LED Display Wall

[78/74 Series Version]

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.

*The design and measurements are subject to change without notice.
*All pictures shown are for illustration purposes only.
New Wide-format LED Display Wall Cubes Guarantee High Performance and Quality

Energy-saving LED light source and DLP™ projector system incorporated to realize more advanced visual communications. Display wall cubes with wide formats of 16:9 and 16:10 newly added to the product line-up, further enhancing our ability to tailor solutions to suit diversified customer applications.

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 70 Series products, ensuring innovative display solutions for command and control room applications.

**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 moving these micromirrors electronically.

- **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 selection, or burnin 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 ultrahigh-pressure mercury lamps. Combined with the 100,000hrs, 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.
- **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.

**Largest LED Display Wall Cube Line-up Ever**

An expansive lineup is now available including 62 and 72-inch 16:10 wide models, a 70-inch 16:9 wide model, and 50, 60, 67 and 80-inch 4:3 models. Available resolutions include XGA, SXGA+, Full HD(1080P) and WUXGA. Three screen options are offered as wall, Black Stripes (standard), Cross-lenticular and Black Bead, 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.

*Note: For figures on performance.

**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.

*As of November 2013, in-house research.
**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. 50,000hrs)

**Air Cooling System**

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

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**Intelligence**

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

**High Contrast and Brightness**

With newly developed optical system which is 100% tuned for LED light source, the brightness uniformity is even more improved. For wide models, higher contrast 150:1 (WE/HE models) and higher brightness 1160 cd/m² (152WE78/62WEF78) are realized. For 4:3 models, higher contrast 1600:1 (PE models) and 1700:1 (PE models) are achieved with the highest brightness at 1580 cd/m² (50EF78/50EF78).

**Color Space Control Circuit**

To compensate for the color and brightness inconstancy 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 mixture are adjusted to provide consistent color blending and superior uniformity on multiscreen 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 multiscreen configurations.

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**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 measurement algorithm. The sensors continually monitor the individual red, green, and blue output of each display wall cube, and adjust the output with adjacent cubes, and adjust output automatically to produce extremely accurate colors and brightness balance over the entire display. These features make it possible to maintain uniformity on multiscreen configurations over long periods of operation without using external software or a computer.

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**Easy Set-up**

Full Front Access for Simple Maintenance

Mitsubishi Electric offers a wide lineup of front-access products. Front access is available for 70” Full HD (1080P), 62” (WUXGA) and 72” (WUXGA) models, as well as 4:3 models (50”, 60” and 67”, both XGA and SXGA+). The specially designed 4-screen ratio terminal screen and the 4-screen air ventilation system allow all installation and maintenance work to be completed from the front. As a result, no maintenance spaces are needed behind the display wall cubes even if they are tiled as a display wall installation.

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**Flexibility**

More Ports and Increased Input Resolution Options

The number of input boards has been increased for compatibility with a wide range of input signals. Compatibility with input resolution is also increased, now including up to WUXGA (1920×1200).

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**Redundancy**

Ideal features for the mission-critical environment

**Redundant LED**

Mitsubishi Electric’s original LED light source which contains the ideal combination of fully redundant RGB LEDs and air cooling system can realize the perfect display solutions for 24 hrs operations. Light elements for each RGB LED are able to keep display’s picture image qualities even if 1 light element will be in trouble. They are able to enhance the reliability for various mission critical environment.

**Smart Switch**

A “Smart Switch” function has been added to Mitsubishi Electric display wall cubes to allow for round-the-clock operation. If a signal is unexpectedly lost, the display wall automatically switches to the alternative signal source (either “port-to-port” or “board-to-board”) 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.
### Black Bead Screen

**Cross-lenticular screen**

<table>
<thead>
<tr>
<th>Model number</th>
<th>Screen size</th>
<th>Brightness</th>
<th>Operating condition</th>
<th>Power consumption</th>
<th>Optional input board slot</th>
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</table>

#### Screen Unit

- **Cabinet**
- **Screen unit**

#### Functions

- **Vertical**: (1920 x 1080)
- **Horizontal**: (1024 x 768)

#### Optional input board slot

- **Digital RGB input board (Option)**
- **Daisy chain board (Option)**
- **3G-SDI input board (Option)**

#### Analog RGB input board (Option)

- **RGB input scanning frequency**: 3BNC x1
- **Functions**: Image scaling (shrink and zoom)

#### Digital RGB input board (Option)

- **RGB input scanning frequency**: 3BNC x1 (Digital with HDCP) x1
- **Functions**: Image scaling (shrink and zoom)

### Enhanced Mode

- **Advanced Eco Mode**
- **Eco Mode**

#### Screen size

- **60XEF74**: 60"
- **60XE74**: 60"
- **50XE74**: 50"
- **67PEF78**: 67"
- **60PE78**: 60"
- **50PEF78**: 50"
- **50PE78**: 50"
- **70HEF78**: 70"
- **72WE78**: 72"

#### Digital cable equalizer function

- **Maximum 50m**

#### Shading

- **0.2 - 2.0mm**

#### Image scaling (shrink and zoom)

- **1/2 gain: ±33Degree, 1/10 gain: ±55Degree**

*This board can be used for WE/PE78 models.*