

EC Series™



Martin®

Creative LED Never Looked Better



The EC Series is a family of LED video panels that is brighter, lighter and faster! Built to the highest standards, the EC Series is designed for those who place value on solid, dependable performance and superior image quality.

By combining the image quality and precision of conventional high resolution screens with the creativity and low weight of mesh type screens, the EC Series provides new design possibilities for all manner of indoor and outdoor staging, as well as permanent installations.

Outstanding image quality

Using high efficiency Nichia LEDs, the EC Series offers visual performance at the highest level. Pinpoint 48-bit color processing ensures uncompromised color depth at any brightness setting.

Each pixel is color and brightness calibrated for maximum color and brightness uniformity and consistency from pixel to pixel and panel to panel. This superior uniformity not only makes for an improved image quality but also means that no more "bins" or "batches" need to be considered when adding more panels to inventory.

As each LED module (48 LEDs for the EC-20 and 192 LEDs for the EC-10) is fully self-contained in terms of calibration data, swapping out an LED module for service purposes will not void the calibration of the panel.

High brightness - High refresh rates

The EC-20 and EC-10 both feature a brightness that is more than sufficient for any indoor use and bright enough for virtually any outdoor application.

The EC Series operates completely flicker free thanks to high LED refresh rates that are 3-8 times higher than other screens.

Semi-transparent and more

The EC-20 panels are transparent and allow light and effects to pass through (audio, smoke and air, too), creating increased possibilities for multi-layered looks. Dim the panels and they seem to disappear, revealing objects or performers placed upstage. In architectural applications the panels can be placed behind windows to allow sunlight into interior spaces.

The EC-10 panels are non-transparent in order to create an image with maximum contrast.

For more creative usage, individual LED modules (240 x 80mm) can easily be removed from the panel to create even more transparency. This allows for creative image layouts and integration with other elements of the show.

Mix and match

The EC-20 and EC-10 panels are fully compatible in terms of:

- mechanical construction (incl. interconnection of panels)
- color points
- power distribution
- signal/data interface
- processing
- alignment

This allows both types to be mixed within one screen. Just think of the creative possibilities!

No need for separate processing, scaling, data-distribution or cabling. Just mix and match the panels; the P3 System Controller will do the rest.



Radiant Imaging color and brightness calibration technology has been fully integrated in the EC Series hardware.



"The plug and play style of the EC system makes it so easy."

- Dave Cohen, Lighting Director, Tinie Tempah

Tinie Tempah UK tour 2011, Lighting Director: Dave Cohen of SaueelDesign, Photo: David Stewart

Fast setup and tear down



A key feature of the modular EC Series system is its ease of setup (and tear down) with no tools required for savings in time and hassle. The panels are low weight for easy one man handling and the user-friendly design requires no separate rental structure.

Integrated power and signal connections have eliminated the need for cables between panels. This saves time, increases reliability, eliminates the risk of incorrect cables and gives the screen a much cleaner look. Also, integrated test functions enable local test at any panel.

Built to last, easy to service

Built of rugged materials with precise mechanics, the EC Series features a true IP65 protection rating, fully protected LEDs, and a wide operating temperature range for use in all types of environments. Designed without compromise, each EC panel is made to last and will remain specification-ready 2-3 times longer than competitive LED screens.

Essentially maintenance free, the EC Series panels are completely convection cooled and use no fans which means no noise, fewer parts to fail, less cleaning, and greater reliability.

Also unique is the fact that every single component of the panel is serviceable while the panel is hanging in the rig. There is never a need to dismantle the screen for access to a specific part.

A robust cast aluminum housing for the electronics provides complete protection.

The panels are ultra quiet for use in noise sensitive environments and are CE/UL approved and Class A EMC certified.



P3 processing

The EC Series is driven by Martin's innovative and award-winning family of P3 System Controllers, ultra robust units for advanced video signal processing and integration with lighting control.



The P3 processing system makes setting up an LED screen a true "plug and play" experience. Based on Gigabit Ethernet and Cat5e wiring, P3 technology removes the limitations of video-type protocols for easy connectivity and speed of setup.

Included is a built-in graphical user interface, built-in scaling and de-interlacing and support for multiple video protocols and resolutions. It allows for direct DMX control of brightness, image rotation and position, color temperature and more.

The P3 System Controllers also enable panels to be placed at any angle while maintaining the content at a right angle (a horizontal line stays horizontal for example).



Jamiroqai live in concert October 2010. Lighting Designer: Patrick Murray. Video rental: Picture Works. Lighting rental: Neg Ecran. Photo: David Stewart

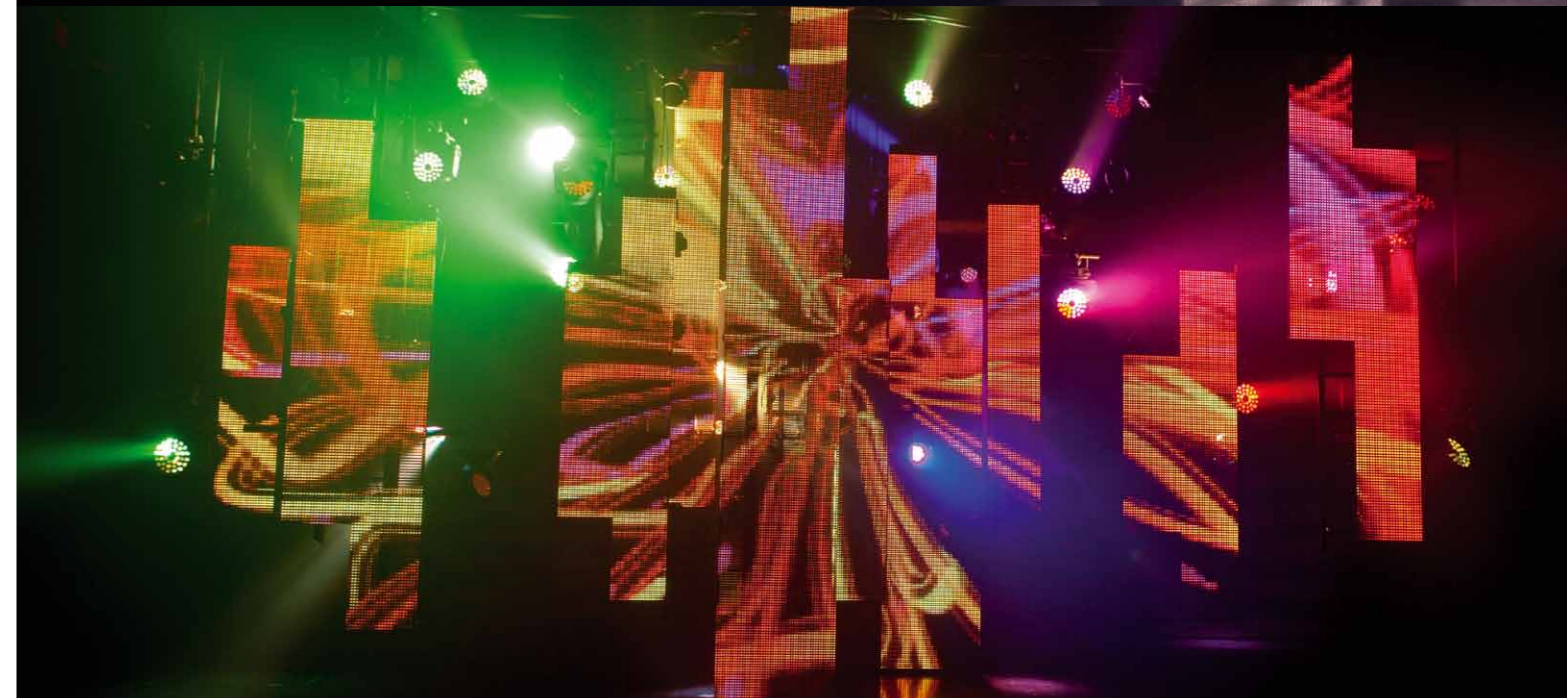
"The EC-20 has been superb so far. I love the new system because we often load in arena shows the morning of a show, and this stuff goes up fast!"

- Jeff Kenney, Insomniac Productions



"The quality of the (EC-20) screen, its brightness and reliability - it looks amazing"

- Koen De Puysseleir, Creative Director, Tiësto, Light in Motion



Curve it any way you want

The integrated curving brackets available as accessories for the EC Series let you create curved screens while maintaining accurate pixel pitch. This guarantees you will never see gaps at the seams between curved panels

The EC-20 panels support stepless curving from 20 degrees convex to 20 degrees concave. This enables you to create curved screens and circles with a radius of only 1.5 m (5 ft).

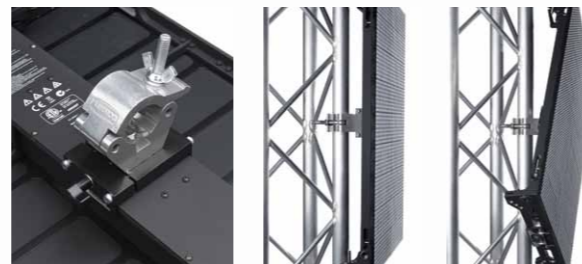
The EC-10 panels support stepless curving down to 15 degrees concave.

Get creative

For even more creative layouts, a range of useful accessories is available.

The EC Series Panel Clamp allows you to fix/hang a panel in any possible orientation. It can be fitted with a rigging clamp or bolted straight onto an application-specific structure.

The EC Series Panel Connectors allow you to use the panels without the header mechanism that is used in more traditional layouts. This enables the panels to be daisy-chained with cables instead of using the integrated panel-to-panel connection system.



The EC Series Panel Clamp allows for more creative configurations and layouts.



Pitch-perfect stepless curving is simple using the integrated curving bracket accessories

Specifications for EC Series

Physical

EC-10 Video Display Panel

Width: 480 mm (18.9 in.)

Depth: 100 mm (3.9 in.)

Height: 720 mm (28.3 in.)

Weight: 13.2 kg (29.1 lbs.)

EC-20 Video Display Panel

Width: 480 mm (18.9 in.)

Depth: 100 mm (3.9 in.)

Height: 720 mm (28.3 in.)

Weight: 10.3 kg (22.7 lbs.)

EC Series Single Header

Width: 480 mm (18.9 in.)

Depth: 85 mm (3.3 in.)

Height: 120 mm (4.7 in.)

Weight: 4.7 kg (10.4 lbs.)

EC Series Double Header

Width: 960 mm (37.8 in.)

Depth: 100 mm (3.9 in.)

Height: 130 mm (5.1 in.)

Weight: 15.4 kg (34.0 lbs.)

EC Series Triple Header

Width: 1440 mm (56.7 in.)

Depth: 100 mm (3.9 in.)

Height: 130 mm (5.1 in.)

Weight: 23.1 kg (50.9 lbs.)

Control/User Interface

Device status: Status indicator LED

Setup testing: Local test patterns

Video Processing

Video signal processor: Martin P3-100, P3-200 or P3-PC System Controller

(see corresponding processor specifications for details)

P3 Signal Protocol

Signal type: Gigabit Ethernet

Protocol: Proprietary Martin P3

Hot pluggable: Yes, electrically isolated at all connections

Cable type: Ethernet, CAT 5e or better

Cable length: Up to 100 m (328.1 ft.) between any 2 devices, extendable with Ethernet switch

Photometric Data

EC-10

Pitch (pixel center-to-center): 10.0 mm (0.4 in.)

Total output (max.): 3000 Nit (calibrated)

Color resolution: 16 bits per color

Resolution, one panel: 48 x 72 pixels

Pixels per panel: 3456

Color and intensity calibration: Pixel-level

EC-20

Pitch (pixel center-to-center): 20.0 mm (0.8 in.)

Total output (max.): 4000 Nit (calibrated)

Color resolution: 16 bits per color

Resolution, one panel: 24 x 36 pixels

Pixels per panel: 864

Color and intensity calibration: Pixel-level

Construction

Panel frames: Aluminum

LED modules per panel: 18

Color: Matt black

Protection rating: IP65, NEMA 4

Installation

Orientation: Individually mounted panel any angle; suspended column vertical only

Max. suspended in one column: Max. sixteen EC Series panels

Panel interlocking: Quick-release mounting system

Connections

Power input to Header: 1.5 m (4.9 ft.) cable tail w/o power plug

P3 data input to Header: Accepts an Amphenol IP67-rated Ethernet cable connector

Panel power and data interconnection: Integrated connector system

Electrical

EC-10

AC power: 200-240 V nominal, 50/60 Hz

Power supply unit: Integrated, auto-sensing multi-voltage

Main fuse: 2 x 3.15 AT

Peak power consumption (approx., at full intensity, full white): 330 W per panel

Typical power consumption (with typical video content): 110 W per panel

EC-20

AC power: 200-240 V nominal, 50/60 Hz

Power supply unit: Integrated, auto-sensing multi-voltage

Main fuse: 2 x 3.15 AT

Peak power consumption (approx., at full intensity, full white): 270 W per panel

Typical power consumption (with typical video content): 100 W per panel

Thermal

Cooling: Convection

Maximum ambient temperature (at full intensity, full white): 40° C (104° F)

Minimum ambient temperature (Ta min.): 0° C (32° F)

Approvals

EU safety: EN 60950-1, EN 60529

EU EMC: EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3

US safety: ANSI/UL 60950-1

Canadian safety: CAN/CSA 60950-1

Included Items

Included with EC-10 panel:

1 x EC-10 video display panel

Included with EC-20 panel:

1 x EC-20 video display panel

Included with 8-unit EC Series Flightcase:

EC Series Safety and Installation Guide

Included with Single Header:

1 x EC Series Header

1 x 5.0 m Ethernet patch cable with IP67-rated RJ-45 connectors

1 x EC Series Header Installation & Safety Guide

Included with Double Header:

2 x EC Series Headers assembled in Double Header

Connection Bracket

1 x Header joining set (2 x joining plates and 16 x M12 bolts)

2 x 5.0 m Ethernet patch cable with IP67-rated RJ-45 connectors

1 x EC Series Header Installation & Safety Guide

Included with Triple Header:

3 x EC Series Headers assembled in Triple Header Connection Bracket

1 x Header joining set (2 x joining plates and 16 x M12 bolts)

3 x 5.0 m Ethernet patch cable with IP67-rated RJ-45 connectors

1 x EC Series Header Installation & Safety Guide

Accessories

EC Series Curving Installation Kit (50 locking knobs, 25 'bananas') in cardboard box P/N 90354270

EC Series Panel Clamp P/N 90354340

EC Series Input Connector P/N 90354350

EC Series Output Connector P/N 90354330

1.5 m Ethernet CAT 5e data cable with IP67-rated RJ-45 connectors P/N 11840147

2.5 m Ethernet CAT 5e data cable with IP67-rated RJ-45 connectors P/N 11840148

5 m Ethernet CAT 5e data input cable with IP67-rated connectors P/N 11840152

30 m Ethernet CAT 5e data input cable with IP67-rated connectors P/N 11840145

All EC Series and P3 System Controller Series user documentation is available for download free of charge from the Product Support area at www.martin.com

Related Items

Martin Maxedia Compact™ System RM* P/N 90732570

Martin Maxedia PRO™ System RM* P/N 90732580

Martin Maxedia PRO™ System with flightcase, I/O box and keyboard tray P/N 90732520

Martin Maxedia Broadcast™ System RM* P/N 90732590

Martin Maxedia Broadcast™ System with flightcase, I/O box and keyboard tray P/N 90732550

*RM devices are 19-inch rackmount versions and do not include flightcase or I/O box

Spare Parts

EC-10 LED Block, Left P/N 90354310

EC-10 LED Block, Right P/N 90354300

EC-20 LED Block, Left P/N 90354280

EC-20 LED Block, Right P/N 90354290

Ordering Information

1 x EC-10™ Video Panel, calibrated (supplied in separately ordered flightcase) P/N 90354320

1 x EC-20™ Video Panel, calibrated (supplied in separately ordered flightcase) P/N 90354230

Flightcase for 8 x EC Series panels (order at same time as panels) P/N 91515008

EC Series Single Header in Cardboard Box P/N 90354240

EC Series Double Header (supplied in separately ordered flightcase) P/N 90354250

Flightcase for EC Series Double Header (order at same time as Header) P/N 91515006

EC Series Triple Header (supplied in separately ordered flightcase) P/N 90354260

Flightcase for EC Series Triple Header (order at same time as Header) P/N 91515007

Martin P3-100™ System Controller P/N 90721010

Martin P3-200™ System Controller P/N 90721020

Martin P3-PC™ License on One-Key™ USB stick P/N 90721030

Martin P3-PC™ License Only P/N 39808028

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Founded in 1987 and headquartered in Aarhus, Denmark, Martin lighting solutions are industry standard on tours and events, theatres, nightclubs, and major television studios around the world, as well as indoor and outdoor architecture and commercial applications. We maintain a presence in the USA, UK, Germany, Denmark, France, Italy and Singapore with associated companies in Japan, the Middle East, Hong Kong and Argentina. Martin operates the industry's most complete and capable distributor network with local partners in nearly 100 countries. Martin's parent company, Schouw & Co, is an industrial conglomerate with 2010 revenue of approximately 1.8 billion USD. For more information please visit www.martin.com

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