

P3 System Controller™ Family



It took a lighting company to change the LED video world



With the P3-100 System Controller, Martin has moved LED screen processing from backstage to center stage, making screen processing part of the creative process. The P3-100 combines state-of-the-art image processing with real time control of every parameter and yet it is very easy to use.

Since its introduction in 2008, the P3-100 System Controller has become a new industry standard, winning awards and becoming the preferred choice of those designers who seek to fully integrate video with lighting.

P3 System Controller comprises these five key elements:

- Scaling and de-interlacing with a minimum of latency
- Unrestricted mapping of any screen element
- Real-time control of all screen parameters including brightness and mapping
- Robust video data distribution via Gigabit Ethernet
- Intuitive and easy user interface

Now you're really in control

The P3 System Controllers allow full integration with lighting control via DMX512. Users can finally treat LED screens like lighting instruments with direct cue-by-cue control of brightness, image rotation and position, color temperature - and more.

But we did not stop there. For applications requiring integration with motion control, the P3 System Controllers also work with the Kinesys K2 motion control system to automatically adapt LED panel positioning in real time. Imagine the possibilities!

Fast and flexible

Any LED panel or group of panels can be positioned in single pixel increments and this position can be updated in real time, enabling the panels to act like floating windows on top of the content.

Latency (system delay) is virtually undetectable. 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).



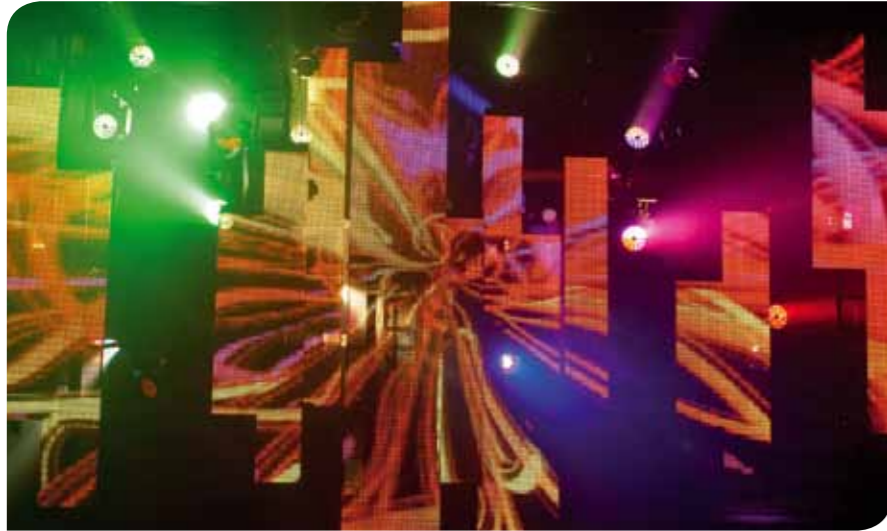
Typical system setup using a P3 System Controller



“A very revolutionary step in terms of what you can do in real time with the processor.”

– Jason Rudolph

Setup without the headache



Setting up LED video screen systems is typically a lengthy and tedious task. Not so with the P3 technology. Thanks to the power of high-speed networking technology, the setup of a P3-enabled LED screen is a matter of a few mouse clicks. The P3 controller works with you, prompting you to make a few decisions and then automatically aligns and addresses the entire screen.

- No need to climb in the rig to address panels; all addressing is done from the P3 Controller
- Various wizards and tools help with LED screen setup - no complex procedures
- The built-in user interface removes the need for an external PC
- The most user-friendly user interface around
- Only a single Cat5E network cable is needed - no need for expensive and sensitive fiber, DVI or HDMI cabling

Any video source you want

P3 System Controllers cover a wide variety of video input, enabling all possible video sources to be fed into Martin LED screens including composite video, S-Video, component video, DVI-D, SD-SDI, HD-SDI, 3G-SDI and even video straight off your desktop.

Total video control

P3 System Controllers give you full control over the video signal before the image is displayed on screen.

- De-interlacing
- Image scaling
- Image cropping
- Saturation control
- Sharpness control
- Brightness control
- Contrast control
- Lowlight control
- Gamma curve control
- Color temperature control

And all of this at 16-bit color depth per color for perfect image quality without artifacts. No longer is there a need for expensive external scalars.



Jamiroquai live in concert October 2010. Lighting Designer: Patrick Murray
Video rental: Peare Works. Lighting rental: Neg Earth. Photo: David Stewart

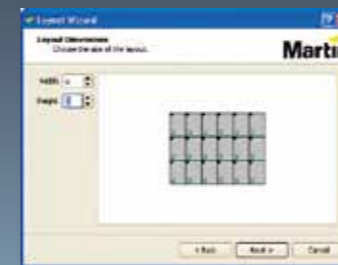
“The software is so easy that almost everyone understands it instantly.”

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



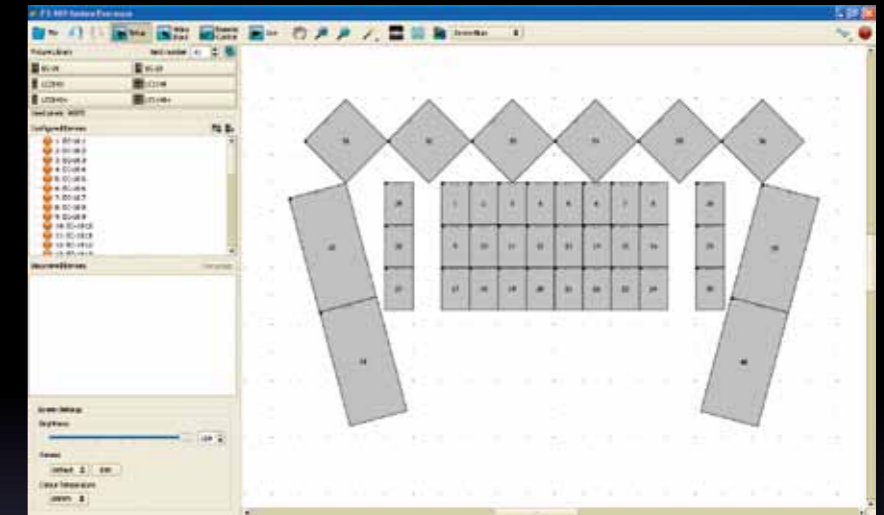
Input selection

- Each P3 Controller features multiple video inputs that are easy to select from the user interface
- Each input parameter, like scaling, contrast, saturation, etc. can be configured and stored on a cue-by-cue basis



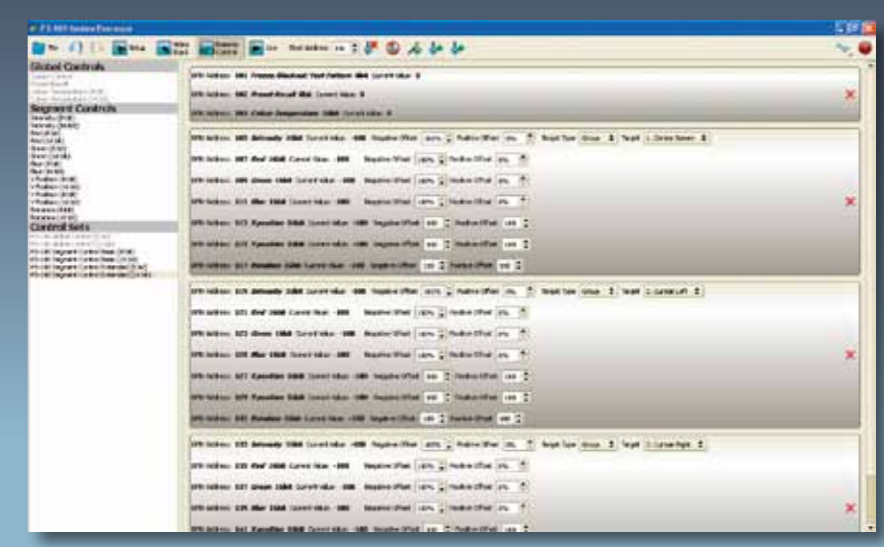
Layout wizard

- The layout wizard enables users to configure and address a screen quickly and easily by entering the width and height of the screen. The wizard will then automatically address all the panels.



Creative layout

- Panels can be freely mapped onto the video canvas
- Free rotation of panels and panel groups
- Mix multiple products and resolutions on a single P3 Controller



DMX control

- An extensive list of parameters can be controlled "live" by DMX
- Easily configure the mapping of DMX channels to the parameters
- Controls on panel and/or group level

Meet the family

From the entry level P3-PC™ to the mid-range P3-100™ to the high-end P3-200™, there is a P3 System Controller to fit any requirement and need.

P3-PC

The P3-PC is an inexpensive yet full-featured software-only version of the P3 processing. It can control up to 20,000 pixels using the Ethernet port of the PC it is running on. Media playback is performed by the PC itself using any media player application including Quicktime, Windows Media Player or VLC.

The P3-PC can be downloaded free of charge and used as a pre-production tool, enabling off-line setup or editing for any of its big brothers.

Media playback requires an inexpensive Martin One-Key™ licence.

P3-100

The award-winning P3-100 is a standalone System Controller with integrated user interface. Just add a monitor, mouse and keyboard. Input capabilities include DVI and all popular analog formats.

P3-200

Building on the success of the P3-100, the higher capacity P3-200 features broadcast standard SDI and HD-SDI inputs as well as DVI. It is capable of handling full HD 1920 x 1080 resolution.

Full compatibility

Full compatibility exists across all P3 System Controllers. The free-of-charge P3-PC offline-editor allows you to pre-program setups at home or anywhere that's convenient for you, then transfer it to a P3-100 or P3-200 using a USB stick.

“To have the P3 with the ability to get the panels in perfect alignment was invaluable.”

- John Featherstone, Lightswitch Inc



Main stage of system setup using the P3 System Controller



Video screen layout showing placement of LED screen

Video content shown as full-resolution from external source

LED screen layout super-imposed onto video content

Final view of video content shown only on LED screen

	P3-PC	P3-100	P3-200
Video Inputs			
Composite Video	No	Yes, up to 720x576	No
S-Video	No	Yes, up to 720x576	No
Component Video	No	Yes, up to 720x576	No
DVI-D	No	Yes, up to 1280x1024	Yes, up to 1920x1080
SDI	No	No	Yes, up to 1920x1080
On-Screen-Capture	Yes	No	No
Video Processing			
De-Interlacing	No	Yes	Yes
Image Scaling	Yes	Yes	Yes
Image Cropping	Yes	Yes	Yes
Saturation Control	Yes	Yes	Yes
Sharpness Control	Yes	Yes	Yes
Brightness Control	Yes	Yes	Yes
Contrast Control	Yes	Yes	Yes
Lowlight Control	Yes	Yes	Yes
Gamma Curve Control	Yes	Yes	Yes
Color Temperature Control	Yes	Yes	Yes
Output			
P3	PC Hardware Dependant	Gigabit Ethernet	Gigabit Ethernet
Pixels	20.000	500.000	500.000
Expansion Stacking	No	Yes	Yes
Redundant Stacking	Yes	Yes	Yes
Control Interfaces			
DMX Input	No	Yes	Yes
Kinesys Input	No	Yes	Yes
Status Webpage	No	Yes	Yes
Form-Factor			
Dimensions	PC Hardware Dependant	Rackmount 2U	Rackmount 2U
User Interface			
Monitor	PC Hardware Dependant	VGA	VGA
Keyboard	PC Hardware Dependant	USB	USB
Mouse	PC Hardware Dependant	USB	USB

Specifications P3 System Controllers™

Physical

P3-100, P3-200

Depth: 380 mm (15.0 in.)
Width: 482 mm (19.0 in.)
Height (rackmount 2U): 90 mm (3.5 in.)
Weight: 7.7 kg (17.0 lbs.)

Control/user interface

P3-100, P3-200

User interface: SXGA (1280 x 1024) or better monitor, keyboard, mouse
Device status: Status indicator LEDs

DMX512 remotely controllable parameters

Global: Freeze frame, blackout, test patterns, color temperature, video input selection and settings preset recall
Panel: Intensity, RGB adjustment, X-Y video image position, rotation

Kinesys remotely controllable parameters

X-Y video image position, rotation

Video processing

All P3 System Controllers

Processing depth: 16 bit per color
Latency between first and last panel: None
Image rotation
Scaling
De-interlacing
Gamma curve selection and adjustment
Real-time panel content remapping
Real-time color temperature control

P3-100

Processor capacity: 500 000 pixels (expandable by adding P3 System Controllers of same type)
Output resolution: Any within 500 K pixel limit (expandable by adding P3- System Controllers of same type)
System latency, DVI: 1 frame
System latency, analog progressive: 1 frame
System latency, analog interlaced: 3 frames
DVI video input: Up to 1280 x 1024, 50/60/75 Hz
Analog video input: Composite, component and S-video, PAL, NTSC and SECAM
DVI frame synchronization to analog input signal or genlock

P3-200

Processor capacity: 500 000 pixels (expandable by adding P3 System Controllers of same type)
Output resolution: Any within 500 K pixel limit (expandable by adding P3- System Controllers of same type)
System latency, DVI: 1 frame
System latency, SDI progressive: 1 frame
System latency, SDI interlaced: 3 frames
DVI video input: Up to 1920 x 1080, 50/60/75 Hz
SDI video input: SD-SDI, HD-SDI and 3G-SDI (Level A only)

P3-PC

Processor capacity: 20 000 pixels
Output resolution: Any within 20 K pixel limit
System latency: 1 frame
Video input: On-screen capture window

P3 signal protocol

All P3 System Controllers

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
Max. number of panels per line: 50, extendable with Ethernet switch

Construction

P3-100, P3-200

Housing: Steel and aluminum
Color: Matt black
Protection rating: IP20

Installation

P3-100, P3-200

Mounting: 19-inch rackmount (2U)

P3-PC

Any standard PC running Windows Vista, XP or 7 (requires Martin One Key™ USB stick with P3-PC License)

Connections

P3-100, P3-200

Power input: IEC socket, power cables supplied
P3 data in/out: RJ-45 socket
Kinesys and webpage in/out: RJ-45 socket
DVI video in: DVI-D (DVI-I connector provided)
DMX in: 5-pin locking XLR
Peripherals and USB memory devices: 4 x USB ports
User interface monitor: VGA/DD15
Serial data (available for future options): RS-232 via DB9 connector
P3-100
Analog video in: 3 x BNC
P3-200
SDI video in: BNC
SDI video thru: BNC
P3-PC
P3 signal output to panels via PC network port

Electrical

P3-100, P3-200

AC power: 115-250 V, 47-63 Hz
Power supply unit: Integrated, universal multi-voltage
Main fuse: 1 A, T (slow blow)

Thermal

P3-100, P3-200

Cooling: Forced air
Maximum ambient temperature (Ta max.): 50° C (122° F)
Minimum ambient temperature (Ta min.): 0° C (32° F)

Approvals

EU safety: EN 60950-1
EU EMC: EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3
US safety: UL 60950-1
Canadian safety: CAN/CSA C22.2 No. 60950-1

Included items

P3-100, P3-200

EU-type power cable with Schuko connector
US-type power cable
UK-type power cable
30 m (98.4 ft.) Ethernet data cable with IP67-rated RJ-45 connector: P/N 11840145

P3-PC

Martin One Key™ loaded with P3-PC License

Related items

All P3 System Controllers

Martin EC-10™ Video Display Panel: P/N 90354320
Martin EC-20™ Video Display Panel: P/N 90354230
Flightcase for 8 x EC Series panels (flightcase and panels are ordered separately): P/N 91515008
Martin LC Plus 2140™ panel, packed in cardboard box: P/N 90354102
Martin LC Plus 2140™ panel, packed in flightcase: P/N 90354101
P3 Upgrade Kit for standard LC 2140 panel: P/N 91614030
P3 Upgrade Kit for standard LC 1140 panel: P/N 91614031
P3-100, P3-200
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*

Ordering information

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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