



JUPITER FUSION 980

POWERFUL. FLEXIBLE. RELIABLE.

Introducing the Fusion 980 Display Wall Processor from Jupiter Systems.

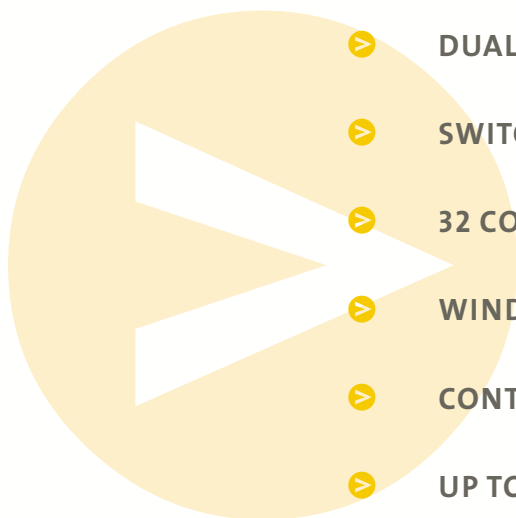
The Most Powerful Display Processor on the Planet.

With a Jupiter Display

Wall Processor, the whole

is truly greater than the

sum of its parts.



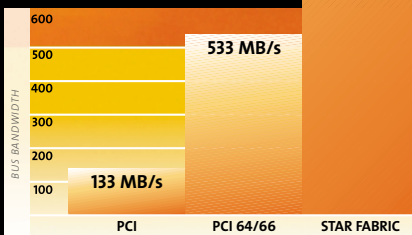
- DUAL INTEL XEON PROCESSORS
- SWITCH FABRIC INTERCONNECT WITH 4GB/S BANDWIDTH
- 32 COMPOSITE AND 16 S-VIDEO INPUTS
- WINDOWS XP PROFESSIONAL
- CONTROLPOINT™ SOFTWARE
- UP TO 3GB OF PC2100 DDR RAM
- UP TO 80 OUTPUT DISPLAY CHANNELS
- UP TO 32 RGB INPUT CHANNELS
- UP TO 3 SCSI HARD DRIVES WITH RAID 0,1, 5 SUPPORT
- MAJOR COMPONENTS ARE HOT-SWAPPABLE, INCLUDING:
SCSI DISKS, POWER SUPPLIES, FANS, DISPLAY CARDS,
SWITCH CARDS, AND RGB INPUT CARDS



WHAT IS A SWITCH FABRIC?

A Switch Fabric is a revolutionary interconnect architecture for computer systems that require high bandwidth data traffic across large scale systems. A Switch Fabric provides dedicated bandwidth to each slot in a system, allowing graphics, video and RGB data to flow freely without waiting for access to a bus. Traditional bus architectures, such as PCI, can only transmit a single piece of data at any given time, resulting in devices waiting for access to the bus to transmit data.

4GB/s



JUPITER SYSTEMS: A FOCUSED COMPANY

Jupiter Systems, in business for over 20 years, is the only manufacturer of specialized display systems concentrating solely on the control room market. Jupiter's highly focused design and development effort creates the best possible display wall processor at the best price/performance ratio without being held to outside development or commodity market influences. The result is an integrated hardware and software design that cannot be duplicated with an assembly of off-the-shelf parts and products from external suppliers. With a Jupiter Display Wall Processor, the whole is truly greater than the sum of its parts.

THE FUSION 980 DISPLAY WALL CONTROLLER

The Fusion 980 Display Wall Processor from Jupiter Systems is the ultimate solution for command and control applications requiring true 24/7 operation, superb visual performance and unrivaled configuration and operational flexibility. The Fusion 980 can blend seamlessly into installations such as Network Operation Centers (NOC), Public Utility Control Centers, Intelligent Traffic Management Centers, Process Control, Civil and Military Surveillance Systems, Call Centers, Financial Management Control Rooms, Boardroom and Video Conference Rooms.

The Fusion 980 Display Wall Processor integrates all of the visual data sources found in a control room environment and displays them in movable, scalable windows on a virtual display comprised of multiple output devices: monitors, LCD flat panels, plasma panels, projection cubes,

or a rear projection system. Data sources can include local applications, remote network applications, and directly connected video and analog RGB inputs. All data sources are accessed from an intuitive and consistent software interface providing complete control of the virtual display surface.



REVOLUTIONARY SWITCH FABRIC INTERCONNECT ARCHITECTURE

At the heart of the Fusion 980 is a state-of-the-art switched fabric interconnect, previously only found in high-end internet backbone switching equipment, and housed in its own 8U Switch Fabric Chassis. Traditional bus architecture, such as PCI, is a resource that is shared among all connected peripherals, and, as a result, is often overwhelmed by high data and graphics traffic commonly found in the control room environment. The Fusion 980 switch fabric provides each of its 15 peripheral slots with dedicated bandwidth of up to 4Gb/s. Peripheral cards connect through the Fusion 980 backplane to an ultra-high-bandwidth switch card that dynamically determines the optimal route for data to pass between cards, providing fast, scalable performance. With the addition of an optional parallel switch card, data bandwidth increases to an astonishing 8Gb/s per slot, guaranteeing fast RGB, graphics and video performance regardless of the display wall size and ensuring continued system operation even in the event of a switch card failure.

INDUSTRY LEADING CPU ARCHITECTURE

Anchoring the Fusion 980, and housed in a separate 4U chassis, is the most powerful CPU architecture of any display processor in its class: dual Intel Xeon processors running at 2.8 GHz, a 533MHz front side bus coupled to a standard 1GB of DDR RAM, a PCI-X peripheral bus with 3 available slots, and built-in dual Gigabit Ethernet interfaces. The Fusion 980 CPU chassis connects to the 8U switch fabric chassis via the same high-bandwidth connection that interconnects all of the switch fabric peripheral slots, assuring high graphics performance. With the capacity to add up to 3GB of RAM and the equivalent of four processors with Intel Hyper-Threading technology, the Fusion 980 can handily execute the most demanding command and control applications, and easily outrun its competition. PCI-X slots in the CPU chassis can hold optional quad or dual Gigabit Ethernet cards as well as a SCSI RAID card. The Fusion 980, when configured with three 36GB 10,000 RPM UW320 SCA drives, can have RAID 1 with a hot standby disk enabled as an option. All these features translate into the fastest and most flexible computing, graphics and video platform available today in a display wall processor.

HIGH PERFORMANCE GRAPHICS

Jupiter Systems is unique in the AV market, having established a strong OEM relationship with ATI, the world leader in graphics chip technology. Jupiter uses the ATI Radeon Mobility 7500 graphics chip in the Fusion 980. The Radeon Mobility 7500 has 32MB of on-chip memory and a core clock speed of 225MHz, providing world class graphics performance. The Fusion 980 supports both analog and digital (DVI) outputs on its DVI-I connector at resolutions up to 1600x1200 pixels analog and 1280x1024 digital. Custom display formats can be created with easy to use software, for installations using non-standard display devices.

FLEXIBLE VIDEO DISPLAY

The Fusion 980 provides ample video connectivity, with 32 composite BNC and 16 S-Video mini-DIN connectors. All graphics devices have access to connected video sources through Jupiter's exclusive analog video bus that is connected to all 15 peripheral slots and runs in parallel to the switch fabric. Real time video windows can be moved, scaled and placed freely on the display wall, and with standard Jupiter MultiVideo™ software, multiple video windows can be displayed on any output channel. Video windows act like any other window on the wall and can be freely moved, resized, minimized or maximized to cover the entire display wall. The Fusion 980 graphics cards utilize state-of-the-art video processing resulting in superb video quality at full 30fps rates.

HIGH PERFORMANCE RGB INPUTS

As many as 32 analog RGB inputs can be optionally added to a Fusion 980 Display Wall processor, with the availability of quad, dual or single RGB input boards. Sources such as laptops, workstations, stand-alone computers and legacy systems with resolutions up to 1600x1200 can be connected directly to the Fusion 980, displaying the source's output in a freely movable, scalable window on the display wall. With the incredible bandwidth of the switched fabric interconnect, RGB sources refresh in near real time regardless of the size of the window.

SYSTEM AVAILABILITY

The Fusion 980 is designed for continuous "24/7" operation in the control room environment. To this end, the Fusion 980 features many hot-swappable and redundant components including: hot-swappable redundant power supplies on both the CPU and Switch Fabric chassis, hot-swappable input, output and switch fabric cards, hot swappable fans, and hot-swappable SCSI disk drives. Jupiter is the only manufacturer truly committed to high-availability solutions for the display wall market—no other company provides a product with the redundancy, availability and low MTTR (mean time to repair) of the Fusion 980.

Hardware and software continuously monitor system parameters such as ambient chassis temperature, CPU temperatures, power supply voltages, switch fabric link status, and chassis fan tachometers, and automatically alert users to conditions that require direct intervention. System events are logged both in ControlPoint software and in the standard Windows event log.

CUSTOMIZABLE CONFIGURATIONS

The Fusion 980 is built in Jupiter's ISO 9001:2000 registered facility to meet the specific requirements of each customer.

- 15 card slots available in its Switch Fabric chassis
- Available PCI-X slots in the CPU chassis for standard PC expansion
- Can be configured with 1 to 15 graphics cards
- Up to 32 RGB inputs
- Up to ten Gigabit Ethernet ports
- Up to 3GB of RAM

An expansion Switch Fabric chassis can be added for a total of 30 available peripheral slots. Each Switch Fabric chassis has 32 composite and 16 S-Video input connectors.

The Fusion 980 comes standard with 1GB of PC2100 DDR RAM, a single hot-swappable 36GB SCSI-3 disk drive (second and third drives are optional), a 12x24x48 CDRW drive and 1.44MB floppy. The standard operating system is Windows XP Professional; Windows 2000 Professional is optionally available.

COMPREHENSIVE SOFTWARE SUITE

Jupiter Systems designs all of its own software and hardware as an integrated whole, creating a tightly woven architecture that yields the highest possible performance from its systems.

Jupiter's third generation Galileo VirtualScreen™ drivers are seamlessly integrated into the Windows XP environment providing intuitive setup of display wall configurations and allowing Windows applications to freely move and scale across the entire display wall. Included X Window server software provides compatibility with X Window client applications on workstations and servers from HP, IBM, Sun, and Linux PCs.

Included with the Fusion 980 is RemoteCursor™ software, which allows a user at a networked Windows workstation to take control of the display wall with his local keyboard and mouse, and have direct access to the entire display wall as if he were sitting at the keyboard and mouse directly attached to the controller. Multiple users can run RemoteCursor simultaneously, although only one can have access to the display wall at a given time.

The Jupiter Fusion 980 comes standard with the Windows XP Professional operating system. Windows 2000 Professional is an option.

CONTROLPOINT™

The Fusion 980 is delivered with Jupiter's exclusive ControlPoint software. ControlPoint is a complete, integrated, and intuitive software solution for the control and management of the Fusion 980 display wall processor.

ControlPoint is a client/server based system: the server resides on the Fusion 980 processor directly accessing hardware functionality, whereas the client is installed on a user's network-accessible PC running Windows. ControlPoint client and server communicate over a TCP/IP connection with the ControlPoint protocol, an open-text communications protocol.

ControlPoint provides a consistent user interface to start, position, size, and scale application, RGB, and video windows, both on the display wall itself and remotely via a network client.

With RGB and video windows, ControlPoint provides a dialog-based user interface to change the input channel, adjust display parameters such as brightness, contrast, saturation and hue, and to position, size and label the window. ControlPoint also allows the user to crop a video or RGB source to view only that precise part of interest to the user. Application windows can be started from the ControlPoint remote client interface and then interacted with just as any other window.

ControlPoint provides the ability to save the state of the display wall into a layout, stored on the display processor, and to quickly recall saved layouts directly from the user interface or from user-assigned hot-keys. The number of layouts is virtually unlimited.

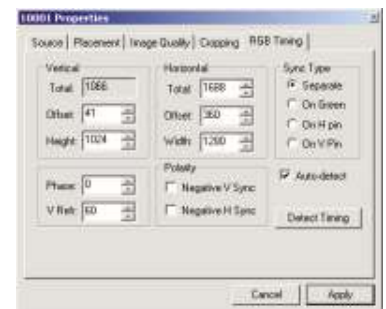
ControlPoint remote client displays a scaled-down mimic of the display wall which includes live, continuously updated images for easy identification of specific windows during manipulation of the display wall. Windows can be interacted with directly on the mimic and can easily be moved, resized, minimized, maximized and closed.

ControlPoint displays system monitoring data in an event list as a tear-off dialog which can be hidden if desired. ControlPoint alerts the user to any potentially hazardous conditions arising in the Fusion 980 via a health status icon displayed in the status bar at the bottom of the ControlPoint remote client window.

The ControlPoint protocol and supporting API can be used for custom applications and control. An RS-232 gateway is provided for serial communication devices. Touch panel interfaces, remote control software, and custom applications are all possible. Simple applications using JavaScript and HTML can be generated in minutes, whereas the complete power of the Jupiter Fusion 980 is available to those who truly want a customized interface and complete control.



PLACEMENT



TIMING



CONTROL POINT CLIENT WINDOW SHOWING REAL TIME DISPLAY OF APPLICATION GRAPHICS, RGB AND VIDEO INPUT WINDOWS.

JUPITER FUSION 980 SPECIFICATIONS



Jupiter Systems, Inc.
3073 Teagarden Street
San Leandro, CA 94577
PHONE: 510-667-9000
FAX: 510-667-9151
www.jupiter.com

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CPU

Processor Standard Dual Intel Xeon (2.8 GHz)
System memory ECC protected, Standard 1 GB; Optional 2GB or 3GB
Form factor 4U CPU chassis, 8U Switch Fabric chassis
Expansion slots 15 (up to 30 with 8U expansion chassis)

DISK STORAGE

Hard disk Standard single 36GB, 10k RPM, Ultra320 SCA-2 removable drive; Optional second or third 36GB, 10k RPM, Ultra320 SCA-2 removable drives (with RAID 1); Optional RAID 5 controller
Optical Storage Combo drive, 20x (CD-R) / 10x (CD-RW)/40x (CD read)
Floppy 1.44 MB

NETWORK INTERFACE

Ethernet Standard integrated dual 10/100/1000 Mbps RJ45 ports; Optional dual and quad 10/100/1000 Mbps boards

USB

Two rear panel ports

INPUT DEVICES

104-key keyboard; mouse with 2-buttons + wheel/button

TOUCH PANEL SUPPORT

AMX or Crestron support built-in

GRAPHICS DISPLAY CAPABILITIES

Graphics memory 32MB SGRAM per graphics channel
Number of outputs 2 to 80
Wall configuration Any rectangular array
Resolution 640x480 to 1600x1200 pixels per output (1280x1024 maximum digital)
Color Depth 24 bits per pixel
Cursor Hardware cursor
Output signal DVI-I connector (both analog and digital, DVI-I to HD15 adapters included)

VIDEO INPUT

Inputs 32 composite BNC and 16 S-Video mini-DIN per Switch Fabric chassis
Input format NTSC, PAL, SECAM
Scaling and display Up to 10768x7680 pixel window size, multiple video windows per display channel

RGB INPUT

Inputs Optional 1 HD15 (1 card) to 32 HD15 (8 cards)
Processors 1 (1 single processor card) to 32 (8 quad processor cards)
Format RGB with any sync type (composite, separate, sync on green)
Pixel rate Up to 160MHz pixel clock
Scaling and display Up to 4096x3072 pixel window size, multiple RGB windows per display channel

RACKMOUNT CHASSIS

CPU Chassis 7"x19"x24.5" (H x W x D)
Switch Fabric Chassis 14"x19"x13" (H x W x D)
Weight 90 lbs
Shipping weight 110 lbs

OPERATING RANGE

Temperature 32°F – 104°F (0°C – 40°C)
Humidity 10 – 90% non-condensing
Altitude Up to 10,000 feet (3,048m)

ELECTRICAL REQUIREMENTS

Input voltage 100-240 VAC, auto-ranging power supply
Line frequency 60/50 Hz
Power consumption 800 Watts, maximum

REGULATORY

United States UL 60950 listed, FCC Class A
Canada cUL CSA C22.2 No. 60950
International CE Mark, CB Certificate and mark, IEC 60950