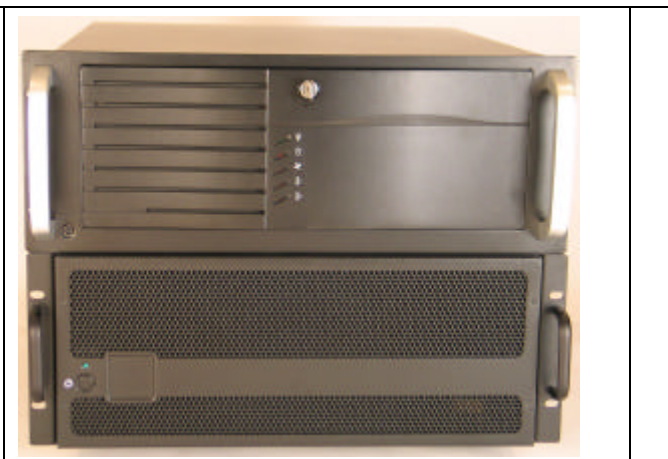
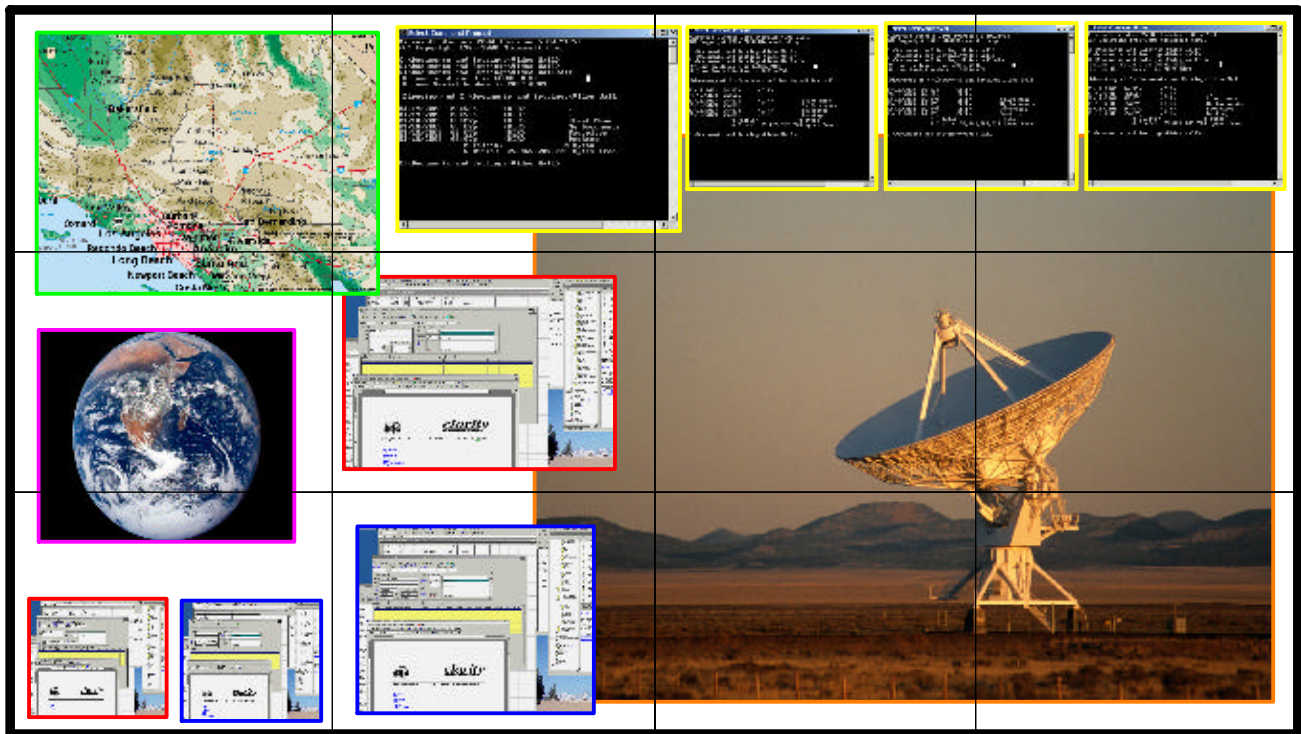




# VP-500/1000/1500 SERIES VIDEO PROCESSORS



The VP-500/1000/1500 line of video processors from Pixell are Windows XP based multi input and multi-output image control devices that allows Composite/S-Video and Computer RGB signals to be sized and placed on large venue video walls and multi display screens. In addition, screen images from other Windows computers and servers can be imported via an intranet, sized, scaled and displayed in real time through these processors. An optional software module allows creation, scheduling and playback of canned shows for digital signage applications. Each system is configured and built, as the installation requires.

These processors are intended for use in command and control environments, military applications, power plants, boardroom, network operations centers, security operations centers, video conferencing, and multimedia presentations. They are “Card Cage” type expandable systems that are built to order depending on the number and type of required inputs and outputs for a particular installation.

<b>Technical Specifications:</b>			
	<b>VP-500</b>	<b>VP-1000</b>	<b>VP-1500</b>
<b>OUTPUTS:</b>	4 to 20 RGBHV Analog or Digital DVI + RGBHV Control output	4 to 28 RGBHV Analog or Digital DVI + RGBHV Control output	4 to 28 RGBHV Analog or Digital DVI + RGBHV Control output S-Video Component SD and HD
Horizontal rate	15kHz to 90kHz		
Vertical refresh	37Hz to 85Hz (see below)		
Max Resolution Analog	640x480 to 1600x1200 @ 75 Hz 1920x1440/1920x1080 @ 60Hz 2048x1536 @ 37Hz		
Max Resolution Digital	640x480 to 1280x1024 @ 75Hz 1600x1200/1920x1080 @ 60/59Hz 2048x1536 @ 30Hz		
Video levels	0.7 to 1.0 V peak to peak, white positive		
Sync levels	1V to 5V (separate sync)		
Sync type	RGBHV separate H and V sync or DVI-D		
Misc	75 Ohm impedance, 16MB SDRAM per output, S3 Savage4-PRO chip per output	75 Ohm impedance, 32MB SDRAM per output, S3 Delta Chrome chip per out	
Connectors	HD15 pin Female for RGBHV or DVI-D for digital (BNC for S-Video and Component on VP-1500)		
<b>RGB DVI digital or Analog Computer Inputs:</b>	<b>VP-500</b>	<b>VP-1000</b>	<b>VP-1500</b>
Max Number	Up to 12	Up to 16	Up to 16
Signal Format	640x480 to 2048x1536 analog, 640x1920x1080 digital	640x480 to 2048x1536 analog, 640x1920x1080 digital	640x480 to 2048x1536 analog, 640x1920x1080 digital

Sync type	RGBHV analog (5 wire), RGBS (4 wire), RGsB (3 wire) or Digital Single link, TMDS	RGBHV analog (5 wire), RGBS (4 wire), RGsB (3 wire) or Digital Single link, TMDS	RGBHV analog (5 wire), RGBS (4 wire), RGsB (3 wire) or Digital Single link, TMDS
Update Rate	2-120 Frames Per Second (depending on # and size of windows open and color depth)	2-120 Frames Per Second (depending on # and size of windows open and color depth)	2-120 Frames Per Second (depending on # and size of windows open and color depth)
Input Connector	DVI-I analog or digital	DVI-I analog or digital	DVI-I analog or digital
Scaling	Smooth scaling from icon size to full screen including PIP	Smooth scaling from icon size to full screen including PIP	Smooth scaling from icon size to full screen including PIP
Growth Increments	2 inputs per card	2 inputs per card	2 inputs per card
Pixel Formats	RGB: 555, 565 or 888, YUV 4:2:2: UYVY, YUY2, YVYU	RGB: 555, 565 or 888, YUV 4:2:2: UYVY, YUY2, YVYU	RGB: 555, 565 or 888, YUV 4:2:2: UYVY, YUY2, YVYU
Max sample rate	340 MPixels per second	340 MPixels per second	340 MPixels per second
Max Throughput	1Gb/S maximum, 500Mb/S sustained	1Gb/S maximum, 500Mb/S sustained	1Gb/S maximum, 500Mb/S sustained
<b>Composite/ S-Video INPUTS:</b>			
	<b>VP-500</b>	<b>VP-1000</b>	<b>VP-1500</b>
Max Number	Up to 96 (16 windows per output)	Up to 128 (16 windows per output)	Up to 128 (16 windows per output)
Growth Increments	4 or 9 inputs per blade (see <a href="http://www.pixell.com/vim.htm">www.pixell.com/vim.htm</a> for limitations with 4 input option)		4 or 16 inputs per blade (see <a href="http://www.pixell.com/vims.htm">www.pixell.com/vims.htm</a> for limitations with 4/8/12/16 input option)
Video Formats	NTSC/PAL/SECAM on Composite or S-Video (Y/C) signal		
Input Levels	1 volt P-P		
Scaling	Smooth scaling from icon size to full screen including PIP (except 4 input card)		
Connectors	BNC Female		
<b>RGB Analog Computer Inputs:</b>			
	<b>VP-500</b>	<b>VP-1000</b>	<b>VP-1500</b>
Max Number	Up to 12	Up to 16	Up to 16
Signal Format	640x480 to 1600x1200 RGB Analog		
Sync type	RGBHV (5 wire), RGBS (4 wire), RGsB (3 wire)		
Update Rate	2-120 Frames Per Second (depending on # windows open and color depth)		
Input Connector	HD-15 Female		
Scaling	Smooth scaling from icon size to full screen including PIP		
Growth Increments	1 or 2 inputs per card		
Connectors	BNC Female		

<b>Component HD &amp; Composite SD Inputs:</b>	<b>VP-500</b>	<b>VP-1000</b>	<b>VP-1500</b>
Max Number	N/A	N/A	16 component, 32 composite
Growth Increments	N/A	N/A	4 component, 8 composite/S-video
Signal type SD			1v P-P Composite or Y/C NTSC 480i / PAL567i
Connector SD			Female BNC on Termination panel
Signal type HD	N/A	N/A	YPrPb analog 481i/576i/720p/1080i Or RGB analog 640x480, 800x600, 1024x768, 1280x720, 1280x1028
Connector HD	N/A	N/A	3 BNC for YPrPb, HD-15F / RGB
Frame Rate			25 or 30 FPS
<b>RGB Import Computer inputs Via Ethernet</b>			
	<b>VP-500</b>	<b>VP-1000</b>	<b>VP-1500</b>
Max Connections	24	256	1024
Max Resolution	640x480 to 2048x1536, 16 bit		
Scaling	Smooth scaling from icon size to full screen including PIP		
Control	Allows control of remote machine		
Throughput	Multiple 1GB Ethernet adaptors supported includes automatic load balancing		
<b>OTHER:</b>			
Software	<p>RGB Import: Allows MS Windows and UNIX computer desktop images to be imported via Ethernet. (also allow encrypted control of machine being viewed)</p> <p>Wall Control: Allows creation and manipulation of windows for NTSC/PAL and RGB hardware signals connected to be re-displayed. (Runs on the processor or remote machine)</p> <p>Wall Remote: Allows operators viewing video wall to use their keyboard and mouse to control processor. MS Windows XP Professional</p>		
Power Supply	<p>RGB Import: Allows MS Windows and UNIX computer desktop images to be imported via Ethernet. (also allow encrypted control of machine being viewed)</p> <p>Wall Control: Allows creation and manipulation of windows for NTSC/PAL and RGB hardware signals connected to be re-displayed. (Runs on the processor or remote machine)</p>		

Power Supply Redundant	90-264 VAC, 47-63 Hz Output less than 400 Watts Agency Approvals: UL 1950 QQQQ2, QQQQ8, TUV Rhineland (EN 60950, EC950 mod) CB Certification
Processor	90-132 or 180-264 VAC, 47-63 Hz Output less than 400 Watts X 2 Agency Approvals: UL 1950 QQQQ2, QQQQ8, TUV Rhineland (EN 60950, EC950 mod) CB Certification
Ports	Intel P4HT, 3.2 GHz, 1024mb main, 2mb L2, DVD R/W, Floppy, 80GB SATA removable.
MTBF/MTTR	2 RS-232 serial, 4 USB, audio, Parallel, 10/100 Ethernet, Keyboard, Mouse
Matrix Switch	100,000 hours (excluding fans) Life expectancy of fans is 30,000 hours./40 minuets
Operating Temp	Optional 32x32 matrix switch for composite video or mono audio
Storage Temp	0 degrees C to 50 degrees C
Humidity	-20 degrees C to 70 degrees C
Cooling	5 to 90 % non-condensing
Size	Forced air, filtered inlet front of unit, exhaust rear. (Filter accessible from front of unit)
Weight	19" wide, 7"high, 18.5" deep 19" rack mount 4U high
Expansion	40-48 lbs depending on configuration (each chassis)
Expansion	Expansion chassis required for larger configurations, also a 4RU chassis.

Some features shown and listed in this document are optional. Not all inputs or outputs can be installed in a given chassis. Contact Pixell for legal configurations and quotations, all units built to order.

# System Concepts

The VP series processors are designed to aggregate multiple video signals, manipulate the size and placement of each image and re-display them on multiple large-scale displays such as a video wall or array of projectors or monitors.

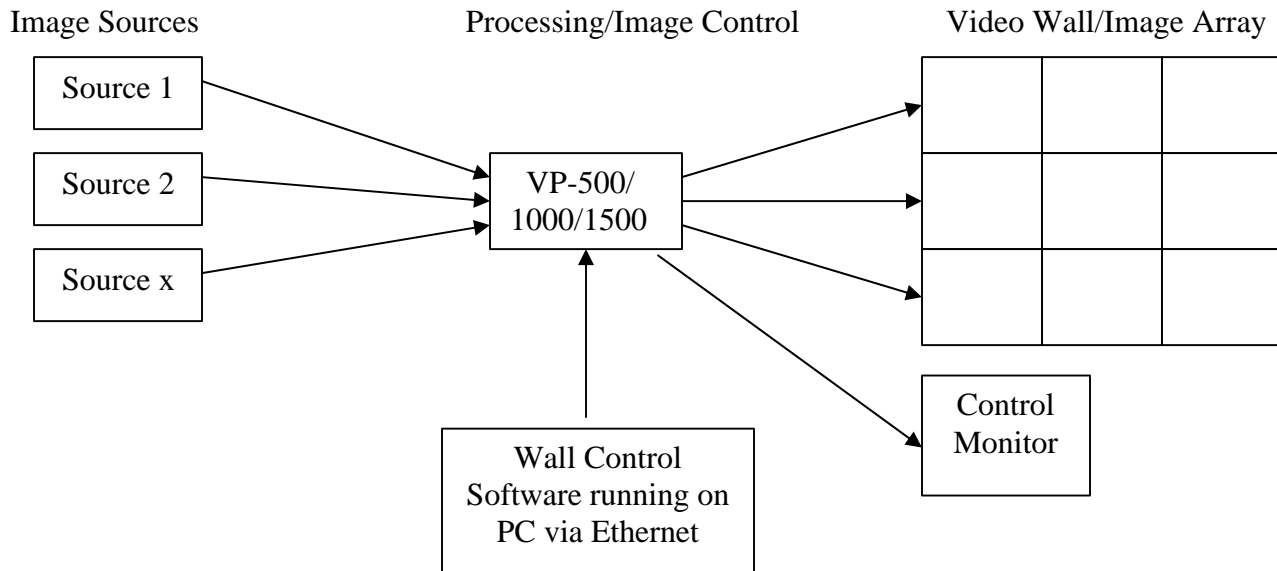
Source video signals can be imported to the VP processor via a hardware connection physically connected to it or over an Ethernet LAN transport, or a combination of both.

Since the VP processor is running the Windows XP operating system, application software (i.e. Internet Explorer etc) can run locally and concurrently with windows showing external video source information while allowing window overlapping and user determined Z-order layouts.

Image and window control is accomplished with Pixell's Wall Control client and server software running on the processor itself. Wall Control client user interface typically is shown on the supported control monitor output which is separate from the main array outputs. Wall Control client can be configured to show what images are on the main array or wire frame representation as below.

Wall Control client can also be installed on multiple network connected XP computers and interact with the processor concurrently.

Below is a conceptual overview of image flow and control modules:

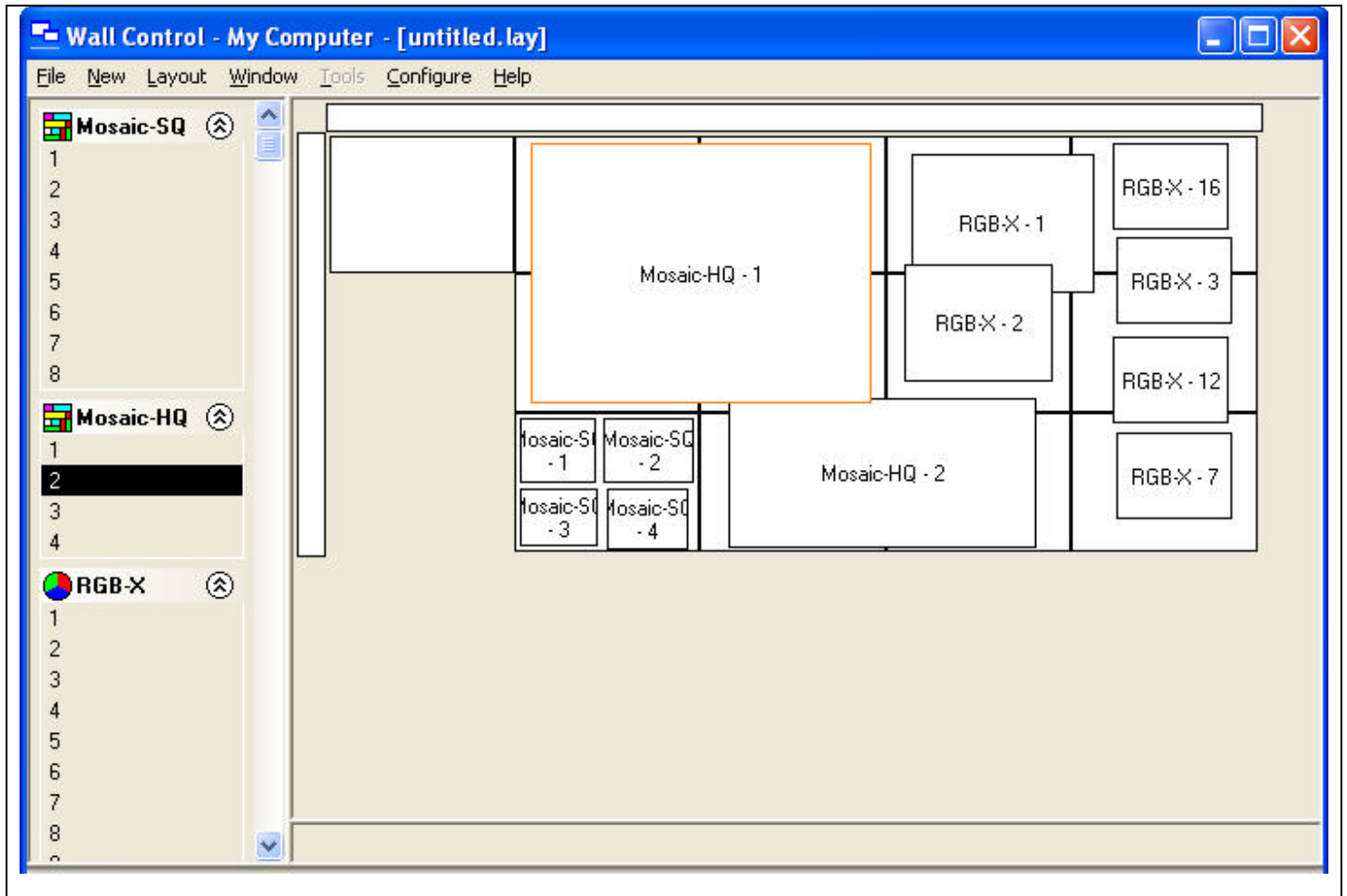


# Wall Control User Interface

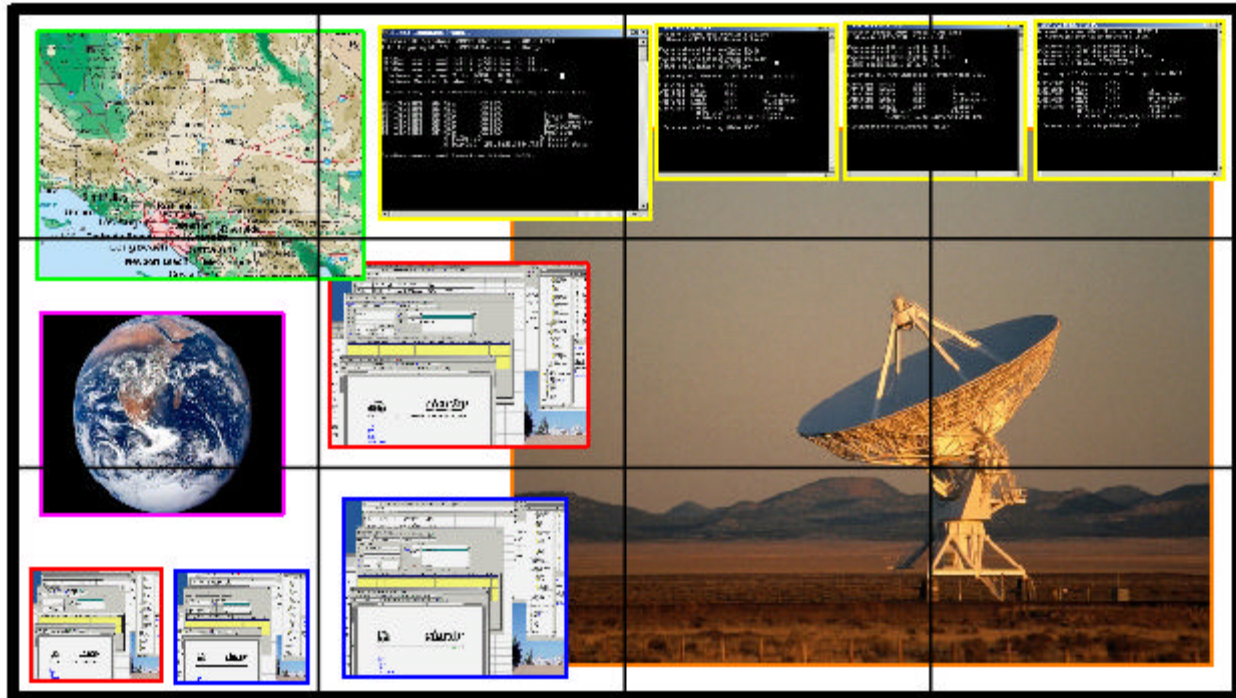
Wall Control's function is to manage what inputs are shown where and in what size on the output array. In addition it can manage applications software running on the processor like browser windows, etc.

Once a particular configuration of windows has been generated by corner dragging and or numeric size and location entry, it can be saved as a "layout" file that later can be recalled with a single mouse click or external command to the processor. (AMX, Creston, Etc) Multiple layouts can be generated and saved allowing operators to toggle between them for common scenarios. (The example below is untitled.lay)

Below is a screen shot of a 4x3 array of displays with 12 external input windows being shown in different size and scale. Along the left side of the application the installed inputs are shown, in this case 8 Mosaic SQ standard quality inputs, 4 Mosaic HQ HD inputs, and 16 RGB/DVI computer inputs. The top left display is the control monitor where this application can run without affecting the main array. (Number and kind of inputs and output array will vary depending on hardware installed)



# VIDEO / DISPLAY WALL LOGIC DIAGRAM



RGBHV Analog or DVI Digital Output

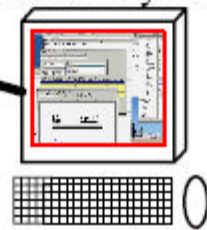
VCR/DVD



S-Video SD  
Composite

VP Series Processor  
Wall Control Server  
RGB Import Server  
Windows XP

Processor Control  
Monitor/Keybd/mouse



Camera/Satellite



Component HD YPrPb  
RGB/DVI Monitor Signal

RGB Import software input via Ethernet

Customer Servers  
Running  
RGB Import Client

Computer  
Running:

Computer  
Running:

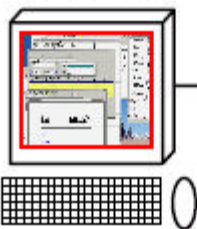
RGB Import  
Wall Control

RGB Import  
Wall Control



Server  
Server  
Server  
Server

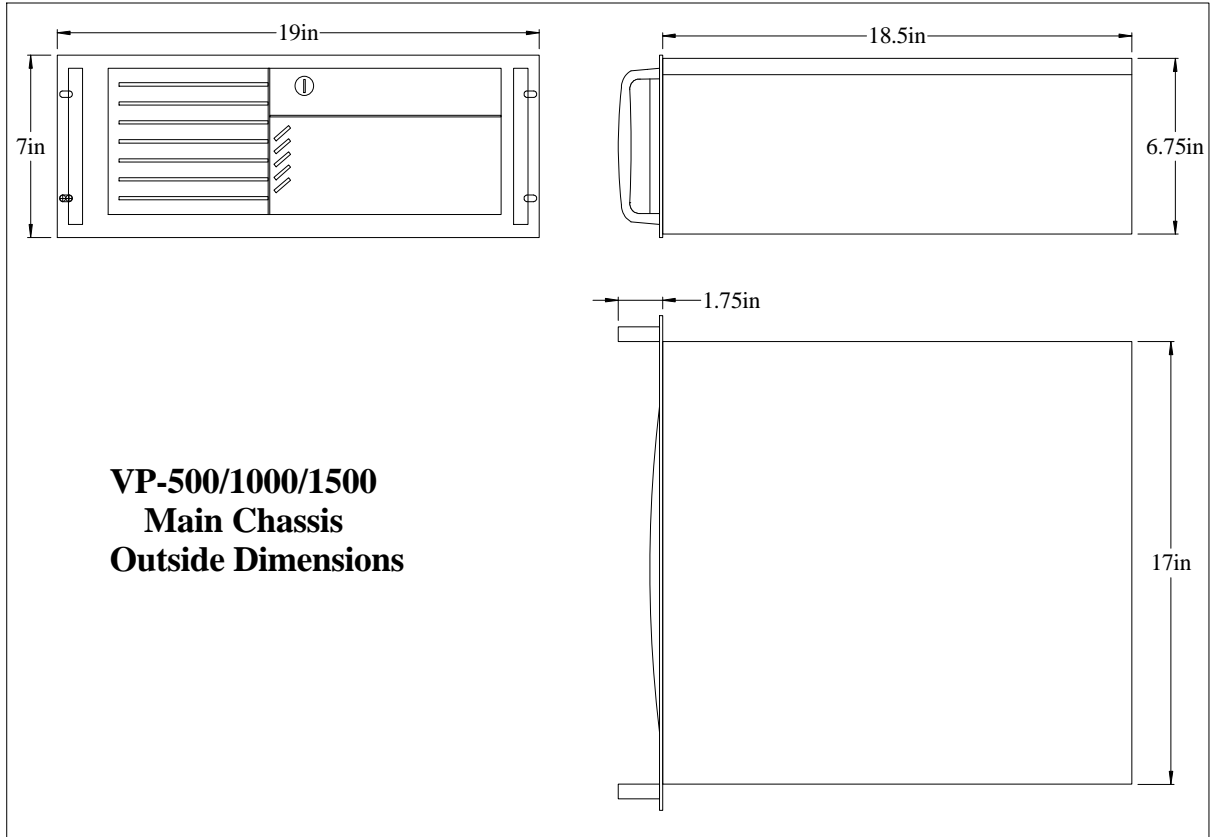
Computer



Ethernet

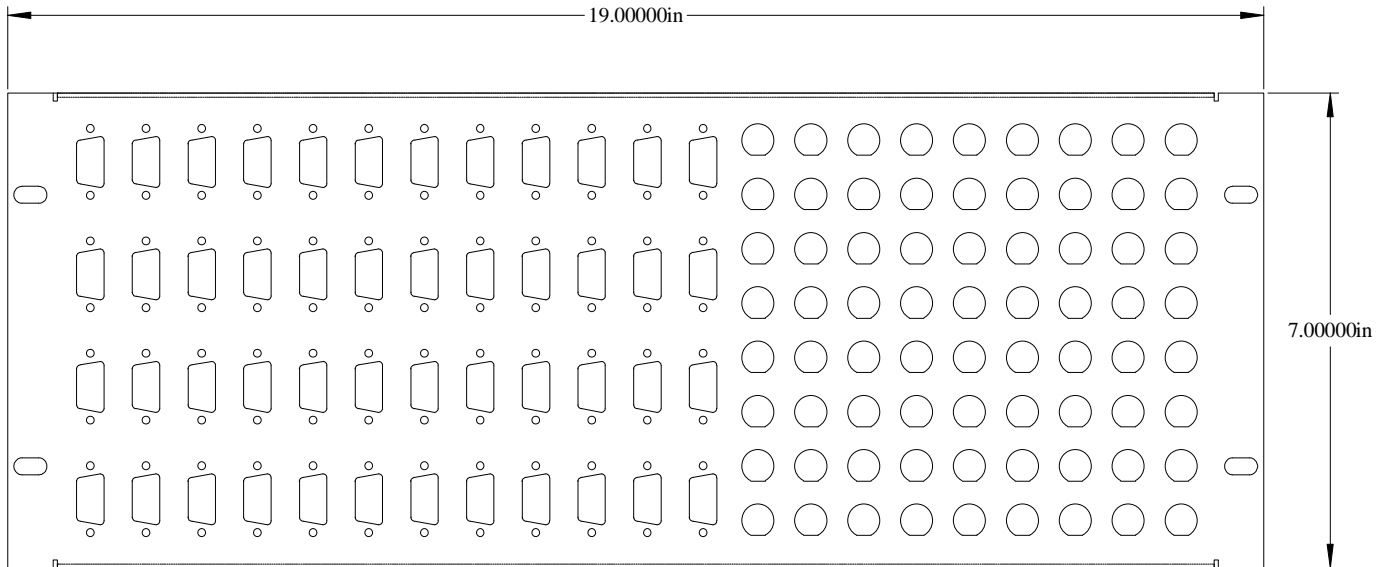
# Main Chassis

Dimensions in inches



# Rear Termination panel

(only supplied on systems with over 8 BNC input connectors)



RGB inputs and outputs

Composite and S-Video inputs

Specifications subject to change without notice 8/1/08

For more information contact:

PIXELL

888-749-3551 [www.pixell.com](http://www.pixell.com)