Jupiter

J400/J600 Video Wall Controller Hardware Manual

May 12, 2023

A-JSE-000-02, Rev. A

Acknowledgments

Conventions Used in this Manual

Labels from the user Interface (UI) are **bolded** to make it easier to follow instructions. If you see a **bolded** word or set of words, look for the label in the UI. Where possible tabs and dialog boxes are named in instructions as markers so you know you are in the right place.

Jupiter Systems

31015 Huntwood Avenue
Hayward, CA 94544-7007
510-675-1000 (v)
jupiter.com

Support Contact

info@jupiter.com
support@jupiter.com
jupiter.com/support
510-675-1000, option 1

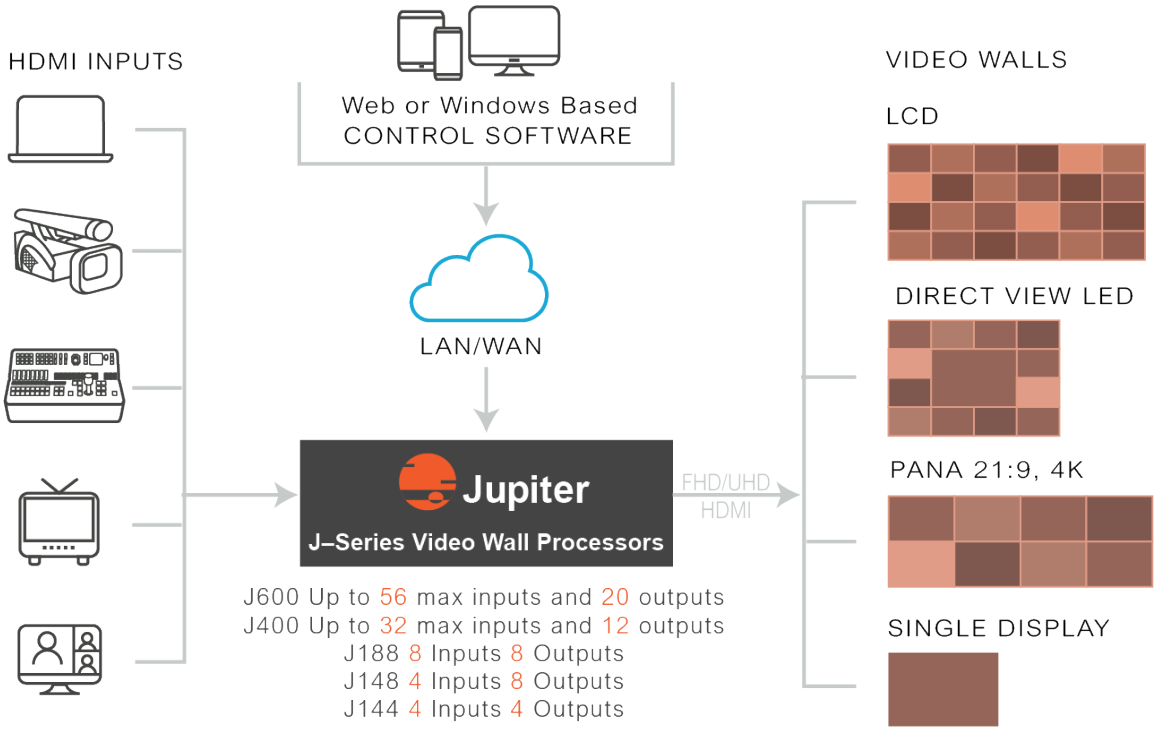
Jupiter

Table of Contents

Chapter 1
INTRODUCTION

Jupiter Systems J-Series Video Wall Controllers (referred as JVWC hereafter) are highly stable video wall processors which fully support 4K UHD inputs and outputs. Jupiter offers the J400 and J600 chassis based models as well as compact, fixed interface J100 models to provide affordable support for a variety of video wall applications.

Figure 1.1: J-Series Architecture

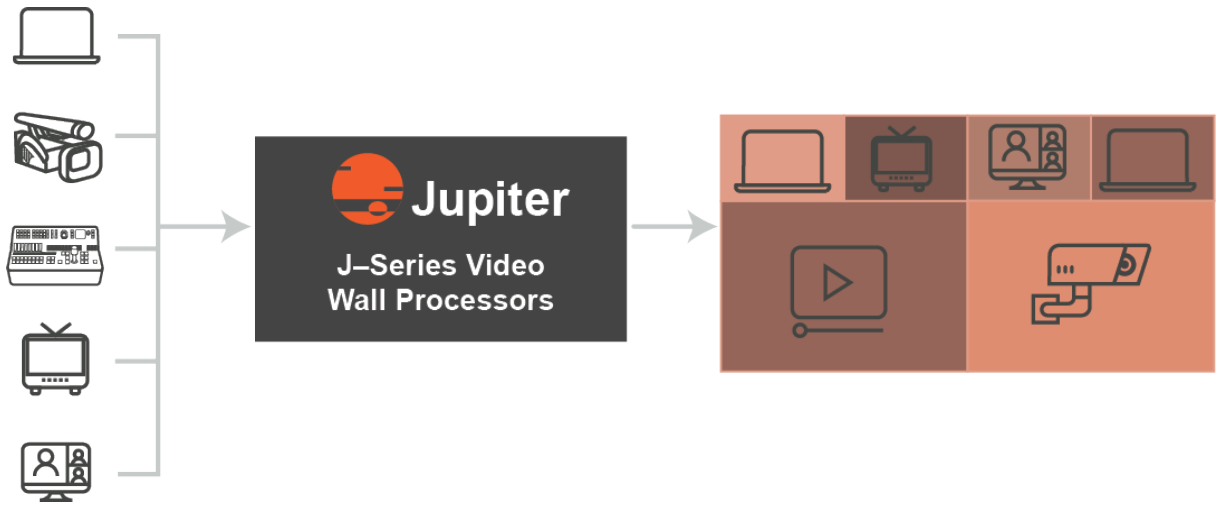


LightSpeed technology powers J-Series video wall controllers providing ultra-fast capture, zoom, transmission, and framing of signals. With this powerful LightSpeed technology, signal transfers from a signal source to display is under 16ms.

With their own hardware based LightSpeed operating system, all J-Series devices are reliable and straightforward and able to quickly display information source in multi-window mode.

The J-Series family has models which support from four inputs and four outputs with the compact J144 model, to 56 inputs and 20 outputs with the J600 chassis.

Figure 1.2: Video Wall Controllers: Input Streams to Display Devices



J-Series Video Wall Controllers are based on a simple yet powerful concept. Simply rename all the sources, configure the geometry of the video wall to match the displays and you are done with the configuration and ready to get creative. The web based or Windows based configuration and management tools make set up a snap.

The J400/J600 chassis use Jupiter Systems' modular blade component design with hardware based FPGA technology.

The J-Series product family provides highly expandable and flexible solutions for video walls, particularly for large-scale multi-screen systems.

This chapter includes

1.1 Modular Chassis

All J400/J600 and J100 models are 19" units designed to fit into standard 19" mounting racks. The J600 is 6RU (rack units), the J400 is 4RU, and the J100 models are 1RU. Each J-Series model supports a different amount of inputs and outputs.

The J400/J600 are considered modular chassis since you can add and change boards to change the functionality and or scalability provided by the J400 or J600. The modular chassis (J400/J600) provide a flexible number of input and output boards while the J100 are fixed port 1RU models. The 4RU J400 has eight input slots and three output slots. The 6RU J600 has 14 input slots and five output slots. The input and output channels depend upon the number of input or output ports on each board and how many boards are used.

Figure 1.3: J400/J600

The J400/J600 provide a number of board options for your JVWC.

Both use input and output boards to support the most current popular standards:

- UHD60 HDMI (see *UHD60 HDMI Input Board* and *UHD60 HDMI Output Board*)
- UHD30 HDMI (see *UHD30 HDMI Input Board* and *UHD30 HDMI Output Board*)
- HD HDMI (see *UHD30 HDMI Input Board* and *UHD30 HDMI Output Board*)
- HD DVI (see *HD DVI Input Board* and *HD DVI Output Board*)
- 3GSDI (see *3GSDI Input Board* and *3GSDI Output Board*)

Input boards support custom EDID management. Output boards support LCD, LED, Cube, Projectors, Custom Resolutions and are HDCP 1.2 and 2.2 compatible.

Control boards provide control of the JVWC and communicate with the host PC; dual Control boards provide hot swappable redundancy. Swapping or pulling out one control board will not affect the video being displayed on the video wall as long as the other control board is in and functioning. (See *Section 2.3, Control Boards on page 12*.)

Monitoring boards (*Section 2.6.1, Monitoring Board on page 40*) display on the managing software what the video wall displays, so you can monitor the display remotely. Preview Boards (*Section 2.6.2, Preview Board on page 42*) show the input signal in real time so you can visually select inputs, see the image to crop them, or add input labels or station logos.

The modular chassis use the Web based client to drag and drop input sources onto the Mimic dashboard and onto your video wall. You set the sources, configure the geometry, and are ready to get creative with layouts.

The Web based client the control is flexible and intuitive. The user is able to check the real-time operating status, hardware temperature, warnings and the auto adjusted fan speed information via the web-based GUI.

1.2 Compact Video Wall Processors

The J100 models are high performance, flexible, quiets, compact, fixed interface units which can be installed in temperature controlled conference rooms and closets.

The 1RU J100 models are named based on their inputs and outputs. The J144 has four input channels and four output channels. The J148 has four input channels and eight output channels. The J188 has eight input channels and eight output channels.

Figure 2: J100 compact video wall processor

The J100 models use LightSpeed technology just like the J400/J600 members of the J-Series family.

Please see the *J100 Video Wall Controller Hardware Manual* for specifications, installation procedures and more information about the J100 models.

The J100 models use J100 Client, a Windows based application.

1.3 Jupiter Systems Portfolio of Products

Jupiter System provides a large portfolio of video processing systems and innovative displays. Capable of integrating any type of video and data source on any display wall configuration, Jupiter products and solutions are widely used in diverse applications such as Video Conference Rooms, Public Utility Control Centers, Intelligent Traffic Management Centers, Security and Surveillance Facilities, Military Command and Control Centers, Energy Management Rooms, Process Control Rooms, Call Centers, Board Rooms, Network Operation Centers (NOC), Financial Management Control Rooms and high-end Residential Market installation (for example high-end home theaters).

Chapter 2

MODULAR CHASSIS & ACCESSORIES

The J400 and J600 modular chassis are Ideal for medium to large sized installations such as surveillance rooms, presentation auditoriums, sports & entertainment venues and digital signage.

The J400 and J600 are a great future compatible investment. Jupiter's modular video wall controllers can expand by just adding more cards.

J-Series are built and assembled in an ISO 9001:2015 production floor to uphold best-in-class standards.

2.1 J400 Chassis

The J400 is ideal for medium to large sized installations such as surveillance rooms, presentation auditoriums, sports & entertainment venues and digital signage.

Table 2.1: J400 Chassis Ordering Information

Unit Name	JOQS Number	Description
J400 Base	J-Chassis-400	4RU, 19" modular chassis with 8 input slots and 3 output slots able to support up to 32 HD or 16 4K input channels and 12 HD or 4K output channels.

Figure 2.1: J400 Chassis Front Panel

Figure 2.2: J400 Chassis Rear View

The J400/J600 designate slots by functionality. The J400 chassis has eight designated slots for input boards, three designated slots for output boards, two designated slots for Control boards and a designated slot for the Monitoring board.

The Preview Board which provides real time video in the JVWC management software, which is extremely helpful in seeing the source stream in input lists and editing the input source stream for cropping, actually uses an output slot.

Figure 2.3: J400 Chassis Slot Assignment

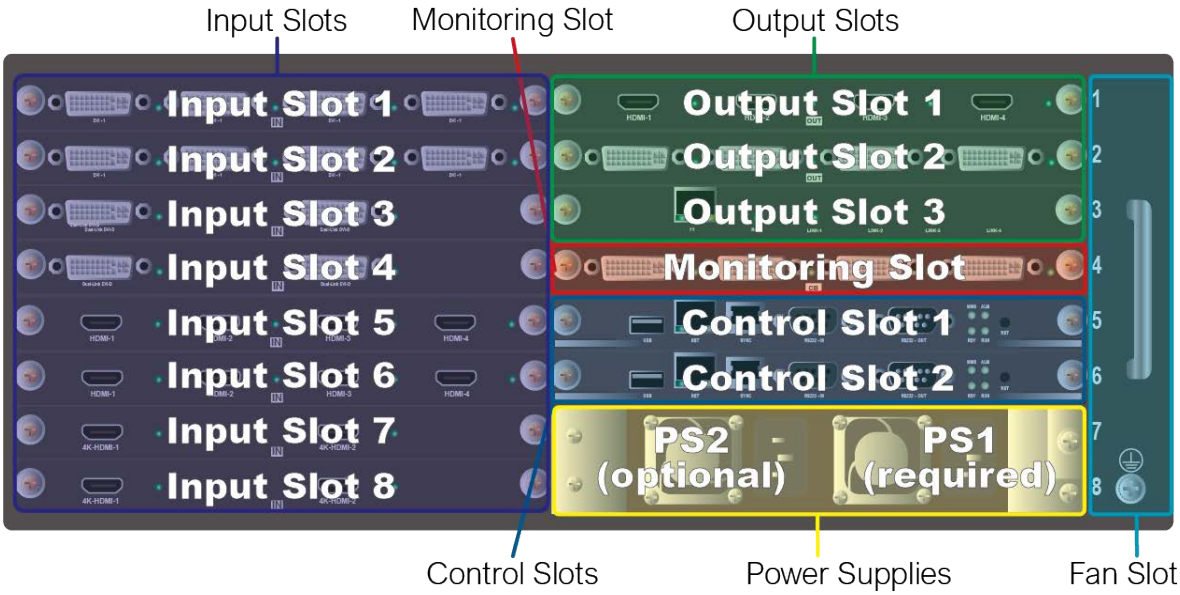


Table 2.2: J400 Chassis Specifications

Feature	Description
Form Factor	4RU
Power Consumption	250W
Maximum Input Slots	8
Maximum Input Channels	32 (HD) or 28 (4K). 4xHD/board and 2x4K/board
Maximum Output Slots	3
Maximum Output Channels	12 (HD or 4K)
Control Board Slots	2
Monitoring Slot	1
Redundant PSU	Optional
API Control	UDP, Ethernet or RS232
Operating System	None (LightSpeed technology is hardware based)
Video walls per chassis	4

Table 2.2: J400 Chassis Specifications (Continued)

Feature	Description
Custom Resolution	Output and Input
Color Space	RGB 4:4:4
Bits per color	8
Source Switching	≤20ms
Creating Window	≤16ms
Layouts	≤16ms
Environmental	
Operating Temperature	0° – 40°C (32° – 104°F)
Operating Humidity	10 – 90% (Non-condensing)
Storage/Transport Temperature	-10° – 66°C (14°–150°F)
Storage/Transport Humidity	5 – 95% (Non-condensing)
Maximum Altitude	10,000 ft
Regulatory	
Certifications	cULus, FCC, CE, RCM, NOM and EAC

CAUTION! The Monitoring Board and the HD DVI Input Board and the HD DVI Output Board look very similar from the faceplate/DVI connector view. However each has a different set of connections to the backplane of the J400/J600 chassis, so must be put in the appropriate slot. Attempting to put them in the wrong slot may cause damage to the board and/or the backplane. Please be sure you are putting the right card in the right slot.

2.2 J600 Chassis

The J600 is ideal for medium to large sized installations such as surveillance rooms, presentation auditoriums, sports & entertainment venues and digital signage.

Table 2.3: J600 Chassis Ordering Information

Unit Name	JOQS Number	Description
J600 Base	J-Chassis-600	6RU, 19" modular chassis with 14 input slots and 5 output slots able to support up to 56 HD or 28 4K input channels and 20 HD or 4K output channels.

Figure 2.4: J600 Chassis Front Panel

Figure 2.5: J600 Chassis Rear View

The J400/J600 designate slots by functionality. The J600 chassis has 14 designated slots for input boards, five designated slots for output boards, two designated slots for Control boards and a designated slot for the Monitoring board.

The Preview board which provides real time video in the JVWC management software, which is extremely helpful in seeing the source stream in input lists and editing the input source stream for cropping, actually uses an output slot.

Figure 2.6: J600 Chassis Slot Assignment

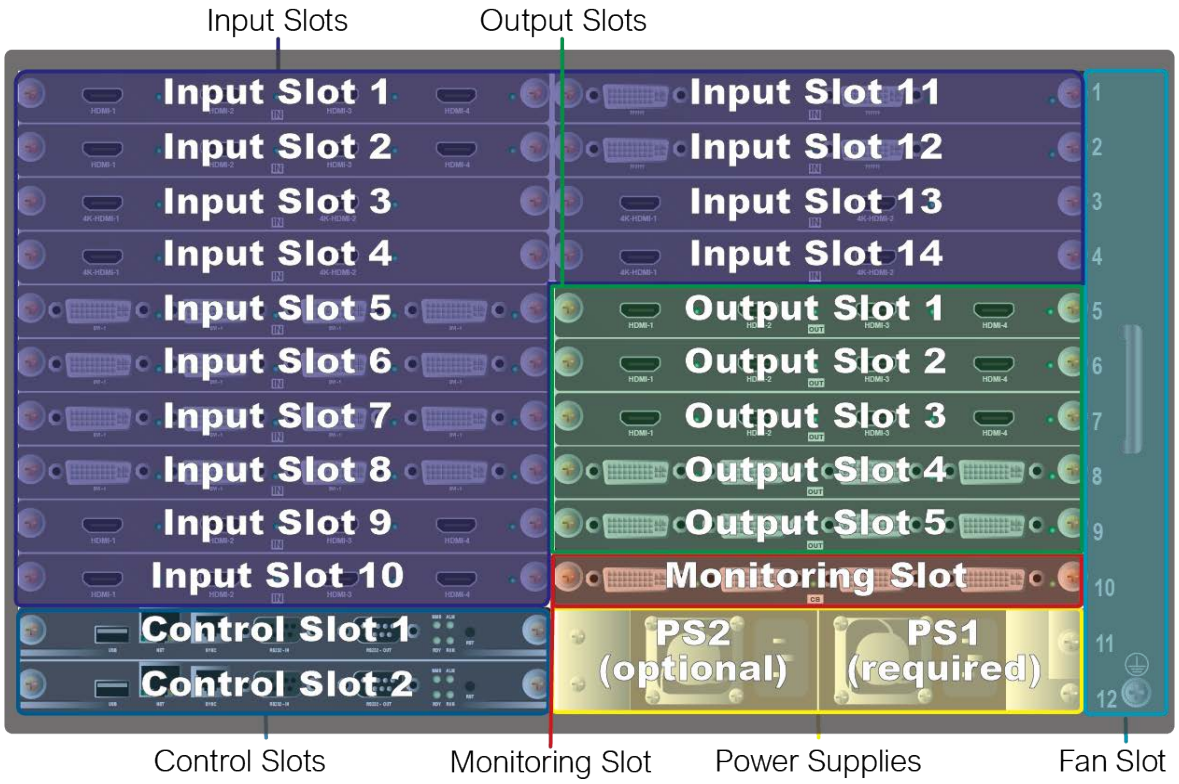


Table 2.4: J600 Chassis Specifications

Feature	Description
Form Factor	6RU
Power Consumption	500W
Maximum Input Slots	14
Maximum Input Channels	56 (HD) or 28 (4K). 4xHD/board and 2x4K/board
Maximum Output Slots	5
Maximum Output Channels	20 (HD or 4K)
Control Board Slots	2

Table 2.4: J600 Chassis Specifications (Continued)

Feature	Description
Monitoring Slot	1
Redundant PSU	Optional
General	
API Control	UDP, Ethernet or RS232
Operating System	None (LightSpeed technology is hardware based)
Video Walls per Chassis	4
Custom Resolution	Output and Input
Color Space	RGB 4:4:4
Bits per Color	8
Source Switching	≤20ms
Creating Window	≤16ms
Layouts	≤16ms
Environmental	
Operating Temperature	0° – 40°C (32° – 104°F)
Operating Humidity	10 – 90% (Non-condensing)
Storage/Transport Temperature	-10° – 66°C (14°-150°F)
Storage/Transport Humidity	5 – 95% (Non-condensing)
Maximum Altitude	10,000 ft
Regulatory	
Certifications	cULus, FCC, CE, NOM and EAC

CAUTION! The Monitoring Board and the HD DVI Input Board and the HD DVI Output Board look very similar from the faceplate/DVI connector view. However each has a different set of connections to the backplane of the J400/J600 chassis, so must be put in the appropriate slot. Attempting to put them in the wrong slot may cause damage to the board and/or the backplane. Please be sure you are putting the right card in the right slot.

2.3 Control Boards

The Control board is the controller for the JVWC as well as provides communication with the host PC. With the J400 and J600, dual Control Boards provide redundancy

Both boards connect to the LAN for the boards to work redundantly. The control board in the upper slot runs as primary by default. Swapping or pulling out one control board will not affect the video being displayed on the video wall as long as the other control board is in and functioning.

See *Dual Control Board Configuration on page 53* for more information about dual Control Board configurations.

Table 2.5: Control Board Ordering Information

Unit Name	JOQS Number	Description
Control Board for J400/ J600	J-CPUBoard	OPTIONAL Redundant Control Board Web based remote client to manage J400/J600. Supports API over RJ45/Ethernet or DB-9/RS232.

Figure 2.7: Control Board

Table 2.6: Control Board Interfaces

Interface	Connector	Description
NET	RJ45	Configuration or Operation with PC
SYNC	RJ45	Video signal synchronization
RS232IN	DB9 female	Serial port for communicating with PCs or from other J400/ J600s
RS232OUT	DB9 male	Serial port for communicating with other J400/J600s.
USB	USB	Currently unused

Table 2.7: Control Board Indicators

Interface/Indicator	Light	Indicates
Net	Green blinking	Port is connected successfully, otherwise failure
	Yellow blinking	Data transfer activity
Primary board in resilient configuration		
M/S	Light on	Primary board is operating/activated, if light at primary board is off that means secondary board is operating/activated.
	Light off	Secondary board is operating/activated
ALM	Light on	Operation failure
	Light off	No operation failure detected
RDY	Light on	Program status indicator; indicates that the program has been loaded
	Light off	Indicates the program is loading or there is some fault
RUN	Light on	The board has been activated
	Light off	Failure or abnormal operation

2.4 Input Boards

Both the J400 and J600 use the following input boards:

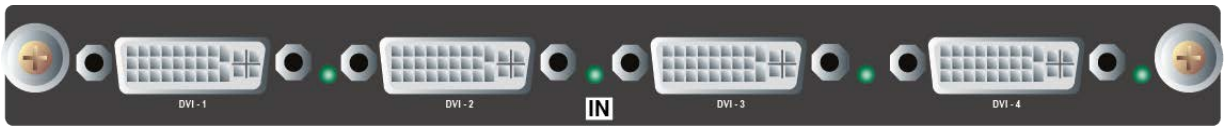
2.4.1 HD DVI Input Board

With 4x channels of SL DVI-I, the HD DVI Input Board supports resolutions up to 1920x1200@60Hz and automatically optimizes various resolutions for output.

Table 2.8: HD DVI Input Board Ordering Information

Unit Name	JOQS Number	Description
HD DVI Input Board	J-IN-4-DVI	4 channels SL-DVI input board: 4x Channels of Single Link DVI-I input board. Supports resolutions up to 1920x1200x60Hz.

Figure 2.8: HD DVI Input Board



The HD DVI Input Board supports:

- Signal source cropping
- Source preview via Preview Board (see *Section 2.6, Monitoring and Preview Boards on page 40*)
- Advanced EDID management including EDID editing
- Plug and play
- Configure on site
- Hot swappable
- Station logo
- Displays blue screen when no signal input

CAUTION! The Monitoring Board and the HD DVI Input Board and the HD DVI Output Board look very similar from the faceplate/DVI connector view. However each has a different set of connections to the backplane of the J400/J600 chassis, so must be put in the appropriate slot. Attempting to put them in the wrong slot may cause damage to the board and/or the backplane. Please be sure you are putting the right card in the right slot.

Table 2.9: HD DVI Input Board Interfaces

Interface	Connector	Description
(4) DVI	24+5 pin DVI-I	DVI 1.0 (can output VGA signal via adapter)

Table 2.10: HD DVI Input Indicators

Interface/Indicator	Light	Indicates
DVI	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.11: HD DVI Input Board Specifications

Specification	Description
Input Signal	DVI 1.0 Standard
Signal Level	$Vdiff_{P\_P}$:150mV-1200mV
Impedance	Z_{diff}: 100Ω
Maximum Resolution	1920x1200@60Hz
Max Transmission Rate	4.95Gb/s
Input Channels	4
Power	11.3W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.4.2 3GSDI Input Board

With 4 channels of SDI the 3GSDI Input Board supports resolutions up to 1920x1080@60Hz and automatically adapts various resolutions optimized for output.

Table 2.12: 3GSDI Input Board Ordering Information

Unit Name	JOQS Number	Description
3GSDI Input Board	J-IN-4-SDI	4 channels SDI input board: 4x Channels of SDI input board. Supports resolutions up to 1920x1080x60Hz (3G-SDI).

The 3GSDI Input Board supports:

- Signal source cropping
- Source preview via Preview Board (see *Section 2.6, Monitoring and Preview Boards on page 40*)
- Advanced EDID management including EDID editing
- Plug and play
- Configure on site
- Hot swappable
- Station logo
- Displays blue screen when no signal input

Figure 2.9: 3GSDI Input Board

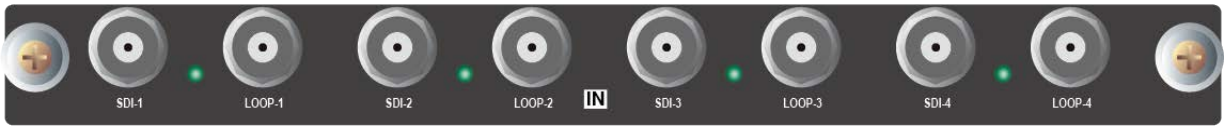


Table 2.13: 3GSDI Input Board Interfaces

Interface	Connector	Description
(4) SDI	BNC	4 channels 3GSDI. 3GSDI is rated 2.970 Gbits/second, Long cable runs, Locking BNC connectors

Table 2.14: 3GSDI Input Board Indicators

Interface/Indicator	Light	Indicates
SDI	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.15: 3GSDI Input Board Specifications

Specification	Description
Input Signal	SD/HD/3G SDI
Signal Level	Input SDI:800mVp-p,Output SDI:800mVp-p
Impedance	75Ω
Input Resolution	720 x 480i@60Hz, 720 x 576i@50Hz, 1280 x 720p@50Hz, 1280 x 720p@60Hz, 1920 x 1080i@50Hz, 1920 x 1080i@60Hz, 1920 x 1080p@24Hz, 1920 x 1080p@25Hz, 1920 x 1080p@30Hz, 1920 x 1080p@50Hz, 1920 x 1080p@60Hz
Max Transmission Rate	2.97Gbps
Input Channels	4
Power	13W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.4.3 HD HDMI Input Board

With 4 channels of HDMI 1.3, the HD HDMI Input Board supports resolutions up to 1920x1200x60Hz and automatically adapts various resolutions optimized for output.

Table 2.16: HD HDMI Input Board Ordering Information

Unit Name	JOQS Number	Description
HD HDMI Input Board	J-IN-4-HDMI	4 channels HDMI HD input: 4 channels of HDMI 1.3 input. Supports resolutions up to 1920x1200x60Hz.

Figure 2.10: HD HDMI Input Board

The HD HDMI Input Board supports:

- HDMI 1.3 protocol
- Compatible with DVI 1.0 protocol
- HDCP1.4 protocol
- Interlaced signal input
- Signal source cropping
- Source preview via Preview Board (see *Section 2.6, Monitoring and Preview Boards on page 40*)
- Advanced EDID management including EDID editing
- Plug and play
- Configure on site
- Hot swappable
- Station logo
- Displays blue screen when no signal input

Table 2.17: HD HDMI Input Board Interfaces

Interface	Connector	Description
(4) HDMI	HDMI Type A	HDMI 1.3/ DVI 1.0

Table 2.18: HD HDMI Input Board Indicators

Interface/Indicator	Light	Indicates
HDMI	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.19: HD HDMI Input Board Specifications

Specification	Description
Input Signal	HDMI 1.3/DVI 1.0 Standard
Signal Level	$Vdiff_{P-P}$:150mV - 1200mV
Impedance	100Ω
Maximum Resolution	1920*1200@60Hz
Max Transmission Rate	6.69Gbps
Input Channels	4
Power	12.3W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.4.4 UHD30 HDMI Input Board

With two channels of 4K HDMI 1.4, the UHD30 HDMI Input Board supports resolution up to 3840x2160@30Hz (4K@30Hz) and automatically optimizes various resolutions output.

Table 2.20: UHD30 HDMI Input Board Ordering Information

Unit Name	JOQS Number	Description
UHD30 HDMI Input Board	J-IN-2-4K30	2 channels HDMI 4K30 input board: 2x Channels of HDMI 1.4 input board. Supports resolutions up to 3840x2160x30Hz.

Figure 2.11: UHD30 HDMI Input Board

- HDMI 1.4
- Compatible with DVI 1.0
- HDCP validation
- Signal source cropping
- Advanced EDID management/EDID editing
- Configure on site, plug and play, hot swappable
- Source preview via Preview Board (see *Section 2.6, Monitoring and Preview Boards on page 40*)
- Station logo
- Blue screen when no input signal

Table 2.21: UHD30 HDMI Input Board Interfaces

Interface	Connector	Description
(2) 4K HDMI	HDMI Type A	HDMI 1.4/DVI 1.0

Table 2.22: UHD30 HDMI Input Board Indicators

Interface/Indicator	Light	Indicates
4K-HDMI	Green On	Port is connected successfully
	Green Blinking	Data transfer activity
	Off	No connection

Table 2.23: UHD30 HDMI Input Board Specifications

Specification	Description
Input Signal	HDMI 1.4/DVI 1.0DVI1.0 Standard
Signal Level	T.M.D.S. 2.9V~3.3V
Impedance	Z_{diff}: 100Ω
Maximum Resolution	3840x2160@30Hz
Frame Rate	Max. 30 frames at 4K resolution
Max Transmission Rate	9.0Gbps
Input Channels	2
Power	11.3W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.4.5 UHD60 HDMI Input Board

The UHD60 HDMI Input Board supports HDMI 2.0 protocol automatically adapting various resolutions and optimization for output and a maximum resolution up to 3840x2160@60Hz.

Table 2.24: UHD60 HDMI Input Board Ordering Information

Unit Name	JOQS Number	Description
UHD60 HDMI Input Board	J-IN-1-4K60	1 channel HDMI 4K60 input board

Figure 2.12: UHD60 HDMI Input Board

The UHD60 HDMI Input Board supports:

- Signal source cropping
- Source preview via Preview Board (see *Section 2.6, Monitoring and Preview Boards on page 40*)
- Advanced EDID management including EDID editing
- Plug and play
- Configure on site
- Hot swappable
- Station logo
- Displays blue screen when no signal input
- Embedded audio input

Table 2.25: UHD60 HDMI Input Board Interfaces

Interface	Connector	Description
(1) 4K HDMI	HDMI Type A	HDMI 1.4/DVI 1.0

Table 2.26: UHD60 HDMI Input Board Indicators

Interface/Indicator	Light	Indicates
4K-HDMI-1	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.27: UHD60 HDMI Input Board Specifications

Specification	Description
Input Signal	HDMI 1.4/HDMI 2.0
Signal Level	V_{diff} P-P: 50mV-1200mV
Impedance	Z_{diff}: 100Ω
Maximum Resolution	3840x2160@60Hz
Frame Rate	Max. 60 frames at 4K resolution
Max Transmission Rate	18.0Gbps
Input Channels	1
Power	20W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.4.6 IP Decoder Input Board

IP decoding boards can be mounted in the input slots of J400 and J600.

There are two RJ45 IP ports per board and each port can be set to a different IP address. Each port has a decoding channel which may be set to different Working Modes as defined in *Table 2.32. IP Decoder Input Board Work Mode on page 25*.

IP decoding boards support both H.264 and H.265. Each board has 2x RJ45 ports . Each port is able to decode 4x 3840*2160@30 or 8x 1920*1080@60 or 16x 1920*1080@30 or 32x 1280*720@30. Each board is able to decode 8x 3840*2160@30 or 16x 1920*1080@60 or 32x 1920*1080@30 or 64x 1280*720@30

Table 2.28: IP Decoder Input Board Ordering Information

Unit Name	JOQS Number	Description
IP Decoder Input Board	J-IN-2-IP	2 IP RJ45 Ethernet inputs. Each input port may be set to a different IP address. Each port is able to decode 4x 3840*2160@30 or 8x 1920*1080@60 or 16x 1920*1080@30 or 32x 1280*720@30. Each board is able to decode 8x 3840*2160@30 or 16x 1920*1080@60 or 32x 1920*1080@30 or 64x 1280*720@30

Figure 2.13: IP Decoder Input Board

The IP Decoder Input Board supports:

- Supports network CCTV camera (H.264/H.265/RTSP/RTP)
- Security media service
- Encoding box, encoding board

Table 2.29: IP Decoder Input Board Interfaces

Interface	Connector	Description
(2) IP	RJ45	RJ45 Ethernet 10M/100M/1000M auto-adaption

Table 2.30: IP Decoder Input Board Indicators

Interface/Indicator	Light	Indicates
RUN	Green blinking	Data transfer activity
LINK-1	Green on	Connected successfully
	Off	No connection

Table 2.30: IP Decoder Input Board Indicators (Continued)

Interface/Indicator	Light	Indicates
LINK-2	Green on	Connected successfully
	Off	No connection

Table 2.31: IP Decoder Input Board Specifications

Specification	Description
Input Signal	IP
Default IP Address	192.168.1.203
Max Decoding Capacity	Two (2) channels 4000x3000@25Hz (or 3840X2160@30Hz) signals, or eight (8) channels 3840x2160@30Hz signals, or thirty-two (32) channels 1920x1080@30Hz signals
Input Channels	2
Power	27W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

Table 2.32: IP Decoder Input Board Work Mode

Work Mode	Decoding Capacity	Output
Single view (1)	Support up to 1 channel 4000x 3000@25Hz (or 3840x 2160@30Hz) signal decoding	Single view, 4K output
Quad view (2x2)	Support up to 4x channel 3840x2160@30Hz signal decoding	2x2 view. 4K output
Nine view (3x3)	Support up to 9x channel 1920x1080@30Hz signal decoding	3x3 view, 4K output
Sixteen view (4x4)	Support up to 16x channel 1920x1080@30Hz signal decoding	4x4 view, 4K output

2.4.7 HDBaseT Input Board

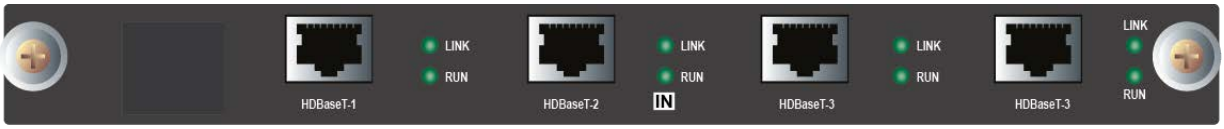
The HDBaseT Input receives four channels of HDBaseT signals.

HDBaseT provides low cost flexible cabling solutions of up to 100 meters using Cat6 Ethernet providing extended scenarios for video cameras, PCs, set-top boxes, game consoles and other video sources.

Table 2.33: HDBaseT Input Board Ordering Information

Unit Name	JOQS Number	Description
HDBaseT Input Board	J-IN-4-HDBT	4 channels HDBaseT with max resolution of 1920x1200@60Hz.

Figure 2.14: HDBaseT Input Board



The HDBaseT Input Board supports:

- Four channels per board
- Supports four channels embedded audio input
- 1920x1200@60Hz maximum resolution
- Support source preview via Preview Board
- Shows blue screen when there is no signal input

Table 2.34: HDBaseT Input Board Interfaces

Interface	Connector	Description
(4) HDBaseT	RJ45	RJ45 Ethernet

Table 2.35: HDBaseT Input Board Indicators

Interface/Indicator	Light	Indicates
RUN	Green blinking	Data transfer activity
LINK	Green on	Connected successfully
	Off	No connection

Table 2.36: HDBaseT Input Board Specifications

Specification	Description
RJ45 Line Sequence	Standard 568A or 568B
Connection way	RJ45 direct connection
Transmission distance	Max100m (Cat6 twist-pair cable)
Power	24W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.5 Output Boards

Both the J400 and J600 use the following output boards:

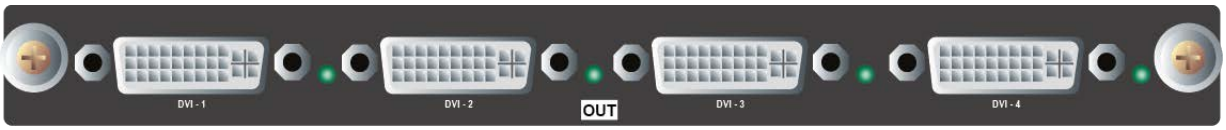
2.5.1 HD DVI Output Board

With four channels of SL DVI-I, the HD DVI Output Board outputs DVI signals to display devices, supporting resolution up to 1920x1200@60hz. Each channel supports four layer output.

Table 2.37: HD DVI Output Board Ordering Information

Unit Name	JOQS Number	Description
HD DVI Output Board	J-OUT-4-DVI	4 channels SL-DVI output board: 4x Channels of Single Link DVI-I input board. Supports resolutions up to 1920x1200x60Hz.

Figure 2.15: HD DVI Output Board



The HD DVI Input Board supports:

- Support resolution up to 1920 x 1200@60Hz
- DVI-I port, can output VGA signal via DVI-VGA adapter
- Each channel supports 4x layers with arbitrary roaming, overlay
- Multi-ports output with Sync and support synchronization with other signals
- Multi-channel synchronous output
- Configure on site, plug and play
- Supports background image
- Supports scrolling text
- Supports on-line upgrades
- 4 channels 3.5mm audio output with custom cable

CAUTION! The Monitoring Board and the HD DVI Input Board and the HD DVI Output Board look very similar from the faceplate/DVI connector view. However each has a different set of connections to the backplane of the J400/J600 chassis, so must be put in the appropriate slot. Attempting to put them in the wrong slot may cause damage to the board and/or the backplane. Please be sure you are putting the right card in the right slot.

Table 2.38: HD DVI Output Board Interfaces

Interface	Connector	Description
(4) DVI	24+5 pin DVI-I interface	VGA signal can be output by DVI-VGA adapter

Table 2.39: HD DVI Output Board Indicators

Interface/Indicator	Light	Indicates
DVI	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.40: HD DVI Output Board Specifications

Specification	Description
Outut Signal	DVI 1.0 Standard, VGA (via adapter)
Signal Level	$Vdiff_{P-P}$:800mV - 1200mV (DVI) | $0.7V_{p-p}$ (VGA)
Impedance	100Ω (DVI) | 75Ω (VGA)
Maximum Resolution	1920x1200@60Hz
Max Transmission Rate	4.95 Gbps
Output Channels	4
Power	28W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.5.2 3GSDI Output Board

The 3GSDI output board outputs SDI signals to display devices which use BNC coaxial cables.

Table 2.41: 3GSDI Output Board Ordering Information

Unit Name	JOQS Number	Description
3GSDI Output Board	J-OUT-4-SDI	4x Channels of SDI output. Supports resolutions up to 1920x1080x60Hz (3G-SDI).

Figure 2.16: 3GSDI Output Board

The 3GSDI Output Board supports:

- 3G-SDI, HD-SDI output format
- Up to 1920x1080P @ 60Hz
- Each channel supports 4x layers with arbitrary roaming, overlay
- Multi-channel synchronous output
- 4 channels embedded audio output
- Multi-channel synchronous output
- Configure on site, plug and play
- Background image
- Scrolling text
- On-line upgrades

Table 2.42: 3GSDI Output Board Interfaces

Interface	Connector	Description
(4) SDI	BNC	HD/3G SDI

Table 2.43: 3GSDI Output Board Indicators

Interface/Indicator	Light	Indicates
SDI	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.44: 3GSDI Output Board Specifications

Specification	Description
Output Signal	HD/3G SDI
Signal Level	800mVp-p
Impedance	75Ω
Output Resolution	1280 x 720p@50Hz, 1280 x 720p@60Hz, 1920 x 1080p@24Hz, 1920 x 1080p@25Hz, 1920 x 1080p@30Hz, 1920 x 1080p@50Hz, 1920 x 1080p@60Hz
Max Transmission Rate	2.97Gbps
Output Channels	4
Power	27W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.5.3 HD HDMI Output Board

With 4 channels of HDMI 1.3, the HD HDMI Output Board outputs standard HDMI with a maximum resolution of 1920x1200x60Hz.

Table 2.45: HD HDMI Output Board Ordering Information

Unit Name	JOQS Number	Description
HD HDMI Output Board	J-OUT-4-HDMI	4 channels HDMI HD input: 4 channels of HDMI 1.3 output. Supports resolutions up to 1920x1200x60Hz.

Figure 2.17: HD HDMI Output Board

- 4 HD HDMI channels per board
- Standard HDMI output with resolution up to 1920 x 1200@60Hz
- HDCP1.4 protocol
- Each channel supports 4x layers with arbitrary roaming, overlay
- Multi-ports output with Sync and support synchronization with other signals
- Multi-channel synchronous output
- Configure on site, plug and play
- Supports background image
- Supports scrolling text
- Supports on-line firmware upgrades

Table 2.46: HD HDMI Output Board Interfaces

Interface	Connector	Description
(4) HDMI	HDMI Type A	HDMI 1.3/ DVI 1.0

Table 2.47: HD HDMI Output Board Indicators

Interface/Indicator	Light	Indicates
HDMI	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.48: HD HDMI Output Board Specifications

Specification	Description
Outut Signal	HDMI 1.3
Signal Level	$Vdiff_{P\_P}$: 800mV-1200mV
Impedance	100Ω
Maximum Resolution	1920x1200@60Hz
Frame Rate	Maximum 60 frames at 1920x1200P
Max Transmission Rate	10.2Gbps
Output Channels	4
Power	26W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.5.4 UHD30 HDMI Output Board

With 4 channels of HDMI 1.4, the UHD30 HDMI Output Board outputs 4K HDMI with a maximum resolution of 3840x2160x30Hz.

Each channel supports 4/8 layer output. Working on 8 layers, 1st & 2nd channel will be combined as well the 3rd & 4th channel, you can take output either from 1st channel or 3rd channel.

Comparing to the 4 channel HDMI output board, the 4 channel UHD30 HDMI output board is designed for better performance at an LED wall and to enhance the image quality during scaling (Zoom in, Zoom out).

Table 2.49: UHD30 HDMI Output Board Ordering Information

Unit Name	JOQS Number	Description
UHD30 HDMI Output Board	J-OUT-4-4K30	4 channels HDMI 4K30 output board: 4x Channels of HDMI 1.4 output board. Supports resolutions up to 3840 x 2160 x 30Hz. Supports 4x 1080P windows per display or 2x 4K windows per display.

Figure 2.18: UHD30 HDMI Output Board

- 4 4K HD 30Hz HDMI channels per board
- Standard HDMI output with resolution up to 1920 x 1200@60Hz
- HDCP1.4 protocol
- Advance scaling algorithm enhances output for LED displays
- Each channel supports 4/8 layers with arbitrary roaming, overlay
- Multi-channel synchronous output
- Configure on site, plug and play
- Hot Swappable
- Supports background image
- Supports scrolling text

Table 2.50: UHD30 HDMI Output Board Interfaces

Interface	Connector	Description
(4) HDMI	HDMI Type A	HDMI 1.4

Table 2.51: UHD30 HDMI Output Board Indicators

Interface/Indicator	Light	Indicates
HDMI	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.52: UHD30 HDMI Output Board Specifications

Specification	Description
Outut Signal	HDMI 1.4
Signal Level	T.M.D.S. 2.9V~3.3V
Impedance	50Ω
Maximum Resolution	3840 x 2160@30Hz
Frame Rate	Maximum 30 frames at 3840 x 2160 2160P
Max Transmission Rate	10.2 Gbps
Output Channels	4
Power	27.6W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.5.5 UHD60 HDMI Output Board

With 2 channels of HDMI 2.0, the UHD60 HDMI Output Board outputs 4K HDMI with a maximum resolution of 3840x2160@60Hz.

Each channel supports 4/8 layer output. Working on 8 layers, 1st & 2nd channel will be combined as well the 3rd & 4th channel, you can take output either from 1st channel or 3rd channel.

Comparing to the 4 channel HDMI output board, the 4 channel UHD30 HDMI output board is designed for better performance at an LED wall and to enhance the image quality during scaling (Zoom in, Zoom out).

Table 2.53: UHD60 HDMI Output Board Ordering Information

Unit Name	JOQS Number	Description
UHD60 HDMI Output Board	J-OUT-2-4K60	2 channels HDMI 4K60 output board: 2x Channels of HDMI 2.0 output board. Supports resolutions up to 3840 x 2160@60Hz. Supports 8x 1080P windows per display or 4x 4K windows per display.

Figure 2.19: UHD60 HDMI Output Board

- 4 4K HD 60Hz HDMI channels per board
- Standard HDMI output with resolution up to 3840 x 2160@60Hz
- HDCP1.4 protocol
- Advance scaling algorithm enhances output for LED displays
- Each channel supports 4/8 layers with arbitrary roaming, overlay
- Multi-channel synchronous output
- Configure on site, plug and play
- Hot Swappable
- Supports background image
- Supports scrolling text

Table 2.54: UHD60 HDMI Output Board Interfaces

Interface	Connector	Description
(4) HDMI	HDMI Type A	HDMI 2.0

Table 2.55: UHD60 HDMI Output Board Indicators

Interface/Indicator	Light	Indicates
HDMI	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.56: UHD60 HDMI Output Board Specifications

Specification	Description
Outut Signal	HDMI 2.0
Signal Level	$Vdiff_{P\_P}$:800mV - 1200mV
Impedance	100Ω
Maximum Resolution	3840 x 2160@60Hz
Frame Rate	Maximum 30 frames at 3840 x 2160 2160P
Max Transmission Rate	18Gbps
Output Channels	4
Power	40W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.5.6 HDBaseT Output Board

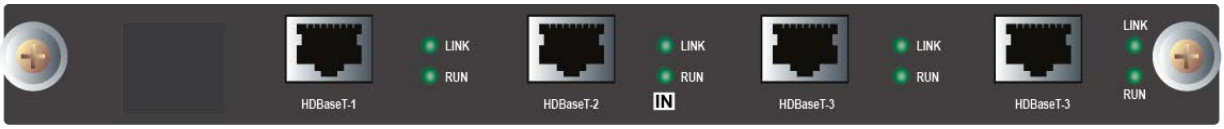
The HDBaseT Output board transmits four channels of HDBaseT signals.

HDBaseT provides low cost flexible cabling solutions of up to 100 meters using Cat6 Ethernet which can easily be used in wall/ceilings providing extended scenarios for HDBaseT capable displays.

Table 2.57: HDBaseT Output Board Ordering Information

Unit Name	JOQS Number	Description
HDBaseT Output Board	J-OUT-4-HDBT	4 channels HDBaseT with max resolution of 1920x1200@60Hz.

Figure 2.20: HDBaseT Output Board



The HDBaseT Output Board supports:

- Four channels per board
- Supports four channels embedded audio input
- 1920x1200@60Hz maximum resolution
- Support source preview via Preview Board
- Shows blue screen when there is no signal input

Table 2.58: HDBaseT Output Board Interfaces

Interface	Connector	Description
(4) HDBaseT	RJ45	RJ45 Ethernet

Table 2.59: HDBaseT Output Board Indicators

Interface/Indicator	Light	Indicates
RUN	Green blinking	Data transfer activity
LINK	Green on	Connected successfully
	Off	No connection

Table 2.60: HDBaseT Output Board Specifications

Specification	Description
RJ45 Line Sequence	Standard 568A or 568B
Connection way	RJ45 direct connection
Transmission distance	Max100m (Cat6 twist-pair cable)
Power	34.4W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.6 Monitoring and Preview Boards

Contents on the video wall can remotely be monitored on a single monitor with the Monitoring Board. The Preview Board sends the input signal to the J400/J600 Client software in real time.

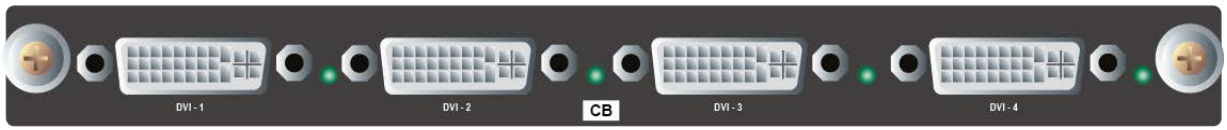
2.6.1 Monitoring Board

Contents on the video wall can remotely be monitored on a single monitor with the Monitoring Board.

Table 2.61: Monitoring Board Ordering Information

Unit Name	JOQS Number	Description
Monitoring Board	J-OUT-CPV	Provides a confidence preview by allowing the multi-display video wall to be previewed on a single monitor

Figure 2.21: Monitoring Board



The Monitoring Board supports:

- Monitor up to 80x output signals per board
- Four groups video wall monitoring per board at a time
- Original aspect ratio and full screen mode
- Frame and background color can be set by user
- Output resolution up to 1920x1200@60Hz

CAUTION! The Monitoring Board and the HD DVI Input Board and the HD DVI Output Board look very similar from the faceplate/DVI connector view. However each has a different set of connections to the backplane of the J400/J600 chassis, so must be put in the appropriate slot. Attempting to put them in the wrong slot may cause damage to the board and/or the backplane. Please be sure you are putting the right card in the right slot.

Table 2.62: Monitoring Board Interfaces

Interface	Connector	Description
(4) DVI	24+5 pin DVI-I interface	VGA signal can be output by DVI-VGA adapter

Table 2.63: Monitoring Board Indicators

Interface/Indicator	Light	Indicates
DVI	Green on	Port is connected successfully
	Green blinking	Data transfer activity
	Off	No connection

Table 2.64: Monitoring Board Specifications

Specification	Description
Output Signal	Support to monitor 80x output signals per board 4x group video wall monitoring per board at a time
Mode	Original aspect ratio mode, full screen mode
Output resolution	1920x1200@60Hz
Power	40W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.6.2 Preview Board

The Preview Board is an output board (must go in an output board slot). The Preview Board takes the input signal compresses and encodes it so it can be sent to the J400/J600 Client software. The video is shown in real time; you can see the video in various places:

- Graphic views of input sources
- Cropping input sources
- Adding input label

The ability to see the video enhances the preciseness of cropping the input or adding input labels to the video stream.

Multiple Preview Boards may be installed in a single chassis.

Table 2.65: Preview Board Ordering Information

Unit Name	JOQS Number	Description
Preview Board	J-OUT-PV	The preview board takes the input signal compresses and encodes it so it can be sent to the J400/J600 Client. The input is shown in real time

Figure 2.22: Preview Board

The Preview Board supports:

- Each board support 64 channel signal preview
- 10 frames per second
- Display preview (cropping) 120x67.5 pixels
- List preview resolution (input list, mimi) 480x270 pixels
- Configure on site
- Plug and play
- Online firmware upgrades

Table 2.66: Preview Board Interfaces

Interface	Connector	Description
(1) Ethernet	RJ-45	Compresses input signal and transmits it to the J400/ J600 Client for preview images

Table 2.67: Preview Board Indicators

Interface/Indicator	Light	Indicates
PV	Green blinking	Successful connection
	Green off	Failure
	Yellow blinking	Transfer activity
Run	Green blinking	Working correctly
	Green off	Failure
Link (4) Data transfer status indicator	Green blinking	Working correctly
	Green off	No data transfer activity

Table 2.68: Preview Board Specifications

Specification	Description
Output	Support up to 64 channel signal preview per board
Frame Rate	10 frame/s
Power	26W
Net Weight	.3Kg (.66 pounds)
Dimensions	20.3L x 22.4D x 2H cm (~8L x 8.82D x .79H inches)

2.7 Power Supplies and Fans

Figure 2.23: Modular J-Series Chassis Power Supply Unit (PSU) and PSU Filler Panel

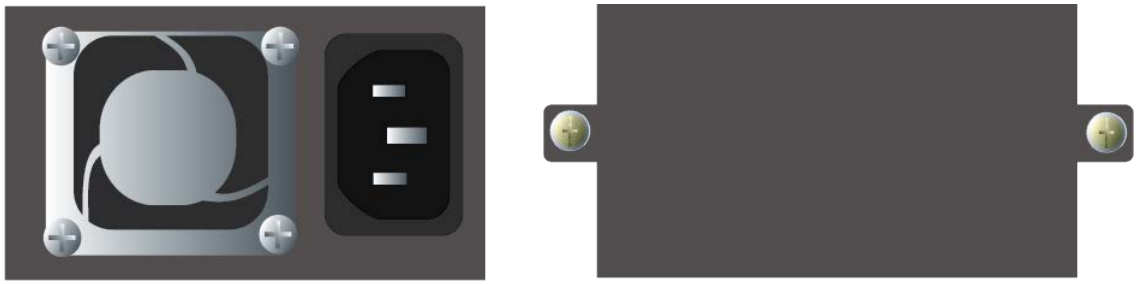


Table 2.69: PSU Specifications

Specification	Description
Max. Rated Power	550W
Autorange Input	50~60 Hz
Input Power	100-240 Vac/7A

Chapter 3
INSTALLATION

The J400/J600 are designed to be used on a 19 inch standard rack. Please follow all safety precautions, environmental considerations, and power and ground considerations.

3.1 J400/J600 Models Installation

Before installation review:

- *Section 3.3, General Safety Precautions on page 49*
- *Section 3.4, Install Location on page 49*
- *Section 3.5, Environmental Considerations on page 50*
- *Section 3.6, Power and Grounding on page 50*

1 *Unpack*

a *On receipt of the system, check the shipping cartons for physical damage.*

The shipping company representative will give instructions on how to submit a claim, where to send the unit, and any special instructions that may be required.

If you need to return the equipment, pack the equipment in its original packing materials and send it by prepaid freight to the address given by the claims representative. If the original packing materials are unavailable, ship the equipment in a sturdy carton, wrapping it with shock-absorbing material.

b *Unpack the shipping cartons, and check the contents for physical damage.*

If the equipment appears damaged, immediately contact the shipping company to file a claim.

2 *Mount the chassis in a rack*

When selecting a mounting location ambient temperature, air flow, and mechanical loading stability are appropriate for the installation.

Follow the directions in *Section 3.2, Rack Mount Installation on page 48*

3 *Install boards*

See *Section 3.7, Installing Boards on page 51* for slot assignments

4 *Connect power and ground*

For power consumption see the specifications for each chassis in *Table 2.2. J400 Chassis Specifications on page 7* and *Table 2.4. J600 Chassis Specifications on page 10*.

a *Plug a power cord to each power supply unit of the J400/J600*

b *Plug each power cord to a surge suppressing power strip which is connected to a grounded outlet.*

5 *Power on the chassis*

6 *Connect to management*

The J400/J600 may be managed locally through a serial connection or via the network through an Ethernet connection on the Control board. Preview boards have a separate Ethernet connection for supplying the preview stream to the J400/J600 Client.

Figure 3.1: Management Ports

a *Connect network Management*

Connect RJ45 Ethernet cable to the NET port and the network. (Cable not supplied.)

b *Connect Local Management (if needed)*

Connect 3P-DB9 cable to the RS232 port and to the PC via DB-9 to USB cable, if necessary. (Cables not supplied.)

7 *Connect the inputs and outputs to the J400/J600*

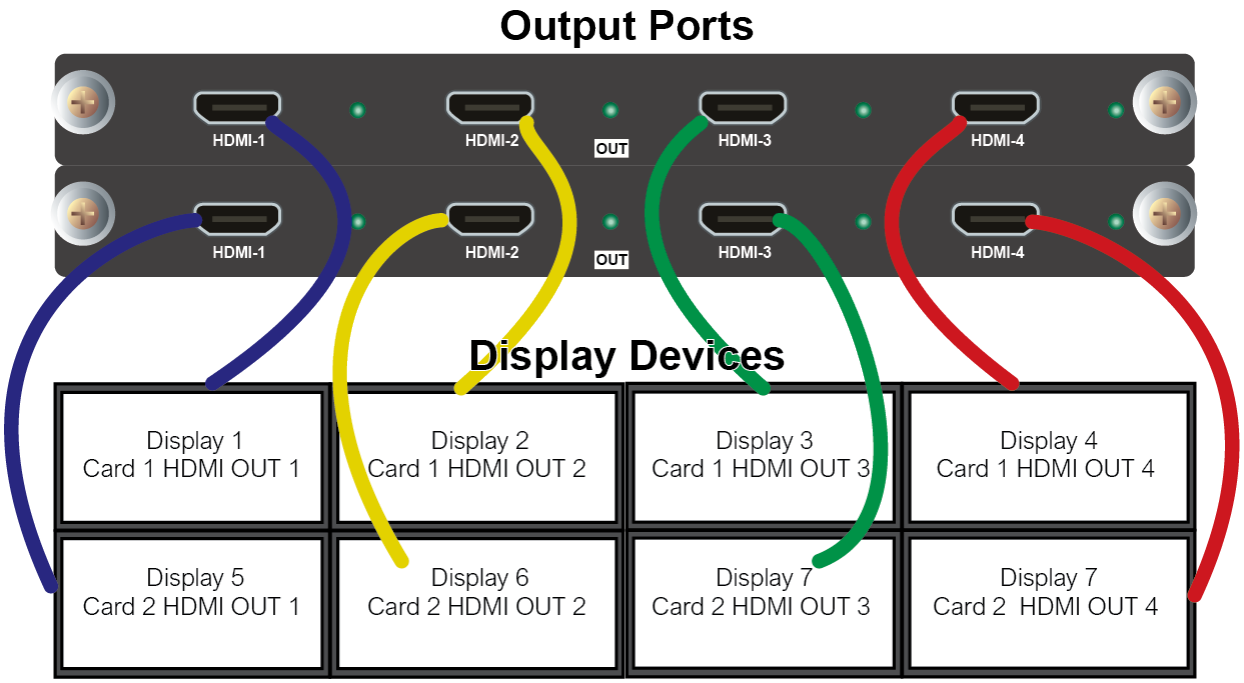
a *Connect video stream sources to the input*

b *Connect the outputs to the display monitors*

Typically the outputs are mapped to monitors in a pattern which mimics the display (hence the name Mimic for the view of the video wall within Jupiter's J400/J600 Client).

Follow a pattern which makes the most sense for your usage.

Figure 3.2: Typical Mapping of Outputs to Displays



8 *Verify functioning of your unit*

- Lights on unit (The power button on front will light up when unit has power)
- Network connection lights are working properly
- View the displays
- Input and output status lights are behaving properly
- Connection and order of connections to each display are as you have planned

3.2 Rack Mount Installation

Note: Provide sufficient clearance behind the chassis to remove the 9” long power supplies.

The J400/J600 chassis are designed for standard 19-inch racks.

To secure the rack, refer to the instructions that came with it from the rack manufacturer. One method for securing the rack is to bolt it to the floor or wall. Another method for securing the rack is to fasten it to another rack that is bolted to the floor or the wall, or to anchor the rack to something stable.

WARNING! If a rack is not properly secured, adding the J-Series chassis or other equipment to the rack may make the rack unstable.

CAUTION: Adhere to the following guidelines for optimal and safe use of the system.

1. *Keep the maximum recommended ambient temperature (TMRA) below +40° C (104° F)*
   - a. *Beware of elevated operating ambient temperature*

     If the J400/J600 is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the J400/J600 chassis in an environment compatible with the TMRA.
   - b. *Beware of reduced air flow*

     Installation of the J400/J600 *chassis in a rack should be such that the amount of airflow required for safe operation of the* J400/J600 *chassis is not compromised.*
2. *Be aware of uneven mechanical loading*

   Mounting of the J400/J600 *chassis in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading. Consult rack manufacturers loading instructions for proper load distribution.*
3. *Be aware of circuit overloading*

   Consideration should be given to the connection of the J400/J600 *chassis to the supply circuit and the effect that overloading of circuits might have on over current protection and supply wiring. Appropriate consideration of the* J400/J600 *chassis nameplate ratings should be used when addressing this concern.*
4. *Make sure the* J400/J600 *chassis is reliably grounded*

   Reliable grounding (earthing) of the J400/J600 *chassis should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (i.e. use of power strips).*

3.2.1 Rack Mounting J400/J600 Models

J400/J600 Models are shipped with the mounting ears attached. Mounting J400/J600 models in a standard 19 inch rack requires the following parts:

- Four 10-32 clip-on nuts (if needed)
- Four 10-32 x 1/2” front panel screws

3.2.2 Required Tools

To install a J400/J600 chassis in the rack, you need a Phillips head screwdriver.

3.2.3 Rack Mounting Procedure

Mount the inner left and right ears of the J400/J600 chassis to the rack.

Caution: For safety and protection of the equipment, it is recommended that two people lift and install the J400/J600t chassis into the rack.

3.3 General Safety Precautions

- To ensure safe and reliable operation of your Jupiter product, to avoid personal injury, and to prevent damage to your computer or Jupiter hardware, read the following guidelines.
- Read and retain all instructions. Only use your Jupiter product according to the instructions, operating ranges, and guidelines provided in the Jupiter user guide and other related Jupiter documentation. Failure to follow these instructions could result in damage to your product or injury to the user or installer.
- When installed in the final configuration, the product must comply with the applicable Safety Standards and regulatory requirements of the locale in which it is installed. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.
- Ensure that proper cable grades are used for all system and network connections. For best results, use the cables and connectors recommended in this document.
- Don't attempt to open or repair a power supply unit.
- Don't attempt to open or repair your Jupiter product.

3.4 Install Location

- Don't expose your Jupiter product to rain, water, condensation, or moisture.
- Never install this product in a wet location.
- Install the system in reasonable proximity to all equipment with which it will connect.
- Don't stack devices or place devices so close together that they're subject to recirculated or preheated air.
- Don't operate your system or Jupiter product near a heat source or restrict airflow to your system, and make sure the ambient temperature does not exceed the maximum recommended temperatures.
- Do not block system air vents; this will deprive the system of the airflow required for proper cooling. Sufficient clearance must exist on all sides of the rack to permit equipment access. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.

3.5 Environmental Considerations

- Note that the temperature of the rack environment may be greater than ambient room temperature, especially when the system is installed in a closed or multi-unit rack assembly. Do not exceed the maximum operating temperature specified. See *Chapter 2, Modular Chassis & Accessories on page 5* for Operating Temperature and Humidity.
- Ensure that the environment is free of dust and excessive moisture, that the unit is not exposed to the elements or temperature extremes, and has sufficient ventilation.
- The slot openings should be covered, either with the appropriate board OR with slot fillers.

3.6 Power and Grounding

- **WARNING!** The chassis must be properly grounded before powering up the equipment.
- Install the J400/J600 chassis in accordance with national and local electric codes to meet central office requirements. Consult a qualified electrical consultant.
- Only use power supplies originally supplied with the product or use a replacement that's approved by Jupiter. Don't use the power supply if it appears to be defective or has a damaged chassis.
- Don't defeat the safety purpose of the grounding-type plug. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug doesn't fit into your outlet, consult an electrician to replace the obsolete outlet.
- Make sure that nothing rests on the power cords and that the cords are not located where they can be stepped on, pinched, or tripped over.
- Do not use damaged power cords.
- Unplug your system or device during lightning storms or if unused for long periods of time.

3.7 Installing Boards

3.7.1 Designated Slots

Boards can only be used in designated slots:

- Input slots
- Output slots
- Control slots
- Monitoring slot

The Preview boards are considered output boards, so must go in output slots.

See Figure 3.3 and Figure 3.4 for slots assignments for the J400 and J600 chassis.

Figure 3.3: J600 Chassis Slot Assignment

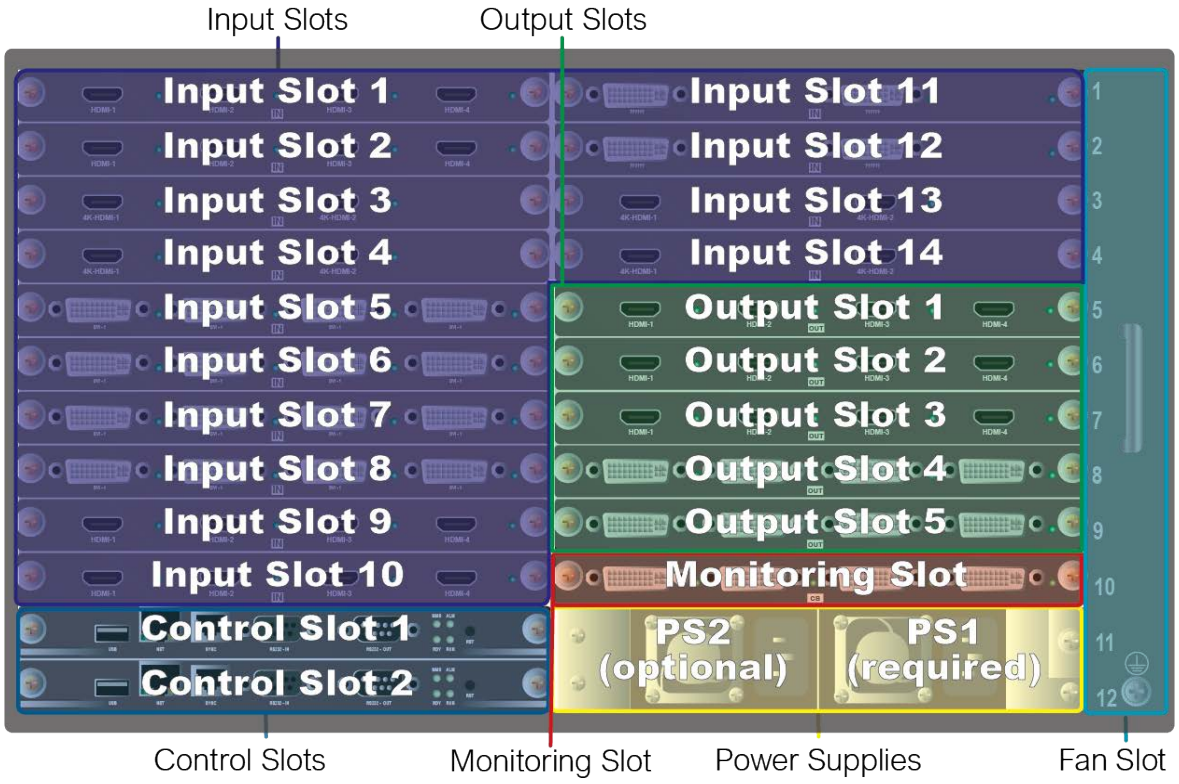
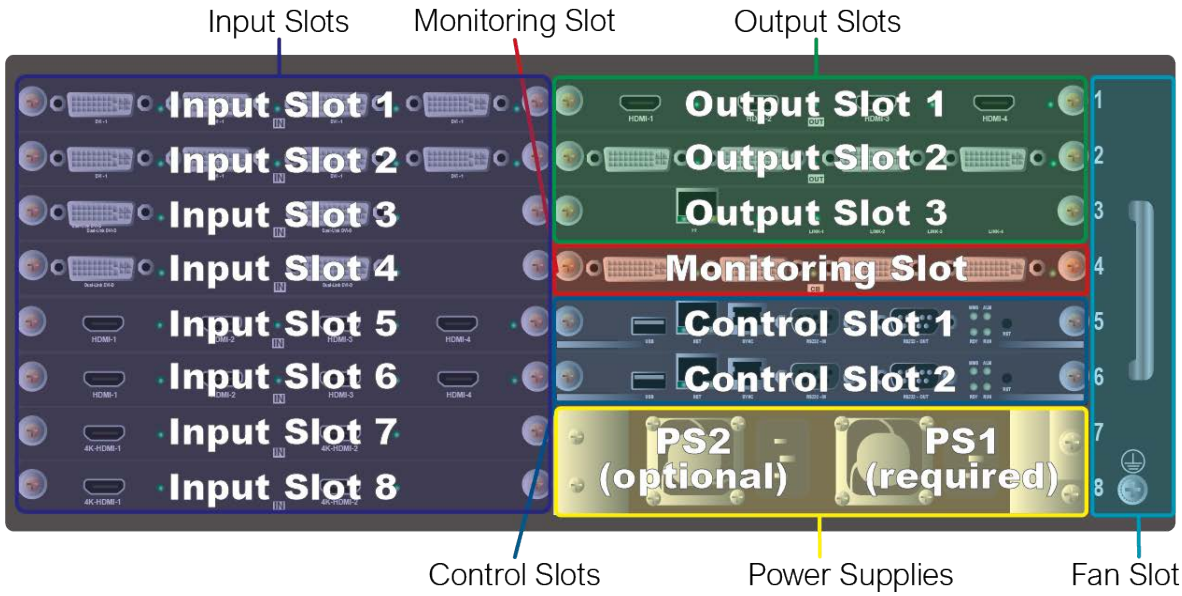


Figure 3.4: J400 Chassis Slot Assignment



3.7.2 Installing Boards

1. *Carefully remove the board from its anti-static packaging*
2. *Visually inspect the board for damage.*

   Check the label and part number on the board to verify the type of board being installed is the type needed for the particular application
3. *Verify the type of board and the appropriate slots for the type of board*

   See *Section 3.7.1, Designated Slots on page 51*.
4. *Holding the board by its faceplate, carefully insert the board into a slot*
5. *Seat the board in the backplane*

Caution: To prevent damage to the backplane connectors, do not force boards onto the backplane connectors when seating the boards. If you have trouble seating a board, check that it is in the correct slot, pull the board out, and try seating it again by pressing gently.

6. *Tighten the screws*

3.8 Dual Control Board Configuration

The control board provides for communicating with the host PC for configuration and operation.

The J400/J600 chassis support hot redundancy. With two control boards, both boards connect to the LAN. The control board in the upper slot runs as primary by default. Dual control boards use the same IP address. When the primary fails the secondary will take over automatically. The secondary will only become primary if it switches automatically due to a failure of the primary board.

Pulling out the control board(s) does not affect the current video streams displaying on the video walls.

Dual control boards synchronize the configuration. When a backup or restore is done, it is done for both control boards.

If a board failure occurs (other than a failure of the network cable) the Web client will display an alarm message.

This page has been intentionally left blank

Chapter 4
TECHNICAL SUPPORT

This chapter includes the following sections:

4.1 Hardware Faults

If you require assistance with any suspected hardware fault, please contact the vendor from whom you purchased the display while within the full warranty period for the display.

If you require technical assistance, please contact Jupiter Systems' technical support team. Please provide as much information to the support team about the fault and any steps you have taken in trying to resolve the issue.

4.2 Contact Information

- Website
  www.jupiter.com /support
- Phone
  1-510-675-1000
- Email
  support@jupiter.com
- Mail (physical)
  ATTN: Technical Support
  Jupiter Systems
  31015 Huntwood Avenue
  Hayward, CA 94544-7007

This page has been intentionally left blank

List of Figures

Chapter 1. Introduction

Chapter 2. Modular Chassis & Accessories

Chapter 3. Installation

List of Tables

Chapter 2. Modular Chassis & Accessories

INDEX

Numerics

A

C

D

F

G

H

I

J

L

M

O

P

R

S

T

U

V