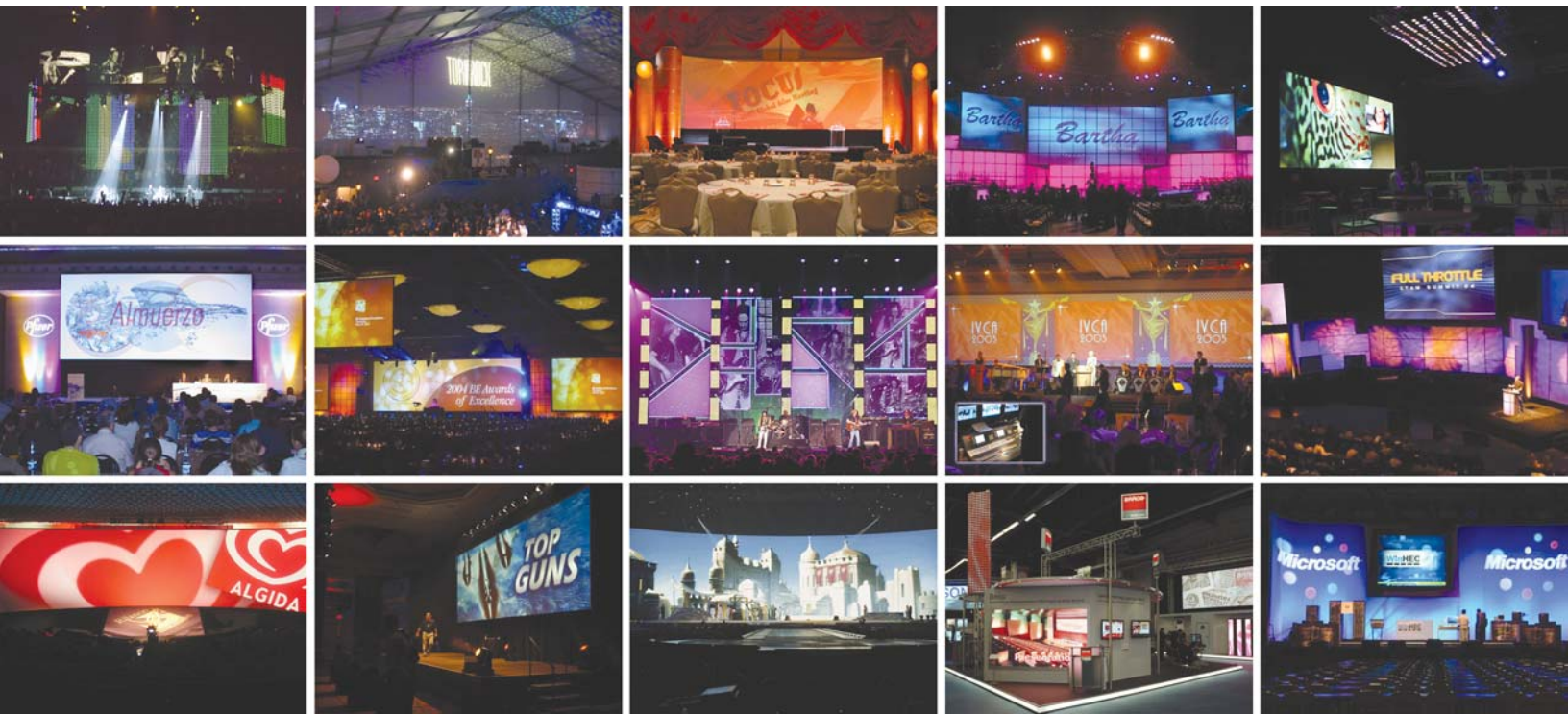# Folsom Image Processing Tools

Industry-leading tools with unsurpassed image quality.

It's no secret that Folsom switchers have led -and at times re-defined- the industry for several years. Revolutionary switchers like ScreenPRO, PresentationPRO and Encore have been part of the most prolific rental and staging venues around the world.

Folsom has been at the leading edge of image processing technology and has recently introduced the next generation of high-performance seamless switchers: the PresentationPRO-II and the ScreenPRO-II.

What everyone may not yet know is that Folsom offers a complete range of signal converters, routers and matrix switchers that complement those products. ImagePRO is an all-in-one signal processor that can convert any video format to any other video format. The MatrixPRO line of digital and analog matrix switchers handle signal distribution needs for a variety of venue configurations.

All the images you see above were created with some or all of these products. Isn't it time for you to get to know more about Folsom's Image Processing products?

Folsom

BARCO

Visibly yours

Total Show Control: The Encore Presentation System

Encoe Presentation System Key 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**
  - A full range of transition effects (dissolve, wipe, etc.)
  - 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) nontransitioning PIP or Key Images.

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, scaleable 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.

The Encore Video Processor incorporates universal inputs that accept both analog and digital video. Motion adaptive de-interlacing is provided for both standard and HD source video. Incoming videos are processed by Barco Folsom's proprietary Athena scaler. This scaler supports smooth real-time PIP movements and re-sizing based upon user specified Key Frames. The basic Encore configuration supports six independent PIP or Key images or three transitioning PIP images. Seamless transition effects, Z-order control, window borders, drop shadows and a variety of keying effects are fully supported. Two unscaled background channels provide a high resolution backdrop that also supports seamless transition effects. Down Stream Key (DSK) effects are supported by a third unscaled high-resolution input channel.

The Encore Video Processor

Two different Encore System Controllers models are offered to meet the varying demands of rental and staging professionals. 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. Both controllers are capable of controlling external routers for external source selection and Encore Video Processor units to provide high-performance real-time video effects. The controllers can also be used with Barco's Events Manager software to synchronize operation with external devices and to run pre-programmed show sequences. The controllers use an embedded Real-Time Operating System (RTOS) to provide high reliability, rapid power-up and true real-time performance for critical video processing sequences.

ScreenPRO-II and PresentationPRO-II: The next generation of seamless switchers

ScreenPRO-II

The ScreenPRO II Seamless Switcher is a multi-layer video display system that combines seamless switching with a variety of flexible video effects.

ScreenPRO II uses four image layers (Unscaled Background, up to two scaled PIPs or Keys, and an unscaled Downstream Key) to produce sophisticated effects, including transitioning backgrounds, transitioning PIPs, wipes, dissolves and keys.

Two inputs are scaled and mixed to provide mixing within a PIP (Picture-in-Picture) or, alternately, two independent PIPs or Keys displayed on a Background. In addition, two unscaled high-resolution input channels provide seamlessly transitioning backgrounds, or alternately, a high resolution background and high resolution Downstream Key (DSK). An internal 8X2 analog video router provides universal analog sources to each scaler channel. In addition, up to two optional SD/HD SDI inputs are available for the scaled channels.

ScreenPRO II supports input and output resolutions up to UXGA. High quality motion adaptive de-interlacing is performed on Standard Definition and High Definition video sources. ScreenPRO II features a low video processing delay of three input fields maximum.

ScreenPRO II is packaged as a 3RU rack-mount unit.

ScreenPRO-II Key Features

- Transitioning PIP or KEY on a transitioning Background
- Native High Resolution Background channels independent of the PIP/KEY processing channel
- **PIP Effects**
  - PIP size from 1/8 to 8X source resolution
  - Adjustable PIP Aspect Ratio
  - PIP Borders, including Drop Shadows and Soft Edge
- **Keying**
  - Luminance Key
  - Split Key (Key Alpha and Fill)
  - RGB Color Key
- Z-order Control (Priority layers) for overlapping PIPs or KEYs

PresentationPRO-II

PresentationPRO-II is offered in two models: the PresentationPRO-II SDI and the PresentationPRO-II HD.

Each model combines an eight input universal video router, Barco's high performance proprietary Athena scaler, and a full-featured control panel in a single integrated package. The eight universal analog inputs accept standard component and composite analog video formats (NTSC, PAL, SECAM), computer resolutions up to UXGA, analog HD formats including 720p, 1080I, 1080p, and Plasma display resolutions. The Barco 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 and aspect ratio correction. The operator can also capture and store three LOGO images for use as full-screen image or down stream key source.

Each unit incorporates one output that provides all output interface functions. Output resolutions supported include computer resolutions up to 1600x1200, analog HDTV resolutions including 720p, 1080p, and Plasma display resolutions.

PresentationPRO-II SDI also features both an SDI and DVI input. The DVI input provides a dedicated unscaled high-resolution background or downstream key source (DSK). A DVI output is also provided. On PresentationPRO-II HD, an HD-SDI input replaces the SDI input.

PresentationPRO-II Key Features

- Barco Proprietary Processing
  - 10-bit Processing
  - 1:1 Pixel Sampling
  - Motion Adaptive De-interlacing (SD-SDI, Analog YUV and HD-SDI)
  - 3:2 and 2:2 Pull Down Detect (SD)
  - Image Cropping
  - Aspect Ratio Correction
- Low Video Delay - Less than 3 Input Fields
- Capture and Storage of two LOGO images for use as full-screen image or Down Stream Key source
- Digital Input/Output (PresentationPRO-II Digital only)
- DVI Input - supports native high resolution background/luminance key channel

The next generation of signal processing

ImagePRO

The Folsom ImagePRO is a powerful all-in-one signal processor that accept a wide range of video input signals and process them into a number of different signal formats to meet the video requirements of virtually any application.

Incorporating Folsom's Athena proprietary high performance image processing technology, the ImagePRO is available in three models; ImagePRO, ImagePRO-SDI and our fully loaded model ImagePRO-HD.

The ImagePRO line has an advanced feature set that includes: universal inputs, aspect ratio conversion, memory presets, test patterns, vertical lock (Genlock), picture adjustments, motion adaptive de-interlacing, and 3:2 and 2:2 pulldown detection to name a few.

Video format conversions include:

4:3 to 16:9	NTSC to HDSDI
NTSC to PAL	HDSDI to PAL
HDSDI to SDI	PAL to SDI
UXGA to NTSC	SDI to VGA
HDSDI to NTSC	NTSC to VGA

Smart tools for signal distribution

Matrix Pro Digital Series

The MatrixPRO Digital Series offers three models of serial digital matrix switchers for routing of SDI and HDSDI video signals: 8X8, 16X16 HD-SDI and 16X16 SDI. The HD-SDI models allow users to route either HD-SDI or SDI signals. The SDI unit will only pass SDI signals. Each input and output is individually isolated. These inputs can be switched to any one or all outputs with no crosstalk or signal noise between channels. All models are SMPTE 259M compliant for inputs. The HD-SDI models are also SMPTE 292 M compliant for input sources.

The MatrixPRO routers are designed to work effortlessly with our other Barco Video Processing products like the Encore as well as stand-alone for custom applications.

Matrix Pro

The MatrixPRO is a line of wideband matrix switchers used for routing analog RGBHV video signals. The MatrixPRO series offers four models: 12x4, 12x8, 16x8, and 16x16.

All inputs are universal and can accept computer (up to 1600x1200), composite, s-video, component video, HDTV, RGBHV and stereo audio. Each model provides for switching of RGBHV signals and two channel stereo audio (balanced and unbalanced). Each input and output is individually isolated and buffered. These input(s) can be switched to any one or all outputs with no crosstalk or signal noise between channels.

RDA-144

The RDA-144 consists of four high-bandwidth RGBHV distribution amplifiers packaged in a rack-mount enclosure with internal power supply. Each of the four distribution amplifiers accepts one high-resolution RGBHV input and provides four buffered outputs. Input and output connections are made via BNC connectors on the rear of the unit.

The RDA-144 Re-configurable Distribution Amplifier can be used whenever it is necessary to distribute high bandwidth video signals. The unit provides a convenient way to distribute video when configuring individual Folsom ScreenPro units to support multi-screen applications.

Folsom