO	2	Pressed	•			
ctory CPI 103 Pressed T COPI 105 Released T OPI 106 Pressed T OPI 107 Pressed T OPI 108 Pressed T		GPI IO	3	Released	•			
arm config.		GPI IO	4	Pressed	•			
otory OPI ID6 Pressed T GPI ID7 Pressed T GPI ID8 Pressed T		GPIIO	5	Released	-			
story OPI IO7 Pressed T GPI IO8 Pressed T		GPI IO	3	Pressed	-			
rm config.	story	GPI IO	7	Pressed	•			
	arm config.	GPI IO	3	Pressed	•			
0								

3.4.4 The Time Stamp Source panel

GPI events in the GPI-1501 may be time-stamped. Use this panel to select the source of time information for the time stamp process.

Time stamp source:

- **Disabled** no time stamping
- **RTC** Real time clock from the Densité frame's controller card, if supported by the installed controller.
- *LTC* Input use the LTC input arriving on the rear-panel GPI-20 input (if connected)
- **URS** use the time information carried in the URS signal internal to the Densité frame. The URS is generated by a reference module (REF-XXXX) which must be installed in the frame for the URS to be available. See the Miranda website for information about currently-available REF-series cards.

SMPTE309:

Use the time code format as defined in SMPTE 309M:

- OFF
- ON

SMPTE309 is the standard specifying the transmission of years and date information inside LTC binary groups. Without SMPTE309, only hours, minutes, seconds and frames are available from LTC

When the source is RTC, frames are not reported.

3.4.5 The Factory panel

Click the *Load Factory* button to reset all parameters on this GPI-1501 card to factory-defined default values.



Figure 3.8 Factory panel

-	GPI-1501 [SLOT : 1	16]	
	Status		Miranda
	GPI Configuration	Time Stamp Sourc	e
	Time Stamp Source	Time Stamp Source URS 🔻	
		SMPTE309 On -	
Þ			
	Factory		
	Info		

Figure 3.7 Time Stamp Source panel

3.4.6 The Alarm Config panel

This panel allows the alarm reporting of the GPI-1501 to be configured. The panel opens in a new window when the button is clicked, and can be resized if needed.

The panel is organized in columns.

Status/Name

This contains an expandable tree listing all the alarms reported by this GPI-1501 card.

• Each alarm name includes an icon that shows its current status

The Overall alarm and GSM contribution

columns contain pulldown lists that allow the level of contribution of each individual alarm to the alarm named in the column heading to be set.

 If there is no arrowhead in the box, there is no pulldown and the alarm is not userconfigurable

Overall Alarm

This column allows configuration of the contribution of each individual alarm to the Overall Alarm associated with this card. The Overall Alarm is shown in the upper left corner of the iControl panel, and also appears at the bottom of the Status/Name column.

Alarm Configuration for GPI-1501 [slot: 16]					
Status / Name	Overall alarm	GSM contribution	Log events		
□_GPI-1501	Set all	Set all	Ľ		
E-GPI In	Set all	Set all	Ľ		
- O GPI 101	🔘 Disabled	🔘 Disabled	r		
- 🔴 GPI 102	🔘 Disabled	Disabled	Ľ		
- O GPI 103	🔘 Disabled	🔘 Disabled	Ľ		
- O GPI 104	🔵 Disabled	Disabled	Ľ		
- O GPI 105	🔘 Disabled	🔘 Disabled	Ľ		
- 🕘 GPI 106	🔵 Disabled	Disabled	Ľ		
- O GPI 107	🕘 Disabled	🔘 Disabled	Ľ		
- 🕘 GPI 108	🔘 Disabled	🔘 Disabled	Ľ		
-O GPI IN1	🔘 Disabled	Disabled	Ľ		
-O GPI IN2	🕘 Disabled	🔘 Disabled	Ľ		
-O GPI IN3	Disabled	Disabled	Ľ		
- O GPI IN4	🔘 Disabled	🔘 Disabled	Ľ		
-O GPI IN5	🔘 Disabled	🔘 Disabled	r		
- O GPI IN6	🔘 Disabled	🔘 Disabled	r		
-O GPI IN7	🔘 Disabled	🔘 Disabled	r		
- O GPI IN8	🔘 Disabled	🔘 Disabled	r		
-O GPI IN9	🔘 Disabled	🔘 Disabled	r		
- GPI IN10	🔘 Disabled	🔘 Disabled	r		
-O GPI IN11	🔘 Disabled	🔘 Disabled	Ľ		
- GPI IN12	🔘 Disabled	🔘 Disabled	r		
-O GPI IN13	🔘 Disabled	🔘 Disabled	Ľ		
- GPI IN14	🔘 Disabled	🔘 Disabled	r		
-O GPLIN15	🔘 Disabled	🔘 Disabled	Ľ		
GPI IN16	🔘 Disabled	Disabled	r		
-O GPLIN17	Disabled	Disabled	Ľ		
GPI IN18	🔘 Disabled	🔘 Disabled	r		
-O GPI IN19	🔘 Disabled	🔘 Disabled	Ľ		
GPI IN20	Disabled	Disabled	Ľ		
Card LED	💛 Passthrough	💛 Passthrough	Ľ		
Manual Card Configuration	🕘 Disabled	Disabled	r		
	N/A	Passthrough	Ľ		
Overall follow LED		Copy to	other cards		
OK Apph	Cancel	Get alarm keys			

GSM Contribution

Figure 3.9 Alarm Config panel

This column allows configuration of the

contribution of each individual alarm to the GSM Alarm Status associated with this card. GSM is a dynamic register of all iControl system alarms, and is also an alarm provider for external applications. The possible values for this contribution are related to the Overall alarm contribution:

- If the Overall alarm contribution is selected as Disabled, the GSM alarm contribution can be set to any available value
- If the Overall alarm contribution is selected as any level other than disabled, the GSM contribution is forced to follow the Overall Alarm.



Shortcut: if you click on "Set All" beside a major heading in the Status/Name column, you will open a pulldown that lets you assign a level to all alarms in that section of the column simultaneously.

Log Events

iControl maintains a log of alarm events associated with the card. The log is useful for troubleshooting and identifying event sequences. Click in the checkbox to enable logging of alarm events for each individual alarm.

At the bottom of the window are several other controls

Copy to other cards

Click this button to open a panel that allows the alarm configuration set for this card to be copied into another GPI-1501 card.

Get alarm keys

Click this button to open a save dialog where you can save a file containing a list of all alarms on this card and their current values, along with an Alarm Key for each. The alarm keys are useful for system integration and troubleshooting.

• The file is saved in Excel.csv format

OK, Apply, Cancel

- **OK** accepts the settings and closes the window once the card confirms that there are no errors.
- Apply accepts the settings, but leaves the window open
- **Cancel** closes the window without applying any changes, and leaves the previous settings intact.

3.4.7 The Info panel

When the GPI-1501 is included in an iControl environment, certain information about the card should be available to the iControl system. The user can enter labels and comments that will make this card easy to identify in a complex setup. This information is entered via the Info control panel. This panel also shows other information about the card.

Label:	type the label that appear for this GPI-1501 when it appears in iControl applications
Short Label	type the short-form label that iControl uses in some cases (8 characters)
Source ID	type a descriptive name for this GPI- 1501
Comments:	type any desired text

	GPI-1501 [SLOT : :	16]	
	Status		Miranda
	GPI Configuration		Info
	Time stamp source		
		Label:	GPI-1501
		Short label:	GPI-1501
		Source ID:	
▶		Device type:	GPI-1501
		Comments:	General Purpose Interface
		Manufacturer:	Miranda Technologies Inc.
		Vendor:	Miranda Technologies Inc.
		Service version:	1.00
			Details
		Advanced	Remote system administration
	Factory		
	Alarm config.		
	Info		



The remaining data boxes show manufacturing information about this card.

١

• Details...: Reports the Firmware version, service version, and panel version for this card

Details		×
	Manufacturing process	906-9900-100
<u> </u>	Firmware version	1.0.0
	Panel version	1.00
	ОК	

Figure 3.11 Details window

• Advanced...: Shows the Miranda LongID for this card. The Miranda LongID is the address of this GPI-1501 in the iControl network.

Advance	d	×
1	Long ID: 10.8.4.2_bob_Densite_SLOT_16_105	
	ОК	

Figure 3.12 Advanced window

• Remote System Administration – opens the Joining Locators data box, which lists remote lookup services to which this GPI-1501 is registered.

Add: Force the iControl service for this GPI-1501 to register itself on a user-specified Jini lookup service, using the following syntax in the *Input* data box:

jini://<ip_address>

where <ip_address> is the ip address of the server running the lookup service, e.g.:

Input		×		
0	Enter a new locator's URL			
jini://223.119.5.98				
	OK Cancel			

Joining Locators : GPI-1501	×
jini://223.119.5.98/	
Add Remove	
Aud	

Figure 3.13 Joining Locators window

Remove: select one of the services listed in the window by clicking on it, and click *Remove* to delete it from the window.

4 Specifications

GPI IN

CONNECTOR NUMBER OF INPUT PULL-UP VOLTAGE SOURCE CURRENT LOW LEVEL ACTIVATION OVER VOLTAGE PULSE DURATION

GPI BI-DIRECTIONAL

CONNECTOR NUMBER OF I/O

Input mode:

PULL-UP VOLTAGE SOURCE CURRENT LOW LEVEL ACTIVATION OVER VOLTAGE PULSE DURATION

Output mode:

CONTACT CLOSURE CURRENT REVERSE VOLTAGE REVERSE CURRENT V OUT LOW

RS422

CONNECTOR SIGNAL TYPE PROTOCOL

TIME CODE

CONNECTOR SIGNAL TYPE

OTHER

MAXIMUM POWER PHYSICAL FORMAT DB-44 20 2.3 Volts 2 mA when input shorted 0.8 Volts max 25 Volts max 8ms min

DB-44 8

2.3 Volts2 mA when input shorted0.8 Volts max25 Volts max8ms min

50 mA max -15 Volts max -50 mA max 0.6 Volts at 1.5mA

DB-44 RS-422, full duplex As per Oxtel automation protocol

Sharing Input 20 of DB-44 GPI connector Unbalanced as per SMPTE-12M / Realtime only SMPTE-309M

1W Densité-2

ANNEX 1 – GPI-1501 Card Menu



ANNEX 2 – GPI Relay Configurator

This procedure allows the user to configure the GPI outputs on a GPI-1501 to respond to alarms triggered on another card on the iControl network.

From the iControl Navigator main window, click on General Status Managers... in the View menu



The GSM window will open. In the Alarm Browser section of the Main tab, find the alarm that you would like to trigger a GPI output on a GPI-1501 card. As an example, we have chosen the *Card LED* alarm on an HMP-1801 card. Double-click on the selected alarm

reienei					
Main	Admin				
Alarm b	rowser				
0-1	HMP-1801_720p59 (AppServer_LabC_1_Labc_Bay2_Densite_SLOT_13_95)				
0- (HMP-1801_1080i50 (AppServer_LabC_1_Labc_Bay2_Densite_SLOT_2_95)				
0-1	HMP-1801_1080i59 (AppServer_LabC_1_Labc_Bay2_Densite_SLOT_5_95)				
• • •	HMP-1801 (10.8.5.4_bob_Densite_SLOT_15_95)				
	Card LED				
	🗕 🔘 No Reference				
	🗕 🔘 Overall				
	🛑 🗊 Playback Status [Playing 1562 - Katherine]				
	Reference Mismatch				
0-1	HMP-1801 (AppServer_LabC_1_Table4_mb_Densite_SLOT_1_95)				
0-1	HRS-1801 (AppServer_LabC_1_HMP_Simon_Densite_SLOT_2_68)				
0-1	HRS-1801 (AppServer_LabC_1_MASTER_IRD_FRAME_Densite_SLOT_8_68)				
0-1	►				
0-1	🔎 🖿 HRS-1801-Input (AppServer_LabC_1_HMP_Simon_Densite_SLOT_4_69)				
0-1	HRS-1801-Input (AppServer_LabC_1_MASTER_IRD_FRAME_Densite_SLOT_10_69)				
0-1	🛏 HRS-1801-Input (AppServer_LabC_1_Table4_mb_Densite_SLOT_14_69)				
0	ImageStore_10.7.3.33 (AppServer_LabC_1.ImageStore.ImageStore_10.7.3.33)				
-	IRD-3802 (AppServer_LabC_1_IRD_Densite_SLOT_4_90)				
	RD-3802 (AppServer_LabC_1_LBB-TBL8_Densite_SLOT_8_90)				
	RD-3811 (AppServer_LabC_1_Labc_Bay1_Densite_SLOT_19_90)				
0-	IRD-3811 (AppServer_LabC_1_MASTER_IRD_FRAME_Densite_SLOT_20_90)				
	Edit plug-in Remove plug-in Show status details				
RI		Fin			
	now alorn provider	1			
reate	new alarm provider				
	Naleido X				
	Network reachability				
	AnnServer Health Monitoring				
	Kaloido Alto				
	Talciuu Allu				

The Alarm Properties window opens:

<mark>泳</mark> Alarm Propert	ties X
Current status:	Show status details
Name:	Card LED
URI:	10.8.5.4_bob_Densite_SLOT_15_95@dCardLedKey
Path:	iControl/HMP-1801 (10.8.5.4_bob_Densite_SLOT_15_95)
Device URI:	10.8.5.4_bob_Densite_SLOT_15_95
Device class:	HMP-1801
Туре:	🗹 Status 🗌 Text 🔲 Not logged 🔲 Incident
	Add Add global Remove Edit Refresh
	Edit plug-in Remove plug-in OK

Click Add...in the Actions section to open the New Action window:



Click on GPI-1501 relay to select it, and click New...

📊 GPI 1501 Relay Configurator 🛛 🔀				
GPI Card	10.8.5.4_bob_Densite_SLOT_18_105 💌			
GPI IO1	State 🔻			
GPI 102	State 🔻			
GPI 103	State 🔻			
GPI IO4	State 🔻			
GPI IO5	State 🔻			
GPI IO6	State 🔻			
GPI 107	State 🔻			
GPI IO8	State 🔻			
ок	Cancel			

The GPI-1501 Relay Configurator window opens.

From the GPI Card pulldown, select the GPI-1501 card whose GPI outputs you wish to control from this alarm.

• Note that only configurable GPIs that are configured as OUT on the GPI-1501 card itself can be operated in this manner

The eight output relays on the selected card are shown.

• The names of the GPIs are set in the GPI I/O Config panel of the GPI card itself (see page 9).

You may program one or more GPI outputs on this card or on other cards to respond to this alarm. Each GPI out on this GPI-1501 card can be programmed to respond to a different alarm from a different card

Use the pulldown to select the state that the GPI will assume when it receives a trigger from the designated alarm.

- Pressed = high
- Released = low
- If you leave it at *State*, the GPI is not programmed to respond to this alarm, and can be assigned to a different alarm
- Note you can use the labels to identify the alarm source once it is set.

Click OK when done, or Cancel to leave the status unchanged.

This new event will appear in the Actions window in the Alarm Properties panel.

GUIDE TO INSTALLATION AND OPERATION

📟 Alarm Propert	ties				
Current status:	Show status details				
Name:	Card LED				
URI:	10.8.5.4_bob_Densite_SLOT_15_95@dCardLedKey				
Path:	iControl/HMP-1801 (10.8.5.4_bob_Densite_SLOT_15_95)				
Device URI:	10.8.5.4_bob_Densite_SLOT_15_95				
Device class:	HMP-1801				
Туре:	☑ Status □ Text □ Not logged □ Incident				
Actions					
	Add Add global Remove Edit Refresh Edit plug.in OK				

You can edit the event by selecting the GPI-1501 action and clicking the *Edit...* button.

The GPI-1501 Relay Configurator window will open, and you can change the GPI assignments.

<mark> in</mark> GPI 15	01 Relay Configurator 🛛 🔀
GPI Card	10.8.5.4_bob_Densite_SLOT_18_105 ▼
GPI IO1	State 🔻
GPI IO2	State 🔻
HMP-1801	Pressed 🔻
GPI IO4	State 🔻
FRS-1801	State 🔻
GPI IO6	State 🔻
GPI 107	State 🔻
GPI IO8	State 🔻
ок	Cancel

Note that GPI I03 was set for the HMP-1801 card as shown in the example presented here.

GPI-I05 has been set for an alarm originating on an FRS-1801 card, so its pulldown indicates *State* to show that it is not a part of the action we are editing.

You can delete the event by selecting the GPI-1501 action and clicking the *Remove button…* You will be asked to confirm your decision before the item is deleted:

Confirma	ation				×
3	Are you sure	e you want t	to remo	ve this plug-in	instance?
		Yes	No		