Encore Presentation System

Complete show control

The Encore Presentation System is the most advanced video processing and presentation control system on the market today. The system provides source selection, advanced windowing features, seamless switching, video effects and integrated control for professional video presentations. Encore's modular, scalable architecture allows the system to support a wide variety of show configurations. The system can efficiently support from 1-32 screens with any combination of independent display or seamless wide-screen display elements.

BARCO

Visibly yours

Revolutionizing the event and entertainment industries

UP TO 12 INDEPENDENT WINDOWS
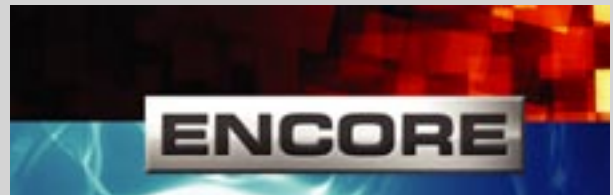**WITH Z-LEVEL CONTROL**
Each window can be resized and positioned in real time,
with programmable Borders and Drop Shadows

EXPANDABLE FROM 1 to 32 SCREENS
Encore supports any combination of single-screen, multi-screen
or edge-blended widescreen applications.

NATIVE HIGH RESOLUTION BACKGROUND
Background transition effects are
independent of the windowing channels.

SPECIAL EFFECTS
Seamless transitions, window border effects and
advanced keying features are supported.

MODULAR SYSTEM ARCHICTECTURE
Encore can be expanded as your needs change
and system configurations can be tailored to
efficiently meet application requirements.

EVENT CONTROL
Encore System Controllers provide easy-to-operate
real-time control.

System Overview

From the smallest single-screen event to the most critical widescreen edge-blended presentation, only one system on the market handles every challenge with power and ease — the Encore Presentation System. Each Encore system consists of a Controller and one or more Video Processors, and each system is designed to grow in tandem with your creative requirements. With a full array of unsurpassed features, dynamic input flexibility and the superb quality of Barco Folsom scaling, Encore is the premiere choice for today's demanding presentation marketplace.

Three different Encore System Controllers are offered to meet the varying demands of unique system applications:

- The **Encore Controller SC** is designed for applications involving 24 input videos and can control shows with from 1-6 screens.
- The **Encore Controller LC** is designed for advanced applications involving up to 64 input videos and from 1-32 screens.
- The **Encore GC System**, that includes the Encore GC GUI and **Encore Control Unit** (ECU), brings the power of the Encore LC and SC controllers to your desktop.

All three controllers are capable of controlling external routers for source selection and Encore Video Processor units to provide high-performance real-time video effects. The controllers provide a reliable, rapid power-up and true real-time performance for critical video processing sequences.

Features

- **Supports up to 12 Independent windows or 6 windows with seamless transitions**

- **(2) Native High Resolution Background channels provide background video with seamless transition effects**

- **Special effects**
  - Transition effects: cut, dissolve and wipe
  - Smooth PIP move & sizing controlled via Key Frames
  - Adjustable PIP aspect ratio
  - PIP borders, including drop shadows and soft edge
  - PIP clone (mirror and offset)

- **Keying**
  - Luminance key
  - Split key (key alpha and fill)
  - Reverse key (key on background)
  - Color key (Graphics)
  - Alpha mixing

- **(1) Native High Resolution Down Stream Key channel independent of PIP/KEY processing channels**

- **Video Processing**
  - 10-bit processing
  - 1:1 pixel sampling
  - Motion adaptive de-interlacing (SD & HD)
  - 3:2 and 2:2 pull down detect
  - Image cropping
  - Aspect ratio correction

- **Athena proprietary high-performance scaling**

- **Low video delay - less than 3 input fields**

- **Z-order Control (priority layers) for overlapping PIP or Key images**

- **Each mixer layer is dynamically re-assignable as a mixing (transitioning) PIP, or as two individual (SPLIT) non-transitioning PIP or Key images.**

- **Still frame : frame grab of background and down stream key sources**

- **Complete look-ahead preview**

- **Supports blended widescreen projection**

- **Output synchronization: free-run or vertically locked to NTSC/PAL blackburst or tri-level yync**

- **Edge blending**
  - 10-bit processing
  - Variable overlap
  - Supports standard and pre-overlapped background sources
  - Edge blending (feathering)

The Encore Video Processor

The Encore Video Processor is packaged as a 3RU rack-mount unit that can be configured with one, two or three Mixer/Effect (M/E) boards to meet different application requirements. Models configured with one or two M/E boards can be easily upgraded.

Each M/E board provides two independent Athena scaler channels with universal inputs that handle both analog and digital video sources. The Athena scaler features 1:1 pixel sampling, motion adaptive de-interlacing for both standard and high definition sources, 3:2 and 2:2 pull-down detection, low video delay, aspect ratio correction, image cropping and real-time window re-sizing and positioning. Seamless transitions, window borders, drop shadows and a variety of keying effects are fully supported.

An Encore Video Processor configured with three M/E boards can scale six input sources to generate six PIP and/ or Key effects. PIP and Key effects can be sized and positioned at any location on screen in real-time. Z-order control is used to assign overlay priorities to each PIP or Key. For suberb flexibility, PIPs can be linked in pairs or used independently over any background image. Keying flexibility is equally creative, with the ability to self key, color key, fill with color matte, "split" key, and much more. Each Encore Video Processor also supports two native resolution background channels to provide a high resolution backdrop for PIPs and Keys, including seamless transitions. To complete the package, the unit supports a high resolution Down Stream Key (DSK) input.

Each Encore Video Processor's Output Board provides all output interface, blending and data-doubling functions required to support widescreen applications. The system supports output computer resolutions up to 1600x1200, analog HDTV resolutions including 720p, 1080i, 1080p, HD-SDI, 2048x1080p Digital Cinema video, and plasma display resolutions. Output synchronization is supported to lock the output frame rate to an externally applied NTSC/PAL black burst signal.
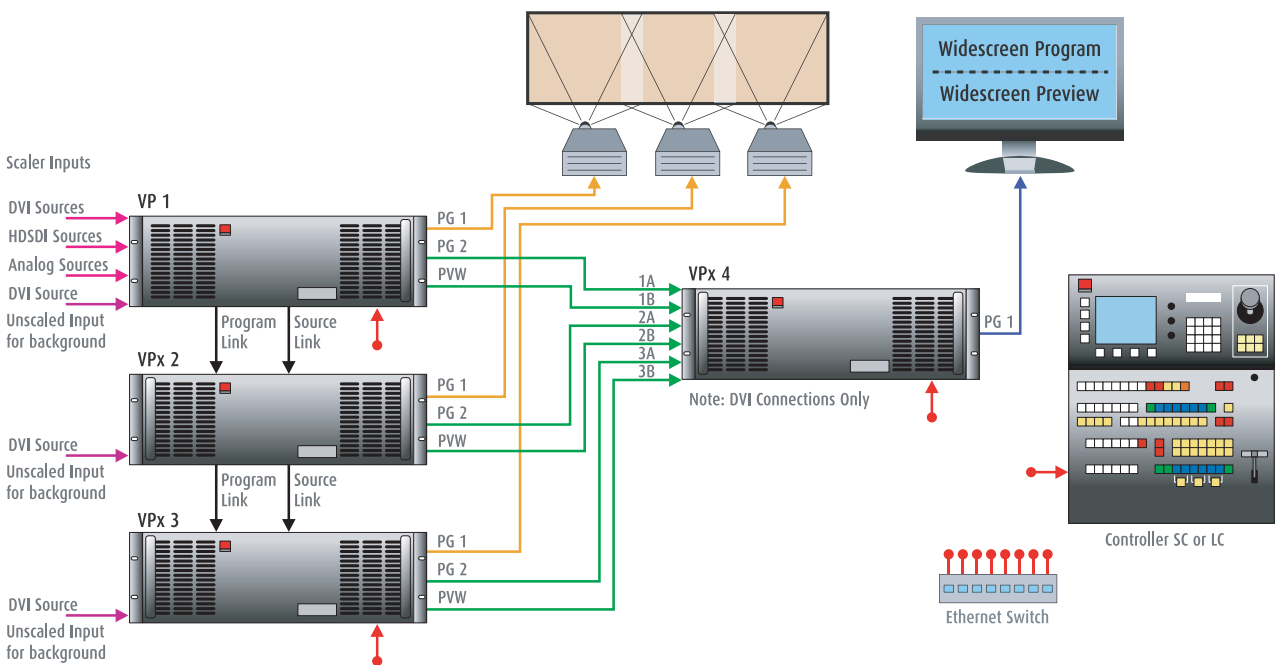

Encore Video Processor Rear Panel

VPx

The VPx offers a cost effective solution for wide screen Encore destinations. In a blended wide screen configuration in which two or more Video Processors are used, VPx can be used to replace the second (and higher) Video Processors without compromising image quality or functionality.
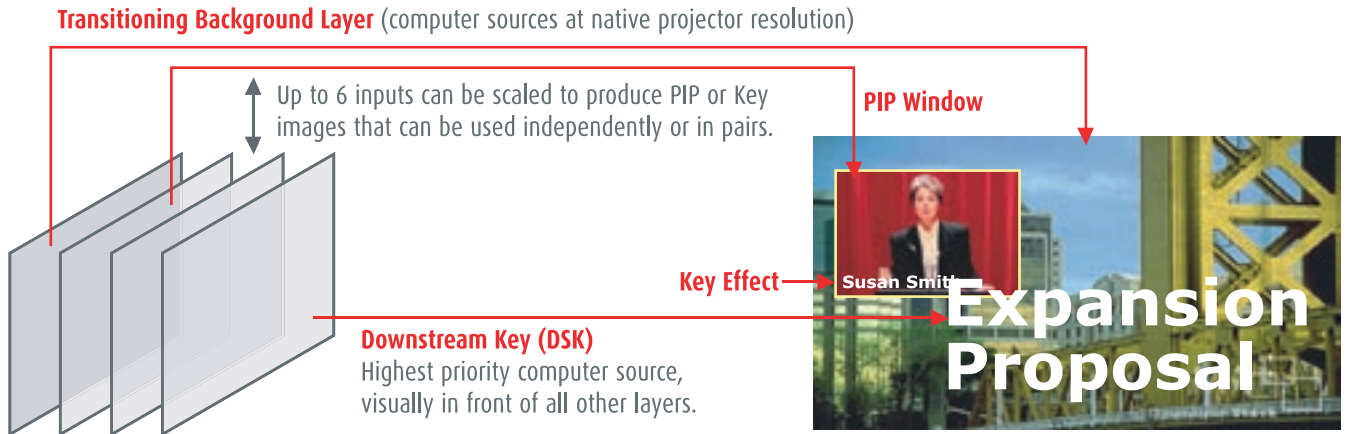
In a blended widescreen configuration, VPx operates like a standard VP providing the same layering capabilities, features and effects. The VPX also includes the same output connectors as the standard VP.

The VPx can also be used as a multiple preview display processor. By sending the preview outputs from other Encore VP and VPx units to the "multi-view" VPx, you can combine multiple preview outputs on a single display. On the "multi-view" monitor, preview outputs can be arranged in any size or location, and the monitor display itself is managed from any of the Encore Controllers.
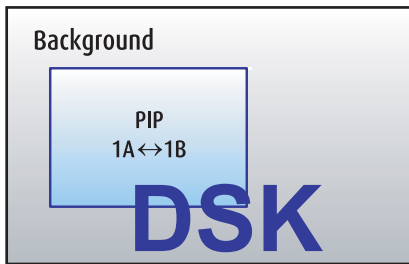
Creating Effects with Encore

The Encore Video Processor can be configured with one, two, or three mixer (M/E) boards, enabling you to create a variety of dynamic and unique effects on screen utilizing any or all of Encore's visual layers:

Transitioning Background Layer (computer sources at native projector resolution)

Up to 6 inputs can be scaled to produce PIP or Key images that can be used independently or in pairs.

PIP Window

Key Effect

Susan Smith

Expansion Proposal

Downstream Key (DSK)
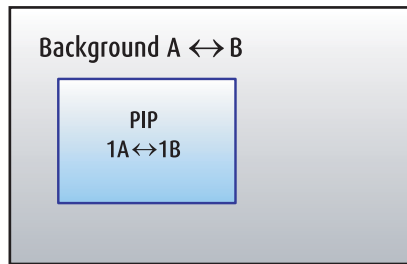Highest priority computer source, visually in front of all other layers.
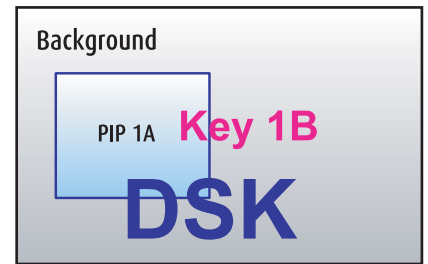
Single Mixer Effects

A single Mixer Encore system provides two backgrounds, two scaleable mixer layers plus an unscaled DSK. Note that if the DSK is in use, the background cannot transition between A and B. The DSK and background channels are unscaled, in all cases.

Background
PIP 1A↔1B
DSK

Non-transitioning background (either A or B), (1) transitioning PIP, DSK.

Background A ↔ B
PIP 1A↔1B

Transitioning background, (1) transitioning PIP (no DSK)

Background
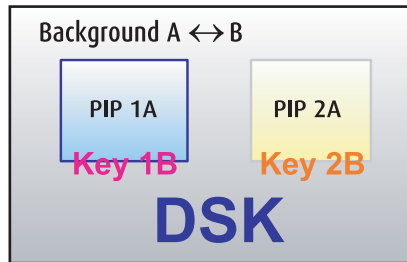PIP 1A **Key 1B**
DSK

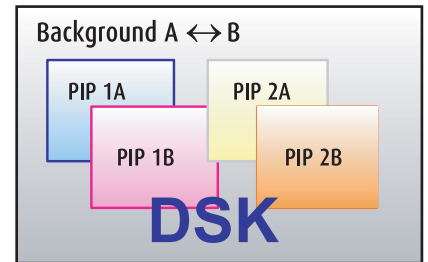Non-transitioning background, (1) Pip, (1) Key, DSK

Dual Mixer Effects

A dual Mixer Encore system provides two backgrounds, a total of four scalable layers in the two Mixers, plus an unscaled DSK.

Background A ↔ B
PIP 1A↔1B   PIP 2A↔2B
DSK

Transitioning background, 2 transitioning PIPs plus DSK

Background A ↔ B
PIP 1A   PIP 2A
Key 1B   **Key 2B**
DSK

Transitioning background, 2 independent PIPs and 2 Keys, DSK

Background A ↔ B
PIP 1A   PIP 2A
PIP 1B   PIP 2B
DSK

Transitioning background, 4 independent PIPs (or Keys), DSK

Triple Mixer Effects

A triple Mixer Encore system provides two backgrounds, a total of six scalable layers in the three Mixers plus an unscaled DSK.

Background A ↔ B
PIP 1A↔1B   PIP 3A↔3B   PIP 2A↔2B
DSK

Transitioning background, 3 transitioning PIPs, DSK

Background A ↔ B
PIP 1A   PIP 3A
Key 1B   PIP 2A   **Key 3B**
Key 2B
DSK

Transitioning background, (1) non-transitioning PIP/Key on each mixer, DSK

Background A↔ B
PIP 1A   PIP 1B   PIP 2A   PIP 2B
PIP 3B   PIP 3A
DSK

Transition background, six independent (non-transitioning) PIPs (or Keys), DSK

Total Event Control

The Encore System Controllers support events by allowing integrated control of multiple Encore Video Processors in addition to matrix switchers.

Encore Controller LC

Preset Buttons
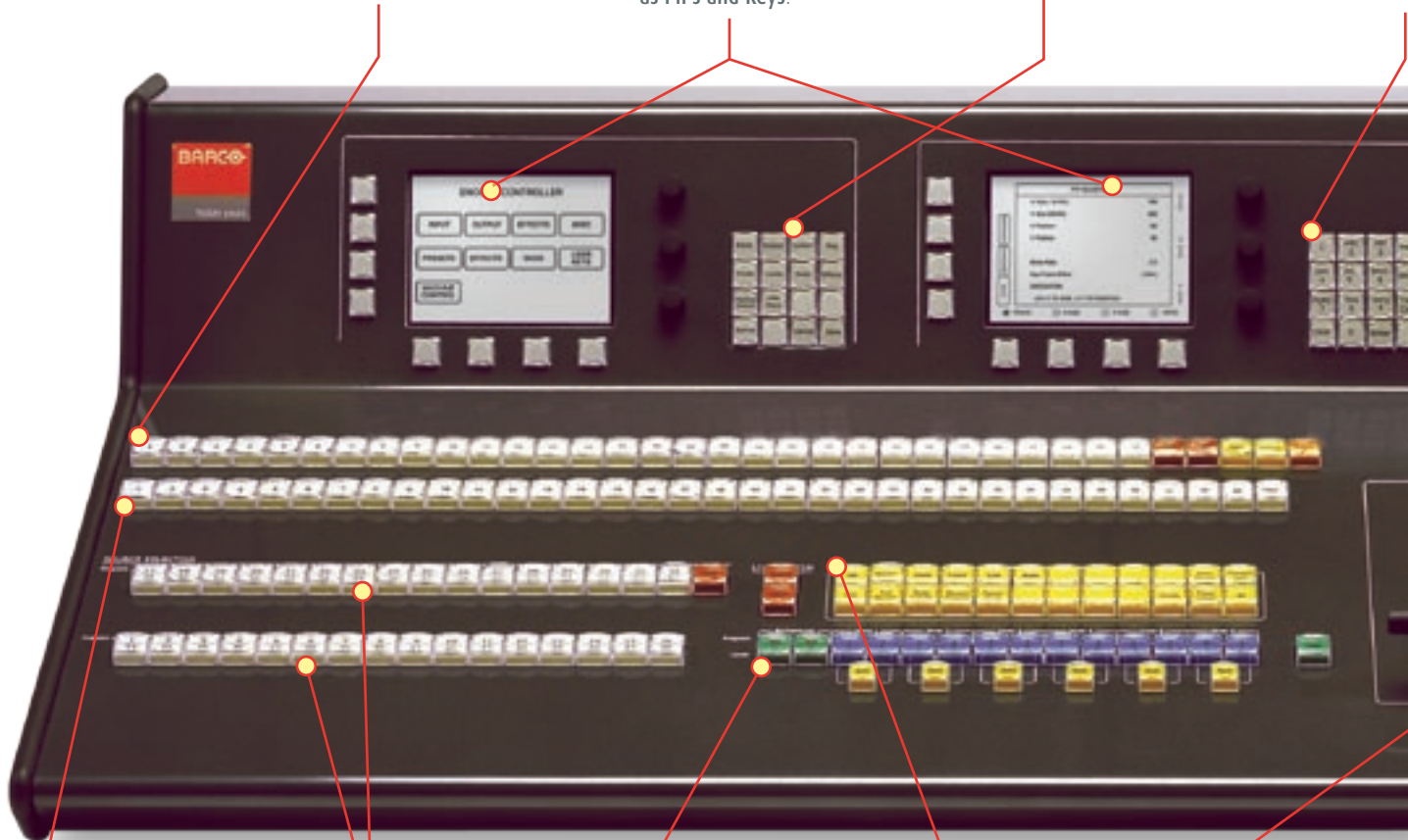Buttons enable you to store and recall Controller setups. Each button represents a single "look" of the overall projected image.

System Touch Screens
Used for system configuration, setup and operational adjustments,such as PIPs and Keys.

System Keypad
Provides direct access to all system configuration, setup and status menus.

Alphanum
Enables you change num Touch Scree

Destination Bus
Each button selects an active destination (e.g., single screen, widescreen, aux) to which you can route the Controller's output.

Source Selection Bus
Each button represents a source that you can route to PIPs, Keys and Aux destinations.

Layer Control Section
Buttons select the layer(s) that will transition to or from Program. Split buttons control the "mode" of each mixer

Layer Functions Section
Buttons in this section apply to the active (blinking) layer, enabling you to change the layer's mode and attributes.

Transition Section
Includes the T-Bar for manually mixing sources, plus dedicated buttons for cuts and auto-transitions.

Mixer buttons provide two unique modes of operation. In "Mix" mode, layers are ganged together. In "Split" mode, each layer works independently.
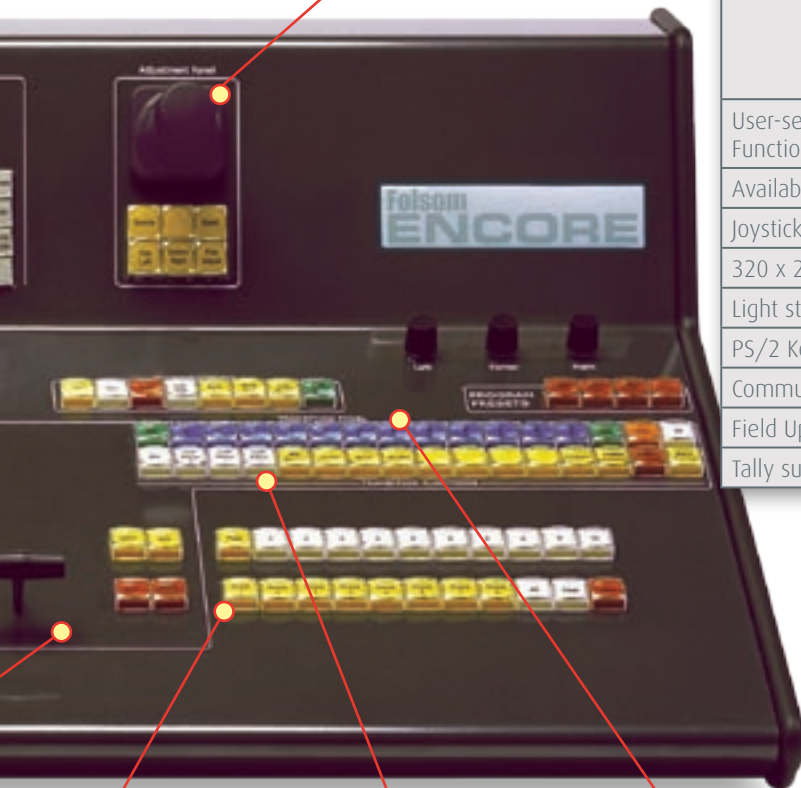
Each Touch Screen provides fast, easy and precise access to all menus and functions.

Controller Features

	Small Controller	Large Controller
Encore Processors supported	32	32
Widescreen support	Yes	Yes
External Router Control	Yes	Yes
Inputs supported	24	64
Destinations supported	6	32
Available Presets	64	900
Layers supported	1 DSK 6 Scaled Inputs (PIP or Key) 1 Transitioning background	1 DSK 12 Scaled Inputs (PIP or Key) 1 Transitioning background
User-selectable Transition Functions	Yes	Yes
Available User-defineable Keys	None	100
Joystick & T-Bar	Yes	Yes
320 x 240 graphic displays	1	2
Light sticks	2	3
PS/2 Keyboard support	Yes	Yes
Communication	Ethernet, RS-232	Ethernet, RS-232
Field Upgradeable	Yes	Yes
Tally support	8	8

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Adjustment Panel
Joystick enables you to adjust PIPs, Keys and other parameters. Dedicated buttons allow you to change the Joystick's function.

Group Control Section
To simplify destination selection process, each "Group" button can be programmed to activate one or more destinations.

Transition Functions
Buttons set parameters for the current transition and mode, such as mix source, toggle, swap, move and black preview.

User Key Section
Each button stores PIP and Key parameters, enabling you to copy between layers and mixers.
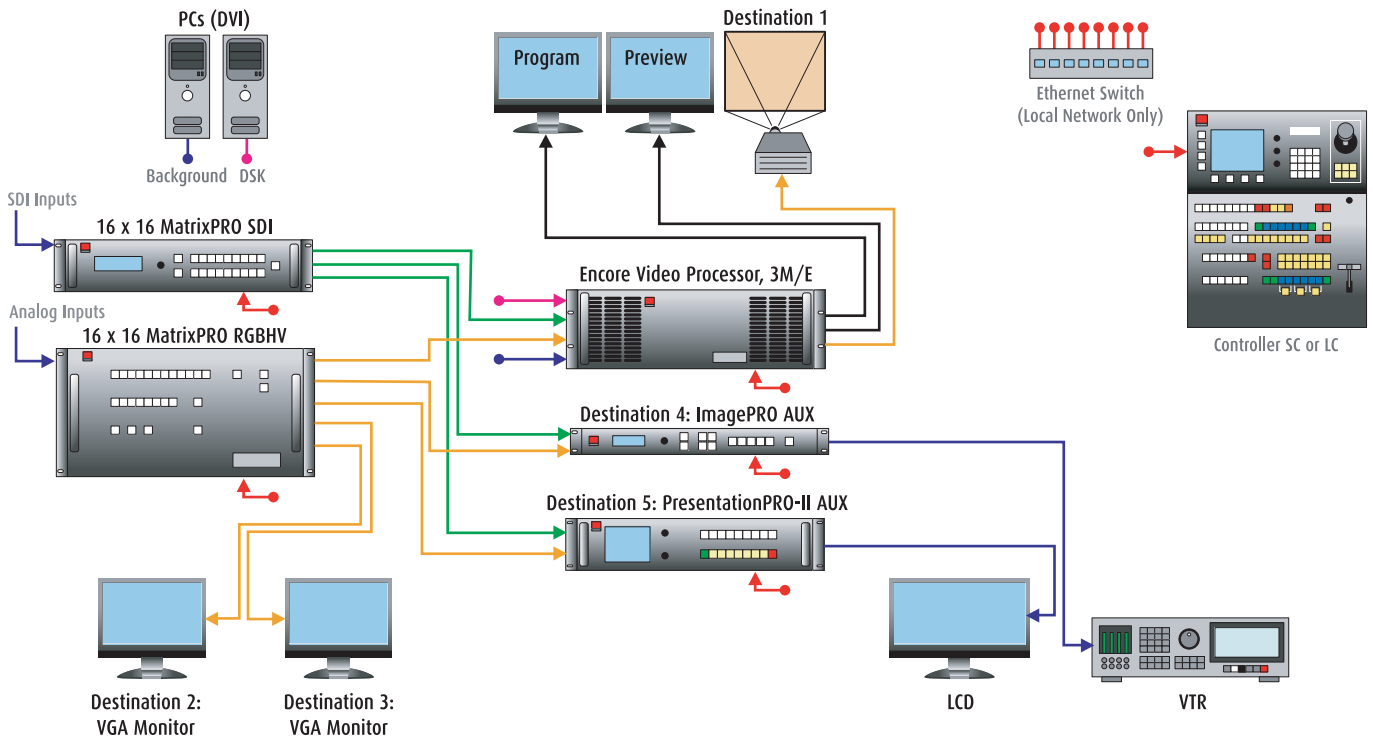
The joystick is multi-functional. Use it to size, position and crop both PIP and Keys, or use it to adjust the value of a highlighted parameter on the Touch Screen.
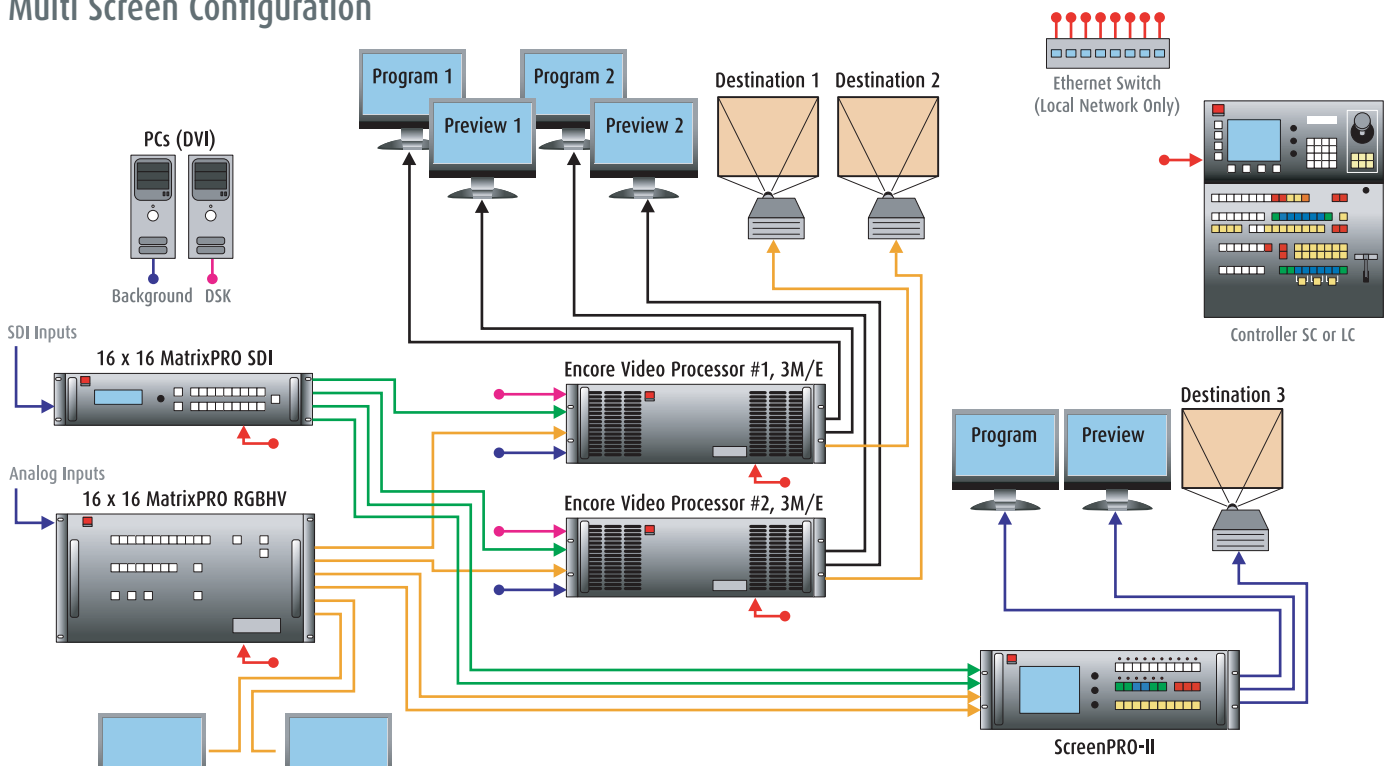
Encore Controller SC

Sample Encore Configurations

Single Screen Configuration

PCs (DVI)

Destination 1

Background   DSK

SDI Inputs

16 x 16 MatrixPRO SDI

Analog Inputs

16 x 16 MatrixPRO RGBHV

Program   Preview

Ethernet Switch
(Local Network Only)

Controller SC or LC

Encore Video Processor, 3M/E

Destination 4: ImagePRO AUX

Destination 5: PresentationPRO-II AUX

Destination 2:
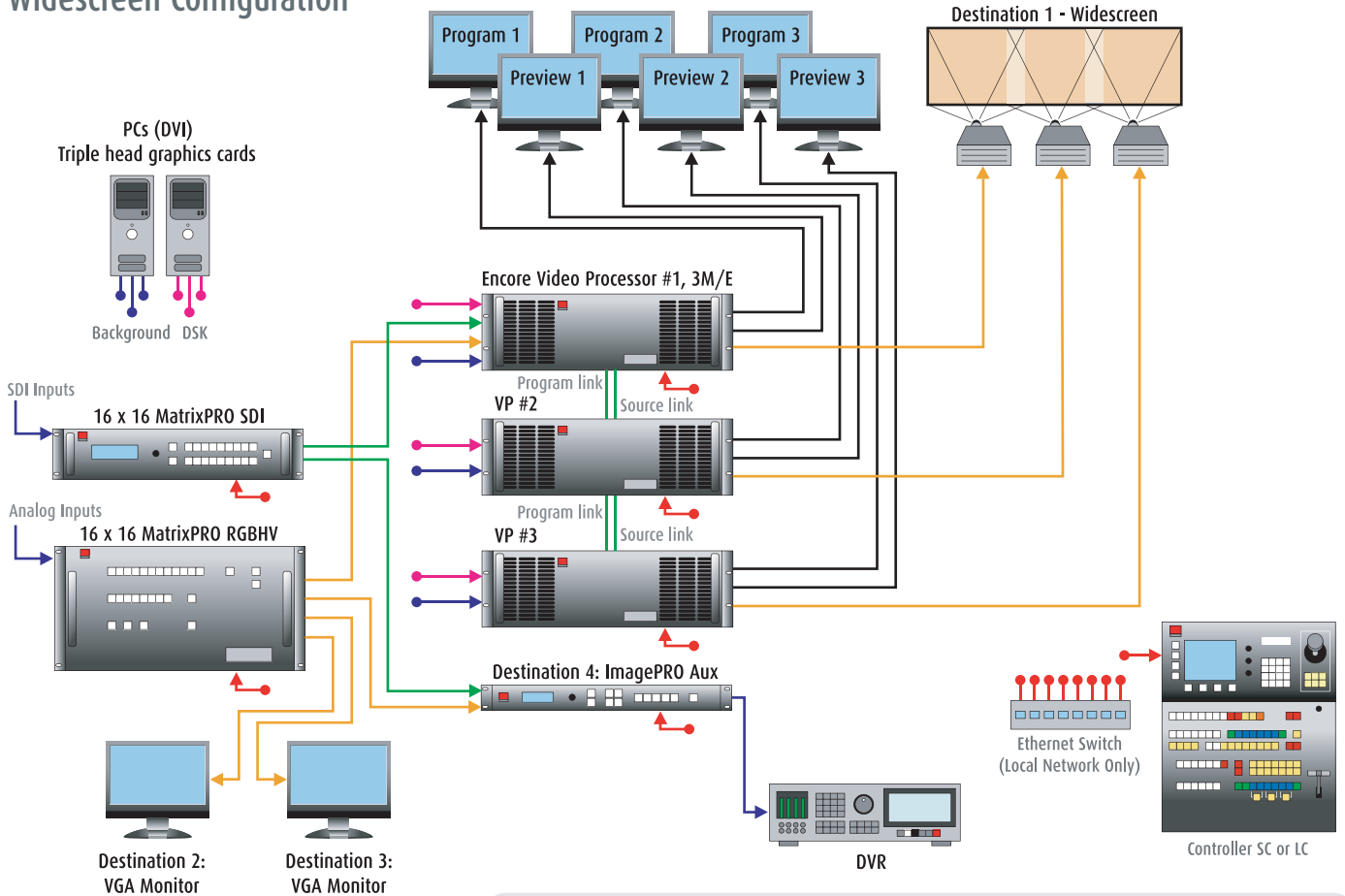VGA Monitor

Destination 3:
VGA Monitor

LCD   VTR

•Non-stack system, up to 6 layers
•3M/E Video Processor (x1), SDI Router (x1), RGBHV Router (x1)
•5 Destinations: (1) Projector, (2,3) Aux monitors, (4) ImagePRO Aux, (5) PresentationPRO-II Aux

Multi Screen Configuration

PCs (DVI)

Program 1   Program 2

Preview 1   Preview 2

Destination 1   Destination 2

Ethernet Switch
(Local Network Only)

Controller SC or LC

Background   DSK

SDI Inputs

16 x 16 MatrixPRO SDI

Encore Video Processor #1, 3M/E

Destination 3

Program   Preview

Analog Inputs

16 x 16 MatrixPRO RGBHV

Encore Video Processor #2, 3M/E

ScreenPRO-II
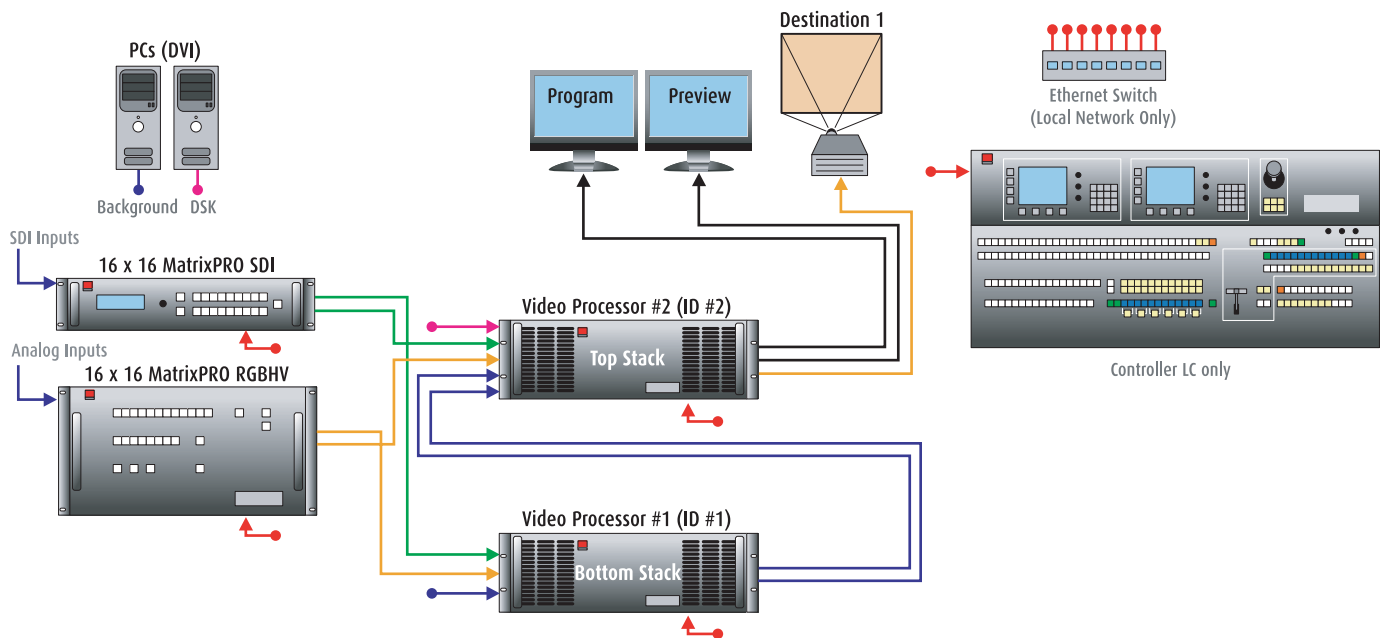
Destination 2:
VGA Monitor

Destination 3:
VGA Monitor

•Non-stack system, up to 6 layers
•3M/E Video Processor (x2), SDI Router (x1), RGBHV Router (x1)
•5 Destinations: (1,2) Projectors, (3) ScreenPRO-II, (4,5) Aux monitors

Widescreen Configuration

Program 1 Program 2 Program 3
Preview 1 Preview 2 Preview 3

Destination 1 - Widescreen

PCs (DVI)
Triple head graphics cards

Background DSK

SDI Inputs

16 x 16 MatrixPRO SDI

Analog Inputs

16 x 16 MatrixPRO RGBHV

Encore Video Processor #1, 3M/E

Program link
VP #2   Source link

Program link
VP #3   Source link

Destination 4: ImagePRO Aux

Destination 2:   Destination 3:
VGA Monitor   VGA Monitor

DVR

Ethernet Switch
(Local Network Only)

Controller SC or LC

- • Non-stack system, up to 6 layers
- • 3M/E Video Processor (x3), SDI Router (x1), RGBHV Router (x1)
- • 4 Destinations: (1) Projector wide ecreen, (2,3) Aux monitors, (4) ImagePRO Aux

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Single-screen "stack" Configuration

PCs (DVI)

Background DSK

Destination 1

Program   Preview

Ethernet Switch
(Local Network Only)

SDI Inputs

16 x 16 MatrixPRO SDI

Analog Inputs

16 x 16 MatrixPRO RGBHV

Video Processor #2 (ID #2)
Top Stack

Video Processor #1 (ID #1)
Bottom Stack

Controller LC only

- •Stack system, up to 12 layers (Controller LC only)
- •3M/E Video Processor (x2), SDI Router (x1), RGBHV Router (x1)
- •Destinations: (1) Projector

Integration with Signal Routers

The use of high quality routers is an integral part of the Encore system. Barco offers analog and digital routers including SDI, HD/SDI and DVI units that are fully compatible with Encore. All of our routers are designed and tested to ensure quality, reliability, robustness and ease of use. The Encore system is also compatible with other manufacturers' routers.

MatrixPRO Serial Digital Series handles up to 16 digital SD-SDI/HD-SDI input signals

The MatrixPRO 8x8 DVI router provides versatile switching for up to 8 DVI signals

The MatrixPRO Analog Series can route from 4 to 32 RGBHV signals

Encore GC

Encore GC GUI

Encore Configurator

The Encore Configurator GUI enables operators to pre-configure the system prior to arrival on site. The GUI steps you through basic screen layout, screen details, and router setup. The program includes a calculator for blended wide-screen applications that determines the amount of overlap and number of processors required for a particular screen size. The Configurator also includes set up diagrams designed to ease your on-site preparations, plus backup and re-sore functions that simplify your ability to load and safely store all Encore configurations.

Encore GC gives operators the power of the Encore Controllers at the click of a mouse. The Encore GC replaces the hardware controller in applications where the LC or SC is not required. All system configuration, layer and preset functions can be performed from the Graphical User Interface, just as they are from the controllers. In addition, the Encore GC functions as a pre-show design tool, where presets and "looks" can be established off-line and then downloaded to the system at a later time. The Encore GC system also includes the **Encore Control Unit** (ECU), which interfaces easily with other control systems, and also provides standalone time line functionality for completely independent operations.

Configurator GUI

Encore Control Unit (ECU)

Encore Video Processor Specifications

Inputs		
Mixer/Effects Channels (2 per m/e board)	Analog Inputs	RGBHV/RGBS/RGsB computer video, YPbPr video (SD or HD), S-video, or Composite video on 15-pin HD connector
	SD and HDSDI Input	per SMPTE 259M-C (NTSC/PAL resolution) SMPTE 292M (HDTV) on BNC connector
	DVI Input	per DDWG 1.0 on DVI-I connector
	Input Resolutions	·NTSC/PAL ·Computer Resolutions VGA (640 x 480) through UXGA (1600 x 1200) ·HDTV Resolutions up to 1920 x 1080 (720p, 1080i, 1080p) ·2048 x 1080p (Digital Cinema format) ·Plasma Display Resolutions
Native Resolution Background Channels (2 per M/E board)	Analog Inputs	RGBHV computer video on DVI-I connector
	DVI Input	per DDWG 1.0 on DVI-I connector
	Input Resolutions	·Computer Resolutions: SVGA (800 x 600) through UXGA (1600 x 1200) ·HDTV Resolutions (720p, 1080p) ·2048 x 1080p (Digital Cinema format) ·Plasma Display Resolutions
Downstream Key Input (1 per Encore Video Processor)	Analog Inputs	RGBHV computer video on DVI-I connector
	DVI Input	per DDWG 1.0 on DVI-I connector
	Input Resolutions	·Computer Resolutions: SVGA (800 x 600) through UXGA (1600 x 1200) ·HDTV Resolutions (720p, 1080p) ·2048 x 1080p (Digital Cinema format) ·Plasma Display Resolutions
Frame Lock Input		NTSC/PAL black burst reference on BNC Connector
Outputs		
Preview Output	Analog Outputs	RGBHV/RGBS/RGsB, YPbPr video (SD or HD), on 15-pin HD connectors
	DVI Output	per DDWG 1.0 on DVI-I connector
Program Output 1	Function	Main output. Contains data-doubled data on widescreen applications
	Analog Outputs	RGBHV/RGBS/RGsB, YPbPr video (SD or HD), on 15-pin HD connectors
	DVI Output	per DDWG 1.0 on DVI-I connector
	Optional HDSDI Output	per SMPTE 259M-C (NTSC/PAL resolution) SMPTE 292M (HDTV) on BNC connector (Program Out)
Program Output 2	Function	Second buffered program output or a monitoring program output
	Analog Outputs	RGBHV/RGBS/RGsB, YPbPr video (SD or HD), on 15-pin HD connectors
	DVI Output	per DDWG 1.0 on DVI-I connector
	Optional HDSDI Output	per SMPTE 259M-C (NTSC/PAL resolution) SMPTE 292M (HDTV) on BNC connector (Program Out)
Output Resolutions		·Computer Resolutions VGA (640 x 480) through UXGA (1600 x 1200) ·HDTV Resolutions up to 1920 x 1080 (720p,1080I, 1080p) ·2048 x 1080 (Digital Cinema format) ·Plasma Display Resolutions
Communication		RS-232, Ethernet connection (with TCP/IP)
Mechanical		3 RU Rackmount Chassis
Power		120-240 VAC - 50/60 Hz., Autoselecting 1.0A maximum

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