# Ultra Slim Cubes

True Cube Redundancy
Smallest Foot Print
Auto Geometry Alignment
Novel Cooling Mechanism
Wireless Diagnostics and Control

**www.deltadisplays.com**

DELTA
Smarter. Greener. Together.

# Experience the Future of Control Room Displays with the Latest Innovation from Delta's Dedicated Team of Engineers.

- Super slim form factor (< 535mm depth)
- WUXGA and Full HD native resolutions
- Razor sharp text and images
- Fully IP addressable
- High MTBF
- Multiple input and control options
- HQV processing
- High contrast ratio
- Lightweight design
- 24/7 operation
- Intelligent geometry alignment
- SIMD instruction set

With the spiraling cost of real estate, control room video walls are beginning to be edged out as a display of choice owing to their large form factors as they tend to occupy large amounts of space in the control room. With modern control rooms getting smaller and smarter in size, the need for slim displays is echoed by an increasing number of professionals across a variety of applications, be it utilities, telecommunications, security, traffic or broadcast.

Designed to overcome the many shortcomings of traditional video wall cubes, the slim video wall cubes help to realize the dream of many control room designers who always wished to have a thin form factor display to complement their state-of-theart control room center design. The lightweight, slim design of these cubes makes them suitable for many space-constrained environments.

Combining these cubes into display walls of large sizes provides a high resolution surface to display, monitor and control images from various applications simultaneously. Multiple windows from sources like computers, workstations, cameras, video players, DTH systems, satellite systems, etc. can be displayed and viewed together in required sizes and desired display positions. With reduced power consumption, long lifetime and low maintenance, the cubes are ideal for control rooms where 24/7 operation is required. These video walls can be set up in very little time with very little manpower deployment.

Designed with simplicity and functionality in mind, the slim video wall cubes feature auto color calibration and auto geometry alignment for easy setup. Moreover, the cubes offer wireless diagnostics and control capabilities. Through a wireless device, users can easily monitor, make adjustments or control the video wall cubes to ensure smooth operation.

| Traditional Applications | Expanded Applications |
|---|---|
| » Power and Utilities | » Mini Data Centers |
| » Telecom | » Collaboration Rooms |
| » Traffic & Transportation | » Mobile Ops Rooms |
| » Security & Surveillance | » Monitoring and Control Stations |
| » Broadcast | » Single Operator Stations |
| » Data Centers | » Video Conferencing Suites |
| | » Boardrooms |

# New Generation Displays for Control Rooms

With decades of in-depth and rich experience in developing micro-display technologies, Delta is proud to introduce the WUXGA and Full HD based Ultra Slim Cube Series. A path breaking innovation, these cubes are Ultra Slim and thus can be used in those spaces starved control rooms as well. At the heart of the system, lies the latest and revolutionary design aspheric lens which helps to overcome geometric distortions. With the use of this technology, a depth of less than 535 mm has been achieved, which was an impossibility in the past. Combined with front access maintainability, you have a solution which is highly reliable, fault tolerant and does not take away your precious floor space.

# True Cube Redundancy

## Redundant Power Supplies

Each slim cube offers a high level of redundancy of the power supplies to ensure 24/7 continuous operation. Its built-in automatic hot swappable power supplies also ensure high transfer efficiency and reduce power consumption by more than 10% compared to the standard cubes. The power supplies feature a modular design for easy maintenance.

## Display Redundancy

For control room video wall customers who require uninterrupted operation, the slim cube uses six-fold redundant LEDs as its light source to ensure high reliability, long lifetime and low maintenance.

## Redundant Inputs

The slim cube input box provides 2x redundant DVI inputs to provide users with the peace of mind they need and a guaranteed uptime.

# Cutting Edge Optics…

## Lens Design Technology

The distinctive aspheric lens provides you the crispest picture, high quality with sharp focus and image stability. A perfectly uniform image is displayed across the entire display with a wide angle perspective. The use of aspheric lens helps to overcome the big challenge of dealing with mono-chromatic and spherical aberrations. These aberrations normally effect the geometry and the focus of the image. However with the use of this newly developed aspheric lens, Delta has successfully overcome these barriers to offer to its customer vivid images with incredible sharpness.

Combining this with the Extra Low Dispersion (ED) lens further adds to the picture sharpness as it helps to focus all the colors at the same convergence point thus reducing color dispersion. Ensuring that the control rooms' operators can view perfect, uniform and rich life-like images cube to cube across the entire display.

## Integrated Optical Engine Design

Designing the projection engine right is critical to maintaining a good display over time. Delta's integrated engine module design provides excellent heat conduction to ensure brilliant optical performance. Its integrated electronic and optical components provide compact outlook and excellent EMI performance. The integrated design helps reduce the MTTR giving you the least cost of ownership and maintenance in the industry. Boasting of an extremely high MTBF of greater than 75,000 hours these high brightness cube are a major leap in video wall technology.

## Novel Cooling Mechanism

Delta's extremely reliable cooling mechanism is based on the Heat Pipe technology. This technology uses liquid vaporization phase change cycle architecture, in which the sealed liquid (pure water) circulates to draw heat away from the LED's with no chance of any leakage. Maintenance free mechanism, as there is no electro-mechanical device for liquid circulation. Innovative cooling system ensures the longer life and better performance.

# Driving Technology to New Levels

## Next Generation LED-Illumination

Delta's ultra slim cube comes with environment friendly, LED solid-state light source using the latest generation high brightness and high performance LEDs delivering you enhancements-both in image quality and cost of ownership compared to traditional LEDs. You can achieve the best color gamut resulting in a much richer visual experience. Undoubtedly, Delta's ultra slim cubes are the brightest display solution available in the market, in it's class. With their extremely long lifetime, these LEDs do not need regular replacement meaning you will have no consumables for many years – even with 24/7 operation.

## Pixel-Perfect Alignment

Delta's ultra slim cube offers high resolution using WUXGA and full HD resolution DMD chips. The inbuilt Zoom, Focus and Lens shift help to simplify the geometry adjustment. It further enables you to have electronic adjustments for fine tuning at a pixel level. Providing you with the perfect system that eliminates manual intervention; it is custom-built for express installation, and set-up for your ultimate convenience. With full credit to the Auto Geometric Alignment technology, precise geometric adjustments in different directions can be obtained with pixel-perfect alignment between individual cubes with the least possible human intervention. This helps to attain a near seamless picture and help you save on the installation costs and time

## Unique Color Sensor Design

For cube to cube color and brightness matching, Delta has incorporated an auto-color system based on a unique color sensor design. With sensors positioned on the light beam of the optical lens, the color calibration system encompasses the tolerances of all the optics in the system – including the lens and glass components. The system automatically adjusts the color temperature and brightness, ensuring control room operators view a perfectly uniform image across the entire screen at all times.

# Monitoring, Diagnostics & Control

Delta's ultra slim cubes are accessible over an IP network through a web-based interface for monitoring, controlling and diagnostic purposes. The interface provides the operators with direct feedback on the status of the system with multiple levels of alarms. Whether it's the number of operating hours of a LED or its temperature, the operator will be automatically notified via the predefined alarms.

## Monitoring

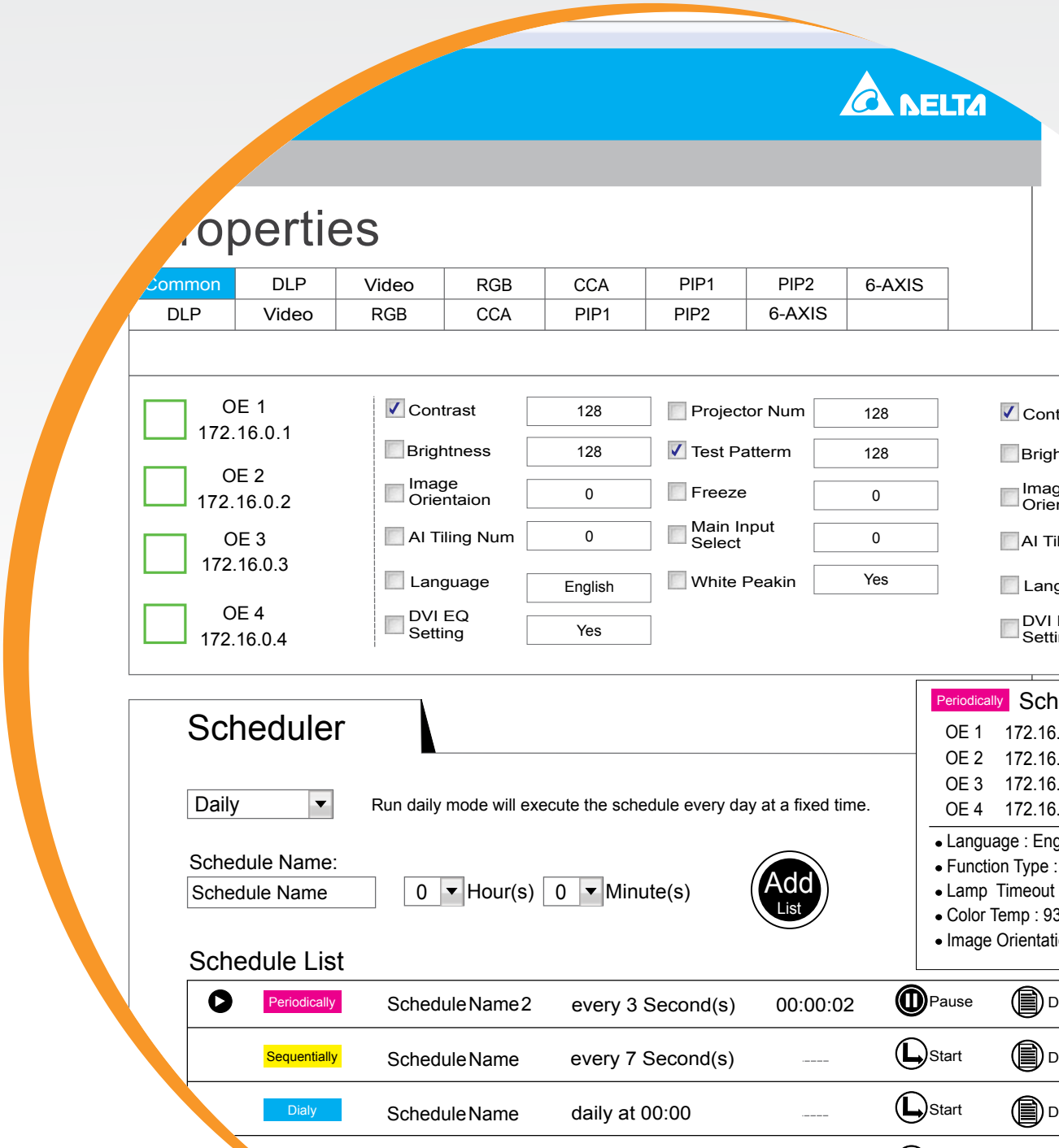
- Start/Stop monitoring cubes
- LED status monitoring
- Alarms
  - Serious
  - Warning
  - Information

## Diagnostics

- Message window
- Log files
- Error/Alarm feedback
  - Serious
  - Warning
  - Information

## Control

- Switch on/off
- Virtual Remote Control (VRC)
- Get/Set cube data
- Save/Load options
- Scheduling options
  - Daily
  - Periodically
  - Sequentially

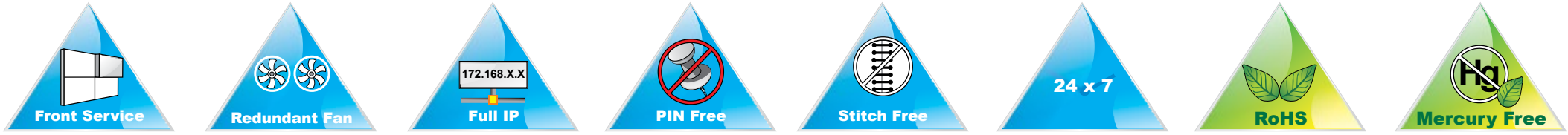


# Product Specifications
# Ultra Slim DLP Cubes

| | Model | DVS-7080R/F9 | DVS-5299R/F9 | DVS-7299R/F9 |
|---|---|---|---|---|
| Display Capabilities | **Native Resolution** | Full HD, 1920 x 1080 | WUXGA,1920 x 1200 | WUXGA, 1920 x 1200 |
| | **Description** | LED-based full HD cube | LED-based WUXGA cube | LED-based WUXGA cube |
| | **Display Technology** | DLP single chip | DLP single chip | DLP single chip |
| | **Brightness** | Typ. 1,100 lumens | Typ. 1,100 lumens | Typ. 1,100 lumens |
| | **Dynamic Contrast** | 1,200,000 : 1 | 1,200,000 : 1 | 1,200,000 : 1 |
| | **White Point** | 3200K, 6500K and 9300K | 3200K, 6500K and 9300K | 3200K, 6500K and 9300K |
| | **Uniformity** | >96% | >96% | >96% |
| Screen | **Screen Type** | FXS / XPS | FXS / XPS | FXS / XPS |
| | **Screen Gap** | Rear access : adjustable <0.1mm<br>Front access : adjustable <0.7mm | Rear access : adjustable <0.1mm<br>Front access : adjustable <0.7mm | Rear access : adjustable <0.1mm<br>Front access : adjustable <0.7mm |
| | **Color Stability** | Self calibrating with color sensor | Self calibrating with color sensor | Self calibrating with color sensor |
| | **Half Gain Angle (H/V)** | FXS(H/V) : ± 34° / ± 33°<br>XPS(H/V) : ± 35° / ± 27° | FXS(H/V) : ±34° / ± 33°<br>XPS(H/V) : ± 35° / ± 27° | FXS(H/V) : ± 34° / ± 33°<br>XPS(H/V) : ± 35° / ± 27° |
| Light Source | **Lamp Type** | 3 x 6 LEDs | 3 x 6 LEDs | 3 x 6 LEDs |
| | **Estimated Lamp Life** | Eco mode : 100,000 hours<br>Typ. mode : 60,000 hours | Eco mode : 100,000 hours<br>Typ. mode : 60,000 hours | Eco mode : 100,000 hours<br>Typ. mode : 60,000 hours |
| Interface | **Standard Inputs** | 1x Digital DVI-I<br>1x Digital HDMI<br>1x Analog D-sub 15pin<br>1x Analog 5BNC (RGBHV or YPbPr) | 1x Digital DVI-I<br>1x Digital HDMI<br>1x Analog D-sub 15pin<br>1x Analog 5BNC (RGBHV or YPbPr) | 1x Digital DVI-I<br>1x Digital HDMI<br>1x Analog D-sub 15pin<br>1x Analog 5BNC (RGBHV or YPbPr) |
| | **Standard Outputs** | 1x Digital DVI-D | 1x Digital DVI-D | 1x Digital DVI-D |
| Signal | **Control** | 1x RS-232 Dsub9<br>1x RS 422 RJ45<br>1x IP Ethernet RJ45<br>1x IR Receiver | 1x RS-232 Dsub9<br>1x RS 422 RJ45<br>1x IP Ethernet RJ45<br>1x IR Receiver | 1x RS-232 Dsub9<br>1x RS 422 RJ45<br>1x IP Ethernet RJ45<br>1x IR Receiver |

# Product Specifications
# Ultra Slim DLP Cubes

| | Model | DVS-7080R/F9 | DVS-5299R/F9 | DVS-7299R/F9 |
|---|---|---|---|---|
| Interface | **Optional Board- I*** | Inputs:1x Digital DVI-D<br>1x Digital HDMI<br>1x Display port<br>1x Analog 5BNC (RGBHV or YPbPr)<br>1 X Analog S-video | Inputs:1x Digital DVI-D<br>1x Digital HDMI<br>1x Display port<br>1x Analog 5BNC (RGBHV or YPbPr)<br>1 X Analog S-video | Inputs:1x Digital DVI-D<br>1x Digital HDMI<br>1x Display port<br>1x Analog 5BNC (RGBHV or YPbPr)<br>1 X Analog S-video |
| | **Optional Board- II*** | Inputs :1x Digital DVI-D<br>1x 3G-SDI<br>1x Display port<br>1x Analog 5BNC (RGBHV or YPbPr)<br>1 X Analog S-video<br>Output : 1 x 3G-SDI | Inputs :1x Digital DVI-D<br>1x 3G-SDI<br>1x Display port<br>1x Analog 5BNC (RGBHV or YPbPr)<br>1 X Analog S-video<br>Output : 1 x 3G-SDI | Inputs :1x Digital DVI-D<br>1x 3G-SDI<br>1x Display port<br>1x Analog 5BNC (RGBHV or YPbPr)<br>1 X Analog S-video<br>Output : 1 x 3G-SDI |
| | **Optional Board- III*** | Inputs:1x Digital DVI-D<br>1x HD-baseT<br>1x Display port<br>1x Analog 5BNC (RGBHV or YPbPr)<br>1 X Analog S-video | Inputs:1x Digital DVI-D<br>1x HD-baseT<br>1x Display port<br>1x Analog 5BNC (RGBHV or YPbPr)<br>1 X Analog S-video | Inputs:1x Digital DVI-D<br>1x HD-baseT<br>1x Display port<br>1x Analog 5BNC (RGBHV or YPbPr)<br>1 X Analog S-video |
| Power | **Input Voltage** | AC 90 - 240V@50/60Hz | AC 90 - 240V@50/60Hz | AC 90 - 240V@50/60Hz |
| | **Power Consumption** | Max : < 270W<br>Typ. : < 225W<br>Eco : < 150W | Max : < 270W<br>Typ. : < 225W<br>Eco : < 150W | Max : < 270W<br>Typ. : < 225W<br>Eco : < 150W |
| Operation | **Optional Backup Power** | Dual power supply unit | Dual power supply unit | Dual power supply unit |
| | **Operating Temperature** | 5°C - 40°C (41°F - 104°F) | 5°C - 40°C (41°F - 104°F) | 5°C - 40°C (41°F - 104°F) |
| | **Non-operating Temperature** | -20 °C - 60 °C ( -4°F - 140°F) | -20 °C - 60 °C ( -4°F - 140°F) | -20 °C - 60 °C ( -4°F - 140°F) |
| | **Humidity** | 10% - 90%, non-condensing | 10% - 90%, non-condensing | 10% - 90%, non-condensing |
| Mechanical | **Dimensions (WxHxD)** | Rear access: 1552 x 1209 x 699mm (61.1 x 47.6 x 27.5“)<br>Front access: 1552 x 1209 x 799mm (61.1 x 47.6 x 31.5”) | Rear access: 1108 x 949.5 x 535mm (43.6 x 37.4 x 21.1“)<br>Front access: 1108 x 949.5 x 635mm (43.6 x 37.4 x 25.0”) | Rear access: 1552 x 1207.5 x 685mm (61.1 x 47.6 x 27.0“)<br>Front access: 1552 x 1207.5 x 785mm (61.1 x 47.6 x 30.9”) |




Note: *Only one of the optional boards can be used with standard input / output board.

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QR Code

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