



Photograph courtesy of Hossana B. Ashagrie, Project Manager, Greater Toronto Airports Authority

LED Display Wall

[120 Series Version]

Redundant



New Wide-format LED Display Wall Cubes Guarantee High Performance and Quality

Saving LED light source and DLP™ projector system incorporated to realize more advanced visual communications.

120 Series display wall cubes newly added to the product line-up

further enhancing our ability to propose tailor-made solutions that suit diversified customer applications.



Centro de Operações da Prefeitura de Belo Horizonte



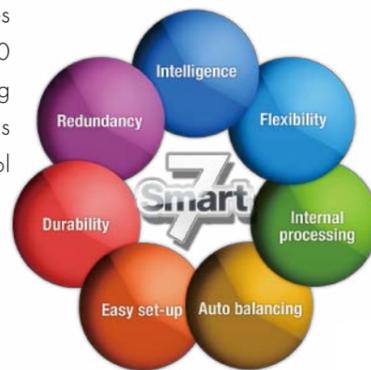
America Free Trade Zone Industrial Park



NIT West Kobe IOC Center

Smart 7 ~ New Functions for Market Leading Large Display Wall Systems

The key to visual communications can be found in Mitsubishi Electric's Smart 7 technologies, the core concept behind display wall design at Mitsubishi Electric. These advanced cutting-edge technologies are incorporated in all 120 Series products, ensuring innovative display solutions for command and control room applications.



LED Display Wall Cube Line-up Expanded in Response to Increasing Demand for 16:9 Format

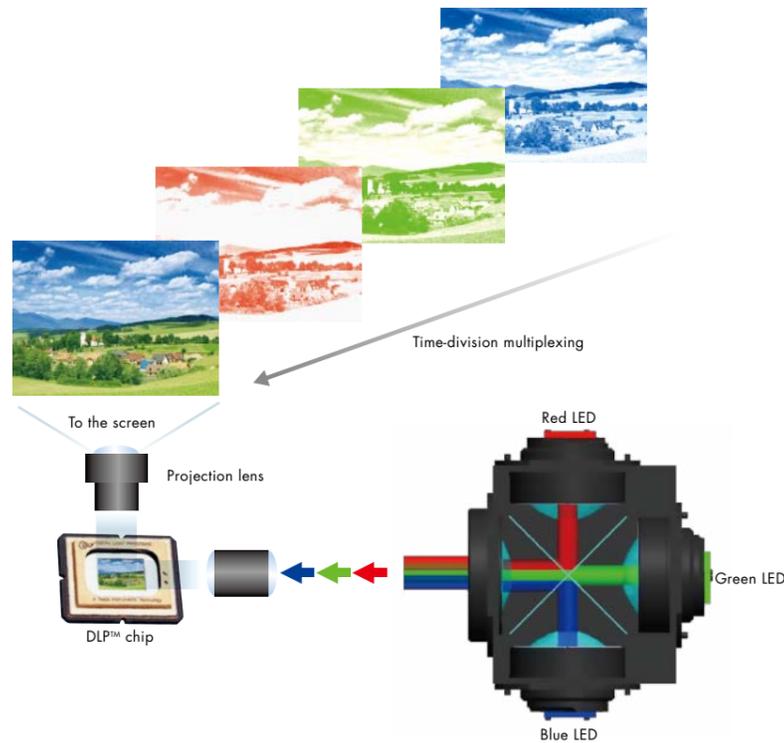
An expansive line-up is now available including 60 and 70-inch 16:9 wide models with Full HD(1080P) resolution. Two screen options are offered as well, Black Stripe (standard) and Cross-lenticular, which vary in brightness and viewing angle capabilities. This expanded range of choices gives users more flexibility in creating the optimal system to match the application and installation environment.

*All Mitsubishi Electric display wall cubes are manufactured using seismic simulation which was performed at the product design stage.

■ 16:9 wide format



DLP™ Technology for the Ultimate in High Quality and Digital Control



At the core of Mitsubishi Electric projection technology is the DLP™ chip: a display device with minute metal mirrors arranged at multiple points on a silicon base using the most advanced semiconductor fabrication technology available. Each micromirror corresponds to a single pixel or element of the picture. Images are produced by maneuvering these micromirrors electronically.

*DLP and the DLP medallion logo are registered trademarks of Texas Instruments in the United States of America.

Consistent High-quality Images

Full digital control of color and gradation at every micromirror results in images with consistently high picture quality and uniform color and brightness, even between the center and edges of the display wall.

Higher Reliability

The DLP™ chip is a reflective device with a very high reflection ratio, thus very little energy remains on the chip itself. This characteristic allows still images, text data and other fixed patterns to be displayed for long periods of time without image retention or burn-in that occurs with other image processing methods.

LED Light Source Advantages

Virtually Maintenance Free

An LED light source has an average service life that is approximately 10 times longer than that of conventional ultra high-pressure mercury lamps. Combined with the 100,000hr, ultralong service life of our fans, the average service life of Mitsubishi Electric LED display wall cubes is more than 10 years, even when operated 24/7.

*Service life figures not guaranteed.

Choice of Four Brightness Modes

Equipped with an original LED power control circuit, each display wall cube can be set to operate in one of four modes: Normal, Bright, Eco and Advanced Eco. As a result, command and control room operators can select the brightness according to the environment and use.

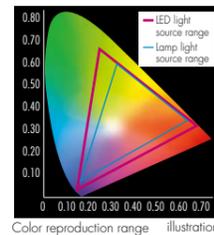
Proven Performance

Over 61,000 Mitsubishi Electric display wall products have been delivered to mission-critical command and control rooms around the world. Our new LED projection engines are developed through the deep understanding and experience gained from the market and listening closely to customers' needs.

*As of November 2013, in-house research.

Wider Color Reproduction Range

The LED light source offers a much wider range of color reproduction, allowing a larger array of vivid colors to be used for the icons and symbols frequently used in command and control rooms. This ultimately makes it easier for command and control room operators to share information.



Multiple Picture Settings

Mitsubishi Electric LED display wall cubes have multiple picture settings, giving customers the freedom to choose the best setting according to the application and content being displayed. Optimized Color is best for reproducing natural looking colors, Vivid Color realizes more striking colors in icons/symbols, and Low Color Temperature is ideal for backdrop applications in broadcasting studios.

Eco-conscious

The LED light source eliminates the use of mercury, and thus helps to preserve the environment. At the same time, the Eco mode setting contributes to lower power consumption and CO₂ emissions than display wall cubes that use a conventional ultrahigh-pressure mercury lamp.

Durability

Air Cooling System for LED Light Source

Liquid Cooling System

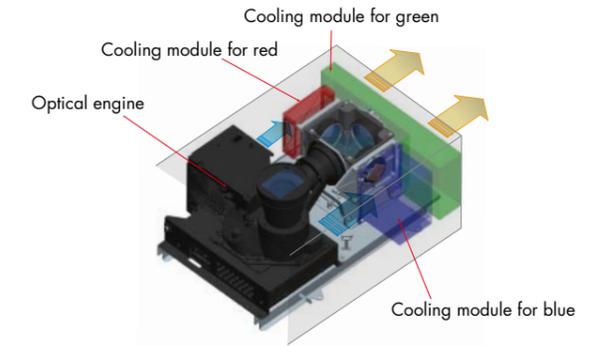
- Pump/Drive parts are required to circulate the liquid
- Complex system requiring liquid reservoir and tube
- Coolant must be replaced frequently due to deterioration and loss
- Pump has a short service life (approx. 50,000hr)

Air Cooling System

- Highly efficient, compact cooling module
- No moving parts that require frequent replacement
- Long service life

Efficient Air Cooling System Realizes Higher Reliability

The system has an optimal airflow path and cooling module design that are perfectly matched to the characteristics of the LED light source.



*The cooling module consists of a highly efficient cooling tube and aluminum plate.

Intelligence

High-resolution Images Created with Mitsubishi Electric's New Optical Engine and Image-quality Circuit Design

Color Space Control Circuit

To compensate for the color and brightness inconsistencies on display wall cubes, Mitsubishi Electric has developed an original Color Space Control Circuit that balances and blends colors. The ratios of each primary color (red/green/blue) and other color mixtures are adjusted to provide consistent color blending and superior uniformity on multi-screen configurations.



Digital Gradation Circuit

Loss of brightness at the screen edges is no longer a problem owing to Mitsubishi Electric's innovative digital gradation circuit. Brightness is distributed evenly across the screen, ensuring the reproduction of sharp, vivid images from edge to edge on multi-screen configurations.

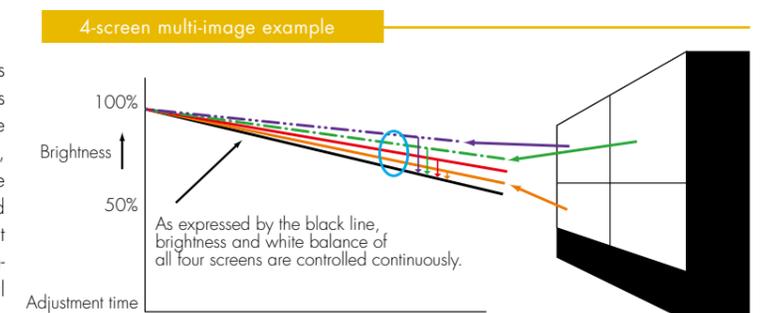


Auto-balancing

Brightness and Color Uniformity Maintained between Multiple Screens Realizing More Expressive Images

Dynamic Color & Brightness Balancing

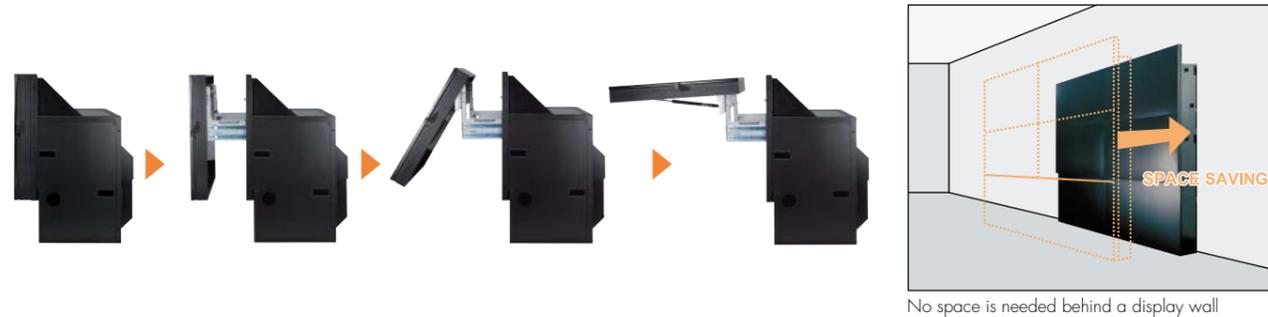
Each display wall cube is equipped with three built-in sensors (one for each primary color) that use a color and brightness maintenance algorithm. The sensors continually monitor the individual red, green and blue output of each display wall cube, share the data with adjacent cubes, and adjust performance automatically to produce extremely accurate colors and brightness balance over the entire display. These features make it possible to maintain image uniformity on multi-screen configurations over long periods of operation without using external software or a computer.



Easy Set-up

Full Front Access for Simple Maintenance

Mitsubishi Electric offers a wide line-up of front-access products as well as rear access for 60 and 70-inch models. The specially designed slide-and-lift screen and air-ventilation system allow all installation and maintenance work to be completed from the front. As a result, no maintenance space is needed behind the display wall cubes even if they are tiled as a display wall installation.



No space is needed behind a display wall

Flexibility

Equipped with Intel® OPS Slot



120 Series display wall cubes are equipped with an open pluggable specification (OPS) slot. Simply install the optional computer board* to expand the scope of applications. A variety of peripheral equipment can be connected quickly and easily for future system expansion.

*For details of the optional computer board, please contact your nearest Mitsubishi Electric sales representative.

Internal Processing

Built-in Processor

The 120 Series display wall cubes are equipped with an internal data processing function. In addition to the background image (desktop), a window can be of any size or displayed across the entire wall without using an external computer. Used in combination with Mitsubishi Electric's D-Wall software suite, the entire imaging system can be controlled intuitively from a user-friendly graphical user interface.

1 background (desktop)



1 window + 1 background (desktop)



Redundancy

Ideal Features for Mission-critical Environment

Redundant LED

Mitsubishi Electric's original LED light source utilizes the ideal combination of fully redundant RGB LEDs and air cooling system, creating perfect display solutions for 24hr operations. Each RGB LED maintains high image quality even if a light element malfunctions, thereby enhancing reliability for various mission-critical environments.

Smart Switch

A "Smart Switch" function has been added to Mitsubishi Electric display wall cubes to deliver the signal redundancy necessary for mission-critical applications that require round-the-clock operation. If a signal is unexpectedly lost, the display wall automatically switches to the alternative signal source from port-to-port within seconds after the 'no signal' status is detected.

This function makes it possible for the user to minimize downtime in the event of a signal source failure.

Abbreviated model name	60HE120	60HEF120	70HE120	70HEF120
Screen size	60"		70"	
Native resolution	Full HD(1920 x 1080 pixels)			
Accessibility	Rear	Front	Rear	Front
Technology	DLP™ technology (0.65" DLP™ 1 chip) / Dark Chip3™ / Brilliant Color™ (*1)			
Brightness	Bright mode	780cd/m² (Typ.)	580cd/m² (Typ.)	
	Normal mode	620cd/m² (Typ.)	460cd/m² (Typ.)	
	Eco mode	460cd/m² (Typ.)	340cd/m² (Typ.)	
	Advanced Eco mode	190cd/m² (Typ.)	140cd/m² (Typ.)	
Viewing angle	Horizontal	1/2 gain: ±35 deg, 1/10 gain: ±57 deg		
	Vertical	1/2 gain: ±10 deg, 1/10 gain: ±28 deg		
Contrast ratio	1500:1 (Typ.)			
Screen-to-screen gap	Horizontal	0.2 - 1.5mm (*2)	1.0 - 2.5mm (*2)	0.2 - 2.0mm (*2)
	Vertical	0.2 - 1.0mm (*2)	1.0 - 2.0mm (*2)	0.2 - 1.5mm (*2)
Light source	Redundant LED(RGB)			
	Expected lifetime (*3)	100,000hr (Advanced Eco mode) 80,000hr (Normal mode, Eco mode), 60,000hrs (Bright mode)		
Key parts lifetime (average)	DLP™ chip	100,000hr (MTBF 650,000hr)		
	Cooling fan	100,000hr		
Control signal input	RS-232C: Dsub9			
	LAN: RJ45(10BASE-T/100BASE-TX)			
	Dsub9 x 2(IN/OUT)			
	Mitsubishi Electric Original Control Link Wire remote: F3.5 jack IR receiver			
Signal input terminal	DVH (digital with HDCP, analog) x1			
	DVD (digital with HDCP) x1 DisplayPort (DP1.1a) x1 (*4)			
Optional input board slot	Intel OPS slot x1			
	Bright mode	172W (Typ.)		
Power consumption (w/o input board)	Normal mode	131W (Typ.)		
	Eco mode	95W (Typ.)		
	Advanced Eco mode	80W (Typ.)		
	Voltage range	100-240VAC±10%, 50/60Hz±1Hz		
Operating current (100/240V)	2.5/1.2Amp.			
Operating conditions	Temperature	10-35°C.Degree (50-95°F.Degree)	10-30°C.Degree (50-86°F.Degree)	10-35°C.Degree (50-95°F.Degree)
	Humidity	20-80% non-condensing		
Weight	85kg/188lb	91kg/201lb	101kg/223lb	106kg/234lb
Model number	Projection engine	VS-HE120U		
	Cabinet	S-60HE75CA	S-60HE75CAF	S-70HE75CA
	Screen unit	SC-60HE75U	SC-60HE75UF	SC-70HE75U

(*1) DLP™, DarkChip3™ and BrilliantColor™ are trademarks of Texas Instruments.

(*2) Depending on configuration and environment. The maximum screen-to-screen gap size is recommended for large display walls to allow for screen expansion due to heat and humidity.

(*3) The lifetime of LED light source is an estimated value, not guaranteed. The estimated lifetime: Temperature condition during operation is 77°F/25°C. At 95°F/35°C, LED lifetime in Bright mode is 60,000hr.

(*4) Displayport is a trademark of Video Electronics Standards Association.

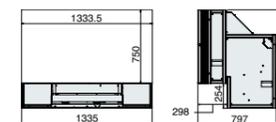
Optional Cross-lenticular Screen upon special request

Abbreviated model name with optional Cross-lenticular Screen	60HE120L	60HEF120L	70HE120L	70HEF120L
Model number for optional Cross-lenticular Screen	SC-60HE75L	SC-60HE75LF	SC-70HE75L	SC-70HE75LF
Brightness with optional Cross-lenticular Screen	Bright mode	400cd/m² (Typ.)	290cd/m² (Typ.)	
	Normal mode	320cd/m² (Typ.)	230cd/m² (Typ.)	
	Eco mode	230cd/m² (Typ.)	170cd/m² (Typ.)	
	Advanced Eco mode	90cd/m² (Typ.)	70cd/m² (Typ.)	
Viewing angle with optional Cross-lenticular Screen	Horizontal	1/2 gain: ±35 deg, 1/10 gain: ±57 deg		
	Vertical	1/2 gain: ±33 deg, 1/10 gain: ±55 deg		

* For the model names and brightness figures with Black Bead screen option, please consult with a Mitsubishi Electric sales representative.

16:9 wide format

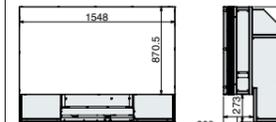
60HE120



60HEF120



70HE120



70HEF120



(unit:mm)

*The design and measurements are subject to change without notice.
*All pictures shown are for illustrative purposes only.



for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.



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