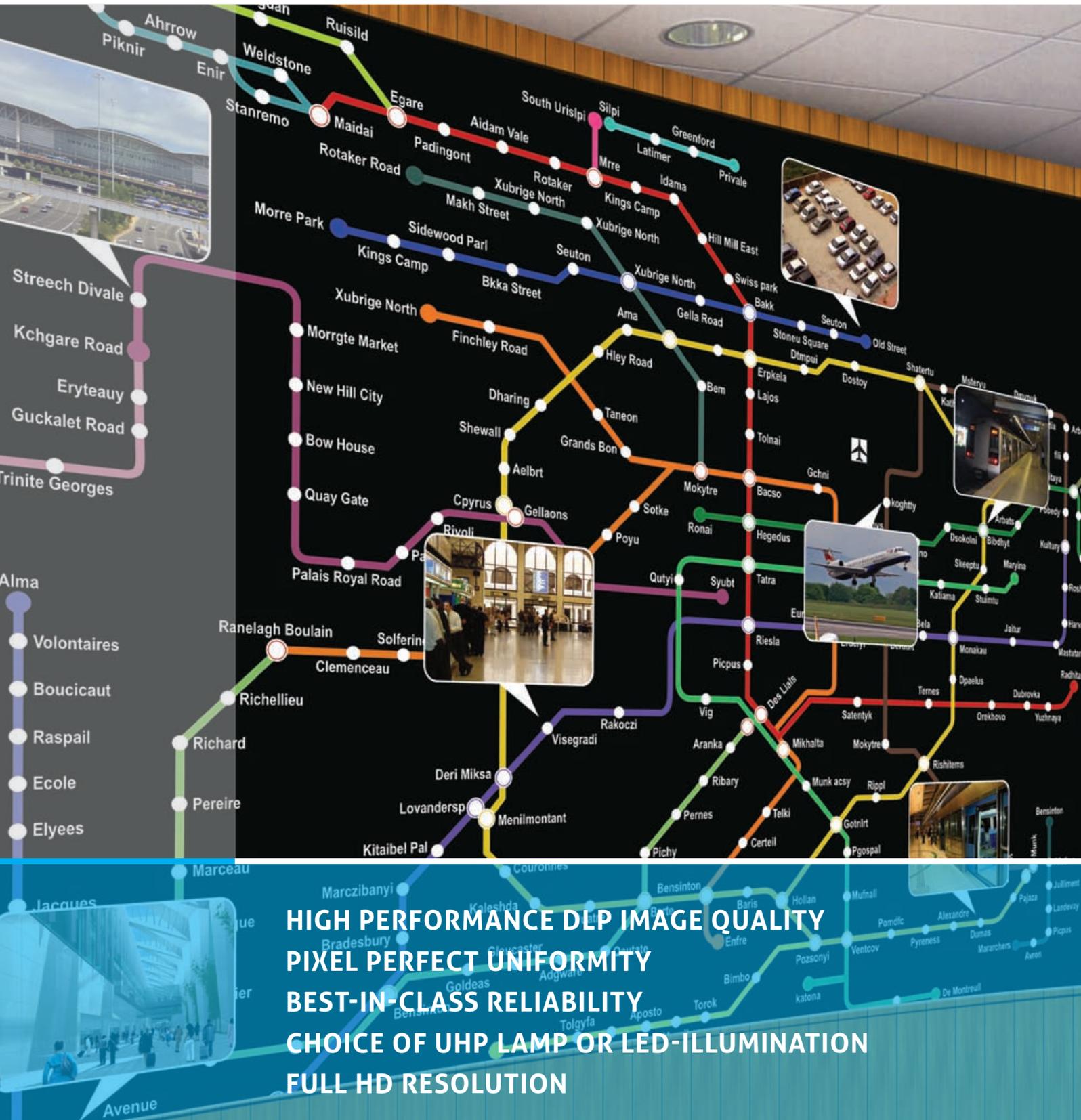




50" 60" 67" 70" 80"

VIDEO WALL DISPLAY SOLUTIONS FOR CONTROL ROOMS



HIGH PERFORMANCE DLP IMAGE QUALITY
PIXEL PERFECT UNIFORMITY
BEST-IN-CLASS RELIABILITY
CHOICE OF UHP LAMP OR LED-ILLUMINATION
FULL HD RESOLUTION

CONTROL ROOMS ARE THE NERVE CENTER OF ANY MAJOR OPERATION. WHETHER IT'S THE DISTRIBUTION OF ELECTRICITY, REFINING OF PETROCHEMICALS, SURVEILLANCE OF CITY STREETS OR MANAGING A MAJOR DISASTER, THE CONTROL ROOM HOLDS THE REINS OF THE OPERATION AND MUST HAVE A TIGHT GRIP ON IT AT ALL TIMES.

SECOND TO SECOND, MINUTE BY MINUTE.

To do this effectively, the control room needs clear, precise, accurate information, which typically comes in from a variety of different sources: from CCTV cameras and instrument sensors to regional NOCs and substations. All this information needs to be continuously monitored, comprehended and acted upon. And, more often than not, the control room runs around the clock.

Because of their ability to display a vast array of information simultaneously – and present it collectively to a wide audience – high resolution large screen displays (often know as video walls) are the back bone of any command and control center. They are a vital tool for collaborative monitoring and decision making.

DELIVERING YOU THE DETAIL

DLP technology used in all Delta's video wall displays brings the ultimate visual experience to your control room. Delivering sharp, crisp video images and clear, easy-to-read text and graphics, DLP technology ensures that your control room operators always have the detail to perform at their best.

LARGEST OEM OF OPTICAL ENGINES IN THE WORLD

Delta's extensive experience in DLP® technology is unsurpassed in the marketplace. No other company has more accumulated experience in DLP engine design and manufacturing than Delta.

MANUFACTURING LEADERSHIP

As a global multi-billion dollar company, Delta places innovation, quality and reliability at the heart its culture. This focus and unrelenting drive to deliver the best has helped Delta achieve its leadership position in the control room video wall display market.

Delta prides itself in producing its entire video wall system in-house – based on its own design and manufacturing capabilities. This includes the projection engine, cube mechanics and controllers. Delta even manufactures its own color wheel and other optics including the lens.

This philosophy provides the company with full control over the quality and costs of the system. This is critical for long term reliability and long term support – important factors when choosing your control room display.

The unique combination of DLP expertise, in-house design and manufacturing excellence, and unrelenting dedication to quality and reliability, ensures that you will receive state-of-art performance, superior quality and exceptional levels of reliability for your Delta video wall solution.



ONE TRILLION OPERATIONS PER SECOND.

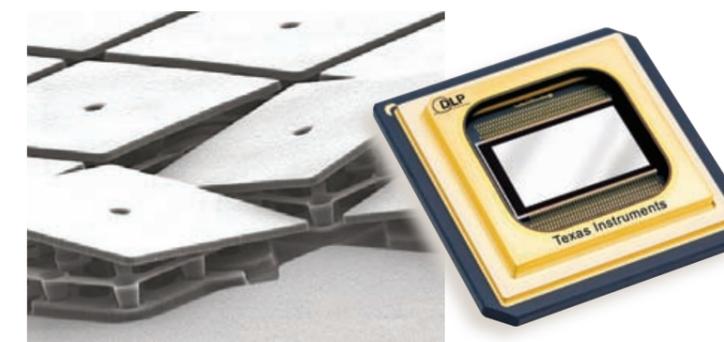


ENABLING YOUR STAFF TO MAKE CRITICAL DECISIONS

The projection engines used in all Delta rear projection video walls are powered by DLP technology. Generating extraordinary image quality with incredible color depth and contrast, DLP technology brings video images to life and enables detailed data to be read with ease – extremely important factors in a control room environment. DLP technology is also renowned for its robustness and long term reliability.

At the heart of a DLP projection system is the DLP® chip which contains an array of up to 2 million hinge-mounted microscopic mirrors. Each mirror can switch on and off up to several thousand times a second enabling it to reflect up to 1,024 shades of grey and create up to 35 trillion colors.

Boasting exceptional high contrast ratios (up to 20,000:1), DLP technology delivers crisp, sharp whites and deep dark blacks producing 3D-like images that almost pop out of the screen.



DLP TECHNOLOGY: THE HANDS-DOWN WINNER

Whilst DLP technology plays a key role in the high image quality delivered by Delta's video walls, it is Delta's powerful image processing which truly sets it apart from its rivals.

Incorporating 10-bit HQV processing and SIMD (Simple Instruction Multiple Data) array with 3K processors, Delta's image processing unit delivers you the most advanced processing available on the market today. Working at a rate of 1 trillion operations per sec, the processor scales all incoming signals to the native resolution of the display and then enhances the image, removing any artifacts caused by the conversion and transmission of video.

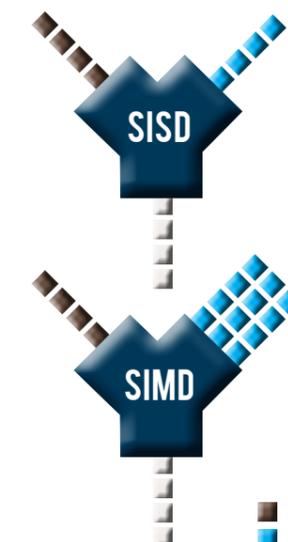
The enhancement is performed with four-field motion adaptive de-interlacing, multi cadence tracking, expanded 10-bit color processing and detail enhancement. The result transforms standard-definition sources to HD quality and makes HD look even more detailed. Moreover,

Delta's HQV image processing provides real-time clean up of highly compressed video, reducing compression artifacts of block and mosquito noise from lower-quality sources.

Key features:

- True HD 1080i to 1080p 4-field de-interlacing
- HD/SD multi-directional diagonal filtering (MDDF)
- 4D per-pixel motion adaptive noise reduction
- Automatic cadence detection with support for any cadence, including 3:2, 2:2, variable-speed (3:2:3:2:2) and animation (5:5, 6:4, 8:7)
- Per-pixel video/film detection for NTSC, PAL and film cadences
- 16 to 1024 tap adaptive scaling

IT'S ALL IN THE PROCESSING



■ Instructions
■ Data
■ Results



SOLUTIONS FOR EVERY CONTROL ROOM APPLICATION.

SURVEILLANCE, TRAFFIC, BROADCAST, POWER...

OVER 22 PRODUCTS TO CHOOSE FROM



Delta offers an extensive product portfolio with over twenty two “off-the-shelf” products suited to every application and every type of installation. Delta’s cubes (as they are commonly known in the industry) are available in a range of resolutions including XGA (1024 x 768 pixels) and SXGA+ (1400 x 1050).

For more demanding applications where HD video is a requirement, Delta also offers native full HD (1920 x 1080 pixels) resolution. Cubes are specially designed to be tiled together to form screens of extremely high resolutions.

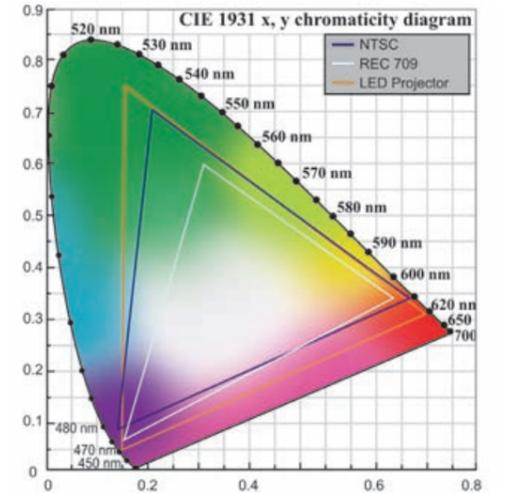
NO LAMP CHANGES & WIDER COLOR GAMUT WITH LED-ILLUMINATION

Delta video walls now come with a choice of light sources: UHP lamp or LED.

LED illumination offers you an array of performance enhancements – both in image quality and cost of ownership. By replacing the color wheel and UHP lamp with three high power solid state light emitting diodes (red, green and blue LEDs) you achieve a much wider color gamut resulting in a much richer visual experience. And because LEDs deliver much more saturated colors, there is also a 25% increase in perceptual brightness. With a brightness output of 650 lumens, Delta’s LED-lit video walls are the brightest on the market. LEDs also enable you to control the brightness and contrast of your image more accurately.

With their extremely long lifetime (60,000 hours), LEDs do not need regular replacement meaning you will have no consumables for up to 6 years – even with a 24/7 operation. And because LED is a flat light source (compared to a point light source of a lamp) they offer higher reliability. All this translates into lower maintenance and thus a lower total cost of ownership.

LEDs are also environmental friendly. Containing no lead or mercury, the solid state devices comply with the RoHS directive for easy disposal.



YOU WON'T LOSE THAT IMAGE – EVEN FOR A SECOND!

INNOVATIVE LAMP DESIGN

Delta's lamp-lit video walls feature a unique dual lamp design in which both the lamps are mounted in a fixed position. This means that no mechanical motion is required during change-over, eliminating the risk of losing an image during a lamp switch. This offers the highest level of redundancy for mission critical applications, where lost of an image for more than a split second could spell disaster. Lamps can be replaced – post failure – without shutting down the system. The additional benefit of this design is that no periodic maintenance is required to maintain the switching mechanism in working condition resulting in lower operational and maintenance costs.

Both lamps can be used in either a “cold redundant” or “hot redundant” mode. When used simultaneously (hot redundant), a much brighter image can be obtained, which is useful in environments with high ambient light. It also provides the option to use sufficiently degraded lamps simultaneously when a single lamp does not deliver an acceptable image.

High power UHP (Ultra High Pressure) lamps are used in all Delta lamp-lit systems delivering an impressive brightness output level of up to 2,000 ANSI lumens. The UHP lamps also boast a long lamp lifetime of up to 10,000 hours making them ideal for 24/7 operations.

UNIQUE COLOR SENSOR DESIGN

To ensure the colors of individual cubes are perfectly matched and a perfectly uniform image is displayed across the entire display, Delta has incorporated an auto-color calibration system based on a unique color sensor design.



With sensors positioned *outside* the lens of each projector, the color calibration system encompasses the tolerances of *all* the optics in the system – including the lens and glass components. The system continuously monitors the sensors in real time and automatically adjusts the color temperature and brightness ensuring control room operators view a perfectly uniform image across the entire screen at all times.

Initial calibration is performed in the factory before shipment, but minor manual adjustments can be made on site using the control management software suite provided with the system.

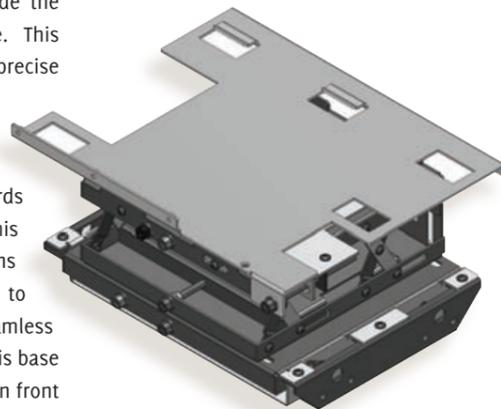
**UP TO 2,000
ANSI LUMENS**

NEAR-SEAMLESS DISPLAYS

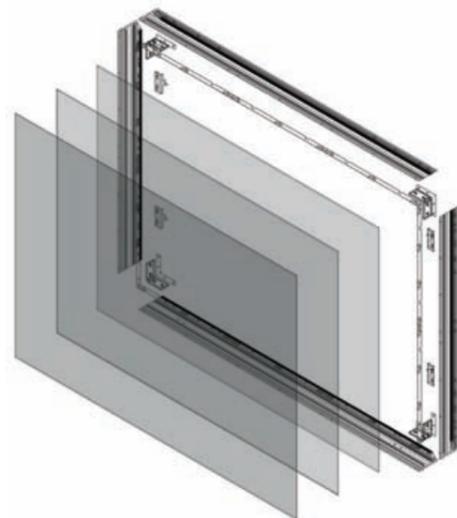
The projection engine resides inside a specially designed enclosure which also holds the display screen. These cubes – as they are known – are modular in nature allowing you to stack them both horizontally and vertically to form large displays of any size or form. Cubes are available in a range of sizes including 50”, 60”, 67” and 80”. Custom-made sizes – including curved displays – can also be built to meet your specific requirements.

SIX-AXIS ADJUSTMENT BASE FOR PIXEL-PERFECT ALIGNMENT

The projection engine is mounted inside the cube on a six-axis adjustment base. This base provides the ability to make precise geometric adjustments in six directions to obtain pixel-perfect alignment between individual cubes. Electronic adjustments can also be made afterwards for fine tuning at a pixel level. This enables physical seams between screens of neighboring cubes to be adjusted to less than 0.2mm delivering a near-seamless picture. For rear access cubes, the six-axis base is provided with a manual adjustment. In front access cubes, the adjustment is motorized.



ADVANCED SCREEN DESIGN



Selection of the right screen is critical to maintaining a good display over time. The standard screen used on all Delta cubes is the Cross Prism Screen (XPS) which offers unsurpassed contrast, wide viewing angles and superb centre-to-corner brightness uniformity.

The advanced screen design incorporates a Fresnel lens and two crossed prism Lenticular lenses ensuring maximum brightness while eliminating the glare. The screens feature a unique glass back to prevent bulging and are extremely tolerant to high ambient light making them ideal for control room environments.

Other screen options are available include Black Bead Screens and Ultra High Contrast screens. Custom screens can also be built to meet your specific requirements.

FRONT ACCESS SAVES YOU SPACE

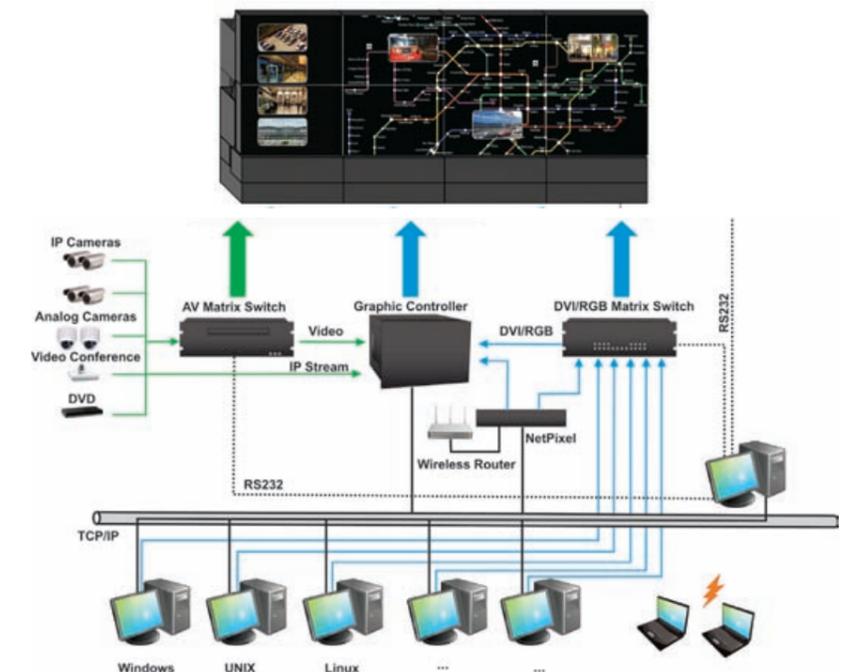
Most Delta video walls are available with a front access option. With a unique motorized screen which lifts up from the front, there is no longer need for rear access maintenance thus making installation in compact rooms possible.



DISPLAY MANAGEMENT CONTROL SYSTEM: YOU'RE IN CONTROL

A control room video wall is typically built up of a number of individual cubes to create a large high resolution display. The displayed content – which comes in simultaneously from multiple sources – is presented either as one large high resolution “canvas” image across multiple cubes, separate images within a cube, or as Picture-in-Pictures (PIPs) laid over the large canvas image.

Delta’s Distributed Vision Control System is a powerful, open and scalable network-based solution for large scale visualization and collaborative decision making. Display set up and window configuration is fully controlled by the Vision Control System ensuring source content is captured, processed, transmitted and displayed exactly as and where you want it. It also ensures perfect continuity of images across multiple cubes. Using proven server-grade computer technology, the Vision Control System is capable of supporting displays with up to 1000 cubes – each with up to 64 input sources – all in real time.



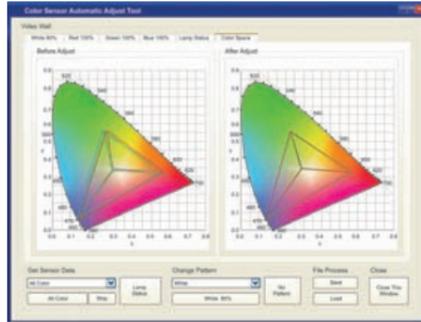
Key hardware features:

- Runs on all standard operating systems (Win XP, Vista, Windows 2003 Server-64 bit, Windows 7 and with Linux Emulation)
- Core 2 Duo and Xeon Quad Core with multiple processor support
- Redundant and hot swappable components
- Raid 0,1, 5 and 10 support
- Input capability (DVI -D, RGBHV, HD Video, display over LAN , VNC, IP stream decoding)
- Supports input resolutions up to 2048 x 1536
- Embedded design suited for 24/7 operation (no risk of computer virus)
- Switch fabric chassis for high demanding applications
- CPU, fan, temperature and chassis intrusion detection and alarm

- Remote management for hardware functions
- KVM over LAN, serial over LAN, LAN alert
- SNMP trap, event log, remote power control, command line interface
- Supports decoding of multiple camera types, multiple formats, custom formats and resolutions from QCIF, D1 to megapixel
- Displays resolutions up to 1920 x 1200



NO NEED FOR AN IT EXPERT



Using its intuitive, user-friendly graphical interface, the control room operator – with a minimal amount of training and no IT knowledge – can control the display parameters of each individual window displayed on the screen. All content, including high resolution graphics and video, can be presented in any size and at any position on the display. If a specific piece of information is required to be seen in more detail – and moved in the center of the display for collaborative decision making – it can be simply enlarged and moved instantaneously with the click of a mouse.

As well as creating layouts, positioning windows and increasing the size of the individual images, the operator can create the order of what is displayed using time-based launching of preset layouts. This layout can be saved and recalled at any time manually or by a pre-defined time schedule.

And because the system uses a Browser/Server (B/S) based structure, single or multiple users can log in via a web browser to make configuration changes – either while stationed in the control room or at a remote location.

Software features:

- Browser or Client/Server based architecture
- Multiple user support via remote software
- API for 3rd party device integration
- Scenario creation, editing and save functions
- Manual or scheduled scenario recall
- Multiple window control features
- Browser/Server structure enables multiple people to control display at same time
- Supports preview of up to 10 video signals
- Supports static layout and automatic layout creating, editing, loading, and deleting
- Firmware upgraded by network remotely
- All information and data saved in the DVCS server (No data or information saved in client computer)

DIAGNOSTICS CONTROL



Each cube is fully IP addressable with multiple levels of alarm. This provides the operator with direct feedback on the status of the system. Whether it's the number of hours of a lamp or a defective fan, chassis intrusion or increased temperature of the CPU, the operator will be automatically notified via the pre-defined alarms on his screen.

FULLY IP ADDRESSABLE WITH MULTIPLE LEVELS OF ALARM

LAMP-LIT VIDEO CUBES

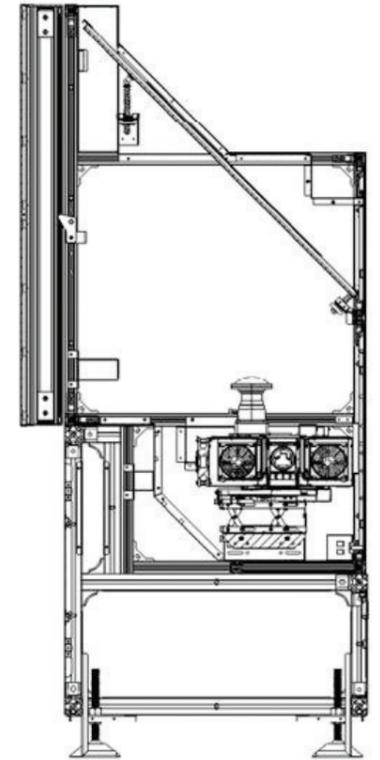
Resolution	XGA	SXGA+
Description	Dual Lamp XGA Cube	Dual Lamp SXGA+ Cube
Individual Cube Sizes	50", 67", 80" Diagonal	50", 67", 80" Diagonal
Display Technology	DLP, single chip	DLP, single chip
Native Resolution	1024 x 768 pixels	1400 x 1050 pixels
Aspect Ratio	4:3	4:3
Screen to screen gap	Adjustable up to 0.2 mm	Adjustable up to 0.2 mm
DMD	0.7" DMD 12 deg.	0.95" DMD 12 deg.
Light Source	Dual UHP lamps	Dual UHP lamps
Brightness	650 -1300 ANSI based on lamp mode and single/dual lamp usage	650 -1300 ANSI based on lamp mode and single/dual lamp usage
Luminance (Nits or cd/m ²)	Varies with the screen type and lamp mode	Varies with the screen type and lamp mode
Brightness Uniformity	up to 96%	up to 96%
Screen Type	Fresnel/ Lenticular, Black Bead, XPS (Cross Prism)	Fresnel/ Lenticular, Black Bead, XPS (Cross Prism)
Full Viewing Angle	180 degrees	180 degrees
Colors	16.7 million	16.7 million
MTBF of Color Wheel	30,000 hours	30,000 hours
Color Temperature Range	3200K to 9300K	3200K to 9300K
Lamp Life (typical)	6000/8000 Hours	6000/10000 Hours
Inputs	RGBHV on BNC, HD-15, DVI-D x 2, RS232C,NTSC/PAL/SECAM, Composite video, component video HDTV	RGBHV on BNC, HD-15, DVI-D x 2, RS232C,NTSC/PAL/SECAM,Composite video, component video HDTV
Outputs	DVI/Video	DVI/Video
Control	RS-232/IR, RS-422	RS-232/IR, RS-422
Voltage	AC100-240V @ 50/60 Hz	AC100-240V @ 50/60 Hz
Power Consumption	<200W (On Single Lamp) <360W (On Dual Lamp)	<200W (On Single Lamp) <360W (On Dual Lamp)
Operating Temperature Note	10° ~ 40°C	10° ~ 40°C
Operating Humidity	10% ~ 90%	10% ~ 90%
Storage	-20 to 60°C	-20 to 60°C

	Model Numbers	Image Size (mm)	Model Numbers	Image Size (mm)
50" Rear access	DVS-5058R7	1016 x 762	DVS-5078R7	1016 x 762
50" Front access	DVS-5058F7	1016 x 762	DVS-5078F7	1016 x 762
67" Rear access	DVS-6758R7	1361 x 1021	DVS-6778R7	1361 x 1021
67" Front access	DVS-6758F7	1361 x 1021	DVS-6778F7	1361 x 1021
80" Rear access	DVS-8058R7	1600 x 1200	DVS-8078R7	1600 x 1200

LED-ILLUMINATED VIDEO CUBES

Resolution	SXGA+	Full HD
Description	LED Light Source SXGA+ Cube	LED Light Source Full HD Cube
Individual Cube Sizes	50", 67" Diagonal	50", 70" Diagonal
Display Technology	DLP, single chip	DLP, single chip
Native Resolution	1400 x 1050 pixels	1920 x 1080 pixels
Aspect Ratio	4:3	16:9
Screen to screen gap	Rear access: Adjustable up to 0.2 mm Front access: Adjustable up to 1.0 mm	Rear access: Adjustable up to 0.2 mm Front access: Adjustable up to 1.0 mm
DMD	0.95" DMD 12 deg.	0.95" DMD 12 deg.
Light Source	LED - 1R1G1B - 12 sq mm each	LED - 1R1G1B - 12 sq mm each
Brightness	650 Lumens	650 Lumens
Luminance (Nits or cd/m ²)	Based on screen used,lamp mode and screen size	Based on screen used, lamp mode and Screen size
Brightness Uniformity	Greater than 90%	Greater than 90%
Screen Type	Fresnel/ Lenticular/Black Bead/Cross Prism (XPS)	Fresnel/ Lenticular/ Black Bead/ Cross Prism (XPS)
Full Viewing Angle	180 degree	180 degrees
Colors	16.7 million	16.7 million
Color Temperature Range	3200K to 9300K	3200K to 9300K
LED Life (typical)	> 60,000 Hours	> 60,000 Hours
Inputs	RGBHV on BNC, Dsub -15, DVI-DX2, Composite video, (NTSC/PAL/SECAM) Component video HDTV, RS232C	RGBHV on BNC, Dsub -15, DVI-DX2, Composite video, (NTSC/PAL/SECAM) Component video HDTV, RS232C
Outputs	Video/DVI	Video/DVI
Control	RS-232/IR, RS 422/IP	RS-232/IR, RS 422/IP
Voltage	AC100-240V @ 50/60 Hz	AC100-240V @ 50/60 Hz
Power Consumption	< 350 W	< 350 W
Operating Temperature	10-35°C	10-35°C
Operating Humidity	10% ~ 90%	10% ~ 90%
Storage	-20 ~ 60°C	-20 ~ 60°C

	Model Numbers	Image Size (mm)	Model Numbers	Image Size (mm)
50" Rear access	DVS-5078R8	1016 x 762	DVS-5088R8	1107 x 623
50" Front access	DVS-5078F8	1016 x 762	DVS-5088F8	1107 x 623
67" Rear access	DVS-6778R8	1361 x 1021	N/A	
67" Front access	DVS-6778F8	1361 x 1021	N/A	
70" Front access	N/A		DVS-7088F8	1550 x 872
70" Rear access	N/A		DVS-7088R8	1550 x 872
80" Rear access	DVS-8078R8	1600 x 1200	N/A	



Due to constant R&D, these specifications are subject to change without prior notice.

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