

# 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, automatic source acquisition and configuration, 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 applications. Blended destinations can be horizontal, vertical, or an HV array.

## 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 ARCHITECTURE

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 Processors, ScreenPRO II Processors, or the ImagePRO to provide high-performance real time compositing and 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 for both horizontal and vertical blends**
- **Output synchronization: free-run or vertically locked to NTSC/PAL blackburst or tri-level sync**
- **Edge blending**
  - 10-bit processing
  - Variable overlap
  - Supports standard and pre-overlapped background sources
  - Edge blending (feathering)
- **3G/HD/SD SDI output**
  - SMPTE 259M-C (Standard Definition)
  - SMPTE 292 M (High Definition up to 1080i @60Hz)
  - SMPTE 424M (High Definition up to 1080p @60Hz)

# The Encore 3G 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 superb 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 1920x1200, analog HDTV resolutions including 720p, 1080i, 1080p, HD-SDI, 3G HDSI, 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.



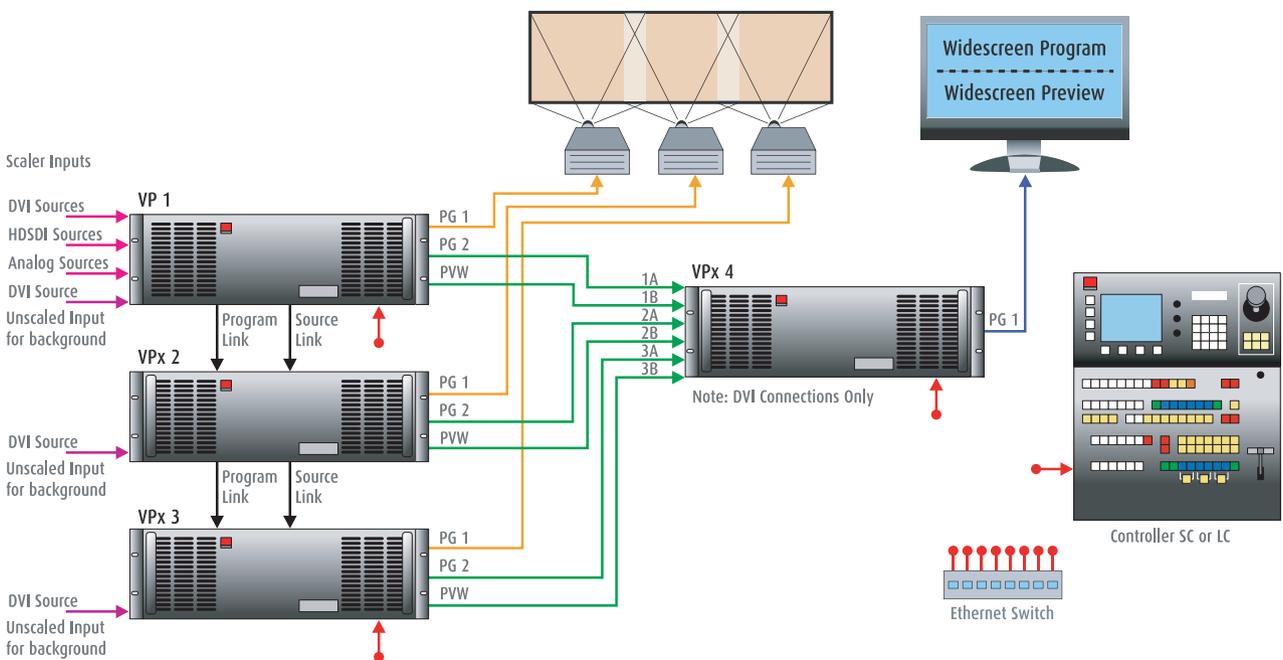
Encore Video Processor Rear Panel

## VPx 3G

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.

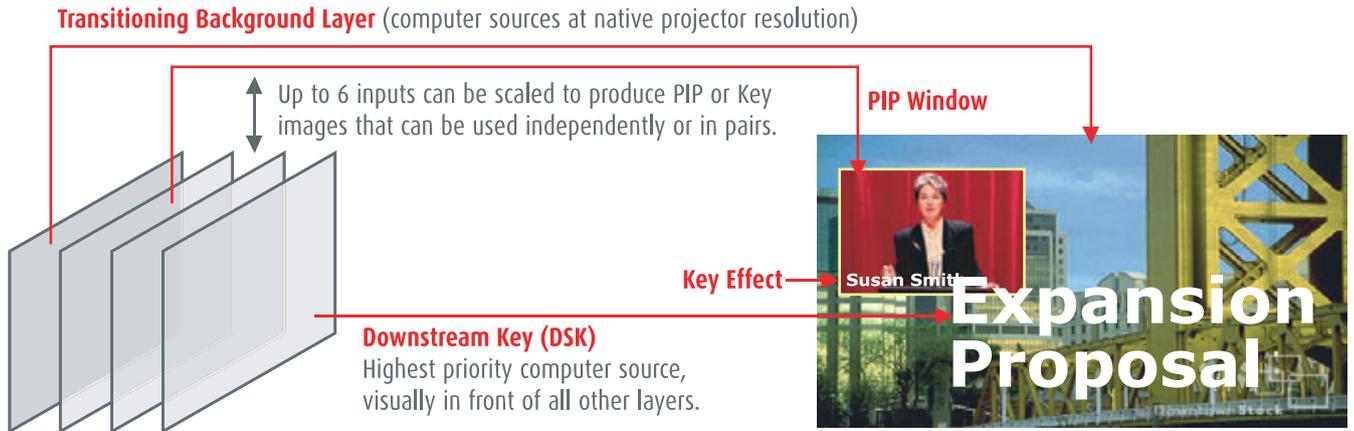
In a blended widescreen configuration, VPx operates like a standard VP providing the same layering capabilities, features and effects. The VPx also includes the same output connectors as the standard VP.

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.



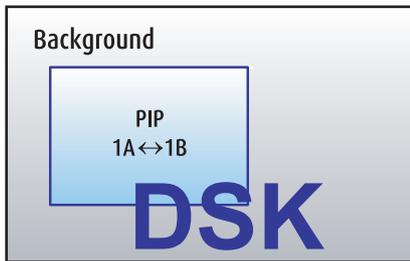
# Creating effects with Encore

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:

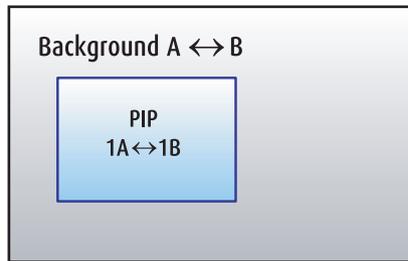


## Single Mixer effects

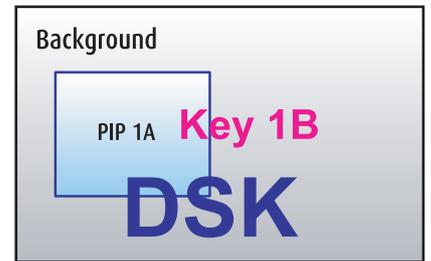
A single Mixer Encore system provides two backgrounds, two scaleable mixer layers plus an unscaled DSK. Note that if the DSK is in use, the background cannot transition between A and B. The DSK and background channels are unscaled, in all cases.



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



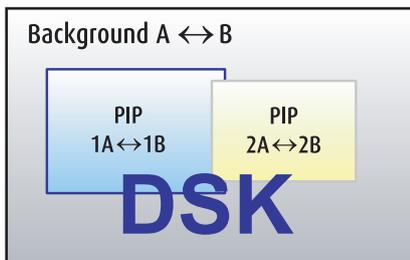
Transitioning background, (1) transitioning PIP (no DSK)



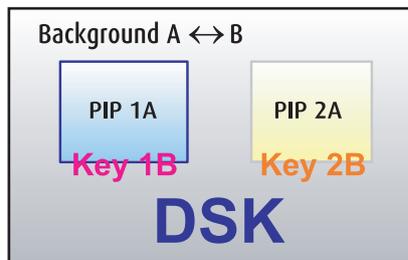
Non-transitioning background, (1) Pip, (1) Key, DSK

## Dual Mixer effects

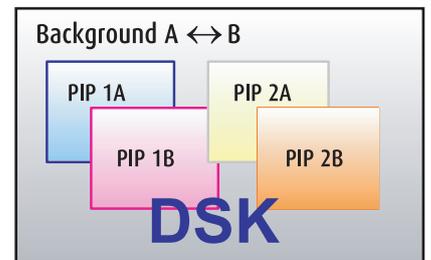
A dual Mixer Encore system provides two backgrounds, a total of four scalable layers in the two Mixers, plus an unscaled DSK.



Transitioning background, 2 transitioning PIPs plus DSK



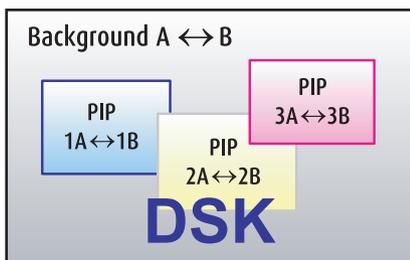
Transitioning background, 2 independent PIPs and 2 Keys, DSK



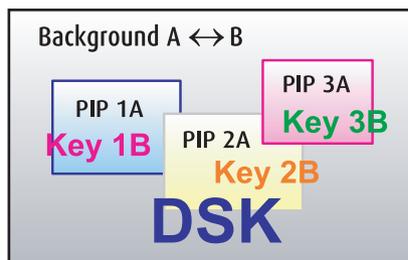
Transitioning background, 4 independent PIPs (or Keys), DSK

## Triple Mixer effects

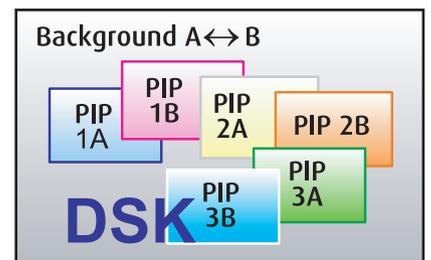
A triple Mixer Encore system provides two backgrounds, a total of six scalable layers in the three Mixers plus an unscaled DSK.



Transitioning background, 3 transitioning PIPs, DSK



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

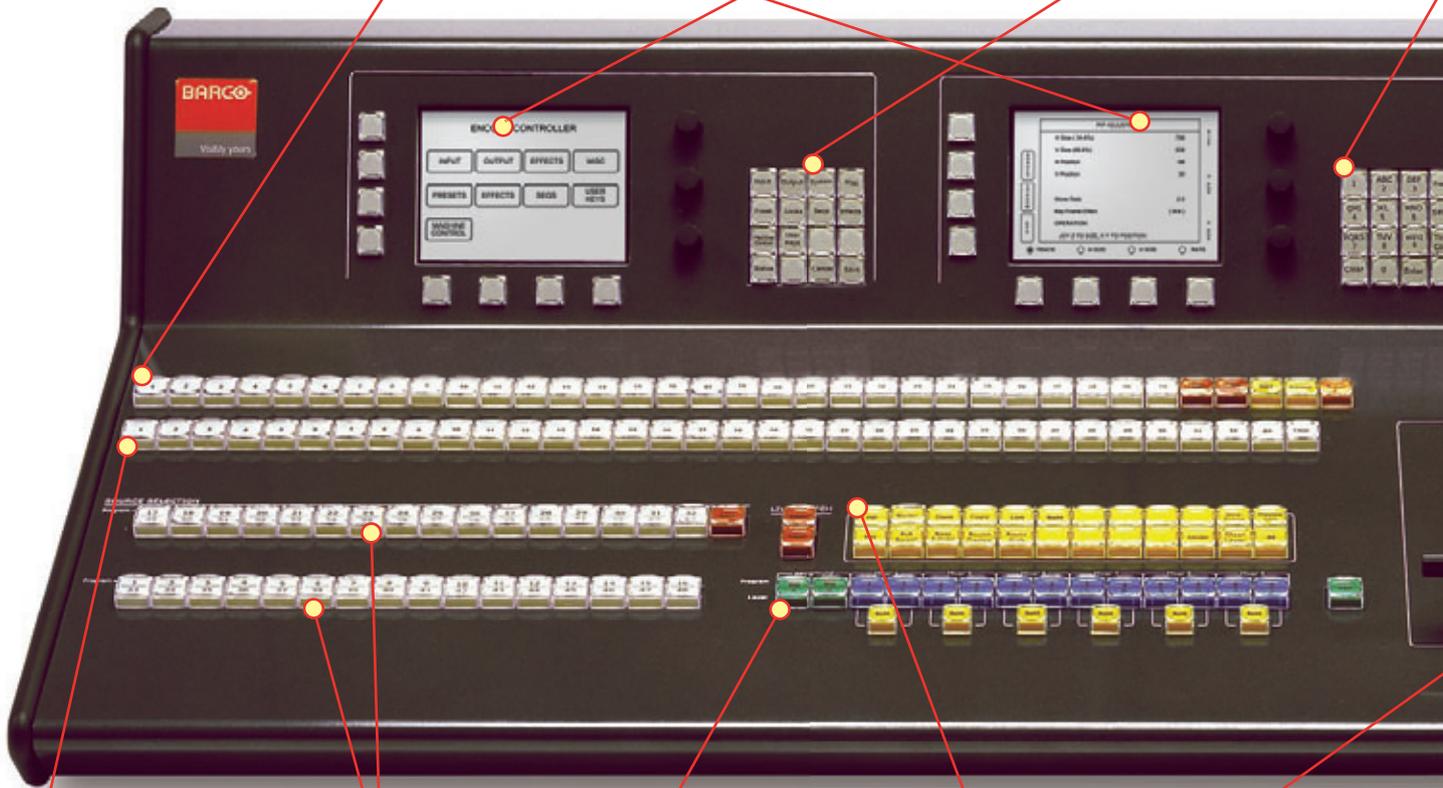
## Encore Controller LC

**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.

**Alphanumeric**  
Enables you to change numbers on Touch Screens.



**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.



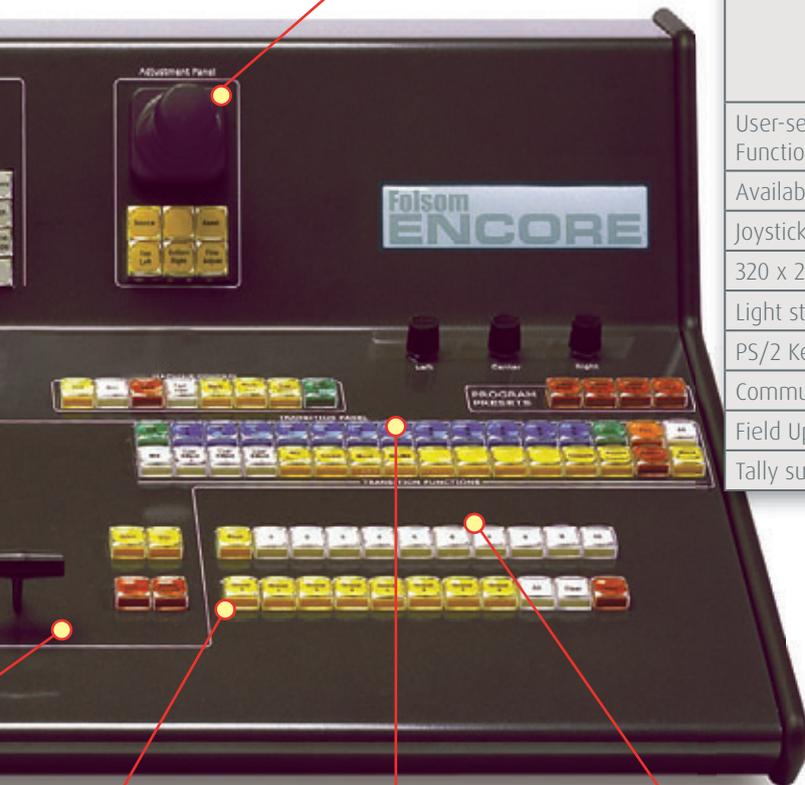
Each Touch Screen provides fast, easy and precise access to all menus and functions.

## Controller features

**Generic Keypad**  
 to enter and  
 numeric values on the  
 n.

### Adjustment Panel

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



	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

### 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.

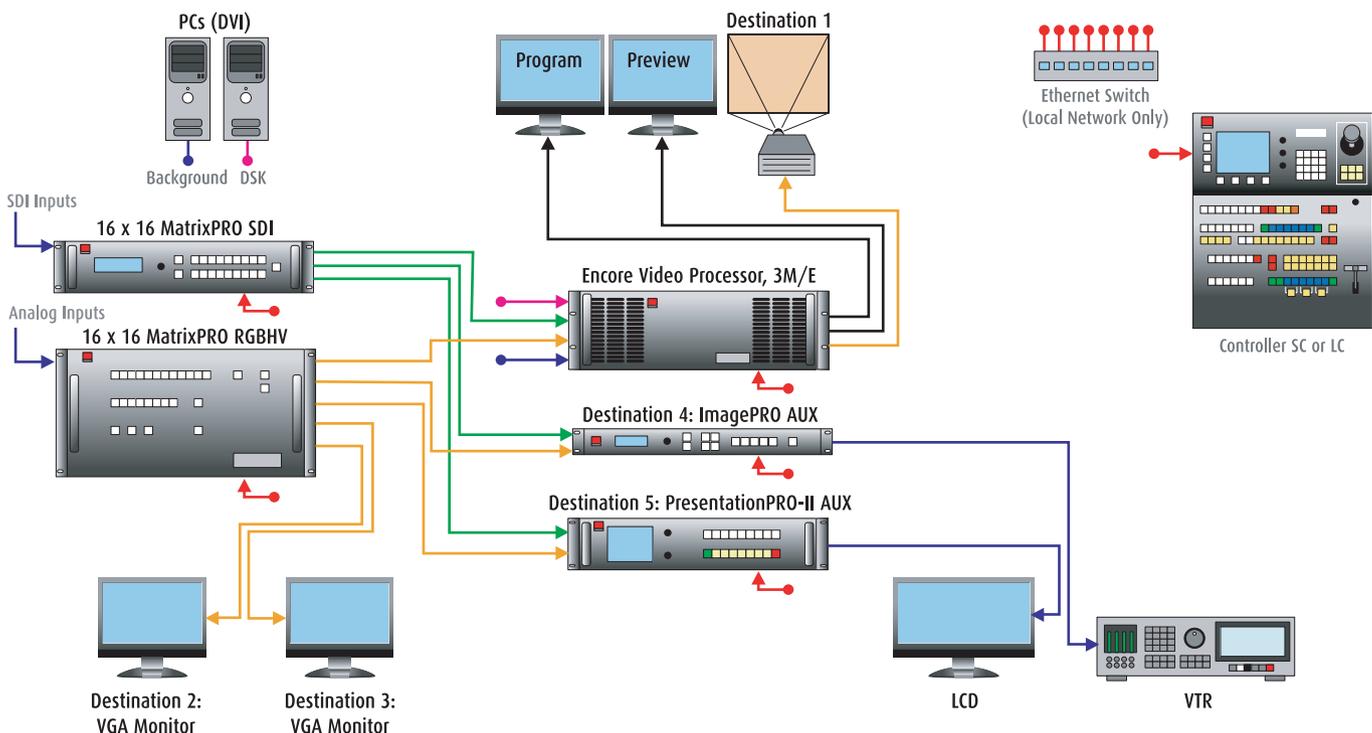
The joystick is multi-functional. Use it to size, position and crop both PIP and Keys, or use it to adjust the value of a highlighted parameter on the Touch Screen.



Encore Controller SC

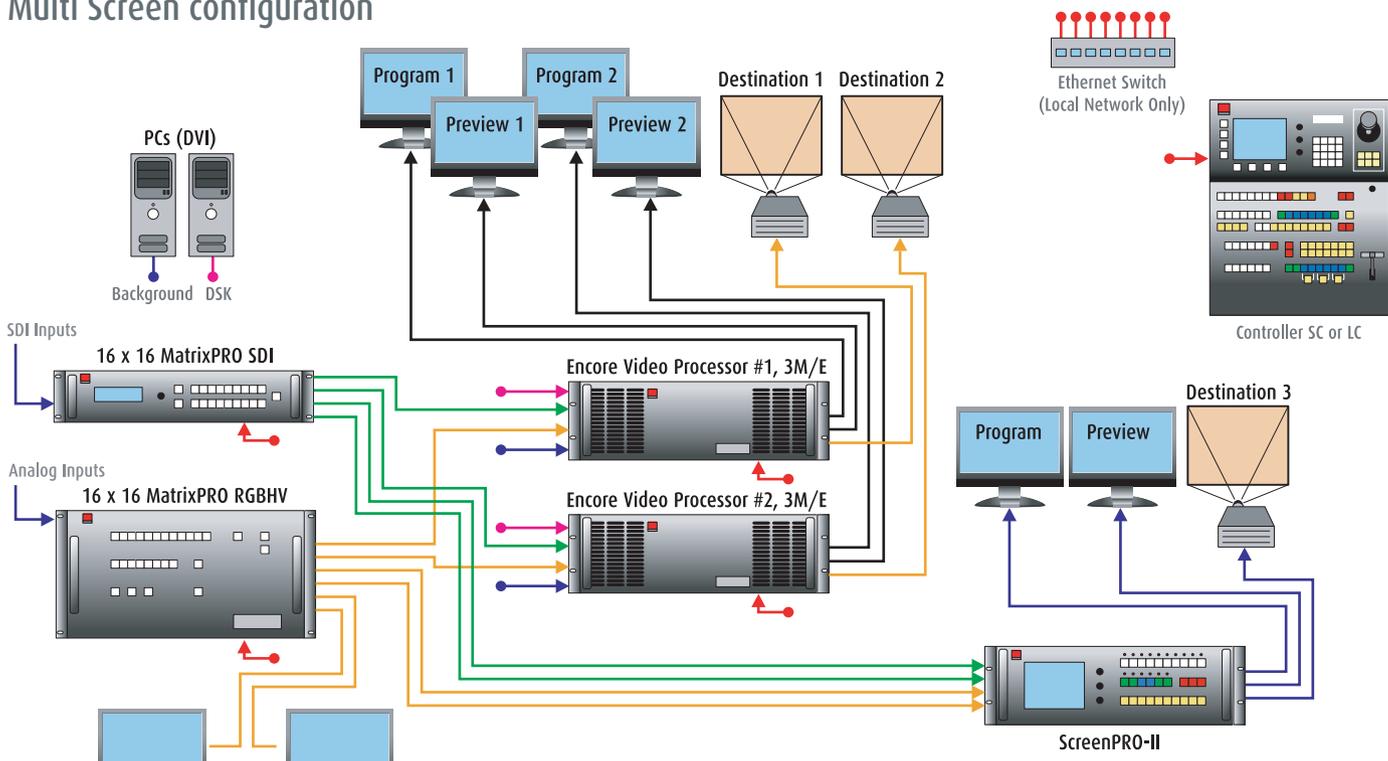
# Sample Encore configurations

## Single Screen configuration



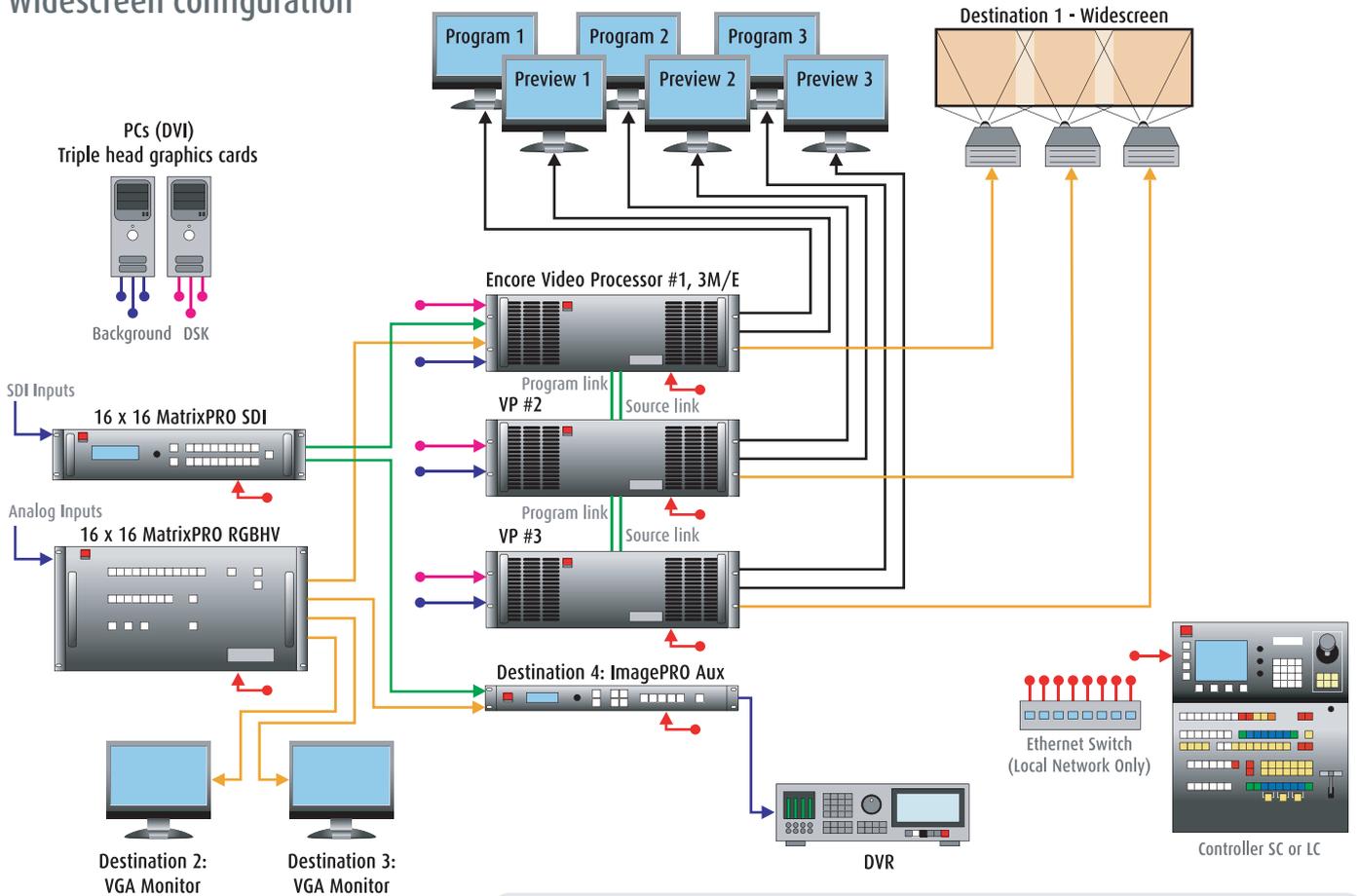
- Non-stack system, up to 6 layers
- 3M/E Video Processor (x1), SDI Router (x1), RGBHV Router (x1)
- 5 Destinations: (1) Projector, (2,3) Aux monitors, (4) ImagePRO Aux, (5) PresentationPRO-II Aux

## Multi Screen configuration



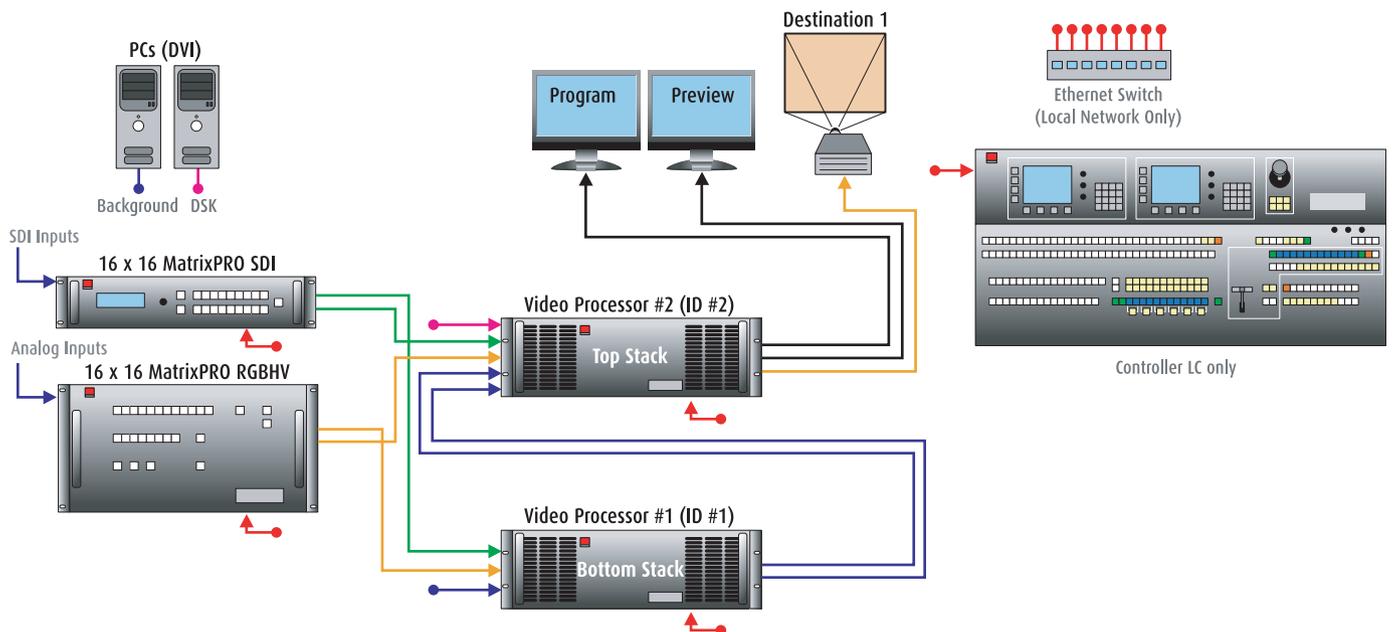
- Non-stack system, up to 6 layers
- 3M/E Video Processor (x2), SDI Router (x1), RGBHV Router (x1)
- 5 Destinations: (1,2) Projectors, (3) ScreenPRO-II, (4,5) Aux monitors

## Widescreen configuration



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

## Single-screen "stack" configuration



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

## Integrates with ScreenPRO II, ImagePRO and the FSN system



ScreenPRO II



ImagePRO 3G



FSN system

## Encore GC



Encore GC GUI

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. 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. After synchronizing with an ECU and saving a system configuration, the GC can be used to program presets offline. The presets can then be synchronized with the ECU the next time the two are connected.



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 HDSI 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	<ul style="list-style-type: none"> <li>·NTSC/PAL</li> <li>·Computer resolutions VGA (640 x 480) through UXGA (1600 x 1200)</li> <li>·HDTV resolutions up to 1920 x 1080 (720p, 1080i, 1080p)</li> <li>·2048 x 1080p (Digital Cinema format)</li> <li>·Plasma display resolutions</li> </ul>
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	<ul style="list-style-type: none"> <li>·Computer resolutions: SVGA (800 x 600) through UXGA (1600 x 1200)</li> <li>·HDTV resolutions (720p, 1080p)</li> <li>·2048 x 1080p (Digital Cinema format)</li> <li>·Plasma display resolutions</li> </ul>
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	<ul style="list-style-type: none"> <li>·Computer resolutions: SVGA (800 x 600) through UXGA (1600 x 1200)</li> <li>·HDTV resolutions (720p, 1080p)</li> <li>·2048 x 1080p (Digital Cinema format)</li> <li>·Plasma display resolutions</li> </ul>
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
	HDSI output	3G/HD/SDI on a BNC connector. Supports SMPTE 259M-C, 292M and 424M standards
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 HDSI output	3G/HD/SD SDI on a BNC connector. Supports SMPTE 259M-C, 292M, and 424M standards
Output resolutions		<ul style="list-style-type: none"> <li>·Computer resolutions VGA (640 x 480) through WUXGA (1920 x 1200)</li> <li>·HDTV resolutions up to 1920 x 1080 (720p, 1080i, 1080p)</li> <li>·2048 x 1080 (Digital Cinema format)</li> <li>·Plasma display resolutions</li> </ul>
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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Barco is an ISO 9001 registered company.  
The information and data given are typical for the equipment described.  
However any individual item is subject to change without any notice.  
The latest version of this product sheet can be found on [www.barco.com](http://www.barco.com).

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