ScreenPRO-II™

User's Guide

- Manual # 26-0407000-00
- Revision B

BARCO

Visibly yours

ScreenPRO-II™ • User's Guide

Copyright

Notice

Barco provides this manual "as is" without warranty of any kind, either expressed or implied, including but not limited to the implied warranties or merchantability and fitness for a particular purpose. Barco may make improvements and/or changes to the product(s) and/or the program(s) described in this publication at any time without notice.

This publication could contain technical inaccuracies or typographical errors. Changes are periodically made to the information in this publication; these changes are incorporated in new editions of this publication.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be responsible for correcting any interference.

Guarantee and Compensation

Barco provides a guarantee relating to perfect manufacturing as part of the legally stipulated terms of guarantee. On receipt, the purchaser must immediately inspect all delivered goods for damage incurred during transport, as well as for material and manufacturing faults Barco must be informed immediately in writing of any complaints.

The period of guarantee begins on the date of transfer of risks, in the case of special systems and software on the date of commissioning, at latest 30 days after the transfer of risks. In the event of justified notice of compliant, Barco can repair the fault or provide a replacement at its own discretion within an appropriate period. If this measure proves to be impossible or unsuccessful, the purchaser can demand a reduction in the purchase price or cancellation of the contract. All other claims, in particular those relating to compensation for direct or indirect damage, and also damage attributed to the operation of software as well as to other services provided by Barco, being a component of the system or independent service, will be deemed invalid provided the damage is not proven to be attributed to the absence of properties guaranteed in writing or due to the intent or gross negligence or part of Barco.

If the purchaser or a third party carries out modifications or repairs on goods delivered by Barco, or if the goods are handled incorrectly, in particular if the systems are commissioned operated incorrectly or if, after the transfer of risks, the goods are subject to influences not

agreed upon in the contract, all guarantee claims of the purchaser will be rendered invalid. Not included in the guarantee coverage are system failures which are attributed to programs or special electronic circuitry provided by the purchaser, e.g. interfaces. Normal wear as well as normal maintenance are not subject to the guarantee provided by Barco either.

The environmental conditions as well as the servicing and maintenance regulations specified in this manual must be complied with by the customer.

Trademarks

Brand and product names mentioned in this manual may be trademarks, registered trademarks or copyrights of their respective holders. All brand and product names mentioned in this manual serve as comments or examples and are not to be understood as advertising for the products or their manufactures.

Company Address

Barco Events USA
11101 Trade Center Drive
Rancho Cordova, California 95670
USA

- Phone: (916) 859-2500
- Fax: (916) 859-2515
- Websites:
  - ~ www.folsom.com
  - ~ www.events.barco.com

Barco N.V.
Noordlaan 5
8520 Kuurne
BELGIUM

- Phone: +32 56.36.82.11
- Fax: +32 56.35.16.51
- Website: www.barco.com

Operators Safety Summary

The general safety information in this summary is for operating personnel.

Do Not Remove Covers or Panels

There are no user-serviceable parts within the unit. Removal of the top cover will expose dangerous voltages. To avoid personal injury, do not remove the top cover. Do not operate the unit without the cover installed.

Power Source

This product is intended to operate from a power source that will not apply more than 230 volts rms between the supply conductors or between both supply conductor and ground. A protective ground connection by way of grounding conductor in the power cord is essential for safe operation.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective-ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Use the Proper Power Cord

Use only the power cord and connector specified for your product. Use only a power cord that is in good condition. Refer cord and connector changes to qualified service personnel.

Use the Proper Fuse

To avoid fire hazard, use only the fuse having identical type, voltage rating, and current rating characteristics. Refer fuse replacement to qualified service personnel.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Terms In This Manual and Equipment Marking

WARNING

Highlights an operating procedure, practice, condition, statement, etc., which, if not strictly observed, could result in injury to or death of personnel.

Note

Highlights an essential operating procedure, condition or statement.

CAUTION

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

AVERTISSEMENT!

Le point d´exclamation dans un triangle equilatéral signale à alerter l´utilisateur qu´il y a des instructions d´operation et d´entretien tres importantes dans la litérature qui accompagne l´appareil.

VORSICHT

Ein Ausrufungszeichen innerhalb eines gleichwinkeligen Dreiecks dient dazu, den Benutzer auf wichtige Bedienungs-und Wartungsanweisungen in der Dem Great beiliegenden Literatur aufmerksam zu machen.

Change History

The table below lists the changes to the ScreenPRO-II User's Guide.

Table 0-1. Change History

Rev	Date	ECO #	Description	Approved By
A	9/23/05	1491	New ScreenPRO-II User's Guide	Andreas Yerocostas
B	12/5/05	1527	Updated Appendix A, "Input/Output Resolutions List"; added Appendices C and D; plus other misc. corrections.	Andreas Yerocostas

Table of Contents

1. Introduction

This chapter is designed to introduce you to the ScreenPRO-II. Areas to be covered are:

- **Chapter Structure**
- **How to Use This Guide**
- **Conventions**
- **Terms and Definitions**
- **System Overview**

Chapter Structure

The following chapters provide instructions for all aspects of ScreenPRO-II operations:

- Chapter 1, "**Introduction**" provides a system overview, a list of features, and discusses easy ways to use this guide.
- Chapter 2, "**Hardware Orientation**" explains the ScreenPRO-II's front and rear panels in detail.
- Chapter 3, "**Hardware Installation**" provides comprehensive system installation instructions.
- Chapter 4, "**Menu Orientation**" explains the system's configuration, setup and adjustment menus, and provides basic menu "navigation" procedures.
- Chapter 5, "**System Setup**" outlines procedures for setting up and configuring the ScreenPRO-II.
- Chapter 6, "**Operations**" provides basic system operating instructions.
- Appendix A, "**Specifications**" lists the ScreenPRO-II's input, output, video, mechanical and power specifications, and includes connector pinouts.
- Appendix B, "**Contact Information**" lists important contact, RMA, warranty and technical support details.
- Appendix C, "**Upgrading Software**" provides a detailed procedure for upgrading ScreenPRO-II software.
- Appendix D, "**Remote Control**" outlines the steps required when ScreenPRO-II is connected to an external controller, such as Encore.

How to Use This Guide

Following are important tips for streamlining your use of this User's Guide in its electronic "PDF" form.

Navigating

Use Acrobat Reader's "bookmarks" to navigate to the desired location. All chapter files have the same bookmark structure for instant navigation to any section. Please note:

- Extensive hyperlinks are provided within the chapters.
- Use Acrobat's "**Go to Previous View**" and "**Return to Next View**" buttons to trace your complete navigational path.
- Use the "**Previous Page**" and "**Next Page**" buttons to go to the previous or next page within a file.
- Use Acrobat's extensive search capabilities, such as the "**Find**" tool and "**Search Index**" tool to perform comprehensive searches as required.

Table of Contents and Index

Use the **Table of Contents** bookmarks to navigate a desired topic. Click any item to instantly jump to that section of the guide. You can also use the **Index** to jump to specific topics within a chapter. Each page number in the **Index** is a hyperlink.

Conventions

The following conventions are used throughout this guide:

- The symbol ■ denotes an operations procedure.
- The symbol ▲ denotes an example.
- Entries written in bold-face letters denote physical buttons or rear chassis connectors.

  ▲ Press **Split Layer** to ...
- When two buttons together are required for an operation or function, the plus (+) sign is used between the buttons. This procedure requires that you hold down the first button, then press the second.
- Button labels on the **Touch Screen** menus are shown in bold uppercase letters between braces.

  ▲ Press {**BORDER**} to …
- When a sequence of menu selections is required to complete a given procedure, the "**>**" symbol is used to divide each successive menu picks.

  ▲ To access the **Genlock Menu**, press {**HOME**} **>** {**OUTPUT**} **>** {**GLCK**}.

Terms and Definitions

The following terms and definitions are used throughout this guide:

- A “**Background**” is an unscaled source, typically originating from a computer. ScreenPRO-II enables you to work with two background sources, each of which appears at the system’s lowest priority — visually in back of all other sources.
- The abbreviation “**BG**” is also used throughout this guide for **Background**.
- A “**Key**” is an electronic (and visual) process whereby one image is electronically superimposed over another source or background. Keys are typically used for titles, logos and banners.
- A “**Layer**” is an image display element (such as a PIP, Key or Background) that has an associated visual priority — either in front (or in back) of another layer.
- A “**LOGO**” is a full screen image that is selected from one of three still frames that you can capture with ScreenPRO-II.
- A “**Mixer**” is the electronic circuitry that enables you to transition (and scale) PIPs and Keys over a background.
- “**M/E**” (Mix/Effects) is synonymous with “**mixer**.” ScreenPRO-II has one internal M/E, capable of layering either two PIPs, two keys, or one of each.
- “**Operator**” refers to the person who uses the system.
- “**PIP**” refers to Picture-in-Picture, an on-screen setup in which one picture (typically of reduced size) is positioned over another background image — or another PIP. PIPs can be reduced, enlarged, bordered, shadowed, and mixed on and off Program. PIPs can overlap each other, depending on their visual priority.
- “**Screen**” and “**Menu**” both refer to the Touch Screen menus.
- “**System**” refers to the ScreenPRO-II.
- A “**Scaler**” is the electronic circuitry that enables you to reduce or enlarge source images, thus creating PIPs and Keys that can be positioned (and transitioned).

System Overview

The following topics are discussed in this section:

ScreenPRO-II High-Resolution Seamless Switcher

The ScreenPRO-II Seamless Switcher is a high-resolution multi-layer video display system that combines seamless switching with a variety of creative video effects. The result is a versatile video production tool for live event staging and fixed installation applications.

ScreenPRO-II uses five image layers to produce sophisticated effects, including transitioning backgrounds, transitioning PIPs, wipes, dissolves and keys.

The five ScreenPRO-II layers are:

- One unscaled background
- Two scaled inputs
- One unscaled downstream key
- One LOGO

Using the mixer's two scaled inputs, you can mix within a PIP, or you can display two independent PIPs (or Keys) over a background. In addition, two unscaled high-resolution input channels enable you to transition seamlessly between background images, or alternately, to use one high-resolution background plus a high-resolution DSK. A LOGO is also available as a full screen source, using still frames captured from the background inputs or from the layers.

ScreenPRO-II Features

Following is a detailed list of ScreenPRO-II features:

- Support for input and output resolutions up to UXGA
- High quality motion adaptive de-interlacing on SD and HD sources
- Low video processing delay, less than 3 input fields
- 3RU rack-mount chassis
- Native high-resolution background channels independent of the PIP/Key processing channels
- Internal 8 x 2 analog video router for selecting scaler inputs, plus (on the HD model), internal 2 x 2 HD-SDI/SD-SDI router.
- Native high resolution DSK channel, independent of PIP/KEY processing channels

- PIP effects:
  - ~ PIP size from 1/8 to 8x source resolution
  - ~ Adjustable PIP aspect ratio
  - ~ PIP borders, including drop shadows and soft edge
- Transitioning PIP or Key on a transitioning background
- Numerous mix and wipe effects
- Programmable matte
- Keying
  - ~ Luminance key
  - ~ Split key (key alpha and fill)
  - ~ Color key
- 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
- Z-order control (priority layers) for overlapping PIPs or Keys
- The mixer layer is dynamically re-assignable as a mixing (transitioning) PIP, or as two individual (SPLIT) non-transitioning PIPs or Keys
- Three assignable, internal frame stores
- Lookahead preview
- Output synchronization: free-run or vertically locked to NTSC/PAL black burst, CSync or HD tri-level sync

Product Models

ScreenPRO-II is available in two different models:

- **Basic Model**

  The basic model includes eight analog inputs on HD-15 connectors. These inputs feed an internal 8 x 2 router, which provides sources to the two scalers. The unit also features two high resolution DVI inputs which can be used for two unscaled background sources, or one background and one DSK source.

- **HD Model**

  The HD model is identical to the standard model, with the addition of two HD-SDI/SD-SDI inputs on BNC connectors. These inputs feed an internal 2 x 2 router, which provides these additional sources to the two scalers.

Multiple Screen User Interface (Optional)

Event control is available using multiple ScreenPRO-II units in conjunction with the Encore SC/LC Controller or the ScreenPRO-II Controller. In this mode, all ScreenPRO-II functions (including system setup) are supported from the controller, which is equipped with easy-to-use menus, a T-Bar for manual transitions and buttons for user presets.

A Word About Layers

ScreenPRO-II is a five layer system, as illustrated below:

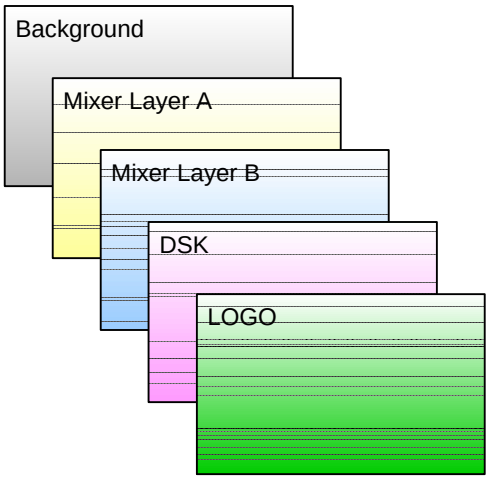


Figure 1-1. ScreenPRO-II Layers

A **layer** is defined as an image display element (such as a background, PIP, or Key) with an associated visual priority. The mixer itself has two layers, **A** and **B**. For complete flexibility, each mixer layer can be assigned to either **PIP** or **Key** functionality.

A typical ScreenPRO-II application is illustrated below.

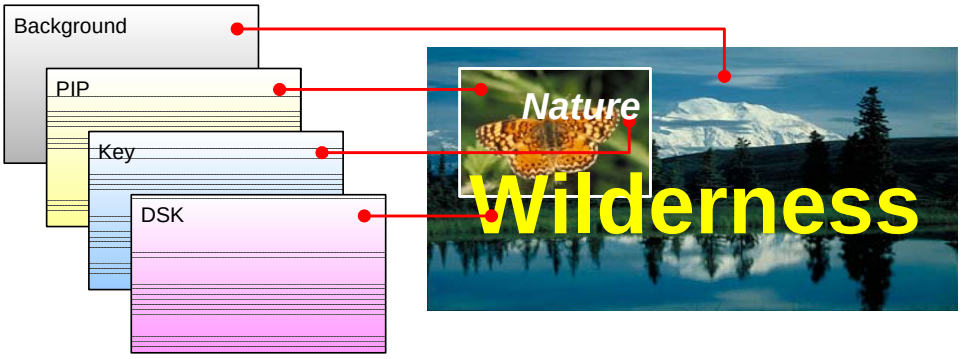


Figure 1-2. Layer Illustration — Background, Mixer and DSK

Please note the following important points:

- The full screen **LOGO** is the highest priority layer. This image visually appears "over" all other images, including backgrounds, PIPs, keys and the DSK.
- The **Downstream Key** (DSK) is the second highest priority layer. It visually appears over all PIPs, keys and backgrounds — but it is "under" the LOGO.

- The high resolution **Background** layer has the lowest priority. This layer visually appears “behind” all other PIPs, keys, and the DSK. The system can transition between two background sources — both of which must be at native projector resolution.
- A **PIP** layer appears “over” backgrounds and “under” the DSK and LOGO. Effects include mixes and wipes, linear moves and resizing, adjustable aspect ratio, borders, drop shadows and soft edges.
- A **Key** layer also appears “over” backgrounds and “under” the DSK and LOGO. Key effects include luminance keys, split keys (key alpha and fill), reverse key (key on background), and color key (graphics).
- Within the mixer, layer **B** has priority over layer **A**, but you can change that priority as desired with the **Swap Z-Order** button.
- Up to eight analog inputs and up to two SD/HD SDI inputs can be scaled to produce PIP or Key images.

Effect Combinations

This section illustrates the many (but not all) combinations of image effects that you can create on the ScreenPRO-II. Please note:

- In the following illustrations, the specific layers used in creating each effect are labeled (e.g., **PIP A**, **PIP B**).
- The symbol ↔ denotes a PIP or a key that can transition. For example, PIP A ↔ B indicates that you can dissolve between sources within the PIP.

The ScreenPRO-II system provides two backgrounds, two scalable layers in the mixer plus an unscaled DSK and a full screen, unscaled LOGO. The LOGO, DSK and backgrounds are always unscaled.

Important

If the DSK is in use, the background cannot transition between A and B. This occurs because **BG/DSK Input B** is *shared* between the **DSK** and **BG B**.

Mixer Effect 1

This effect includes a non-transitioning background (either A or B), one transitioning PIP and the DSK.

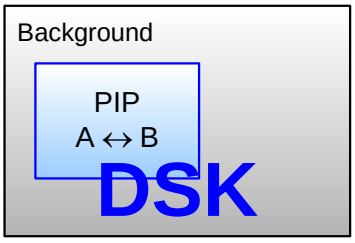


Figure 1-3. Effect 1 Diagram

Mixer Effect 2

This transition is similar to effect 1, but because the DSK is not in use, the background can transition from source A to B, and the PIP can transition between layers A and B.

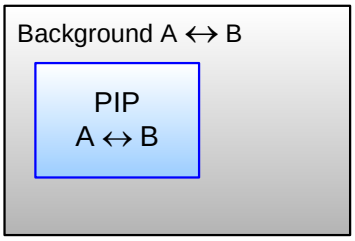


Figure 1-4. Effect 2 Diagram

Mixer Effect 3

In this effect, because the DSK is in use, the background cannot transition — you can only use background A. Here, you can independently fade (or cut) one scaled PIP and one scaled key, with complete size and position flexibility.

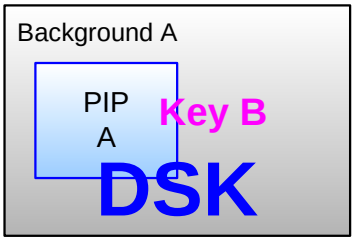


Figure 1-5. Effect 3 Diagram

Mixer Effect 4

This transition is similar to effect 3, but because the DSK is not in use, the background can transition between sources A and B. You can also independently fade, cut, size and position both the PIP and the key.

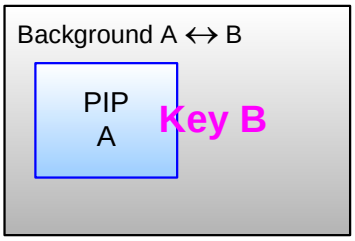


Figure 1-6. Effect 4 Diagram

Mixer Effect 5

In this effect, because the DSK is in use, the background cannot transition — you can only use background A. Here, you can independently fade two scaled PIPs up and down — with or without the DSK on screen.

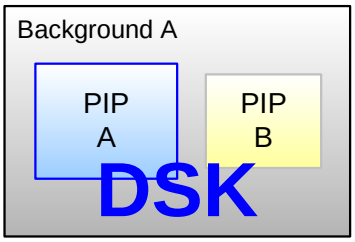


Figure 1-7. Effect 5 Diagram

Mixer Effect 6

This transition is similar to effect 5, but because the DSK is not in use, the background can transition. You can also independently fade the two PIPs.

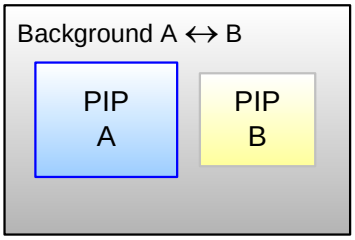


Figure 1-8. Effect 6 Diagram

2. Hardware Orientation

In This Chapter

This chapter provides detailed information about the ScreenPRO-II's hardware. The following topics are discussed:

ScreenPRO-II Rear Panel

The figure below illustrates the ScreenPRO-II rear panel:

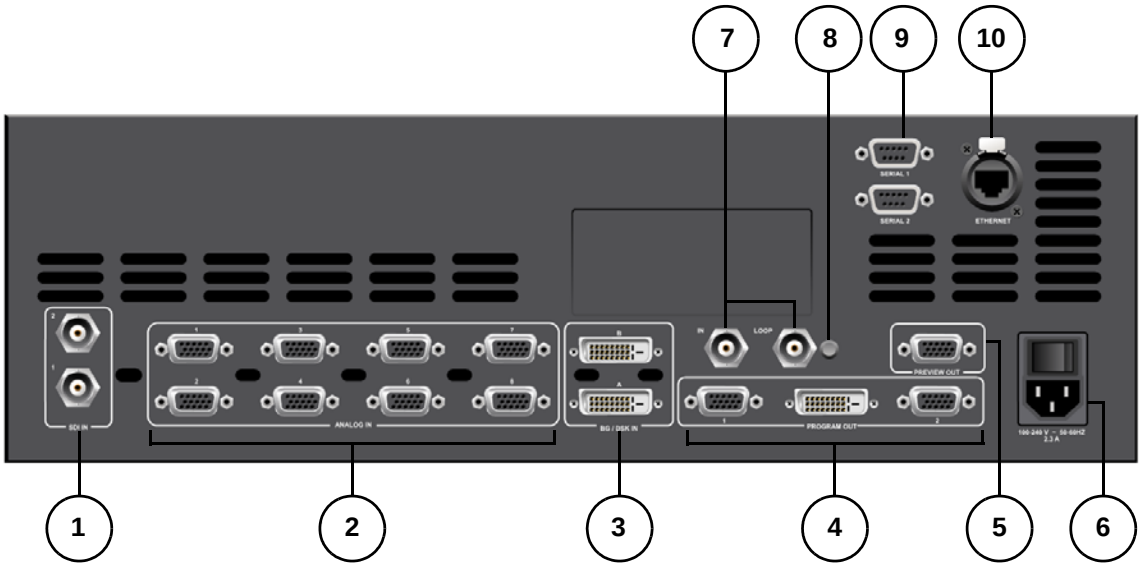


Figure 2-1. ScreenPRO-II Rear Panel

1)	SDI Inputs	5)	Preview Output	9)	Serial Ports
2)	Analog Inputs	6)	AC Connector	10)	Ethernet Port
3)	Background/DSK Inputs	7)	Genlock Connectors		
4)	Program Outputs	8)	Termination Switch		

Following are descriptions of each rear panel connector and section.

1) SDI Inputs

Two BNC connectors are provided for **HD-SDI** or **SD-SDI** inputs (or one of each). These numbered inputs feed the system's internal 2 x 2 SDI router, and are directly associated with the two SDI source buttons on the front panel's top row.

Note These connectors are populated only on the HD version of the ScreenPRO-II.

These inputs will accept:

- **SDI** (SMPTE 259M-C, NTSC or PAL)
- **HD-SDI** (SMPTE 292M, HDTV).

In Chapter 5, refer to the "Comprehensive Input Setup" section on page 104 for input setup instructions.

2) Analog Inputs

Eight 15-pin D connectors are provided for **Analog Inputs**. These numbered inputs feed the system's internal 8 x 2 analog router, and correspond directly to the eight analog source buttons on the front panel.

Please note:

- ~ In Appendix A, refer to the "**Analog 15-pin D Connector**" section on page 146 for pinout details.
- ~ Refer to the "**Analog Input Flexibility**" section on page 14 for additional information about each analog input connector.

3) Background/DSK Inputs

Two DVI connectors are provided for **Background** and **DSK Inputs**. Both connectors are digital only, and do not include analog pins. Please note:

- ~ To use two background sources, connect one source to connector **A** and one to connector **B**.
- ~ To use one background and one DSK source, connect the background to connector **A** and the DSK source to connector **B**.

In Appendix A, refer to the "**DVI Connector Pinouts**" section on page 145 for pinout details.

4) Program Outputs

Three connectors are provided for Program Outputs — one DVI and two analog.

- ~ One DVI connector is provided for the **Digital Program Output**. This output is designed for a digital connection to your projector. The output is digital only, and does not include analog pins. In Appendix A, refer to the "**DVI Connector Pinouts**" section on page 145 for pinout details.
- ~ Two 15-pin D connectors are provided for **Analog Program Outputs**. These outputs (identical in content to the digital output) are designed for analog connections to your projector or to analog monitoring. In Appendix A, see the "**Analog 15-pin D Connector**" section on page 146 for pinouts.

5) Preview Output

One 15-pin D connector is provided for the **Analog Preview Output**. This output is designed for an analog connection to your preview monitor. In Appendix A, see the "**Analog 15-pin D Connector**" section on page 146 for pinouts.

6) AC Connector

One **AC Connector** is provided to connect the ScreenPRO-II to your facility's AC power source. The integral switch turns the chassis on and off.

7) Genlock Connectors

Two BNC connectors are provided for analog **Genlock** (reference video) connections. A genlock connection is highly recommended in ScreenPRO-II configurations that utilize video camera sources. Please note:

- ~ To genlock the chassis, connect a PAL or NTSC black burst or composite sync signal to the **Genlock In** connector.
- ~ If you are looping reference video to another chassis in your system, connect a BNC cable from the **Genlock Loop** connector to the next device's **Genlock In** connector.
- ~ If this ScreenPRO-II chassis is the last device in a reference video chain, do not make any connections to the **Genlock Loop** connector.

8) Termination Switch

One recessed switch is provided for switching the genlock termination.

Note

ScreenPRO-II units are shipped from the factory with the **Termination Switch** in the "terminated" (75 Ohms) position.

User feedback for the current switch position is provided on the system's **Genlock Menu**. Please note:

- Use the "**terminated**" setting (75 Ohms) if the ScreenPRO-II chassis is the last device in a reference video chain.
- Use the "**high impedance**" setting (Hi-Z) if you are looping reference video to another chassis in your system.

9) Serial Ports

Two 9-pin D connectors are provided for RS-232 serial communications with the ScreenPRO-II chassis and for downloading code in the field. In Appendix A, refer to the "**Serial Connector**" section on page 148 for pinout details.

10) Ethernet Port

One RJ-45 connector is provided for 10/100BaseT **Ethernet** communications with the ScreenPRO-II chassis. When (optionally) connecting the ScreenPRO-II to an Encore or ScreenPRO-II controller, a standard Ethernet hub or switch on an isolated network is recommended. The Ethernet connector is compatible with:

- Standard RJ-45 Ethernet cables
- Neutrik EtherCon® series cables

In Appendix A, refer to the "**Ethernet Connector**" section on page 147 for pinout details.

Analog Input Flexibility

Each analog input connector accepts a variety of analog formats including VGA, low-resolution composite video, S-video and YUV component video.

- For RGB with H and V sync, use the VGA connector directly.
- Using a VGA to 5xBNC breakout cable, five input combinations are possible. Cells with check marks denote the connections required for the indicated format.

Table 2-1. Analog Input Combinations using Breakout Cable

Breakout Cable Wire Color		Composite Video	S-Video (Y/C)	YUV (YP_bP_r)	RGB Sync on Green	RGB Comp Sync	RGB Separate H V
R			✓ (Chrom)	✓ (P_r)	✓	✓	✓
G		✓	✓ (Lum)	✓ (Lum)	✓	✓	✓
B				✓ (P_b)	✓	✓	✓
H Sync						✓	✓
V Sync							✓

ScreenPRO-II Front Panel

The figure below illustrates the ScreenPRO-II front panel:

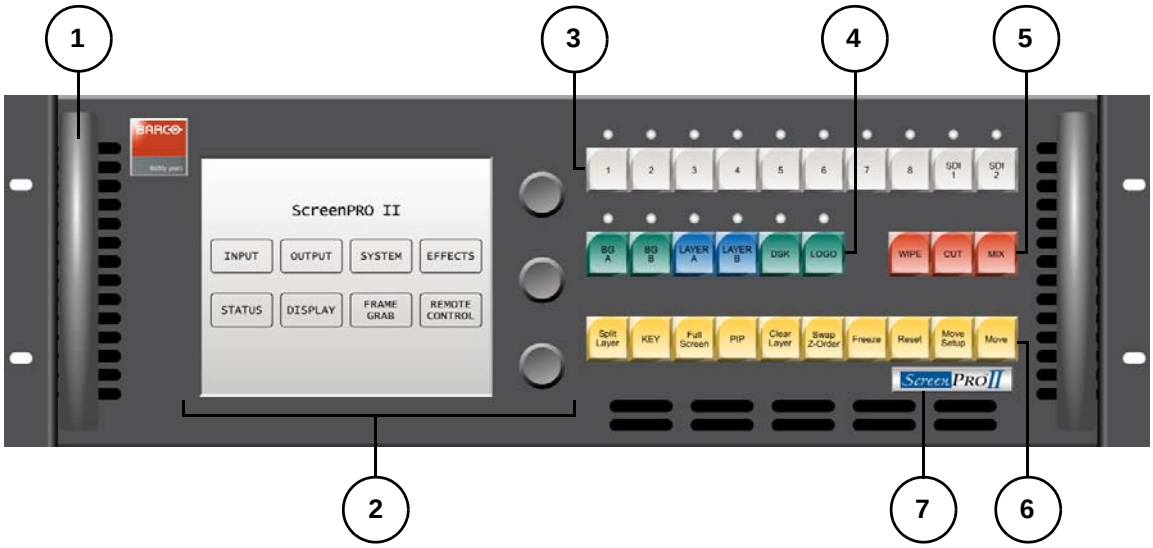


Figure 2-1. ScreenPRO-II Front Panel

1)	Chassis Handles	4)	Layer Control Section	7)	ScreenPRO-II Model
2)	Touch Screen Menu Section	5)	Transition Section		
3)	Source Selection Bus	6)	Mixer Functions Section		

Following are descriptions of each front panel control feature:

1) Chassis Handles

Two **Chassis Handles** are provided for ease of installation and transportation.

2) Touch Screen Menu Section

The **Touch Screen Menu Section** is used for system configuration, setup and operational adjustments, such as PIPs and keys. Refer to the "Touch Screen Menu Section" heading on page 19 for details.

3) Source Selection Bus

The **Source Selection Bus** allows you to choose the sources that are routed into PIPs and keys.

- On the basic model, up to 8 analog sources can be routed.
- On the HD model, up to 8 analog sources plus up to two HD-SDI/SD-SDI sources can be routed.

Refer to the "Source Selection Bus" section on page 20 for details.

4) Layer Control Section

The **Layer Control Section** is the operational heart of the ScreenPRO-II, enabling you to assign sources to PIPs and keys on the mixer. Here, you control the overall "look" on Preview and Program. Refer to the "Layer Control Section" heading on page 21 for details.

5) Transition Section

The **Transition Section** includes three dedicated buttons used for cutting, mixing and wiping sources on and off Program. Refer to the "**Transition Section**" heading on page 23 for details.

6) Mixer Functions Section

When a layer is active (and blinking) in the **Layer Control Section**, all buttons in the **Mixer Functions Section** apply to that layer, enabling you to change its mode and manipulate the source. Refer to the "**Mixer Functions Section**" heading on page 24 for details.

7) ScreenPRO-II Model

This section displays the ScreenPRO-II model, either basic or HD.

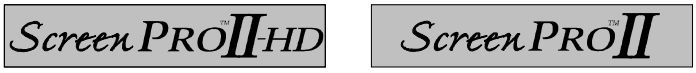
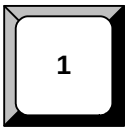


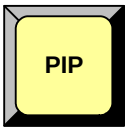
Figure 2-2. ScreenPRO-II Model Labels

Use of Color

Color plays an important “visual” role with the ScreenPRO-II’s front panel buttons:

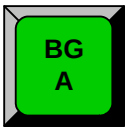


White buttons are used for sources.

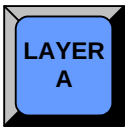


Yellow buttons are functions and modes that always apply to the active (blinking) layer. Functions include assigning PIPs and keys to the active layer, setting up moves, freezing the active layer and swapping layer priority.

Red buttons are transition functions, including cut, mix and wipe.



Green buttons indicate *unscaled* sources, such as backgrounds and the DSK source.



Blue buttons indicate *scaled* sources.

Front Panel Sections

This section provides detailed descriptions and illustrations of each front panel section. The following topics are discussed:

Touch Screen Menu Section

The figure below illustrates the **Touch Screen Menu Section**. A sample menu is also shown for reference.

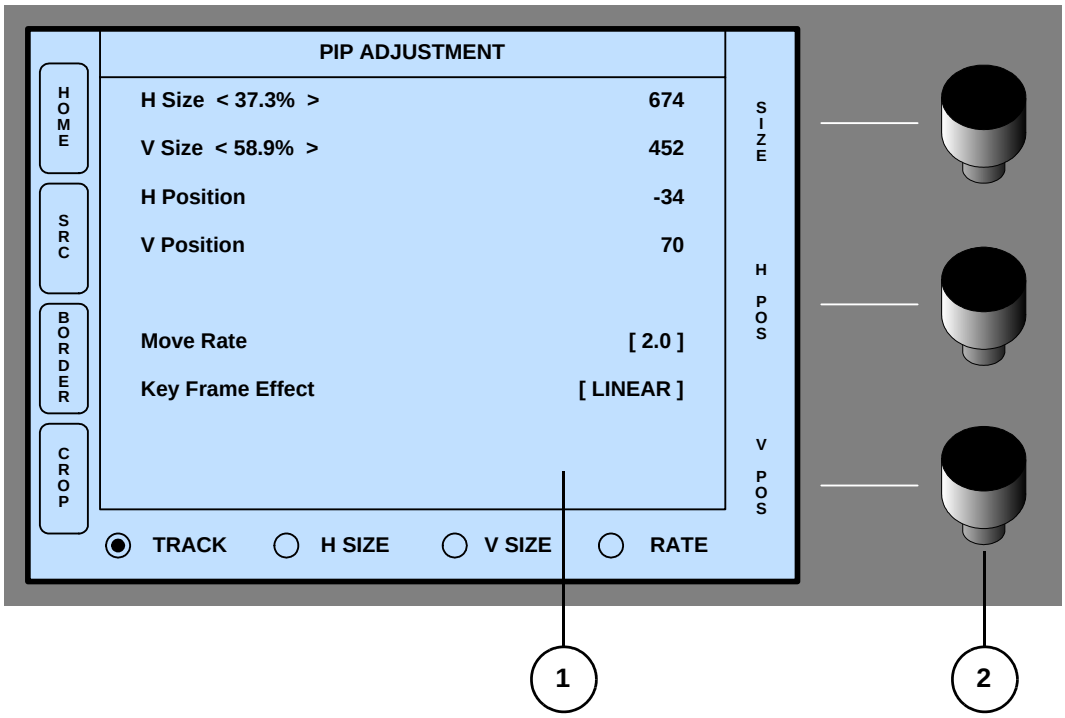


Figure 2-3. Touch Screen Menu Section

1)	Touch Screen	2)	Rotary Knobs

Following are descriptions of each area:

1) Touch Screen

All menus and functions can be accessed by touching the desired label or button on the Touch Screen itself.

- **Example**: Press the {**BORDER**} button to access the **Border Menu**.
- **Example**: Press the **V Size** line to highlight that line. You can now adjust **V Size** using the **ADJ** rotary knob.

2) Rotary Knobs

Three **Rotary Knobs** are provided to the right of the Touch Screen. Each knob controls or adjusts the function that is labeled on the Touch Screen itself, immediately adjacent to the knob. Please note:

- The **Top Knob** is generally assigned to navigating fields on the selected menu. For example, turning the knob moves a highlight up and down a list of parameters, allowing you to adjust the highlighted function. This knob also adjusts adjacent parameters.

~ The **Middle** and **Bottom** knobs are generally assigned to adjusting the adjacent parameters, as labeled on the Touch Screen.

Note

There is no **Enter** button. If you adjust a value with the knobs, that function or value is immediately active in Preview.

Source Selection Bus

The figure below illustrates the **Source Selection Bus**.

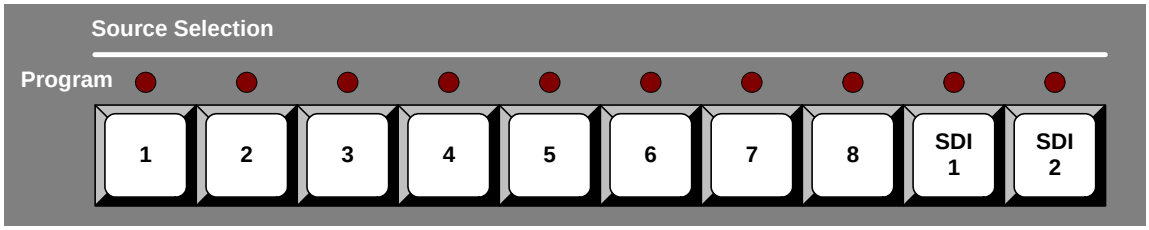
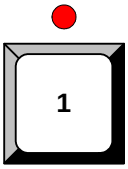


Figure 2-4. Source Selection Bus

Each button represents an input that you can assign to a PIP or key.

- Buttons **1** through **8** correspond to the eight analog inputs on the rear panel.
- The two **SDI** buttons correspond to SDI inputs 1 and 2 on the rear panel. These buttons are only labeled (and active) with the HD model of ScreenPRO-II.



Press a button in the section to assign the source to the blinking “mixer” button in the **Layer Control Section**. When the button is lit and blinking, the source is on Preview, and is active for manipulation as the PIP or key source on that layer.

- When a source button lit solid, the source is on Preview — but it is not active for manipulation.
- When the **Red LED** above a source button is lit, the source is on Program.
- Multiple sources can appear on Program and Preview simultaneously, but only one button can be blinking and active for modification on Preview.
- In Chapter 5, refer to the “**Comprehensive Input Setup**” section on page 104 for details on all source setup procedures.

Layer Control Section

The figure below illustrates the **Layer Control Section**.

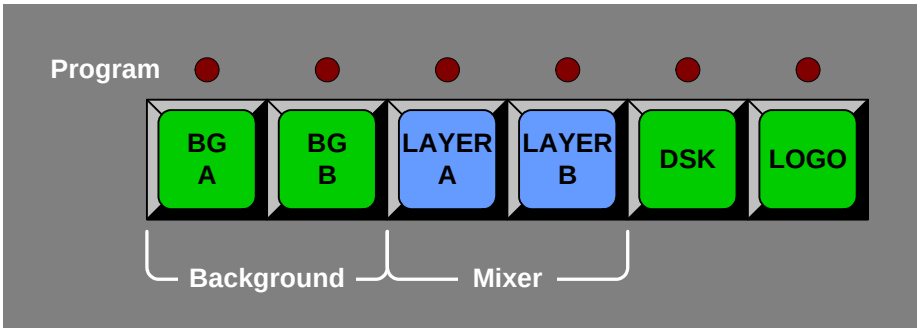


Figure 2-5. Layer Control Section

The buttons in the **Layer Control Section** enable you to select (on Preview) the sources that will transition to or from Program — including backgrounds, individual layers, the DSK and the full screen LOGO.

When you select a blue “layer” button, you are electronically selecting a scaler that you want to assign as a PIP or key, or modify in some manner. In this way, you control the overall look on Preview before you “transition” that look to Program.

Please note the following important points:

- Two background sources, one DSK, and one full screen LOGO are provided.
- The buttons are arranged left-to-right in order of visual priority — from the backgrounds (at the lowest priority) to the LOGO (at the highest visual priority).
- Any combination of backgrounds, layers, DSK and LOGO can be selected on Preview for transition to or from Program.

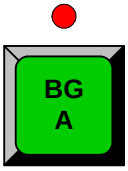
Note

The only restriction is that **BG B** and the **DSK** are mutually exclusive. This occurs because the **BG/DSK Input B** is *shared* between the **DSK** and **BG B**.

Following are descriptions of each button’s function.

Important

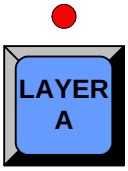
ScreenPRO-II uses a “lookahead” Preview monitor that fully represents how the Program output will appear *next*. By selecting combinations of PIPs, keys, backgrounds and the DSK, you are composing a Preview image that will appear on Program — after the next transition. A “lit” button does not necessarily mean that the source will transition on or off — it simply means that it is part of the “look” on Preview.



Background Buttons — press to select an unscaled background on Preview for transition to or from Program. The button lights when selected. Please note:

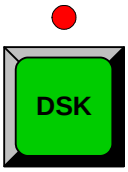
- If the **Red LED** is lit, the background is on Program.
- If **BG A** is on Program and **BG A** is selected in Preview, there will be no change of backgrounds on the next transition.

- If **BG A** is on Program and **BG B** is selected in Preview, **BG A** will dissolve, cut or wipe to **BG B** on the next transition.
- Toggle mode also affects background transitions. In Chapter 6, refer to the "**Background Transitions**" section on page 121 for complete instructions.



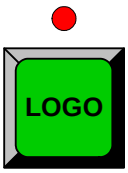
Layer Buttons — press to select a layer on Preview for transition to or from Program.

- When lit and blinking:
  - ~ The layer is active for manipulation.
  - ~ A source can be assigned to the layer from the **Source Selection Bus**.
  - ~ The layer can be assigned as a PIP or key using the buttons in the **Mixer Functions Section**.
- When lit solid, the layer is on Preview, but it is not active for manipulation. It is, however, ready to be transitioned to Program.
- When the **Red LED** above the button is lit, the layer is on Program.
- To clear a layer from Preview (so that it will transition off Program), press **Clear Layer** in the **Mixer Functions Section**. This causes the layer button to turn off. If the red led above the layer button is lit, it indicates that the layer will transition off of Program on the next transition.



DSK — press to select the unscaled **DSK** on Preview for transition to or from Program. The button lights when selected. Please note:

- When the **Red LED** above the button is lit, the DSK is on Program.
- The **DSK** and **BG B** are mutually exclusive.



LOGO — press to select the unscaled, full screen **LOGO** on Preview for transition to or from Program. The button lights when selected. Please note:

- When the **Red LED** above the button is lit, the **LOGO** is on Program.
- The logo is the system's highest priority layer, and is selected from one of ScreenPRO-II's three internal frame stores.
- The **LOGO** layer is often used as a "black preview" function. If **Black** is selected as the "type" on the **Logo Input Setup** menu, you can fade to black at any time by selecting **LOGO** on preview.
- The logo is not a live input, and does not have an associated key signal.

Important

All layers are maintained underneath the **LOGO**. For example, if you have two PIPs and a DSK on Program when you transition to the **LOGO**, when you fade the **LOGO** off — the previous "look" is still there.

In Chapter 6, refer to the "**Working with Layers**" section on page 120 for complete instructions on all layer, PIP and key modes.

Transition Section

The figure below illustrates the **Transition Section**.

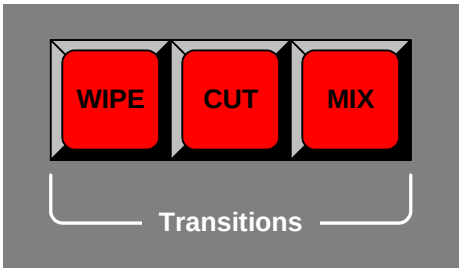
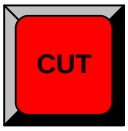


Figure 2-6. Transition Section

Descriptions of each button are provided below:

WIPE — press to transition from Preview to Program at a pre-defined rate — using one of several wipe patterns. The wipe patterns, edge types and transition rates are selected using the **Effects Menu**.

- In Chapter 4, refer to the "**Effects Menu**" section on page 63 for menu details.
- In Chapter 6, refer to the "**Working with Transitions**" section on page 135 for operational procedures.



CUT — press to instantly cut the images from Preview to Program.

MIX — press to dissolve from Preview to Program at a pre-defined rate. Auto transition rates are defined using the **Effects Menu**.

- In Chapter 4, refer to the "**Effects Menu**" section on page 63 for menu details.
- In Chapter 6, refer to the "**Working with Transitions**" section on page 135 for operational procedures.

Mixer Functions Section

The figure below illustrates the **Mixer Functions Section**.

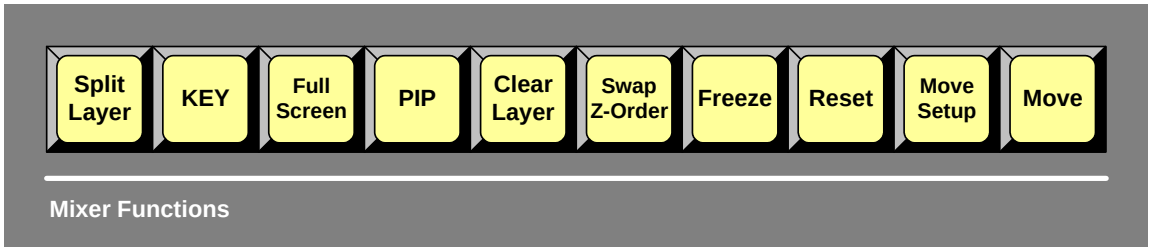
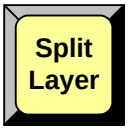


Figure 2-7. Mixer Functions Sections

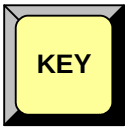
The buttons in the **Mixer Functions Section** enable you to change or modify the selected (blinking) layer button in the **Layer Control Section**.



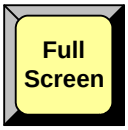
Split Layer — press to select whether or not the mixer's two layers work independently or in tandem.

- With **Split Layer** enabled (and the button lit), each layer works independently. You have the freedom to size, position, manipulate and transition each one independently of the other.
- With **Split Layer** disabled, the two layers are ganged together, offering a variety of additional transitions including the toggle, mix source and swap functions.

In Chapter 6, refer to the "**Working with Layers**" section on page 120 for details.



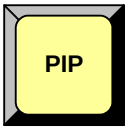
Key — press to change the selected layer (in the **Layer Control Section**) and its associated source to a key effect. The **Key Adjustment Menu** appears on the Touch Screen. In Chapter 4, refer to the "**Key Menu**" section on page 75 for details.



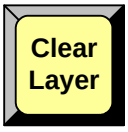
Full Screen — press to take the active PIP or key to full screen. In each case, the source's height will be used as the parameter that defines the full screen size.

▲ **Example**: If a source's original dimension is 1280 x 1024, pressing **Full Screen** expands (or reduces) that PIP to fill the output screen vertically. If borders are **ON**, they will be taken into account so that they are visible.

In Chapter 6, refer to the "**Using Full Screen**" section on page 129 for instructions.

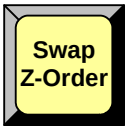


PIP — press to change the selected layer (in the **Layer Control Section**) and its associated source to a PIP effect. The **PIP Adjustment Menu** appears on the Touch Screen. In Chapter 4, refer to the "**PIP Adjustment Menu**" section on page 67 for details.



Clear Layer — press **Clear Layer** to remove the currently selected (blinking) layer from Preview — in preparation for transitioning it off Program.

In Chapter 6, refer to the "**Clearing Layers from Program**" section on page 128 for instructions.



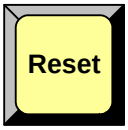
Swap Z-order — press to change the visual priority (on Preview) of the two mixer layers. The PIPs or keys remain at their current locations — only the priority changes.

- **Example**: If PIP **B** is visually on top of PIP **A**, press **Swap Z-Order** to place PIP **A** on top of **B**.

In Chapter 6, refer to the "**Using Swap Z-Order**" section on page 129 for instructions.

Freeze — enables you to freeze a layer on both Program and Preview.

In Chapter 6, refer to the "**Using Freeze**" section on page 130 for instructions.



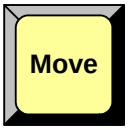
Reset — press to reset the *current effect* (e.g., PIP, Key, crop, etc.) to a nominal default value. You can think of this function as being "context sensitive" — as it resets only the current effect, without affecting other modifications.

- **Example**: If you adjust a PIP's size, border and shadow, and wish to reset *only* the border, navigate to the **Border Menu** and press **Reset**.

In Chapter 6, refer to the "**Using Reset**" section on page 130 for details.

Move Setup — press to set up a "move" for a PIP or key, enabling you to choose the move's start and end points.

In Chapter 6, refer to the "**Using Move**" section on page 132 for complete instructions.



Move — press to pend a "move" for a PIP or key, enabling you to fly the PIP or key from one location to another on the next auto transition.

In Chapter 6, refer to the "**Using Move**" section on page 132 for complete instructions.

3. Hardware Installation

In This Chapter

This chapter provides comprehensive installation instructions for the ScreenPRO-II system's hardware. The following topics are discussed:

Safety Precautions

For all ScreenPRO-II installation procedures, please observe the following important safety and handling rules to avoid damage to yourself and the equipment:

- To protect users from electric shock, ensure that the chassis connects to earth via the ground wire provided in the AC power Cord.
- The AC Socket-outlet should be installed near the equipment and be easily accessible.

Unpacking and Inspection

Before opening the ScreenPRO-II shipping box, inspect it for damage. If you find any damage, notify the shipping carrier immediately for all claims adjustments. As you open the box, compare its contents against the packing slip. If you find any shortages, contact your sales representative.

Once you have removed all the components from their packaging and checked that all the listed components are present, visually inspect the system to ensure there was no damage during shipping. If there is damage, notify the shipping carrier immediately for all claims adjustments.

Site Preparation

The environment in which you install your ScreenPRO-II should be clean, properly lit, free from static, and have adequate power, ventilation, and space for all components.

Rack-Mount Installation

The ScreenPRO-II chassis is designed to be rack mounted and is supplied with front rack-mount hardware. Rear rack-mount brackets are available as a kit and are recommended for use when units are mounted in transit cases.

Note

The ScreenPRO-II chassis can also be used in a “tabletop” configuration, without rack mounting.

When rack mounting the ScreenPRO-II chassis, remember the following important points:

- Maximum ambient operating temperature for the unit is 40 degrees C.
- Leave at least one inch of space (front and rear) to ensure that the airflow through the fan and vent holes is not restricted.
- When installing multiple units into a rack, distribute them evenly to prevent hazardous conditions that may be created by uneven weight distribution.

- Rack mount each ScreenPRO-II chassis from the front rack ears using four rack screws (not supplied). Rack threads may be metric or otherwise — depending upon the rack type.
- Install the *lower* of the two mounting holes first.

Cable and Adapter Information

The table below provides information regarding cables and adapters:

Table 3-1. ScreenPRO-II System Cables and Adapters

Cable	Description	Note
Input Connections		
HD-15 to 5xBNC Breakout Cable	Analog input connectors (via breakout)	4 Cables Supplied
HD-15 to HD-15	Analog input connections (direct)	Customer Supplied
DVI to DVI	Digital background/DSK connections (direct)	Customer Supplied
Belden 1694A (recommended)	SDI/HD-SDI input connections	Customer Supplied
Belden RG-59 (recommended)	Analog connections (via breakout)	Customer Supplied
Output Connections		
HD-15 to HD-15	Analog Preview and Program outputs (direct)	Customer Supplied
DVI to DVI	Digital Program output (direct)	Customer Supplied
Remote Connections		
Ethernet Hub or Switch	For use with optional Encore or ScreenPRO-II Controller	Customer Supplied
RJ-45 Ethernet Cable	For use with optional Encore or ScreenPRO-II Controller	Customer Supplied
Power Connections		
AC Power Cord	AC Power, 7 foot, 10A	1 Cord Supplied

Input Connection Chart

The following **Input Connection Chart** is provided to assist with your input connections. Please complete one chart for every ScreenPRO-II system, and make copies as required. Please note the following important points:

- The mixer has eight analog input connections (scaled), and with the HD model, two scaled HD/SD inputs. Additionally, two unscaled DVI connections are provided for background and DSK sources.
- There is a direct correspondence between the first eight buttons in the **Source Selection Bus** and the eight numbered analog input connections. No additional button-to-source configuration is required.
- On the HD model, there is a direct correspondence between the two SDI buttons in the **Source Selection Bus** and two numbered HD/SD input connections. No additional button-to-source configuration is required.
- The **Analog** inputs can also be used to connect composite, S-Video (Y/C) and component video. In Chapter 2, refer to the "**Analog Input Flexibility**" section on page 14 for details.
- To use two background sources, connect one to the **Background A** connector and one to the **Background B** connector.
- To use one background and one DSK source, connect the background to the **Background A** connector and the DSK source to the **Background B** connector.
- (Optional, for use with an Encore or ScreenPRO-II Controller) Two "router" modes are available:
  - ~ The "internal" mode is the standalone ScreenPRO-II mode, with sources connected *directly* to inputs.
  - ~ In the "external" mode, two analog outputs from a router (controlled by the Encore or ScreenPRO-II console) are connected to ScreenPRO-II SP analog inputs 1 and 2. In addition, two SDI outputs from a router could be connected to SDI inputs 1 and 2.

Chart instructions:

- Column 1 lists all input connectors.
- Column 2 lists additional connector details:
  - ~ Remember that the DVI connectors are digital only. There is no analog component to them.
  - ~ Be sure to check [✓] the desired assignment of BG/DSK input B for your later reference.
- In Column 3, please list the physical source that supplies the input signal.
- In Column 4, please list any notes or details pertaining to the source.

Please complete the **Input Connection Chart** on the following page.

Complete the following input connection chart for your system:

Table 3-2. Input Connection Chart

Input	Input Detail	Physical Source	Note
Analog Input 1	Scaled		
Analog Input 2	Scaled		
Analog Input 3	Scaled		
Analog Input 4	Scaled		
Analog Input 5	Scaled		
Analog Input 6	Scaled		
Analog Input 7	Scaled		
Analog Input 8	Scaled		
HD/SD Input 1	(HD model only) Scaled		
HD/SD Input 2	(HD model only) Scaled		
BG Input A	**Digital**, Unscaled - BG [ ]		
BG/DSK Input B	**Digital**, Unscaled - BG [ ] DSK [ ]		

Installation

The figure below illustrates a block diagram of a basic ScreenPRO-II system. This diagram can be used as reference in the following installation procedure.

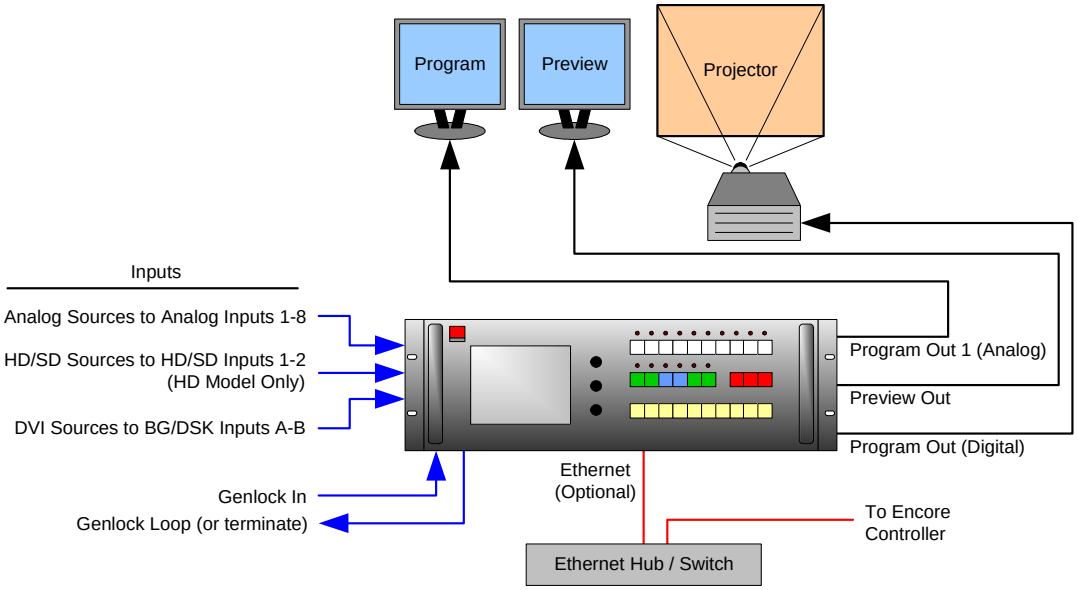


Figure 3-1. Block Diagram, Basic ScreenPRO-II System

You will need:

Table 3-3. Equipment List, Basic ScreenPRO-II System

Qty.	Item	Note
1	ScreenPRO-II Chassis	
1	Video Projector	Customer supplied
1	Analog Monitor	Preview (customer supplied)
1	Analog or Digital Monitor	Program (customer supplied)
1	Ethernet Hub or Switch	Customer supplied (Optional, with Encore or ScreenPRO-II Controller)
2	Ethernet cables	Customer supplied (Optional, with Encore or ScreenPRO-II Controller)
2	Video cables	Customer supplied (Genlock and Genlock Loop)
TBD	Dedicated sources	Analog video and/or DVI as required (customer supplied)

- Use the following steps to install ScreenPRO-II:

  1. Follow the unpacking procedures as listed in the "**Unpacking and Inspection**" section on page 28.
  2. As required, refer to the "**Physical and Electrical Specifications**" section on page 144 in Appendix A for electrical and mechanical details.

3. As required, refer to the "**ScreenPRO-II Rear Panel**" section on page 12 in Chapter 2 for the locations of all connectors.
4. If you are rack mounting the ScreenPRO-II chassis, follow the rack mount procedures as outlined in the "**Rack-Mount Installation**" section on page 28.
5. **Ethernet Connections** (optional, for use with an Encore or ScreenPRO-II Controller) — a completely "local" network connection is recommended, without IP connections to the outside world.
    a. Using an Ethernet cable, connect the ScreenPRO-II's Ethernet port to a Hub or Switch.
    b. Connect the Ethernet Hub or Switch to the Encore or ScreenPRO-II Controller's Ethernet port.
6. **Source Connections**
    a. As an important prerequisite, complete the "**Input Connection Chart**" on page 30 to streamline your source installation procedure.
    b. Using the information from the chart, connect the desired sources to the analog and digital input connectors as required.
7. **Output Connections**
    a. One **Analog Preview Output** is provided. Connect this output to the input of your analog Preview Monitor.
    b. Three **Program Outputs** are provided: One digital and two analog. Use these outputs to connect your Program Monitor(s) and your projector. For example:
        - Connect the **Digital Program Output** to the input of your projector.
        - Connect **Analog Program Output 1** to the input of your main program monitor.
        - Connect **Analog Program Output 2** to an auxiliary or spare program monitor.
8. **Genlock Connections**
    a. If you will be using synchronous video camera sources in your production, use a BNC cable to connect a PAL or NTSC black burst or composite sync signal to the **Genlock In** connector.
    b. If you are looping reference video to another chassis in your system, connect a BNC cable from the **Genlock Loop** connector to the next device's **Genlock In** connector.
    c. If this ScreenPRO-II chassis is the last device in a reference video chain, do not make any connections to the **Genlock Loop** connector.
    d. Once the system has powered up, complete with **Genlock Termination** procedure. Refer to the "**Genlock Termination**" step on page 34 for details.
9. **Power Connection** — connect an AC power cord to the **AC Power Connector** on the rear of the ScreenPRO-II chassis, and then to AC outlets. Connect AC Power cords (or AC adapters) to all peripheral equipment, such as Ethernet Hubs and monitors. Please note:
    - Connect each unit only to a properly rated supply circuit.
    - Reliable grounding (earthing) of rack-mounted equipment should be maintained.
10. **Power On** — turn on power to all units.

11. Genlock Termination

On the rear of the ScreenPRO-II chassis, one recessed switch is provided for genlock termination.

Note

ScreenPRO-II units are shipped from the factory with the **Termination Switch** in the "terminated" (75 Ohms) position. If the ScreenPRO-II chassis is the last device in a reference video chain, no adjustment to the Termination Switch is required.

a. If you are looping reference video to another chassis in your system, wait until the system is powered up, then access the **Genlock Menu** by pressing {**HOME**} **>** {**OUTPUT**} **>** {**GLCK**}. This menu enables you to see the current setting of the termination switch.

b. Press the switch until the "**high impedance**" (Hi-Z) setting appears.

12. System ID — (optional, for use with an Encore or ScreenPRO-II Controller).

a. Access the **Remote Control Menu** by pressing {**REMOTE CONTROL**} on the **Home Menu**. This menu enables you to set the ID of the ScreenPRO-II chassis.

b. Set the ScreenPRO-II chassis ID to a value that is *not* used within the Encore or ScreenPRO-II Controller's system. The system will not function properly if duplicate IDs are in use.

Note

Encore or ScreenPRO-II Controllers will detect multiple IDs and prompt the user to correct the problem. Only the first device will connect to the console. Other devices with conflicting IDs will be refused a connection.

13. Display Calibration — calibrate the Touch Screen display using the **Display Settings Menu**. From the **Home Menu**, press {**DISPLAY**} **>** {**LCD CAL**}, and following the prompts to calibrate the display.

This completes the hardware installation procedure. Please continue with Chapter 4, "**Menu Orientation**."

4. Menu Orientation

In This Chapter

This chapter describes all ScreenPRO-II system menus, including how they are accessed, the functions that are available, and simple descriptions of each menu tree (in block diagram format).

The following menus are discussed:

Note

Button labels on the touch screen menus are shown in bold upper and lowercase letters between braces.

▲ Press {**BORDER**} to …

Home Menu

The figure below illustrates the **Home Menu**:

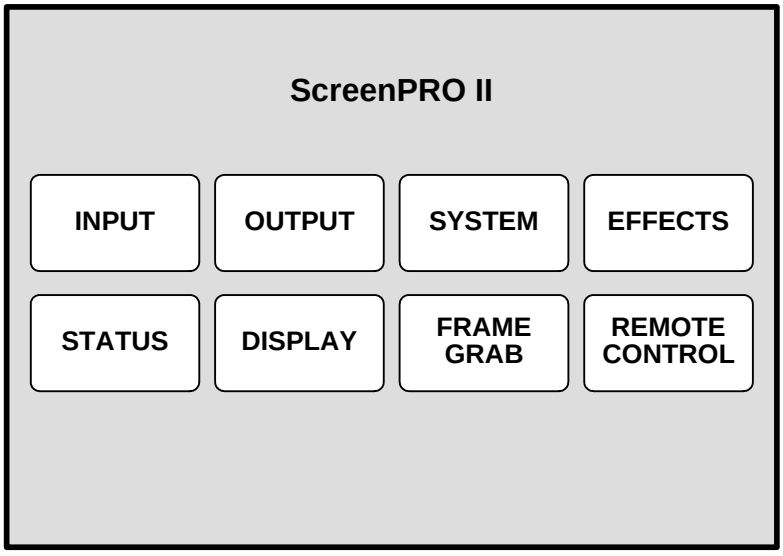


Figure 4-1. Home Menu

The **Home Menu** is the system's top level menu, from which all other menus can be accessed. To access a menu, press the desired button on the touch screen. You can also return to the **Home Menu** by pressing the {**Home**} button from within an adjustment menu itself. The {**Home**} button is always the top left button on a screen.

The following menus can be accessed from the **Home Menu**:

- Press {**INPUT**} to access the "**Input Menu**."
- Press {**OUTPUT**} to access the "**Output Menu**."
- Press {**SYSTEM**} to access the "**System Menu**."
- Press {**EFFECTS**} to access the "**Effects Menu**."
- Press {**STATUS**} to access the "**Status Menu**."
- Press {**DISPLAY**} to access the "**Display Settings Menu**."
- Press {**FRAME GRAB**} to access the "**Frame Grab Menu**."
- Press {**REMOTE CONTROL**} to access the "**Remote Control Menu**."

Global Rules

The following global rules apply to all menus:

- Parameters and values displayed between brackets (e.g., **[525]**) cannot be changed.
- Press {**HOME**} to return to the **Home Menu**.
- Press {**BACK**} to return to the menu from which you accessed the current menu.

Input Menu

The following topics are discussed in this section:

Input Menu Tree

The figure below illustrates the **Input Menu** tree:

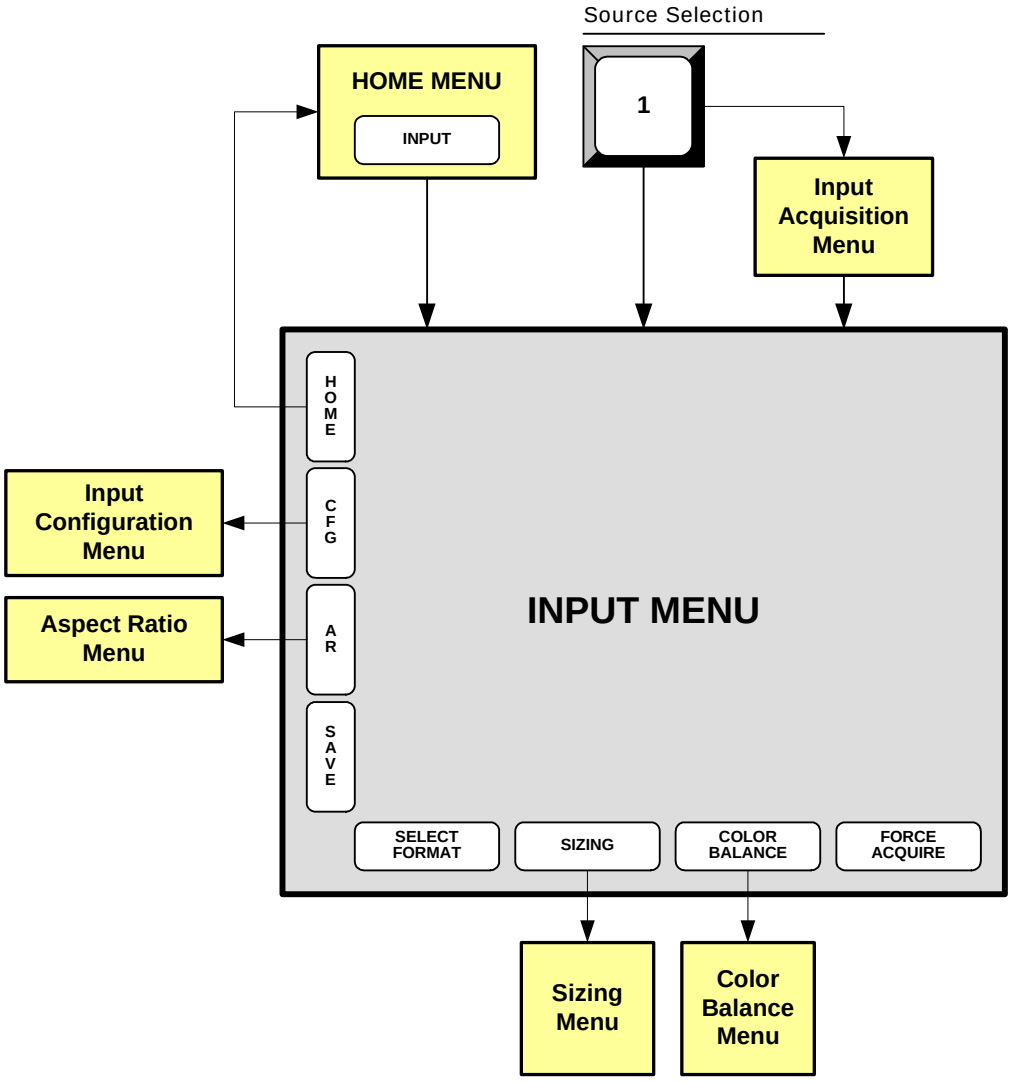


Figure 4-2. Input Menu Tree

All functions, sub menus and “pre-menus” are discussed in the following sections.

Input Menu Description

The figure below illustrates a sample **Input Menu**:

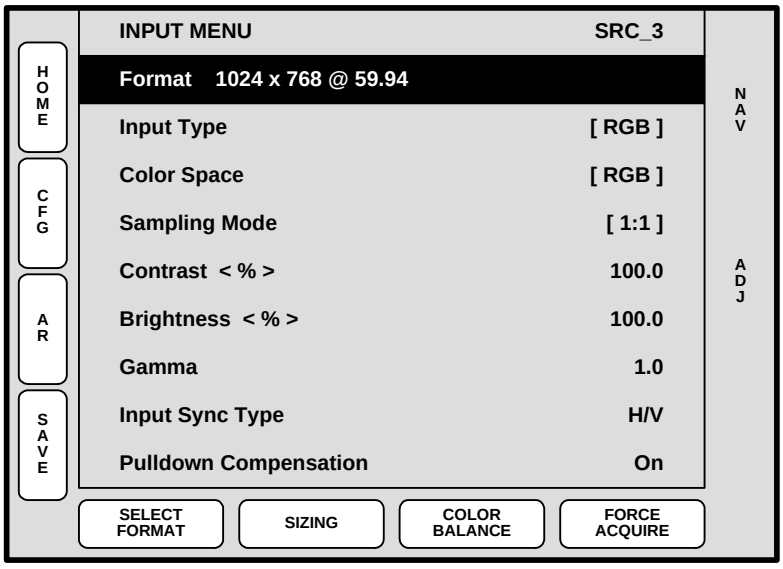


Figure 4-3. Input Menu (sample)

The **Input Menu** is used to adjust all parameters relating to inputs. Using the menu, you can set all of the configuration options for the selected input channel.

There are several ways to access the menu:

- Press {**INPUT**} on the **Home Menu**.
- Select a layer button in the **Layer Control Section** and ensure the button is blinking. Select an input on the **Source Selection Bus** and ensure the button is blinking. If the **Input Acquisition Menu** appears (because the source has not yet been saved, or because video has not been detected), press {**ADJUST**}.

On the **Input Menu**, the currently selected input is shown in the menu’s upper right corner (e.g., **SRC_3**). The menu tracks the selected input, thus, if you switch inputs on the **Source Selection Bus**, the menu is immediately re-assigned to the new input.

Input Menu Functions

The following **Input Menu** functions are provided:

- **Format** — this line performs two functions:
  - ~ Displays the resolution that is automatically determined by the **FORCE ACQUIRE** function.
  - ~ Enables you to set the resolution of the incoming source if desired. Once the format is selected manually with the rotary knob, press {**SELECT FORMAT**} to “accept” the selection.

In Appendix A, refer to the "**Input and Output Resolutions**" section on page 149 for additional details regarding resolutions.

Note

Selecting a format manually will automatically default the **Input Type**. In some cases, the **Input Type** cannot be changed due to the selected resolution.

- **Input Type** — sets the type of input connected to the ScreenPRO-II, such as RGB, SD, HD or Composite. Available choices *change* depending on the selected format. Selections include RGB, YP_bP_r, Composite/S-Video, SDI and HD SDI.
- **Color Space** — sets the input's color space. Choices include **SMPTE** and **RGB**. Note that the system will automatically set the Color Space based on the selected **Format** and **Input Type**.
- **Sampling Mode** — sets the sampling mode for the selected input, either 1:1 or oversample.
  - ~ When **1:1 Sampling** is selected, the system provides pixel-for-pixel sampling, and generally better image quality.
  - ~ When **Oversample** is selected, the system performs multiple samples for every pixel, with a resulting "softer" image.
- **Contrast** — sets the input's contrast. The adjustment range is from 75% to 125%.
- **Brightness** — sets the input's brightness. The adjustment range is from 75% to 125%.
- **Gamma** — sets the input gamma, enabling you to match the gamma of the source. The adjustment range is from 1.0 to 3.0, in 0.1 increments.
- **Input Sync Type** — sets the type of sync used by the selected source. Choices include H/V, CSync (composite sync), SOG (sync on green) and Auto.
- **Pulldown Compensation** — (On/Off) This function is applicable only for standard video (component, s-video, composite) inputs. The default mode is off. The feature should be turned on to process video derived from film material.
- **Sync Slice <mv>** — This function selects the sync comparator threshold for RGsB (RGB with Sync on Green) or YP_bP_r analog component video sources. The value ranges from 20mV to 280mV and is adjustable in steps of 10mV. The default value is 160mV.

  When ScreenPRO-II detects Macrovision® copy protection on the incoming YP_bP_r NTSC/PAL video, the Sync Slice value is repositioned to 60mV to account for the reduced amplitude sync pulse.

Note

The default Sync Slice level has been optimized for virtually all sources that will be encountered and should rarely, if ever, require adjustment. However, the ability to adjust the Sync Slice level is provided to improve sync detection and synchronization in cases of extremely noisy RGsB or YP_bP_r video signals.

- **Sharpness** — sets the input's sharpness. The adjustment range is from -10 (soft) to 10 (sharp).

- Press {**CFG**} to display the **Input Configuration Menu**. Refer to the "**Input Configuration Menu**" section on page 42 for details.
- Press {**AR**} to display the **Aspect Ratio Menu**. Refer to the "**Aspect Ratio Menu**" section on page 46 for details.
- Press {**SAVE**} to save the selected input in the designated input file.

Note

Every sub menu under the **Input Menu** includes a {**SAVE**} button. This enables you to save the input at any point in the adjustment process, regardless of your location within the menu tree. The "save" uses the information selected on the **Input Configuration Menu**.

- Press {**SELECT FORMAT**} to "accept" a manually selected input format. In Appendix A, refer to the "**Input and Output Resolutions**" section on page 149 for details on all available resolutions.
- Press {**SIZING**} to display the **Sizing Menu**. Refer to the "**Sizing Menu**" section on page 43 for details.
- Press {**COLOR BALANCE**} to display the **Color Balance Menu**. Refer to the "**Color Balance Menu**" section on page 45 for details.
- Press {**FORCE ACQUIRE**} to force the system to perform the optimum image setup. Use this feature as a good starting point for setup, as required.

Note

The **FORCE ACQUIRE** command only works on the selected input — not on all inputs simultaneously.

If you have made changes to the selected input, use the **Input Configuration Menu** to save your changes. See the "**Input Configuration Menu**" section on page 42 for details.

Input Pre and Sub Menus

The following pre and sub menus can be accessed from the **Input Menu**:

- **Input Acquisition Menu**
- **Input Configuration Menu**
- **Sizing Menu**
- **Color Balance Menu**
- **Aspect Ratio Menu**

Input Acquisition Menu

The figure below illustrates a “pre” menu — the **Input Acquisition Menu**.

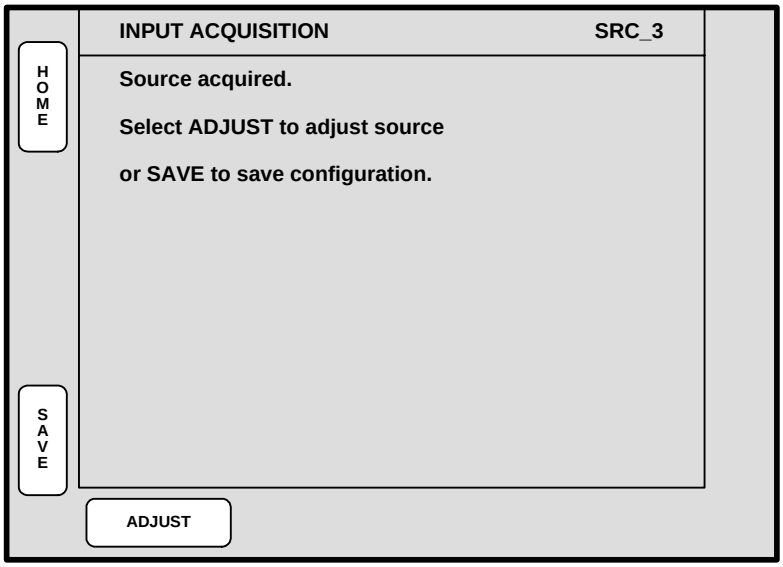


Figure 4-4. Input Acquisition Menu: No File Saved (sample)

The **Input Acquisition Menu** appears if you have selected a source, video is present and the source is “acquired” — but the source has not been saved.

- Press {**SAVE**} to save the source and display the **Input Menu**, or ...
- Press {**ADJUST**} to display the **Input Menu** without saving the source.

Once the source has been saved, the next time you select the source, the **Input Menu** will be displayed — or the source will simply switch (if you are on another menu, such as the **PIP Adjustment Menu**).

If you select a source and there is a video mismatch, if video is not present or if the acquisition fails, one of the following messages will appear:

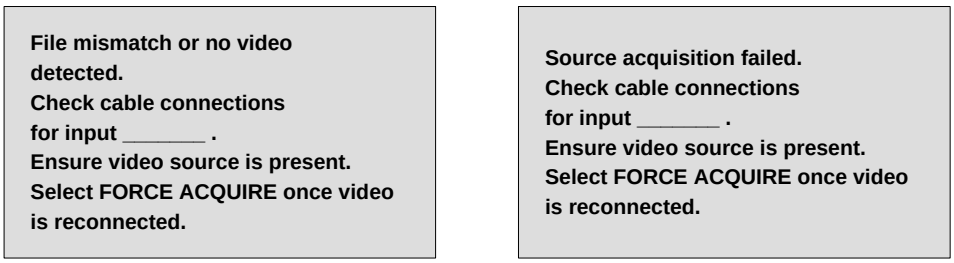


Figure 4-5. Input Acquisition Menu: Mismatch or No Video (sample)

In this situation, the following actions are recommended:

- Check all cable connections for the selected input.
- With a connection established, press {**FORCE ACQUIRE**} to perform the optimum image setup and automatically display the **Input Menu**, or ...
- Press {**ADJUST**} to display the **Input Menu** without performing a FORCE ACQUIRE.

Input Configuration Menu

From the **Input Menu**, press {**CFG**} to display the **Input Configuration Menu**, a sample of which is shown below.

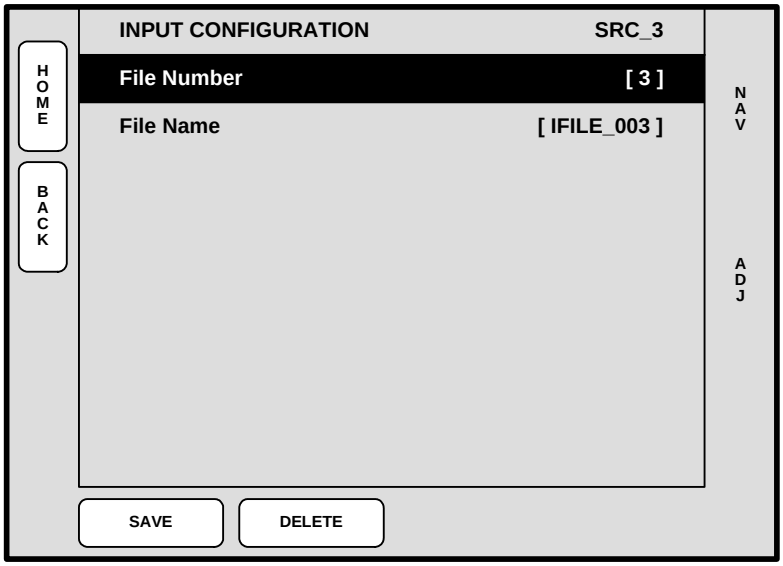


Figure 4-6. Input Configuration Menu (sample)

Each input has an associated input file that stores all input parameters and settings. Each time an input is selected in the **Source Selection Bus**, its associated file is recalled — in the instant before it appears on Preview.

The **Input Configuration Menu** enables you to save the input's associated file — which guarantees that the exact parameters you set are those that are used on air.

The following functions are provided:

- **File Number** — sets the file number into which data is stored. In the current version, the file number automatically defaults to the input number and cannot be changed.
- **File Name** — sets the alphanumeric file name. In the current version, the file name automatically defaults to the input name and cannot be changed.
- Press {**SAVE**} to save the selected input in the designated input file.
- Press {**DELETE**} to delete the selected input file.

Sizing Menu

From the **Input Menu**, press {**SIZING**} to display one of two **Sizing Menus**. These menus are context sensitive — they *change* depending on the **Sampling Mode** selected on the **Input Menu**.

- If **1:1 Sampling** is selected, the **1:1 Sizing Menu** appears.
- If **Oversample** is selected, the **Oversample Sizing Menu** appears.

Each menu and function is described below.

1:1 Sizing Menu

The figure below illustrates a sample **1:1 Sizing Menu**.

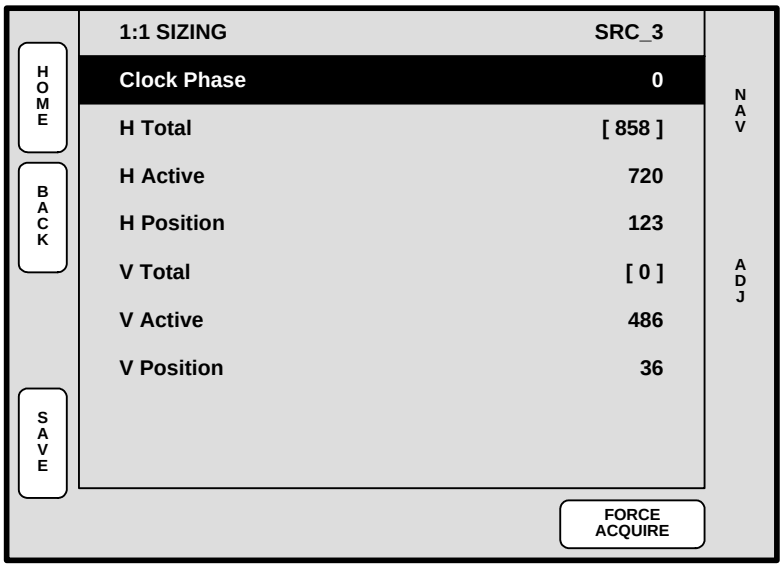


Figure 4-7. 1:1 Sizing Menu (sample)

- **Clock Phase** — sets the system's A/D converter, allowing you to select where pixels are sampled (ideally, on the pixel's peak). The adjustment range is **-16** to **15**. For optimum visual results when adjusting high-resolution computer sources, project a burst test pattern and adjust the sampling for the minimum noise. Refer to the "**Test Pattern Menu**" section on page 51 for information.
- **H Total** — sets the total pixel count per line.

Note

This field is not adjustable for digital sources, including digital signals on both the DVI and BNC input connectors. This field is also not adjustable for NTSC and PAL sources, regardless of connection type.

- **H Active** — sets the width of the active area.
- **H Position** — sets the start of the active area's horizontal offset from H sync.
- **V Total** — fixed value which cannot be adjusted.
- **V Active** — sets the number of vertical lines in the image.
- **V Position** — sets the start of the active area's vertical offset from V sync.

- Press {**SAVE**} to save the selected input in the designated input file.
- Press {**FORCE ACQUIRE**} to force the system to perform the optimum image setup. Adjustments can be made on the **1:1 Sizing Menu**.

Note

If you switch to another input, the menu does not change. If there is no valid input video, the settings are not applicable.

Oversample Sizing Menu

The figure below illustrates a sample **Oversample Sizing Menu**.

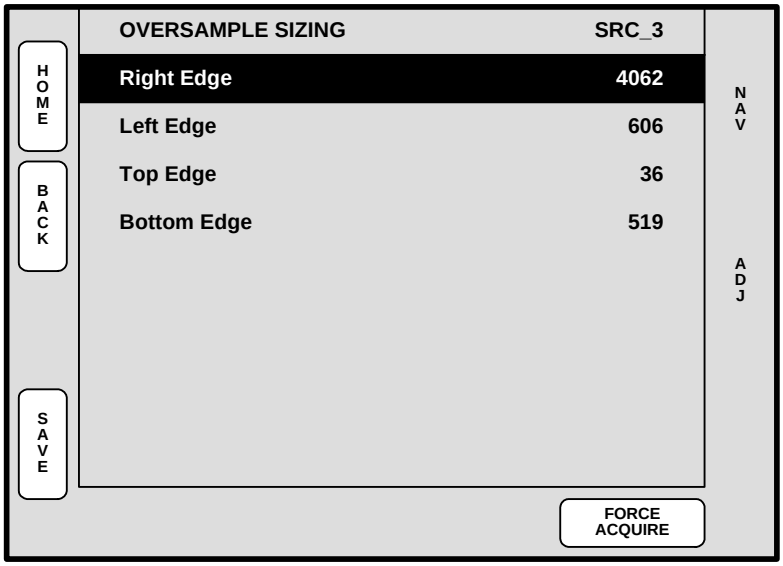


Figure 4-8. Oversample Sizing Menu (sample)

With **Oversample** enabled, four timing parameters are provided that enable you to adjust the image to properly fit the image's raster box.

- Select and adjust **Right Edge**, **Left Edge**, **Top Edge** or **Bottom Edge** as required, to fit the image precisely in its raster box.
- Press {**SAVE**} to save the selected input in the designated input file.
- Press {**FORCE ACQUIRE**} to force the system to perform the optimum image setup. Adjustments can be made on the **Oversample Sizing Menu**.

Note

If you switch to another input, the menu does not change. If there is no valid input video, the settings are not applicable.

Color Balance Menu

From the **Input Menu**, press {**COLOR BALANCE**} to display the **Color Balance Menu**, a sample of which is shown below.

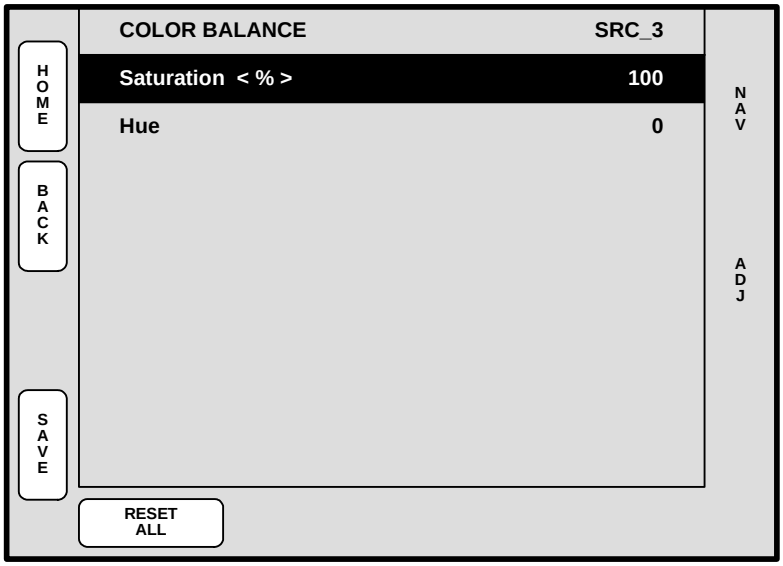


Figure 4-9. Color Balance Menu (sample)

The **Color Balance Menu** *changes* depending on the selected **Input Type**.

- When **RGB** sources are selected, the **Color Balance Menu** provides individual contrast and brightness adjustments for R, G and B. Adjustment range is -25% to +25%.
  - ~ Adjust **Red Contrast** and **Brightness** as required.
  - ~ Adjust **Green Contrast** and **Brightness** as required.
  - ~ Adjust **Blue Contrast** and **Brightness** as required.
- When **Composite**, **S-Video** or **YP_bP_r** is selected:
  - ~ Adjust **Saturation** as required. The adjustment range is 75% to 125%.
  - ~ Adjust **Hue** as required. The range (in degrees) is -90.0 to 90.0.

Note

When the **Input Type** is **YP_bP_r**, the **Hue** field reads **0** because Hue does not apply to this type of source.

- Press {**SAVE**} to save the selected input in the designated input file.
- Press {**RESET ALL**} to return all parameters to their default values.

Aspect Ratio Menu

From the **Input Menu**, press {**AR**} to display the **Aspect Ratio Menu**, a sample of which is shown below.

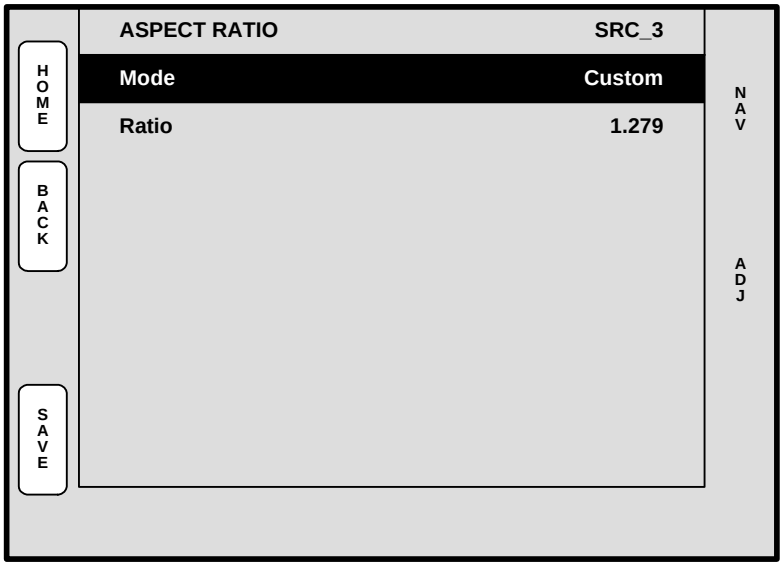


Figure 4-10. Aspect Ratio Menu (sample)

The **Aspect Ratio Menu** enables you to change the image's aspect ratio to pre-defined configurations, or enter a "custom" configuration if desired.

- **Mode** — select **16:9**, **5:4**, **4:3**, **3:2**, **1:1** or **Custom** aspect ratios.
- **Ratio** — when **Custom** is selected, the **Ratio** line appears. Enter a custom aspect ratio as desired. The field is hidden when pre-defined ratios are selected.
- Press {**SAVE**} to save the selected input in the designated input file.

Output Menu

The following topics are discussed in this section:

Output Menu Tree

The figure below illustrates the **Output Menu** tree:

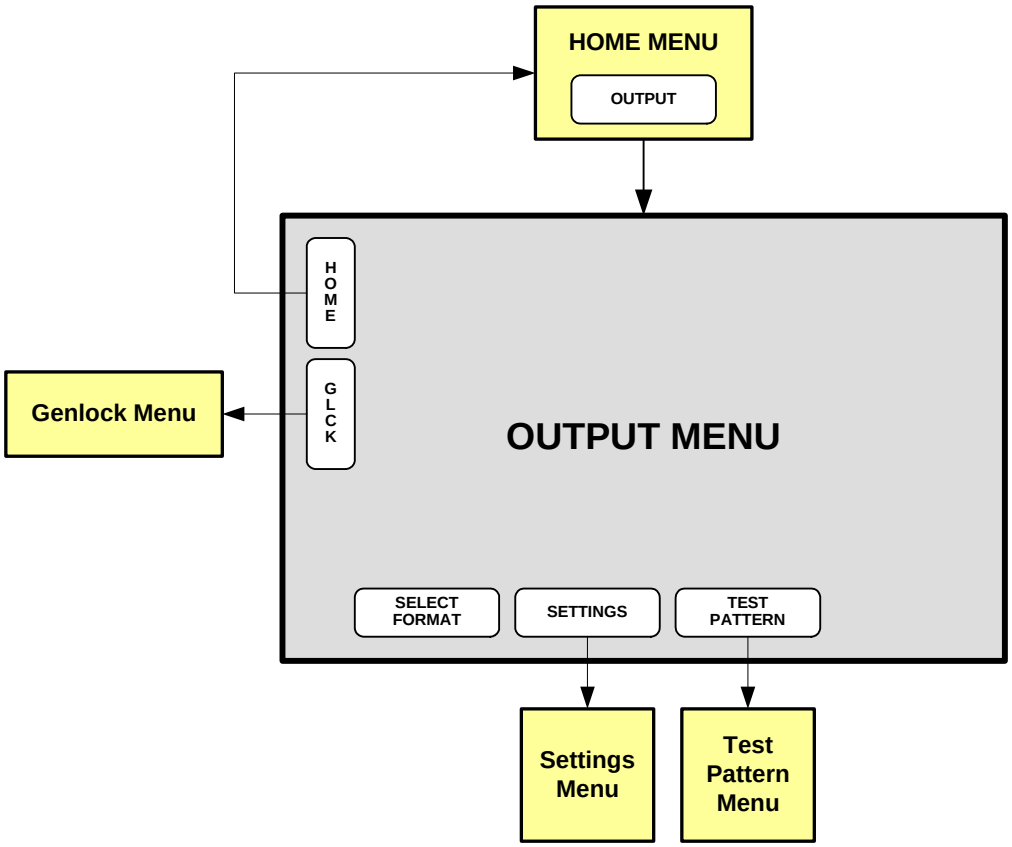


Figure 4-11. Output Menu Tree

All functions and sub menus are discussed in the following sections.

Output Menu Description

The figure below illustrates a sample **Output Menu**:

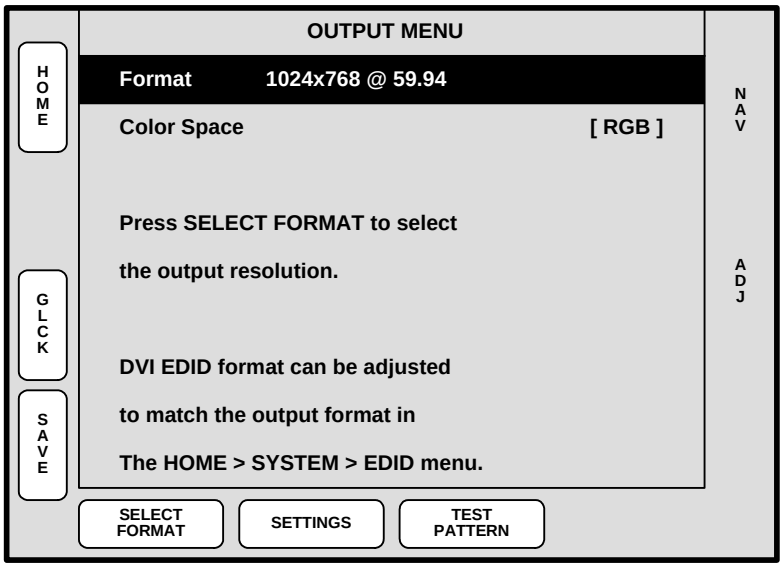


Figure 4-12. Output Menu (sample)

The **Output Menu** enables you to configure ScreenPRO-II's outputs, including the ability to display test patterns. To access the menu:

- Press {**OUTPUT**} on the **Home Menu**.

Note that brief "help" messages are displayed to assist you with format selection and EDID programming.

Output Menu Functions

The following **Output Menu** functions are provided:

- **Format** — sets the resolution and frame rate at which you want to drive your projector. To minimize synchronization problems, select a frame rate that is consistent with your input sources.

  ▲ **Example**: If you are using 59.94 NTSC video inputs, run the output at the same rate in order to reduce jutter artifacts.

  After selecting a format with the rotary knob, press {**SELECT FORMAT**} to "accept" the selection.

  In Appendix A, refer to the "**Input and Output Resolutions**" section for details on all available resolutions.

- **Color Space** — displays the output color space, which is fixed at RGB.
- Press {**GLCK**} to display the **Genlock Menu**. Refer to the "**Genlock Menu**" section on page 50 for details.
- Press {**SAVE**} to save all output settings in the output file.
- Press {**SELECT FORMAT**} to "accept" a selected output format. In Appendix A, refer to the "**Input and Output Resolutions**" section for details on all available resolutions.

- Press {**SETTINGS**} to display the **Settings Menu**. Refer to the "**Settings Menu**" section on page 49 for details.
- Press {**TEST PATTERN**} to display the **Test Pattern Menu**. Refer to the "**Test Pattern Menu**" section on page 51 for details.

Output Sub Menus

The following sub menus can be accessed from the **Output Menu**:

- **Settings Menu**
- **Genlock Menu**
- **Test Pattern Menu**

Settings Menu

From the **Output Menu**, press {**SETTINGS**} to display the **Settings Menu**, a sample of which is shown below.

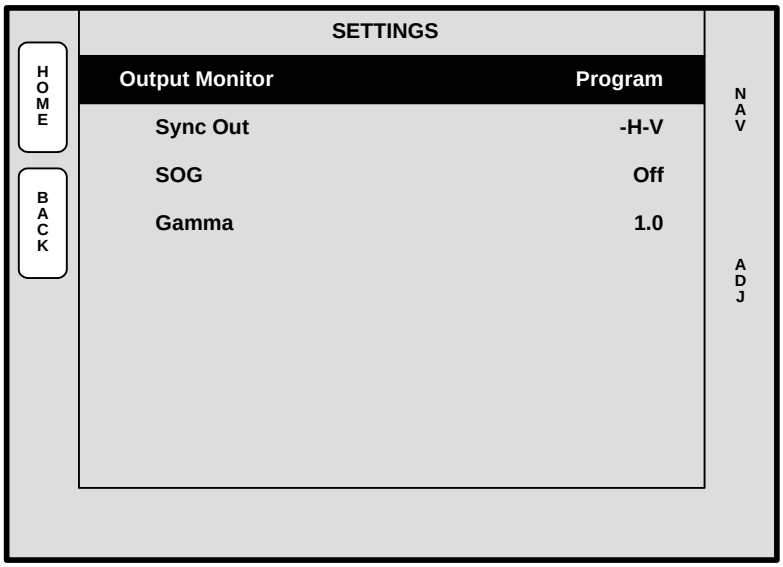


Figure 4-13. Settings Menu (sample)

The **Settings Menu** enables you to set sync parameters for the monitors and projector connected to the system.

- **Output Monitor** — selects the monitor(s) that are affected by the sync settings, either **All**, **Program** (affects both Program connections) or **Preview**.
- **Sync Out** — sets the desired sync value. Select **+H+V**, **-H-V**, **+H-V**, **-H+V** or **CSync**.
- **SOG** — turns the "sync on green" signal **Off** or **On**.
- **Gamma** — sets the output gamma to match that of your projector. The default value is 1.0.

Genlock Menu

From the **Output Menu**, press {**GLCK**} to display the **Genlock Menu**, a sample of which is shown below.

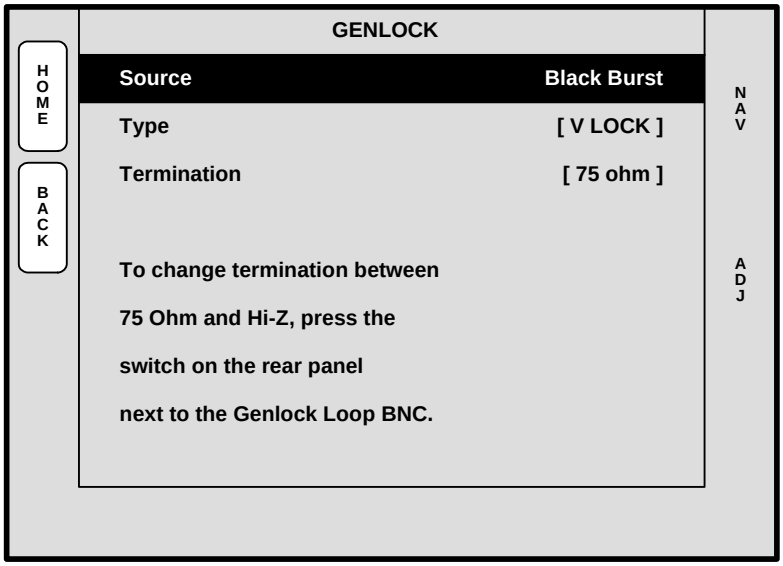


Figure 4-14. Genlock Menu (sample)

The **Genlock Menu** tells the ScreenPRO-II which type of analog genlock signal is connected to the **Genlock In** BNC connector.

- **Source** — sets the genlock source, either **Black Burst**, **CSync** or **None**.
- **Type** — displays the type of genlock provided:
  - ~ When Source = **None**, Type = **[Free-Run]**
  - ~ When Source = **Black Burst**, Type = **[V Lock]**
  - ~ When Source = **CSync**, Type = **[V Lock]**
- **Termination** — displays the current setting of the rear-panel **Termination Switch** (either **75 ohm** or **Hi-Z**), along with a “help” message. Please note:
  - ~ ScreenPRO-II units are shipped from the factory with the **Termination Switch** in the “terminated” (75 Ohms) position. If ScreenPRO-II is the last device in a reference chain, no adjustment to the switch is required.
  - ~ If you are looping reference video to another chassis in your system, set the switch to the “**high impedance**” (Hi-Z) setting.

Please note:

- PAL or NTSC black burst or composite sync signals are recommended.
- Genlock is highly recommended in configurations that utilize video camera sources.

Test Pattern Menu

From the **Output Menu**, press {**TEST PATTERN**} to display the **Test Pattern Menu**, a sample of which is shown below.

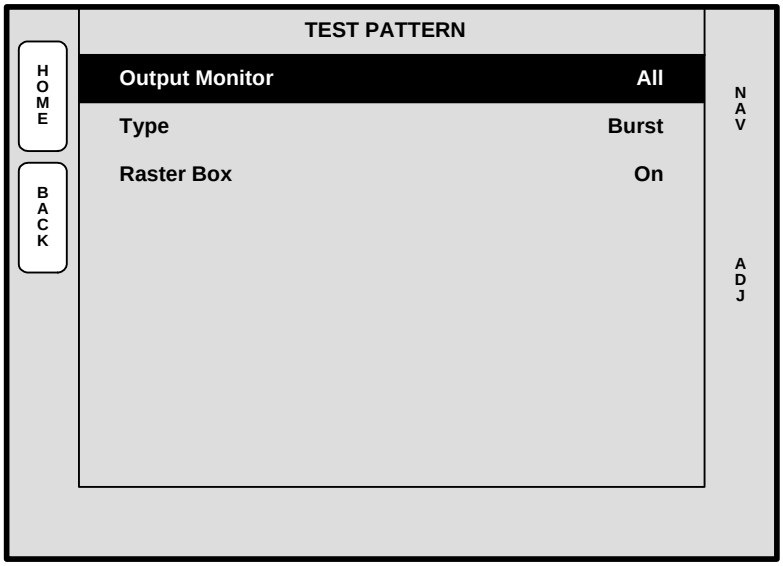


Figure 4-15. Test Pattern Menu (sample)

The **Test Pattern Menu** enables you to display a variety of test patterns, for system and projector alignment.

- **Output Monitor** — selects the monitor(s) that are affected by the test pattern settings, either **All**, **Program** or **Preview**.
- **Type** — sets the test pattern. Choose between:
  - ~ **Off**
  - ~ **H Ramp**, **V Ramp**
  - ~ **100% Color Bars**, **75% Color Bars**
  - ~ **16x16 Grid**, **32x32 Grid**
  - ~ **Burst**
  - ~ **50% Gray**, **Gray Steps 1, Gray Steps 2**
  - ~ **White**, **Black**, **Red**, **Green**, **Blue**

Note

When the test pattern is enabled, it assumes the highest visual priority and covers all effects beneath. When disabled, the effects once again re-appear.

- **Raster Box** — displays a raster box defined by the exact outer edges of the selected output resolution. For example, if the output is set to 1024 x 768, the raster box will encapsulate that exact format. Please note:
  - ~ The **Burst** test pattern is the only pattern that is smaller than the selected output resolution. When the **Raster Box** is enabled, the Burst pattern will appear within its boundaries.
  - ~ The **Raster Box** can be enabled when the test pattern is **Off**.

System Menu

The following topics are discussed in this section:

System Menu Tree

The figure below illustrates the **System Menu** tree:

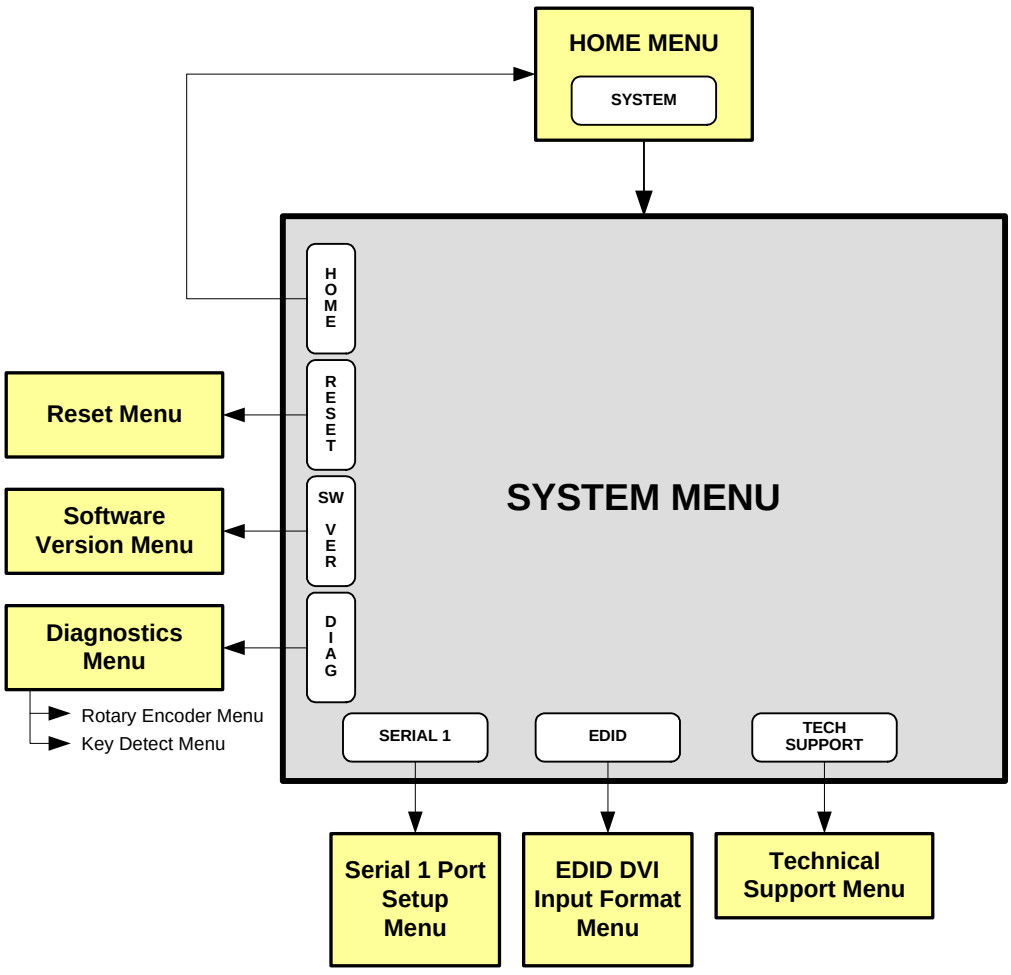


Figure 4-16. System Menu Tree

All functions and sub menus are discussed in the following sections.

System Menu Description

The figure below illustrates a sample **System Menu**:

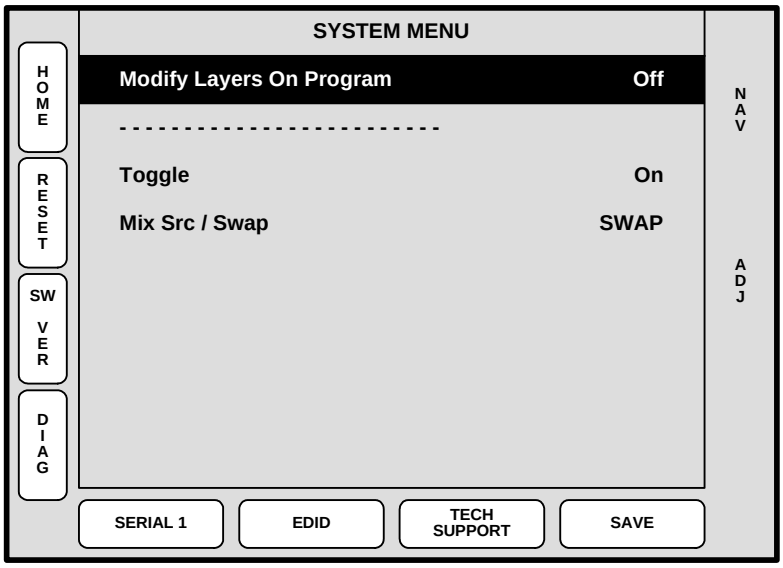


Figure 4-17. System Menu (sample)

The **System Menu** enables you to configure ScreenPRO-II using various functions and sub menus, and set the operation mode for the **Split Layer** button. To access the menu:

- Press {**SYSTEM**} on the **Home Menu**.

System Menu Functions

The following **System Menu** functions are provided:

- **Modify Layers On Program** — when enabled, you can change PIPs and Keys directly on Program, without first setting up your "look" on Preview. When disabled, Preview must be used to set up the next look. In Chapter 6, refer to the "**Modifying Layers On Program**" section on page 136 for details.
- **Toggle** — enables or disables the **Toggle Mode**.

Important

There are two independent toggle modes — one for the backgrounds and one for Mix Mode. The **Toggle** line indicates the mode's status, depending on which layer button is selected.

  - ~ When a **BG** button is selected, this function applies to the **Background Toggle Mode**. When the mode is enabled, the two backgrounds toggle with each transition. In Chapter 6, refer to the "**Background Transitions**" section on page 121 for details.
  - ~ When a **Layer** button is selected, this function applies to the **Mix Mode**, which is active only when the **Split Layer** button is off. When toggle is enabled, sources toggle back and forth with each transition, in both **Mix Source** and **Swap** modes. In Chapter 6, refer to the "**Understanding Split and Mix Modes**" section on page 122 for details.

- **Mix Src / Swap** — allows you to switch between **Mix Source** and **Swap** modes:
  - ~ With **Mix Source** enabled, both of the mixer's PIPs are perfectly co-located. Layer **A** and Layer **B** are exactly the same size — in exactly the same position — with exactly the same border and shadow.
  - ~ With **Swap** enabled, both of the mixer's PIPs can be located independently, with different positions, sizes, borders and shadows. Layer **A** and Layer **B** can be positioned and sized as desired — but only one can be on screen at a time.

  In Chapter 6, refer to the "**Understanding Split and Mix Modes**" section on page 122 for details on Split and Mix modes.

Important

The **Mix Src / Swap** function only appears on the **System Menu** when the **Split Layer** button is off. When the **Split Layer** button is on, the line is hidden.

- Press {**RESET**} to display the **Reset Menu**. Refer to the "**Reset Menu**" section on page 58 for details.
- Press {**SW VER**} to display the **Software Version Menu**. Refer to the "**Software Version Menu**" section on page 59 for details.
- Press {**DIAG**} to display the **Diagnostics Setup Menu**. Refer to the "**Diagnostics Setup Menu**" section on page 55 for details.
- Press {**SERIAL 1**} to display the **Serial 1 Port Setup Menu**. Refer to the "**Serial 1 Port Setup Menu**" section on page 60 for details.
- Press {**EDID**} to display the **EDID DVI Input Format Menu**. Refer to the "**EDID DVI Input Format Menu**" section on page 61 for details.
- Press {**TECH SUPPORT**} to display the **Technical Support Menu**. Refer to the "**Technical Support Menu**" section on page 62 for details.
- Press {**SAVE**} to save all settings in the system file.

System Sub Menus

The following sub menus can be accessed from the **System Menu**:

- **Diagnostics Setup Menu**
- **Reset Menu**
- **Software Version Menu**
- **Serial 1 Port Setup Menu**
- **EDID DVI Input Format Menu**
- **Technical Support Menu**

Diagnostics Setup Menu

From the **System Menu**, press {**DIAG**} to display the **Diagnostics Setup Menu**, a sample of which is shown below.

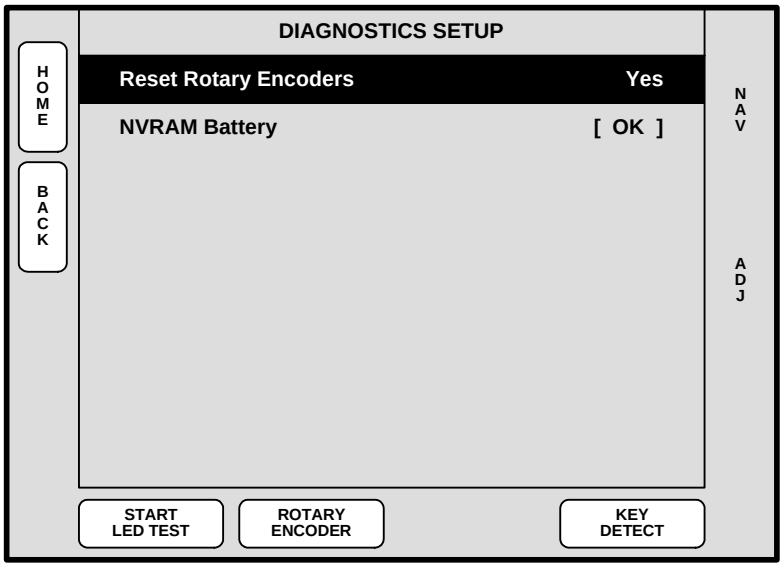


Figure 4-18. Diagnostics Setup Menu (sample)

The **Diagnostics Setup Menu** enables you to perform a variety of diagnostic tests on the ScreenPRO-II. The following functions are provided:

- **Reset Rotary Encoders** — (Yes/No) determines whether or not you wish to reset the rotary encoder values when you exit the **Rotary Encoder Menu**.
- **NVRAM Battery** — displays the condition of the system's NVRAM battery.
- Press {**START LED TEST**} to begin testing all LEDs. The test takes several minutes to complete. Press {**EXIT**} at the conclusion of the test.
- Press {**ROTARY ENCODER**} to display the **Rotary Encoder Menu**. Refer to the "**Rotary Encoder Menu**" section on page 56 for details.
- Press {**KEY DETECT**} to display the **Key Detect Menu**. Refer to the "**Key Detect Menu**" section on page 57 for details.

Rotary Encoder Menu

From the **Diagnostics Setup Menu**, press {**ROTARY ENCODER**} to display the **Rotary Encoder Menu**, a sample of which is shown below.

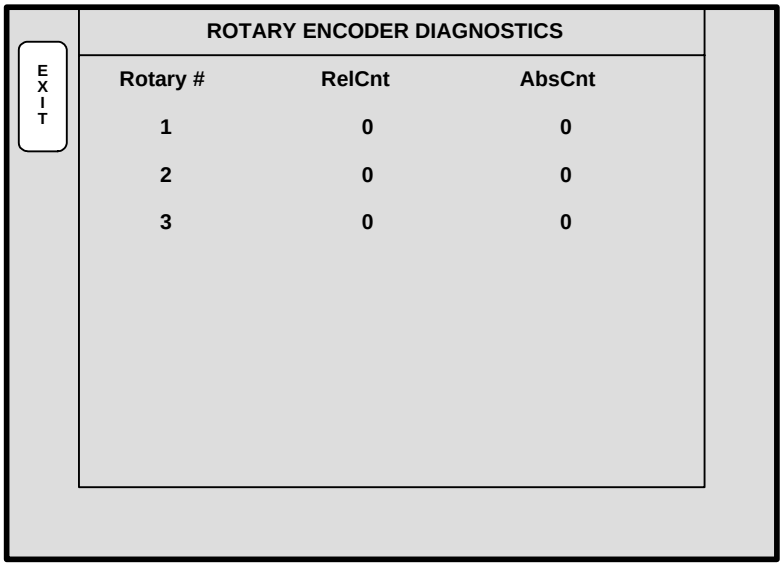


Figure 4-19. Rotary Encoder Menu (sample)

The **Rotary Encoder Menu** enables you to test the functionality of each rotary encoder, displaying both relative and absolute counts for each.

- Press {**EXIT**} to return to the **Diagnostics Setup Menu**.

Key Detect Menu

From the **Diagnostics Setup Menu**, press {**KEY DETECT**} to display the **Key Detect Menu**, a sample of which is shown below.

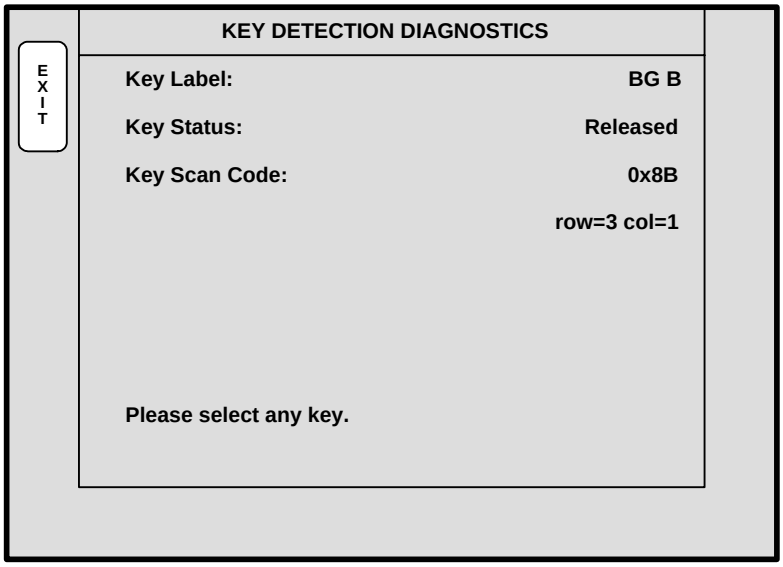


Figure 4-20. Key Detect Menu (sample)

The **Key Detect Menu** shows you the key that is pressed, its status (pressed or released) its scan code and its location in the button matrix.

- Press {**EXIT**} to return to the **Diagnostics Setup Menu**.

Reset Menu

From the **System Menu**, press {**RESET**} to display the **Reset Menu**:

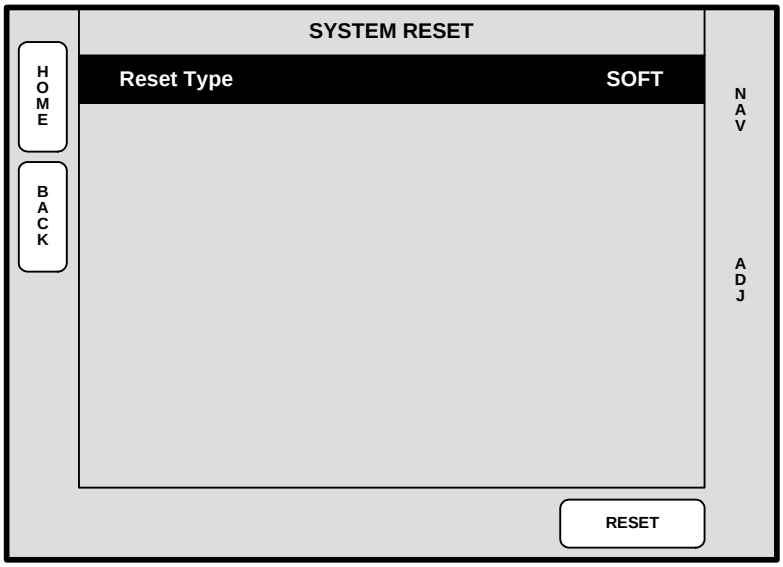


Figure 4-21. Reset Menu

The **Reset Menu** enables you to perform various system reset functions. The following functions are provided:

- **Reset Type** — selects the specific type of reset that you wish to perform. Choose between **SOFT** or **FACTORY**. Note that selecting **SOFT** will not delete any user defined configurations, while **FACTORY** deletes all user configurations.
- Press {**RESET**} to perform the selected reset operation. When the confirmation screen appears:
  - ~ Press {**YES**} to start the reset procedure. An "**In Progress**" message will be displayed.
  - ~ Press {**NO**} to cancel the procedure.

Note

A factory reset will erase any "frame grab" images that have been stored in flash memory.

Software Version Menu

From the **System Menu**, press {**SW VER**} to display the **Software Version Menu**, a sample of which is shown below.

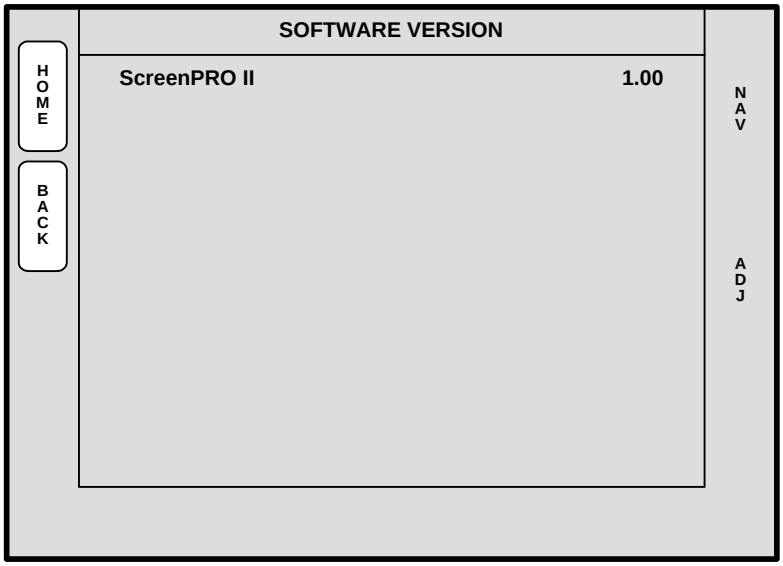


Figure 4-22. Software Version Menu (sample)

The **Software Version Menu** enables you to display and verify the system's software version. The following functions are provided:

- **ScreenPRO-II** — displays the system's current software version.

Serial 1 Port Setup Menu

From the **System Menu**, press {**SERIAL 1**} to display the **Serial 1 Port Setup Menu**, a sample of which is shown below.

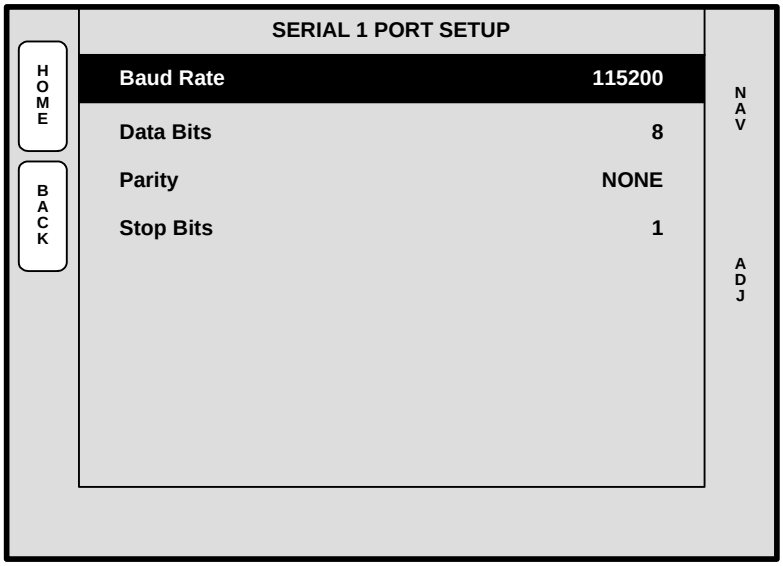


Figure 4-23. Serial 1 Port Setup Menu (sample)

The **Serial 1 Port Setup Menu** enables you to set the ScreenPRO-II's RS-232 communications parameters for serial port 1.

- **Baud Rate** — sets the desired baud rate (**2400**, **4800**, **9600**, **14400**, **19200**, **28800**, **38400**, **57600**, **115200**).
- **Data Bits** — sets the desired number of data bits (**5**, **6**, **7** or **8**).
- **Parity** — sets the desired parity (**None**, **Even**, or **Odd**).
- **Stop Bits** — sets the desired number of stop bits (**1**, **1.5** or **2**).

EDID DVI Input Format Menu

From the **System Menu**, press {**EDID**} to display the **EDID DVI Input Format Menu**, a sample of which is shown below.

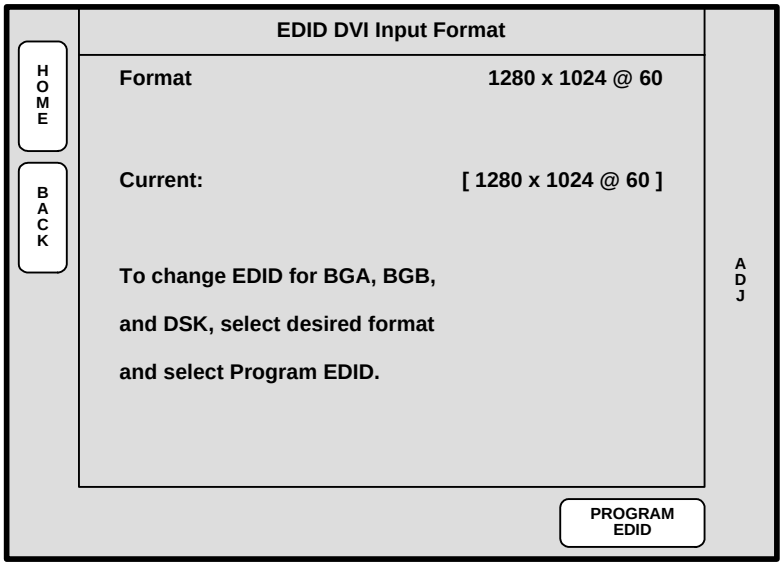


Figure 4-24. EDID DVI Input Format Menu (sample)

The **EDID DVI Input Format Menu** enables you to update the system's preferred EDID resolution for the two DVI inputs (**BG A** and **BG/DSK B**).

Note

This menu is designed for advanced users only. Do not program the EDID unless it is necessary.

Extended Display Identification Data (EDID) is a VESA standard data format that contains information about a display device and its resolution capabilities, both preferred and allowed. The ScreenPRO-II EDID file is stored in non-volatile memory. This file is read by an external computer's DVI graphic card when the DVI output is connected to the ScreenPRO-II's **BG A** or **BG/DSK B** input connectors during boot-up.

- **Format** — select the preferred DVI video format with which you want to program the ScreenPRO-II's EDID non-volatile memory
- **Current** — displays the current EDID video format that resides in memory.
- Press {**PROGRAM EDID**} to program EDID with the new selected format. A warning message will be shown.

Note

Once EDID programming is complete on ScreenPRO-II, you will be prompted to power down the external computer, power it back on again, and then ensure that the computer's format is set to match.

Technical Support Menu

From the **System Menu**, press {**TECH SUPPORT**} to display the **Technical Support Menu**:

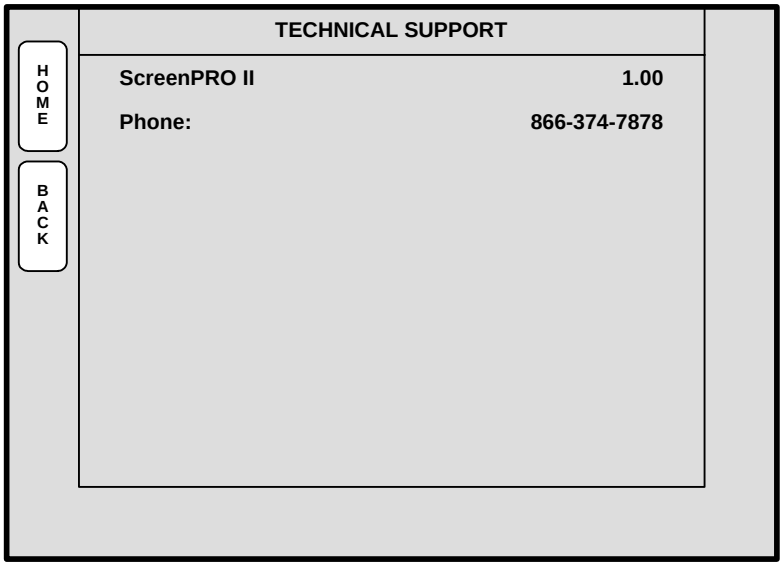


Figure 4-25. Technical Support Menu (sample)

The **Technical Support Menu** lists the current version of ScreenPRO-II software, and displays the Technical Support phone number.

Effects Menu

The figure below illustrates a sample **Effects Menu**:

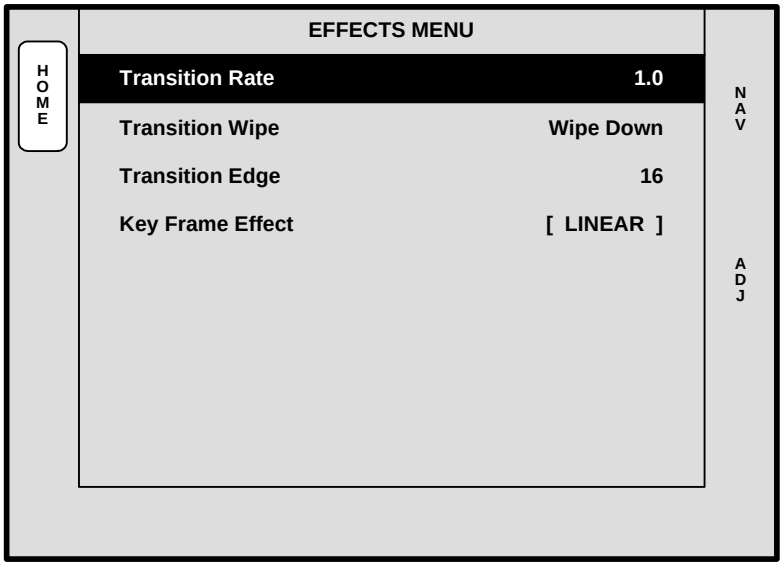


Figure 4-26. Effects Menu (sample)

The **Effects Menu** allows you to modify and manage effects, including the ability to set transition rates and wipe patterns. The following functions are provided:

- **Transition Rate** — sets the auto-transition rate that is used when the **WIPE** or **MIX** button is pressed. The transition value is in 0.1 second increments.
- **Transition Wipe** — sets the type of wipe that is used when the **WIPE** button is pressed. A variety of wipe patterns are provided.
- **Transition Edge** — sets the width of wipe edge (in pixels) for the selected wipe pattern.
- **Key Frame Effect** — displays the type of motion used for **Move** effects. The motion type is currently fixed as **LINEAR**.

Note

ScreenPRO-II can perform wipes in conjunction with both PIPs and Keys.

Status Menu

The **Status Menu** provides basic software version information, as shown in the sample menu below:

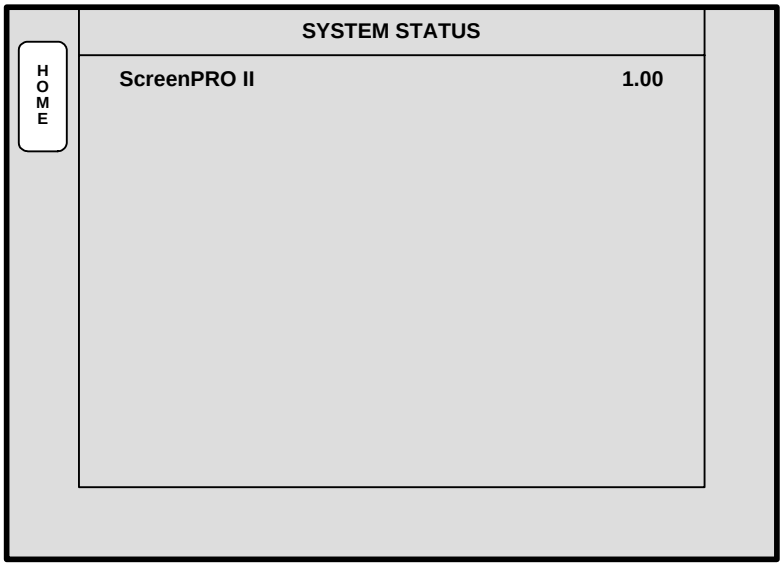


Figure 4-27. Status Menu (sample)

The following status information is provided:

- **ScreenPRO-II** — displays the system's current software version.

Display Settings Menu

The **Display Settings Menu** enables you to adjust the displays brightness and contrast, as well as calibrate the display. A sample menu is shown below:

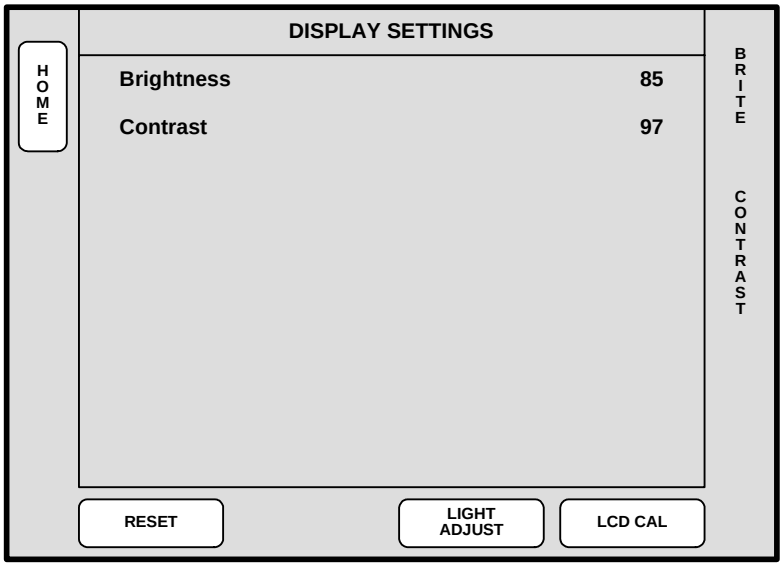


Figure 4-28. Display Settings Menu (sample)

The following display adjustments are provided:

- **Brightness** — use the top rotary knob to adjust the display's brightness.
- **Contrast** — use the middle rotary knob to adjust the display's contrast.
- Press {**RESET**} to return the display's settings to factory default values.
- Press {**LIGHT ADJUST**} to adjust the backlight of the front panel buttons. The **Keypad Backlight Menu** appears. Refer to the "**Keypad Backlight Menu**" section on page 66 for details.
- Press {**LCD CAL**} to calibrate the touch screen display to your finger, or to a stylus. Once pressed, you will be prompted to touch the center of a target three times. At the conclusion of the procedure, the display is calibrated and the system returns to the **Home Menu**.

Keypad Backlight Menu

From the **Display Settings Menu**, press {**LIGHT ADJUST**} to display the **Keypad Backlight Menu**, which enables you to adjust the backlight of all “dim” front panel buttons. A sample menu is shown below:

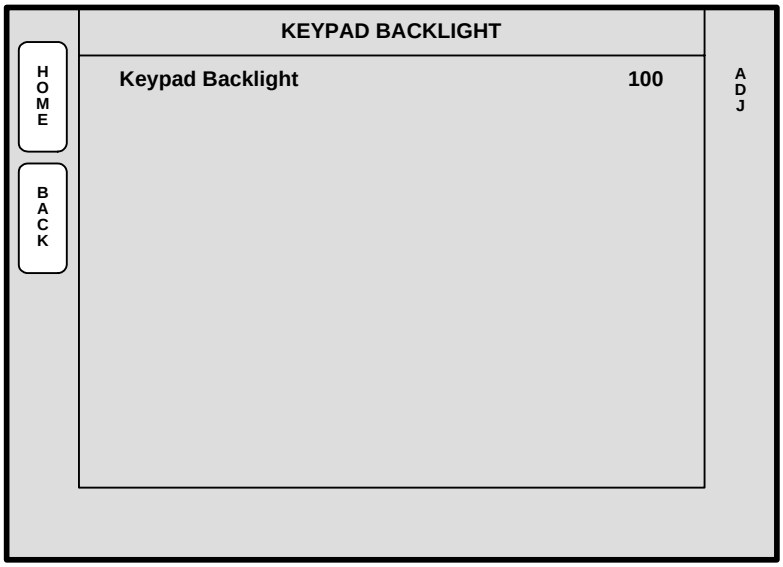


Figure 4-29. Keypad Backlight Menu (sample)

The following adjustments are provided:

- **Keypad Backlight** — use the top rotary knob to adjust the backlight of all “dim” (un-selected) front panel buttons. This adjustment will assist overall button visibility in dark control room or stage settings.

PIP Adjustment Menu

The following topics are discussed in this section:

PIP Adjustment Menu Tree

The figure below illustrates the **PIP Adjustment Menu** tree:

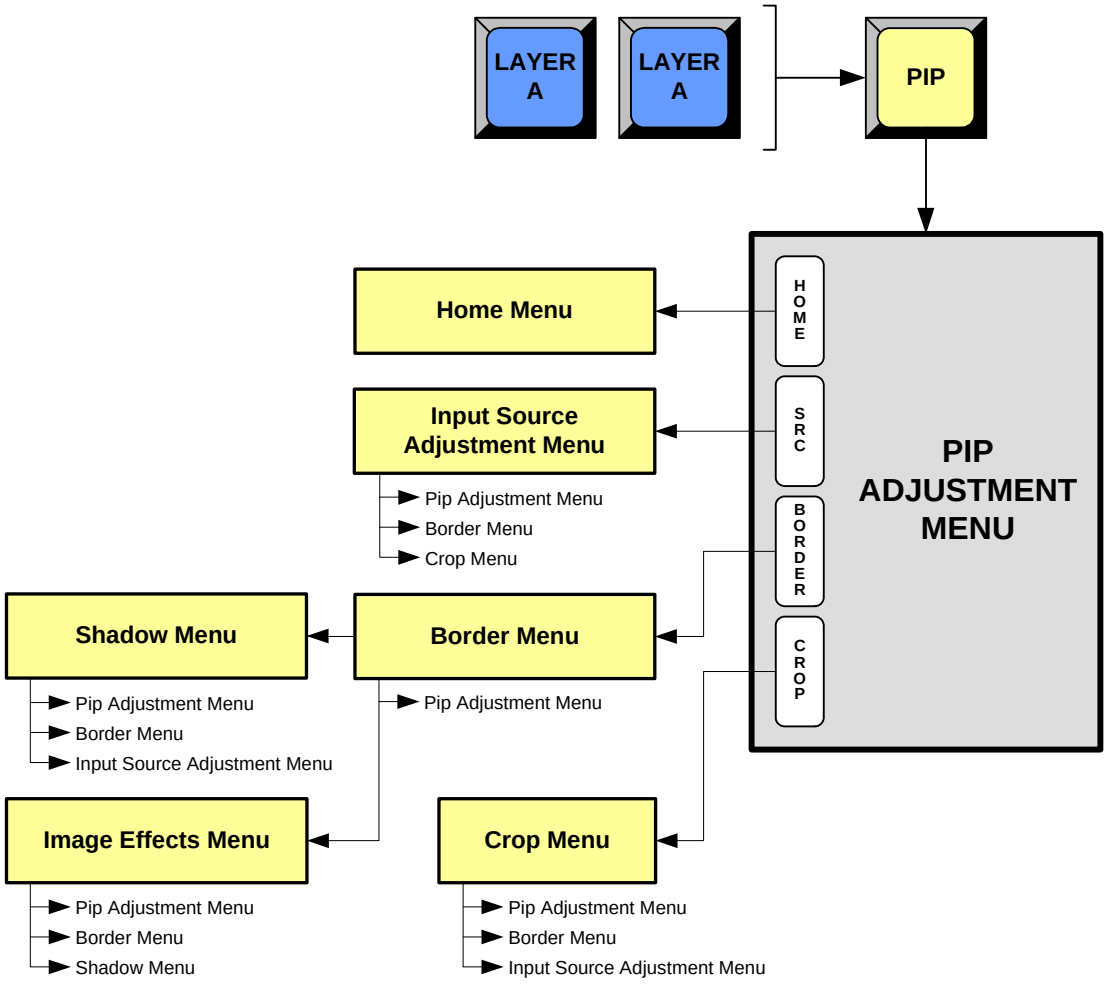


Figure 4-30. PIP Adjustment Menu Tree

All functions and sub menus are discussed in the following sections.

PIP Adjustment Menu Description

The figure below illustrates a sample **PIP Adjustment Menu**:

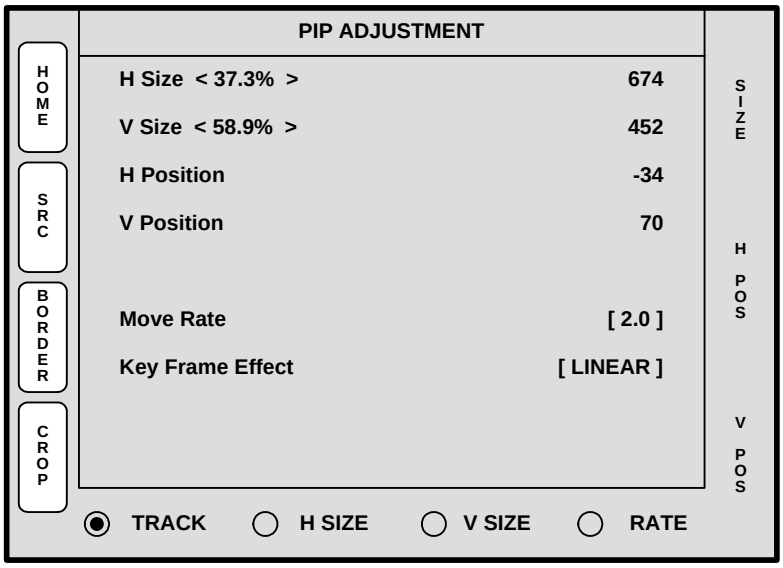


Figure 4-31. PIP Adjustment Menu (sample)

The **PIP Adjustment Menu** provides tools that enable you to adjust the "active" PIP. To access the menu:

- Select a blue "layer" button in the **Layer Control Section**.
- Press the **PIP** button in the **Layer Function Section**.

The menu will immediately appear on the Touch Screen display.

Note

If you press **PIP** and a layer button is not selected, the system displays a brief prompt: "**LAYER A or LAYER B must be selected**."

PIP Adjustment Menu Functions

The following **PIP Adjustment Menu** functions are provided:

- **H Size** — adjusts the PIP's horizontal size using the **SIZE** knob. The "**%**" value indicates the PIP's size as a percentage of the screen's horizontal resolution. The numeric value is the PIP's width in pixels. Refer to the "**PIP Functions**" section on page 69 for more details.
- **V Size** — adjusts the PIP's vertical size using the **SIZE** knob. The "**%**" value indicates the PIP's size as a percentage of the screen's vertical resolution. The numeric value is the PIP's height in pixels. Refer to the "**PIP Functions**" section on page 69 for more details.
- **H Position** — indicates the PIP's position, relative to the horizontal center of the screen (**00**), as measured from the exact center of the PIP. Thus, the value **-34** is 34 pixels to the left of center. Use the **H Pos** knob to move the image left and right along the X-Axis.

- **V Position** — indicates the PIP's position, relative to the vertical center of the screen (**00**), as measured from the exact center of the PIP. Thus, the value **70** is 70 pixels above center. Use the **V Pos** knob to move the image up and down along the Y-Axis.
- **Move Rate** — adjusts the rate (in 0.1 second increments) for programmed PIP movement, from keyframe to keyframe. To adjust, press the **RATE** radio button and use the **SIZE** rotary knob.
- **Key Frame Effect** — indicates the "motion type" that is used to move the PIP from point to point.
  - ~ If no move is programmed, the display reads **[N/A]**.
  - ~ If a move is programmed, the motion type is fixed as **[Linear]**.
- Press {**SRC**} to display the **Input Source Adjustment Menu**. Refer to the "**Input Source Adjustment Menu**" section on page 81 for details.
- Press {**BORDER**} to display the **Border Menu**. Refer to the "**Border Menu**" section on page 70 for details.
- Press {**CROP**} to display the **Crop Menu**. Refer to the "**Crop Menu**" section on page 71 for details.

PIP Functions

At the bottom of the **PIP Adjustment Menu**, three radio buttons enable you to modify the various PIP adjustment functions.

- Press {**TRACK**} to lock **H Size** and **V Size** together. Regardless of the PIP's current aspect ratio, its size will adjust proportionally when the **SIZE** knob is used.
- Press {**H SIZE**} to adjust only the horizontal size, leaving the vertical size alone. In this way, you can stretch the PIP horizontally.
- Press {**V SIZE**} to adjust only the vertical size, leaving the horizontal size as is. In this way, you can stretch the PIP vertically.
- Press {**RATE**} to adjust the move rate of the PIP, from keyframe to keyframe.

Note

To return the PIP to its default size and aspect ratio, press the **Reset** button in the **Mixer Functions Section**. No other parameters (such as **Shadow** or **Border**) will be affected.

PIP Adjustment Sub Menus

The following sub menus can be accessed via the **PIP Adjustment Menu**:

- **Border Menu**
- **Crop Menu**
- **Shadow Menu**
- **Image Effects Menu**
- **Input Source Adjustment Menu**

Border Menu

From the **PIP Adjustment Menu**, the **Input Source Adjustment Menu**, the **Shadow Menu** or the **Image Effects Menu**, press {**BORDER**} to display the **Border Menu**, a sample of which is shown below.

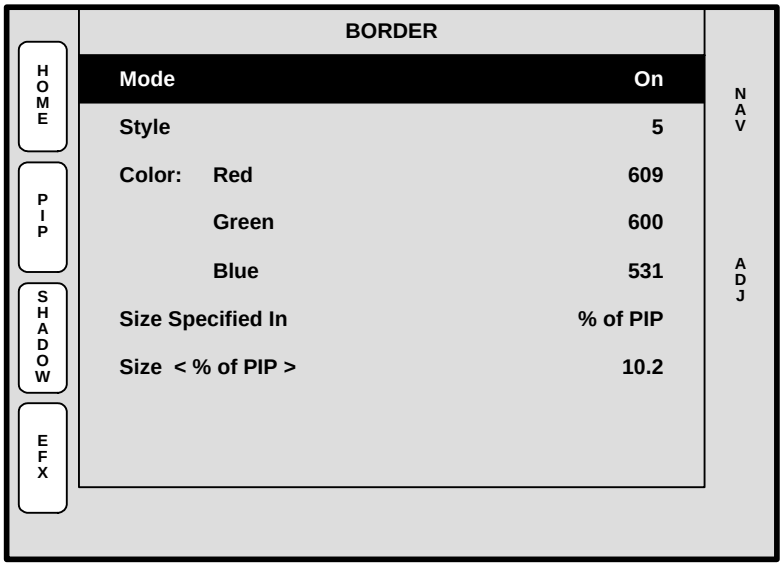


Figure 4-32. Border Menu (sample)

The **Border Menu** enables you to add a border to a PIP, and adjust its shape, style and color as desired. The following functions are provided:

- **Mode** — enables or disables the PIP's border.
- **Style** — select one of many border styles, including single color and dual color with various combinations of soft edge.
- **Color** — enables you to individually adjust the border's **Red**, **Green** and **Blue** attributes as desired.
- **Size Specified In** — select the method by which you want to specify the border size, either as a percentage of the PIP size or in pixels.
- **Size** — adjust's the border size, using the method selected on the "**Size Specified In**" line. Note that if "**% of PIP**" is selected and you switch to "**Pixels**," the system auto converts one display method to the other.
- Press {**PIP**} to return to the **PIP Adjustment Menu**. Refer to the "**PIP Adjustment Menu Functions**" section on page 68 for details.
- Press {**SHADOW**} to display the **Shadow Menu**. Refer to the "**Shadow Menu**" section on page 72 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 73 for details.

Note

To remove any border effects from the PIP, press the **RESET** button in the **Layer Functions Section**. No other parameters (such as **Size** or **Crop**) will be affected.

Crop Menu

From the **PIP Adjustment Menu**, the **Input Source Adjustment Menu**, the **Key Menu**, or the **Key Adjustment Menu**, press {**CROP**} to display the **Crop Menu**.

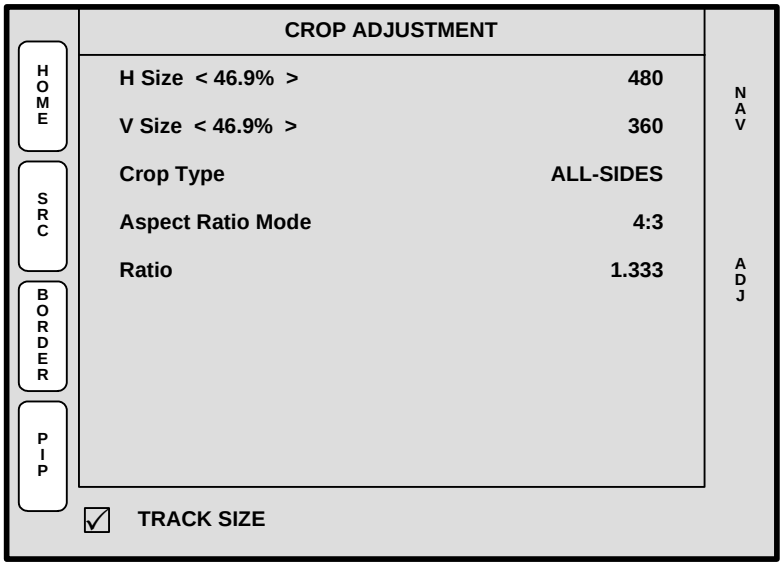


Figure 4-33. Crop Menu (sample)

The **Crop Menu** lets you crop the sides of a PIP or a Key — individually or proportionally, without affecting the size of the source image. The following functions are provided:

- **H Size** — adjusts the PIP or Key's horizontal size. The "**%**" value indicates size as a percentage of the screen's horizontal resolution. The numeric value is the width in pixels. If {**TRACK SIZE**} is checked, **H** and **V** crop proportionally.
- **V Size** — adjusts the PIP or Key's vertical size. The "**%**" value indicates size as a percentage of the screen's vertical resolution. The numeric value is the height in pixels. If {**TRACK SIZE**} is checked, **H** and **V** crop proportionally.
- **Crop Type** — selects the current type of crop function, either **ALL-SIDES**, **TOP-LEFT**, or **BOTTOM-RIGHT**.
- **Aspect Ratio Mode** — enables you to select one of several standard aspect ratios: **16:9**, **5:4**, **4:3**, **3:2** and **1:1**.
- **Ratio** — displays the corresponding ratio based on the selected **Aspect Ratio Mode**: **1.777**, **1.25**, **1.333**, **1.500**, **1.000**, respectively.

Note

If you select Ratio and make adjustments away from the default setting, the **Aspect Ratio Mode** automatically changes to **Custom**.

- Enable the {**TRACK SIZE**} function to proportionally crop **H Size** and **V Size**. Disable the function for individual parameter adjustments.
- Press {**SRC**} to display the **Input Source Adjustment Menu**. Refer to the "**Input Source Adjustment Menu**" section on page 81 for details.
- Press {**BORDER**} to display the **Border Menu**. Refer to the "**Border Menu**" section on page 70 for details.

- Press {**PIP**} to return to the **PIP Adjustment Menu**. Refer to the "**PIP Adjustment Menu Functions**" section on page 68 for details.

Note

To remove any crop effects from the PIP or Key, press the **RESET** button in the **Layer Functions Section**. No other parameters will be affected.

Shadow Menu

From the **Border Menu** or the **Image Effects Menu**, press {**SHADOW**} to display the **Shadow Menu**, a sample of which is shown below.

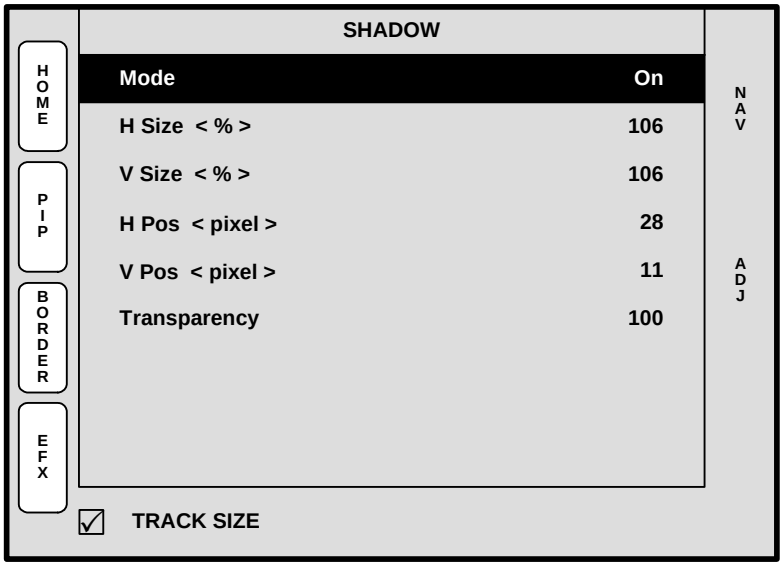


Figure 4-34. Shadow Menu (sample)

The **Shadow Menu** enables you place a shadow behind a PIP, and adjust its size, position and transparency. The following functions are provided:

- **Mode** — enables or disables the PIP's shadow.
- **H Size < % >** — adjusts the shadow's horizontal size as a percentage of the PIP's size. If {**TRACK SIZE**} is checked, **H** and **V** size adjust proportionally.
- **V Size < % >** — adjusts the shadow's vertical size as a percentage of the PIP's size. If {**TRACK SIZE**} is checked, **H** and **V** size adjust proportionally.
- **H Pos < pixel >** — adjusts the shadow's horizontal position in pixels, as an offset from the PIP's horizontal position.
- **V Pos < pixel >** — adjusts the shadow's vertical position in pixels, as an offset from the PIP's vertical position.
- **Transparency** — adjusts the shadow's transparency, from **0** (full transparency) to **1024** (opaque).
- Enable the {**TRACK SIZE**} function to adjust the shadow's **H Size** and **V Size** proportionally.
- Press {**PIP**} to return to the **PIP Adjustment Menu**. Refer to the "**PIP Adjustment Menu Functions**" section on page 68 for details.

- Press {**BORDER**} to display the **Border Menu**. Refer to the "**Border Menu**" section on page 70 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 73 for details.

Note

To remove any shadow effects from the PIP or Key, press the **RESET** button in the **Layer Functions Section**. No other parameters will be affected.

Image Effects Menu

From the **Border Menu** and **Matte Menu**, press {**EFX**} to display the **Image Effects Menu**:

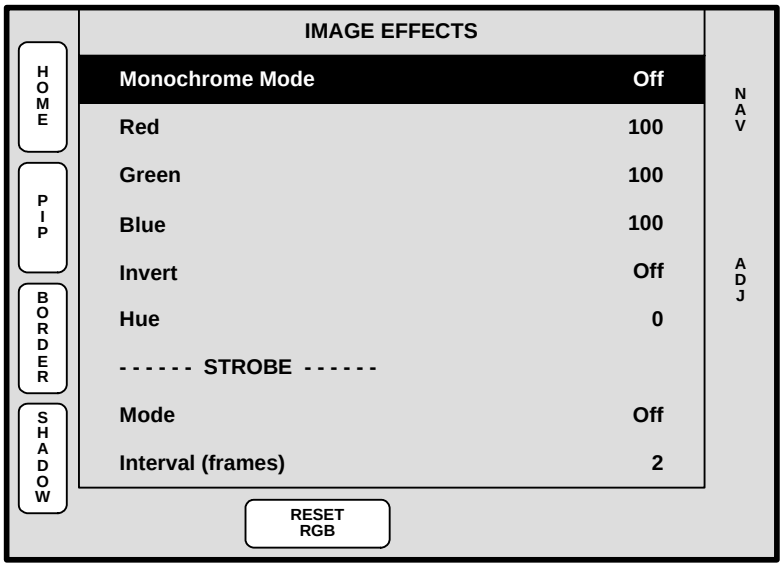


Figure 4-35. Image Effects Menu (sample)

The **Image Effects Menu** enables you to creatively manipulate the selected PIP or Key:

- **Monochrome Mode** — turns chroma on or off. When the mode is enabled, the image is completely monochrome.
- **Red** — adjusts the image's red saturation. Adjustment range is **0** to **100**.
- **Green** — adjusts the image's green saturation. Adjustment range is **0** to **100**.
- **Blue** — adjusts the image's blue saturation. Adjustment range is **0** to **100**.

Note

The **Red**, **Green** and **Blue** adjustments function whether or not **Monochrome Mode** is enabled.

Tip

For a sepia tone effect, turn **Monochrome Mode** on, and set **Red** to 100, **Green** to 65 and **Blue** to 10.

- **Invert** — enables you to invert all image colors.

- **Hue** — adjusts the image's hue, by rotating color vectors throughout the 360 degree color spectrum.
- **Mode** — In the "**Strobe**" section, enables or disables the strobe mode which when enabled, acts as a programmable freeze.
- **Interval (frames)** — In the "**Strobe**" section, sets the freeze interval.
- Press {**RESET RGB**} to reset all image colors to their default values.
- Press {**PIP**} to return to the **PIP Adjustment Menu**. Refer to the "**PIP Adjustment Menu Functions**" section on page 68 for details.
- Press {**BORDER**} to display the **Border Menu**. Refer to the "**Border Menu**" section on page 70 for details.
- Press {**SHADOW**} to display the **Shadow Menu**. Refer to the "**Shadow Menu**" section on page 72 for details.

Note

To remove any image effects from the PIP or Key, press the **RESET** button in the **Layer Functions Section**. No other parameters will be affected.

Key Menu

The following topics are discussed in this section:

Key Menu Tree

The figure below illustrates the **Key Menu** tree:

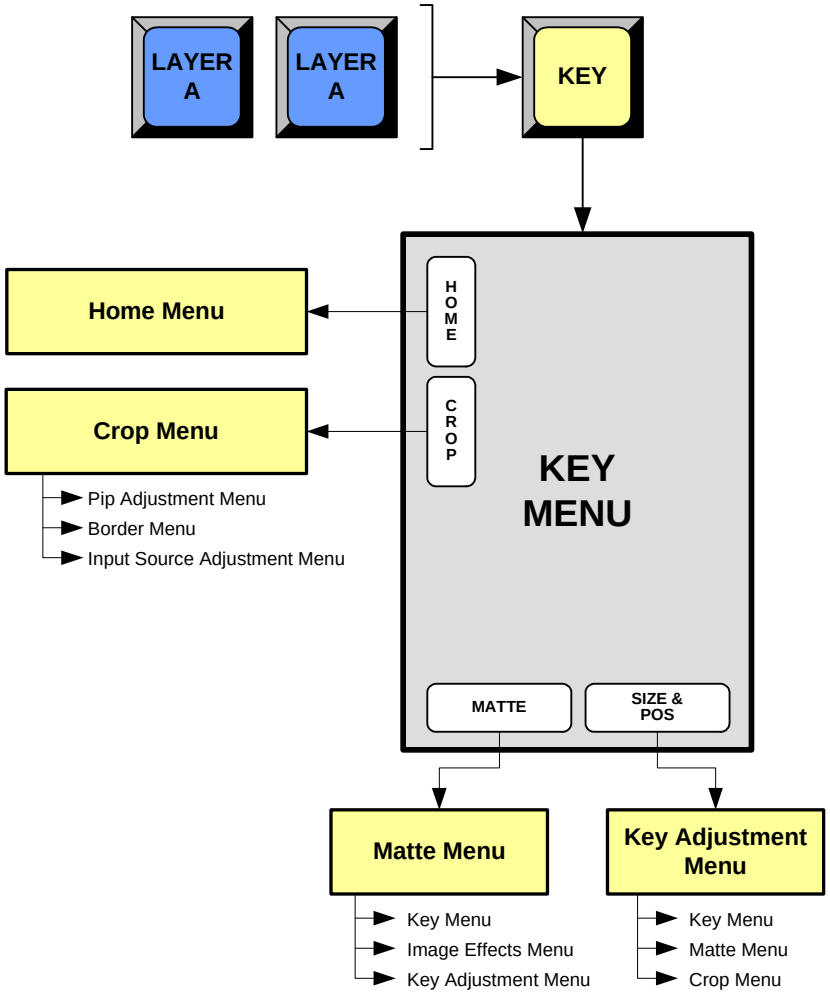


Figure 4-36. Key Menu Tree

All functions and sub menus are discussed in the following sections.

Key Menu Description

The figure below illustrates a sample **Key Menu**:

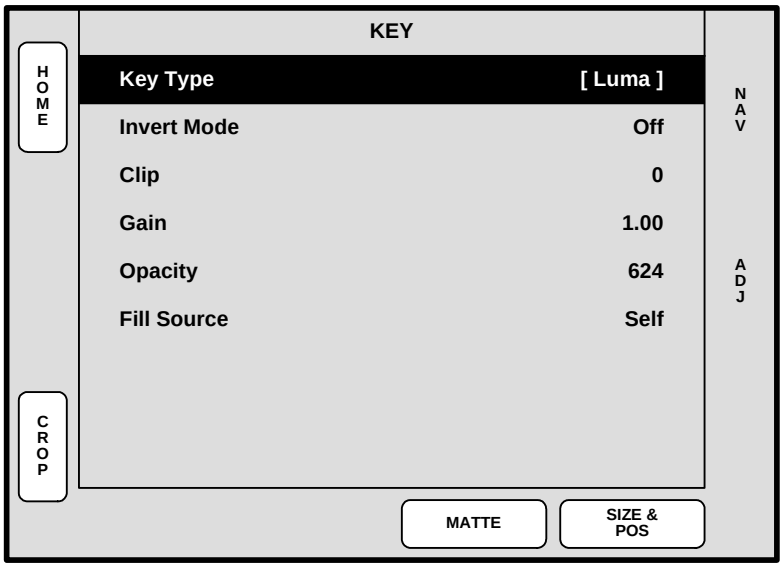


Figure 4-37. Key Menu (sample)

The **Key Menu** provides tools to adjust the "active" key. To access the menu:

- Select a blue "layer" button in the **Layer Control Section**.
- Press the **KEY** button in the **Layer Function Section**.

The menu will immediately appear on the Touch Screen display.

Note

If you press **KEY** and a layer button is not selected, the system displays a brief prompt: "**LAYER A or LAYER B must be selected**."

Key Menu Functions

The following **Key Menu** functions are provided:

- **Key Type** — displays the type of key, currently fixed as a "Luma" key.
- **Invert Mode** — enables you to invert the key signal.
- **Clip** — adjusts the threshold of the video that electronically "cuts" into the background image. A hole will be cut into the background anywhere that foreground luminance is greater than the clip level. The hole is then filled with the **Fill Source**. Adjustment range is 0 to 1023.
- **Gain** — adjusts the sensitivity of the keyer, enabling you to change the sharpness of the keyed image. Gain only affects the key hole, as set by the clip. Adjustment range is 0 to 1023.99.
- **Opacity** — enables you to adjust the opacity of the keyed image, from fully opaque to fully transparent. Adjustment range is 0 to 1024.

- **Fill Source** — determines the video that fills the key hole:
  - **Self** — fills the hole with the key source video itself, for example, the video from a character generator.
  - **Matte** — fills the hole with a matte color, which can then be adjusted with the **Matte Menu**. Refer to the "**Matte Menu**" section on page 78 for details.
- Press {**CROP**} to display the **Crop Menu**. Refer to the "**Crop Menu**" section on page 71 for details.
- Press {**MATTE**} to display the **Matte Menu**. See the "**Matte Menu**" section on page 78 for details.
- Press {**SIZE & POS**} to display the **Key Adjustment Menu**. Refer to the "**Key Adjustment Menu**" section on page 79 for details.

Note

To return the Key to its default clip values, press the **RESET** button in the **Layer Functions Section**. No other parameters will be affected.

Key Sub Menus

The following sub menus can be accessed from the **Key Adjustment Menu**:

- **Crop Menu**
- **Matte Menu**
- **Key Adjustment Menu**

Matte Menu

From the **Key Menu** or the **Key Adjustment Menu**, press {**MATTE**} to display the **Matte Menu**, a sample of which is shown below.

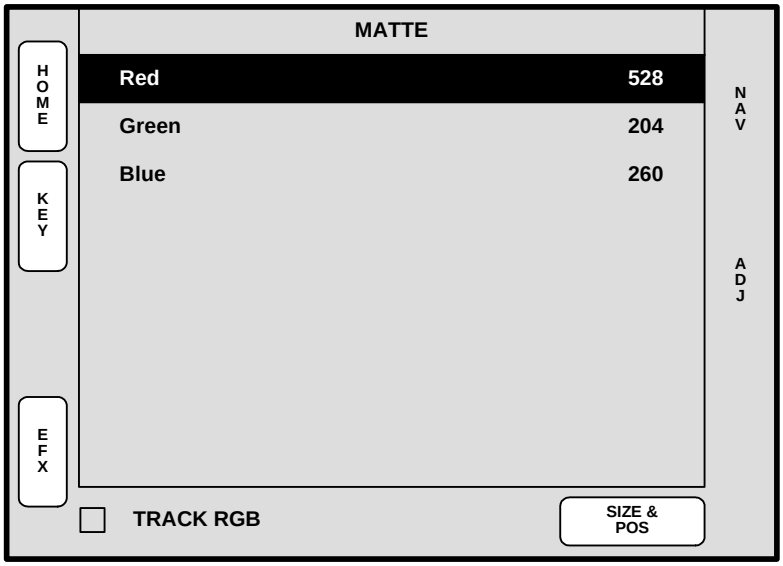


Figure 4-38. Matte Menu (sample)

The **Matte Menu** enables you to adjust the fill color of a matte key. The following functions are provided:

- **Red** — adjust the red component of the matte fill as required, from 0 to 1023.
- **Green** — adjust the green component of the matte fill as required, from 0 to 1023.
- **Blue** — adjust the blue component of the matte fill, from 0 to 1023.
- Press {**KEY**} to return to the **Key Menu**. Refer to the "**Key Menu Description**" section on page 76 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 73 for details.
- Enable the {**TRACK RGB**} function to adjust **Red**, **Green** and **Blue** proportionally. Disable the function to adjust colors individually.
- Press {**SIZE & POS**} to display the **Key Adjustment Menu**. Refer to the "**Key Adjustment Menu**" section on page 79 for details.

Note

To return all matte values to **512**, press the **RESET** button in the **Layer Functions Section**. No other parameters will be affected.

Key Adjustment Menu

From the **Key Menu** and the **Matte Menu**, press {**SIZE & POS**} to display the **Key Adjustment Menu**, a sample of which is shown below.

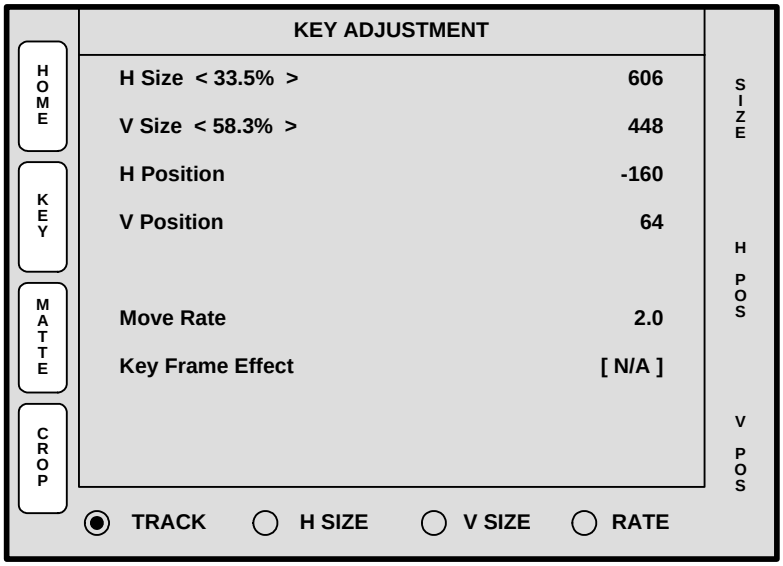


Figure 4-39. Key Adjustment Menu (sample)

The **Key Adjustment Menu** is virtually identical to the **PIP Adjustment Menu** — except that it pertains to Keys rather than PIPs. The following functions are provided:

- **H Size** — adjusts the Key's horizontal size in pixels using the **SIZE** knob. The "**%**" value indicates the key's size as a percentage of the screen's horizontal resolution. The numeric value is the Key's width in pixels. See the "**Key Functions**" section on page 80 for more details.
- **V Size** — adjusts the Key's vertical size in pixels using the **SIZE** knob. The "**%**" value indicates the Key's size as a percentage of the screen's vertical resolution. The numeric value is the Key's height in pixels. See the "**Key Functions**" section on page 80 for more details.
- **H Position** — indicates the Key's position, relative to the horizontal center of the screen (**00**), as measured from the exact center of the Key. Thus, the value **-160** is 160 pixels to the left of center. Use the **H Pos** knob to move the key left and right along the X-Axis.
- **V Position** — indicates the Key's position, relative to the vertical center of the screen (**00**), as measured from the exact center of the Key. Thus, the value **64** is 64 pixels above center. Use the **V Pos** knob to move the key up and down along the Y-Axis.
- **Move Rate** — adjusts the rate (in 0.1 second increments) for programmed Key movement, from keyframe to keyframe. To adjust, press the **RATE** radio button and use the **SIZE** rotary knob.
- **Key Frame Effect** — indicates the "motion type" that is used to move the Key from point to point.
  - ~ If no move is programmed, the display reads **[N/A]**.
  - ~ If a move is programmed, the motion type is fixed as **[Linear]**.

- Press {**KEY**} to return to the **Key Menu**. Refer to the "**Key Menu Description**" section on page 76 for details.
- Press {**MATTE**} to display the **Matte Menu**. See the "**Matte Menu**" section on page 78 for details.
- Press {**CROP**} to display the **Crop Menu**. Refer to the "**Crop Menu**" section on page 71 for details.

Note

To return the Key to its default size and aspect ratio, press the **RESET** button in the **Layer Functions Section**. No other parameters will be affected.

Key Functions

At the bottom of the **Key Adjustment Menu**, three radio buttons enable you to perform various Key adjustment functions.

- Press {**TRACK**} to lock **H Size** and **V Size** together. Regardless of the Key's current aspect ratio, its size will adjust proportionally when the **SIZE** knob is used to change size.
- Press {**H SIZE**} to adjust only the horizontal size, leaving the vertical size alone. In this way, you can stretch the Key horizontally.
- Press {**V SIZE**} to adjust only the vertical size, leaving the horizontal size as is. In this way, you can stretch the Key vertically.
- Press {**RATE**} to adjust the move rate of the Key, from keyframe to keyframe.

Input Source Adjustment Menu

The following topics are discussed in this section:

Input Source Adjustment Menu Tree

The figure below illustrates the **Input Source Adjustment Menu** tree:

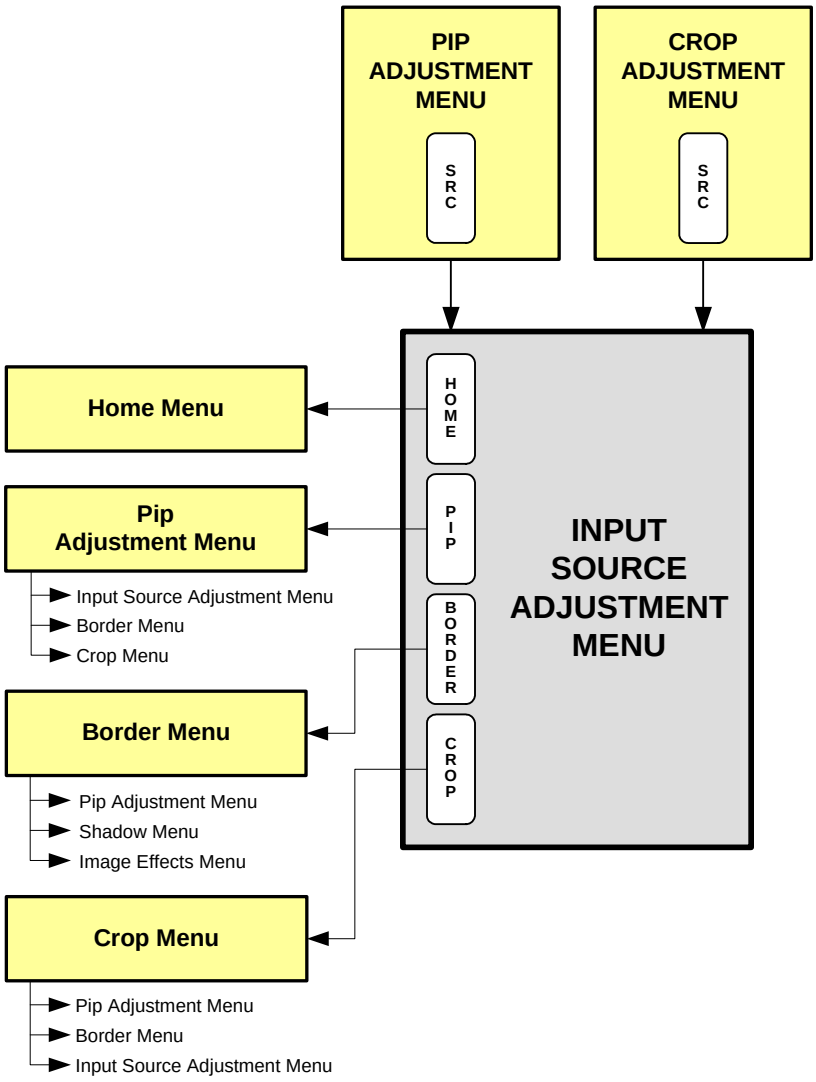


Figure 4-40. Input Source Adjustment Menu Tree

All functions and sub menus are discussed in the following sections.

Input Source Adjustment Menu Description

The figure below illustrates a sample **Input Source Adjustment Menu**:

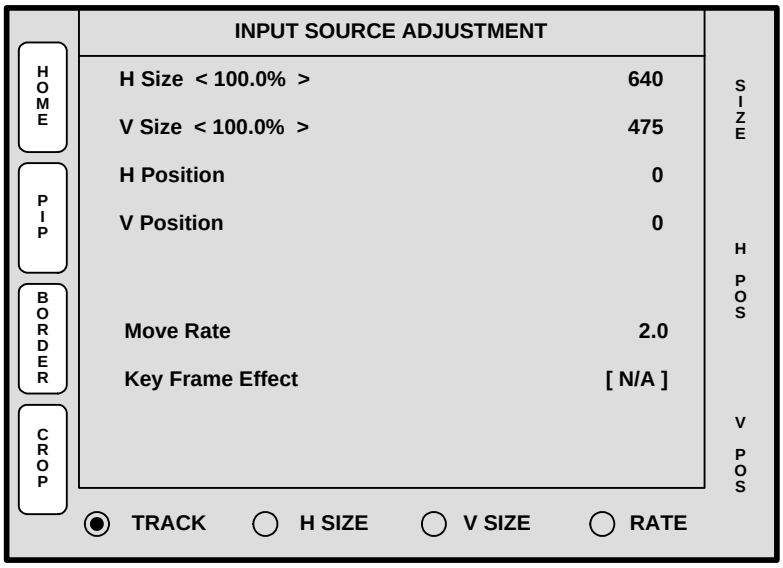


Figure 4-41. Input Source Adjustment Menu (sample)

The **Input Source Adjustment Menu** is virtually identical to the **PIP** and **Key Adjustment** menus — except that the menu pertains to the source "inside" the PIP or Key, rather than the boundaries of the PIP or Key itself. In this way, for example, a PIP can remain in its *exact* location on screen, but you can scale or re-position the image *inside* the PIP.

To access the menu:

- Press {**SRC**} from the **PIP Adjustment Menu** or the **Crop Adjustment Menu**.

Important

The **Input Source Adjustment Menu** is *also* used to adjust Key sources, and the menu functions are identical. The only difference is the menu's title: **Key Source Adjustment**.

Input Source Adjustment Menu Functions

The following **Input Source Adjustment Menu** functions are provided:

- **H Size** — adjusts the input source's horizontal size using the **SIZE** knob. The "**%**" value indicates the source's size as a percentage of the *original* PIP or Key's horizontal resolution. The numeric value is the source's width in pixels. See the "**Input Source Functions**" section on page 83 for more details.
- **V Size** — adjusts the input source's vertical size using the **SIZE** knob. The "**%**" value indicates the size as a percentage of the original PIP or Key's vertical resolution. The numeric value is the source's height in pixels. See the "**Input Source Functions**" section on page 83 for more details.
- **H Position** — indicates the input source's horizontal position, relative to its default horizontal position (**00**) with no offset. Thus, the value **50** is 50 pixels to the right of its default position. Use the **H Pos** knob to move the source left and right along the X-Axis.

- **V Position** — indicates the input source's vertical position, relative to its default vertical position (**00**) with no offset. Thus, the value **-10** is 10 pixels below its default position. Use the **V Pos** knob to move the source along the Y-Axis.
- **Move Rate** — adjusts the rate (in 0.1 second increments) for programmed Key or PIP movement, from keyframe to keyframe. To adjust, press the **RATE** radio button and use the **SIZE** rotary knob.
- **Key Frame Effect** — indicates the "motion type" that is used to move the Key or PIP from point to point.
  - ~ If no move is programmed, the display reads **[N/A]**.
  - ~ If a move is programmed, the motion type is fixed as **[Linear]**.
- Press {**PIP**} to jump to the **PIP Adjustment Menu**. Refer to the "**PIP Adjustment Menu Functions**" section on page 68 for details.
- Press {**BORDER**} to display the **Border Menu**. Refer to the "**Border Menu**" section on page 70 for details.
- Press {**CROP**} to display the **Crop Menu**. Refer to the "**Crop Menu**" section on page 71 for details.

Note

To return the input source to its default size and aspect ratio, press the **RESET** button in the **Layer Functions Section**. No other parameters will be affected.

Input Source Functions

At the bottom of the **Input Source Adjustment Menu**, three radio buttons enable you to perform various input source adjustment functions.

- Press {**TRACK**} to lock **H Size** and **V Size** together. Regardless of the input source's current aspect ratio, its size will adjust proportionally when the **SIZE** rotary knob is used.
- Press {**H SIZE**} to adjust only the horizontal size, leaving the vertical size alone. In this way, you can stretch the input source horizontally.
- Press {**V SIZE**} to adjust only the vertical size, leaving the horizontal size as is. In this way, you can stretch the input source vertically.
- Press {**RATE**} to adjust the move rate of the PIP or Key, from keyframe to keyframe.

Background Input Setup Menu

The following topics are discussed in this section:

Background Input Setup Menu Tree

The figure below illustrates the **Background Input Setup Menu** tree:

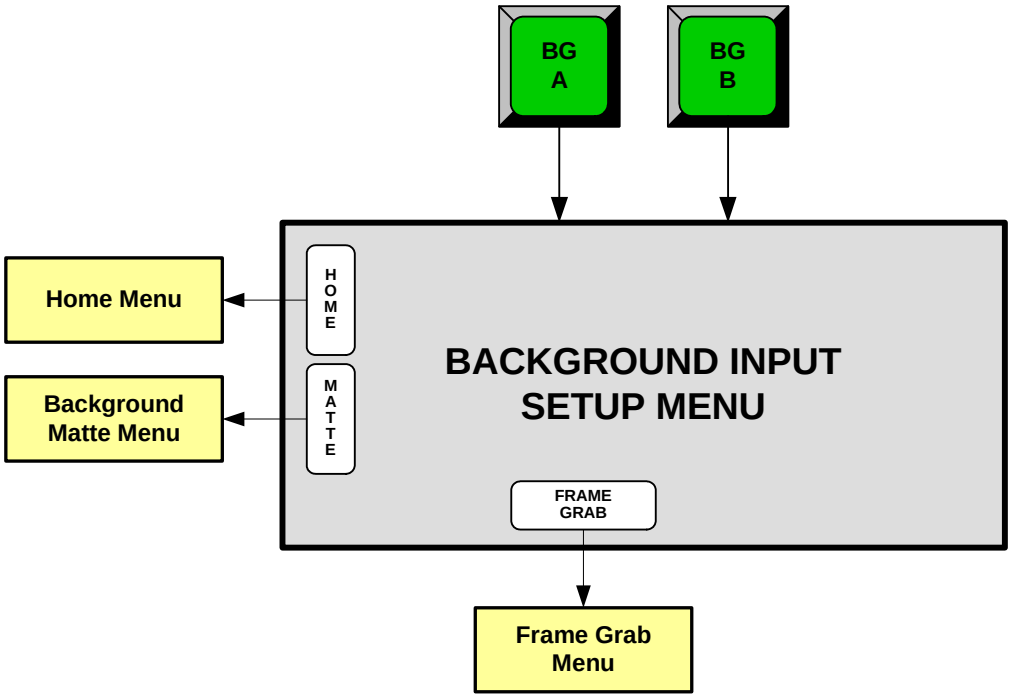


Figure 4-42. Background Input Setup Menu Tree

All functions and sub menus are discussed in the following sections.

Background Input Setup Menu Description

The figure below illustrates a sample **Background Input Setup Menu**:

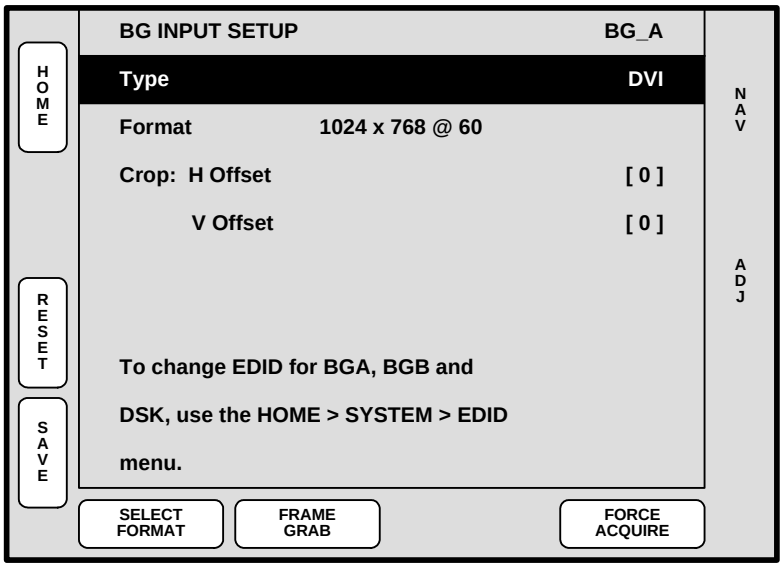


Figure 4-43. Background Input Setup Menu (sample)

The **Background Input Setup Menu** is used to select and define background sources **A** and **B**. To access the menu:

- Press either the **BG A** or **BG B** buttons in the **Layer Control Section**. This action causes the selected button to blink, enabling modification.

Please note:

- If the selected background is already on Program, the **Background Input Setup Menu** will not appear.
- If the selected background is not on Program, the menu appears.

Note

The array of buttons on the **Background Input Setup Menu** *changes* depending upon the selected background type.

Background Input Setup Menu Functions

The following **Background Input Setup Menu** functions are provided:

- **Type** — selects the desired background type:
  - ~ When **DVI** is selected, the DVI input video is selected as supplied from a computer or other source. In this mode, you may also choose to grab a still frame. Ensure that the desired source is connected to the rear panel's **BG A** or **BG/DSK B** input.
  - ~ When **MATTE** is selected, a solid color can be used as defined on the **Background Matte Menu**. Refer to the "**Background Matte Menu**" section on page 87 for menu details.

- When **FG_1**, **FG_2** or **FG_3** is selected, a captured still frame can be used as the background. This background type cannot be selected until one or more frames have been captured.

- **Format** — this line performs two functions:
  - Displays the resolution that is automatically determined by the **FORCE ACQUIRE** function.
  - With DVI selected as the background type, enables you to manually set the resolution of the incoming background source, if desired. Once the format is selected manually with the rotary knob, press {**SELECT FORMAT**} to "accept" and activate the selection.
- For the two **Crop** settings:
  - If the background input resolution matches the output resolution, or if the output resolution is *larger* than the background input resolution, the **Crop** settings will be bracketed.
  - If the background input resolution is larger than the output resolution, the **H Offset** and **V Offset** values can be used to choose which portion of the background you want to display.
  - Press {**RESET**} to reset the **H** and **V** offsets to **0**.
- If **Matte** is selected as the **Type**, the {**MATTE**} button appears. Press {**MATTE**} to display the **Background Matte Menu**. Refer to the "**Background Matte Menu**" section on page 87 for details.
- Press {**SAVE**} to store all selected background settings.
- Press {**SELECT FORMAT**} to "activate" the selected background format.
- Press {**FRAME GRAB**} to display the **Frame Grab Menu**. Refer to the "**Frame Grab Menu**" section page 88 on for details.
- Press {**FORCE ACQUIRE**} to automatically detect the input signal resolution and update the display **Format** field accordingly.

Background Matte Menu

The figure below illustrates a sample **Background Matte Menu**:

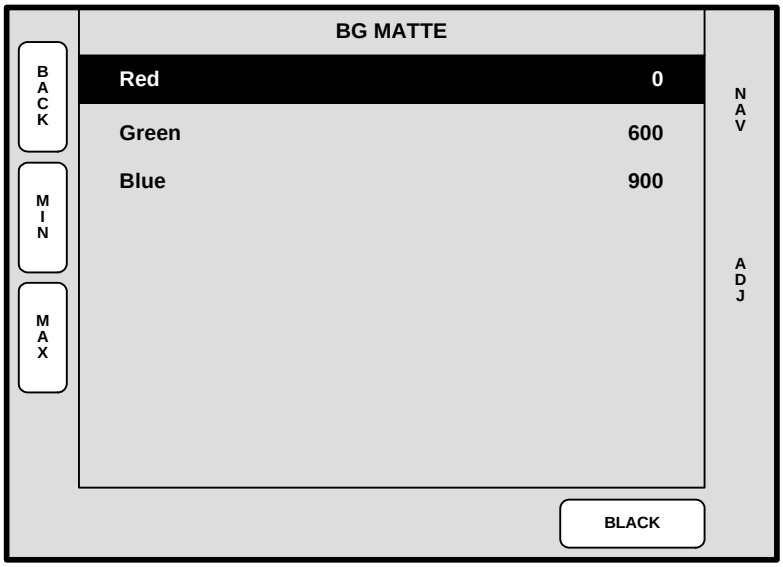


Figure 4-44. Background Matte Menu (sample)

The **Background Matte Menu** enables you to create a solid background matte color to use behind your PIPs and Keys.

- **Red** — adjust the red component of the background matte color as required, from 0 to 1023.
- **Green** — adjust the green component of the background matte color as required, from 0 to 1023.
- **Blue** — adjust the blue component of the background matte color as required, from 0 to 1023.
- Press {**MIN**} to change the highlighted color to **0**.
- Press {**MAX**} to change the highlighted color to **1023**.
- Press {**BLACK**} to change all three colors to **0**.

Note The default state is a black matte color.

Frame Grab Menu

The figure below illustrates a sample **Frame Grab Menu**:

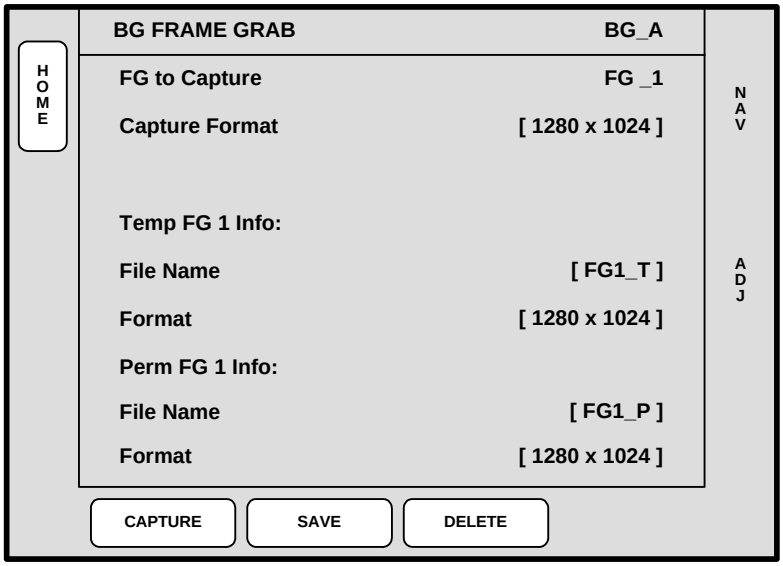


Figure 4-45. Frame Grab Menu (sample)

The **Frame Grab Menu** enables you to capture still frames into the system's three internal frame stores. The "sources" of the still frames are the system's **BG A** and **BG/DSK B** inputs or the scaled inputs. All captures occur on the **Preview** monitor — thus the desired full screen source that you want to capture must be visible on Preview.

Once captured, a still frame can be assigned as the input "type" for **BG A**, **BG B**, the **DSK** source or the **LOGO** source — basically any "green" button in the **Layer Control Section**.

Note

Resource usage applies to **BG B** and **DSK**. These two layers are mutually exclusive — if one is on program, the other can not be used.

The three frame stores utilize ScreenPRO-II's "temp" (temporary) memory for on-air production. During operation, you can overwrite the memory with new captured stills as desired — as it takes only a few seconds to capture a still. Note that stills in "temp" memory are lost when the system is powered down.

You can also store three stills in "permanent" flash memory, which will not be lost when the system is powered down. At bootup, the contents of flash memory is read into "temp" memory for use on-air. It takes several minutes to save a still into permanent memory, and this procedure should not be performed on-air. Permanent frames can also be overwritten.

Note

The contents of a layer can also be captured. In Chapter 6, refer to the "**Capturing Still Frames**" section on page 137 for details.

To access the **Frame Grab Menu**, use one of the following methods:

- Press {**FRAME GRAB**} from either the **Background A** or **B Input Setup Menu**.
- Press {**FRAME GRAB**} from the **DSK Input Setup Menu**.
- Press {**FRAME GRAB**} from the **Home Menu**.

The top line of the menu will change accordingly, depending on the access path.

Note

If the selected layer is on Program, you cannot access the **Frame Grab Menu**. The following prompt will be shown: "**Cannot access FRAME GRAB menu while a background, the DSK or LOGO are on Program**."

The following **Frame Grab Menu** functions are provided:

- **FG to Capture** — enables you to select FG_1, FG_2 or FG_3 for capture.
- **Capture Format** — displays the output resolution. ScreenPRO-II always captures a full screen image at the output resolution — regardless of the input resolution.
- In the **Temp FG Info** section:
  - ~ **File Name** — displays the name of the file in "temp" memory.
    - The "**_T**" in the filename indicates that the file's source is temporary memory.
    - The "**_P**" in the filename indicates that the file is permanently stored. If this indication appears, the permanent file has been read into "temp" memory for use on-air.
  - ~ **Format** — displays the resolution of the captured frame.
- In the **Perm FG Info** section:
  - ~ **File Name** — displays the name of the file in permanent memory.
    - The "**_P**" indicates that the file is permanently stored.
    - **[EMPTY]** indicates that no frame is stored.
  - ~ **Format** — displays the resolution of the permanent frame.
- Press {**CAPTURE**} to capture a still into the selected frame store. Once pressed, the screen will indicate that the frame is being captured.
- Press {**SAVE**} to save the captured frame into permanent memory (FG_1, FG_2 or FG_3). Once pressed, the screen will display a warning:

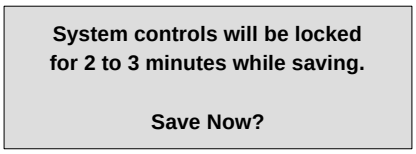


Figure 4-46. Background Frame Save Warning

  - ~ Press **YES** to save the frame. All front panel controls will be locked for up to three minutes.
  - ~ Press **NO** to cancel the procedure.
- Press {**DELETE**} to delete the selected frame from permanent storage. This button only appears when frames are stored in permanent memory.

DSK Adjustment Menu

The following topics are discussed in this section:

DSK Adjustment Menu Tree

The figure below illustrates the **DSK Adjustment Menu** tree:

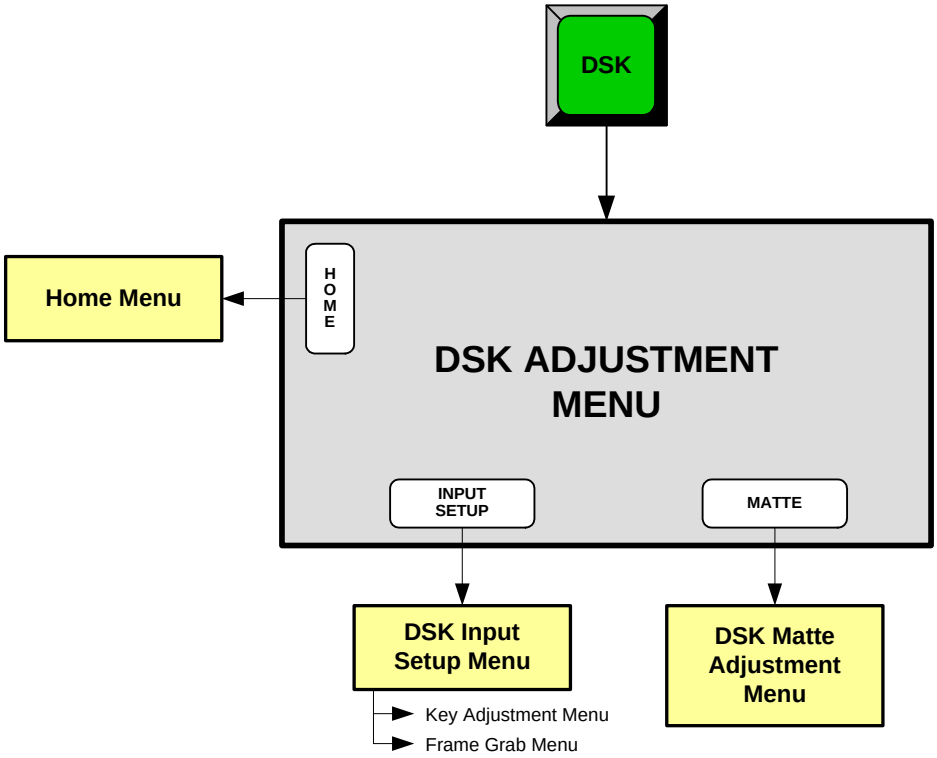


Figure 4-47. DSK Adjustment Menu Tree

All functions and sub menus are discussed in the following sections.

DSK Adjustment Menu Description

The figure below illustrates a sample **DSK Adjustment Menu**:

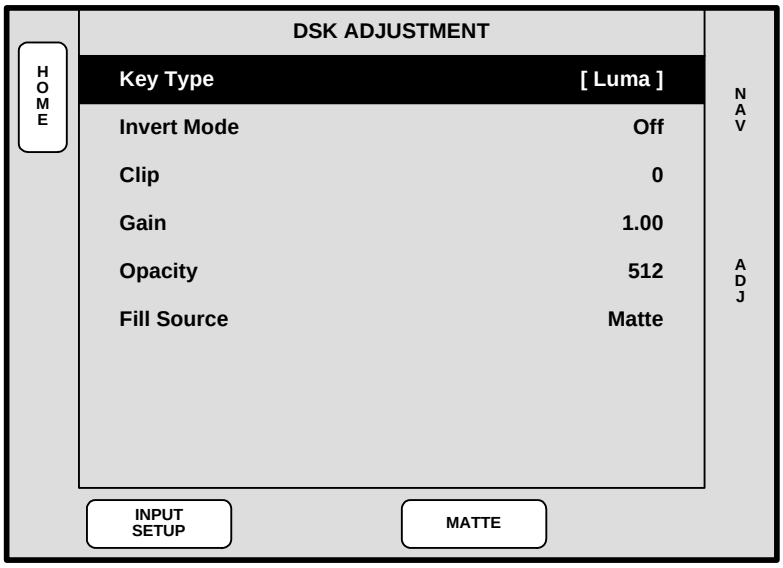


Figure 4-48. DSK Adjustment Menu (sample)

The **DSK Adjustment Menu** enables you to adjust the selected DSK source's key and fill parameters. To access the menu:

- Press the **DSK** button in the **Layer Control Section**.

DSK Adjustment Menu Functions

The following **DSK Adjustment Menu** functions are provided:

- **Key Type** — displays the type of DSK key, currently fixed as a "Luma" key.
- **Invert Mode** — enables you to invert the DSK key signal.
- **Clip** — adjusts the threshold of the video that "cuts" into the background. A hole will be cut anywhere that foreground luminance is greater than the clip level. The hole is then filled with the **Fill Source**. Adjustment range is 0 to 1023.
- **Gain** — adjusts the keyer sensitivity, enabling you to change the key's sharpness. Gain only affects the key hole. Adjustment range is 0 to 1023.99.
- **Opacity** — enables you to adjust the key's opacity, from fully opaque to fully transparent. Adjustment range is 0 to 1024.
- **Fill Source** — determines the video that fills the key hole:
  - ~ **Self** — fills the hole with the key source video itself, for example, the video from a character generator or logo.
  - ~ **Matte** — fills the hole with a matte color, which can then be adjusted with the **DSK Matte Adjustment Menu**. Refer to the "**DSK Matte Adjustment Menu**" section on page 94 for details.
- Press {**INPUT SETUP**} to display the **DSK Input Setup Menu**. Refer to the "**DSK Input Setup Menu**" section on page 92 for details.

- Press {**MATTE**} to display the **DSK Matte Adjustment Menu**. This softkey only appears when the **Fill Source** is set to Matte. Refer to the "**DSK Matte Adjustment Menu**" section on page 94 for details.

DSK Input Setup Menu

From the **DSK Adjustment Menu**, press {**INPUT SETUP**} to display the **DSK Input Setup Menu**, a sample of which is shown below:

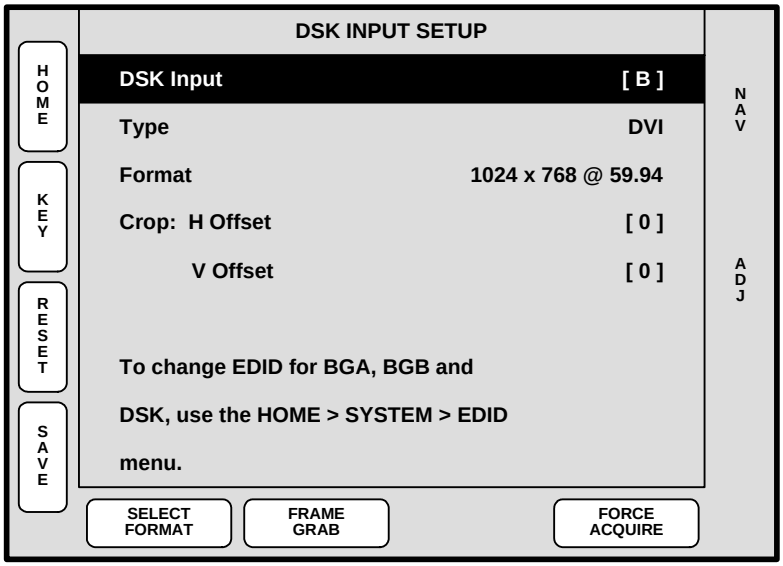


Figure 4-49. DSK Input Setup Menu (sample)

The **DSK Input Setup Menu** enables you to set the type of input used for the DSK. The following functions are provided:

- **DSK Input** — the legend **[B]** indicates that the **Background B DVI** input is assigned to the DSK.

Important

Remember that resource usage applies to **DSK** and **BG B**. These two layers are mutually exclusive — if one is on program, the other can not be used.

- **Type** — sets the type of DSK.
  - ~ When **None** is selected, the **DSK** is disabled.
  - ~ When **DVI** is selected, the DVI input video is selected as supplied from a computer or other source. In this mode, you may also choose to grab a still frame. Ensure that the desired source is connected to the rear panel's **BG/DSK B** input.
  - ~ When FG_1, FG_2, or FG_3 is selected, one of the three internal frame stores is the DSK's input.
- **Format** — this line performs two functions:
  - ~ Displays the resolution that is automatically determined by the **FORCE ACQUIRE** function.

- With **DVI** selected as the DSK type, enables you to manually set the resolution of the incoming background source, if desired. Once the format is selected manually with the rotary knob, press {**SELECT FORMAT**} to "accept" and activate the selection.

- For the two **Crop** settings:
  - If the DSK source's input resolution matches the output resolution, or if the output resolution is *larger* than the DSK source's input resolution, the **Crop** settings will be bracketed.
  - If the DSK source's input resolution is larger than the output resolution, the **H Offset** and **V Offset** values can be used to choose which portion of the source you want to display.
  - Press {**RESET**} to reset the **H** and **V** offsets to **0**.
- Press {**KEY**} to display the **Key Adjustment Menu**. Refer to the "**Key Adjustment Menu**" section on page 79 for details.
- Press {**SAVE**} to store all selected DSK settings.
- Press {**SELECT FORMAT**} to "activate" the selected background format.
- Press {**FRAME GRAB**} to display the **DSK Frame Grab Menu**. Refer to the "**Frame Grab Menu**" section page 88 on for details.
- Press {**FORCE ACQUIRE**} to automatically detect the DSK input signal resolution and update the display **Format** field accordingly.

DSK Matte Adjustment Menu

From the **DSK Adjustment Menu**, press {**MATTE**} to display the **DSK Matte Adjustment Menu**, a sample of which is shown below:

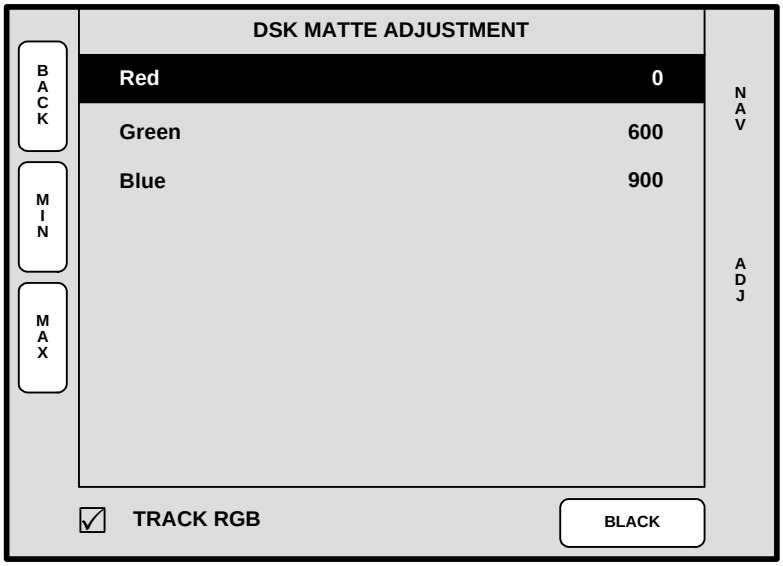


Figure 4-50. DSK Input Setup Menu (sample)

The **DSK Matte Adjustment Menu** enables you to adjust the fill color of a matte key. The following functions are provided:

- **Red** — adjust the red component of the matte fill as required, from 0 to 1023.
- **Green** — adjust the green component of the matte fill as required, from 0 to 1023.
- **Blue** — adjust the blue component of the matte fill, from 0 to 1023.
- Enable the {**TRACK RGB**} function to adjust **Red**, **Green** and **Blue** proportionally. Disable the function to adjust colors individually.
- Press {**MIN**} to change the highlighted color to **0**.
- Press {**MAX**} to change the highlighted color to **1023**.
- Press {**BLACK**} to change all three colors to **0**.

LOGO Input Setup Menu

The figure below illustrates a sample **LOGO Input Setup Menu**:

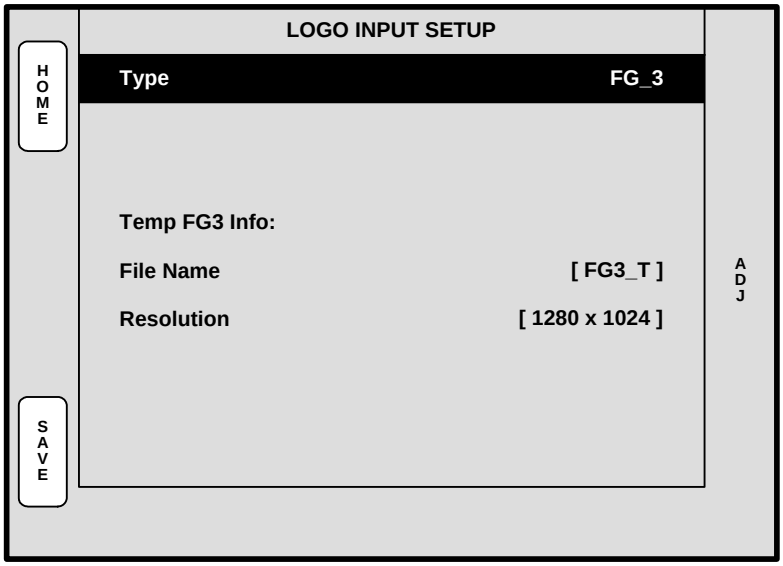


Figure 4-51. LOGO Input Setup Menu (sample)

The **LOGO Input Setup Menu** enables you to select the full screen source for the panel's **LOGO** button. Choose between the three internal frame stores, or black. Because the **LOGO** is the highest priority layer and downstream of all other effects, the "black" source can serve as a convenient way to fade all effects to black — without changing any of the image setups underneath the **LOGO**.

Note

On factory reset, "black" is the default **LOGO** source. If you capture a frame and assign it as the **LOGO** source, that frame will be the default upon power up.

To access the menu:

- Press the **LOGO** button in the **Layer Control Section**.

The following **LOGO Input Setup Menu** functions are provided:

- **Type** — enables you to select still frames FG_1, FG_2, FG_3 or Black as the LOGO source. Frames cannot be captured from the **Logo Input Setup Menu**. Refer to the "**Frame Grab Menu**" section on page 88 for details.
- In the **Temp FG Info** section:
  - ~ **File Name** — displays the selected still frame's temporary storage register.
  - ~ **Resolution** — displays the resolution of the selected still frame.
- Press {**SAVE**} to save all **LOGO** parameters in memory.

Remote Control Menu

The figure below illustrates a sample **Remote Control Menu**:

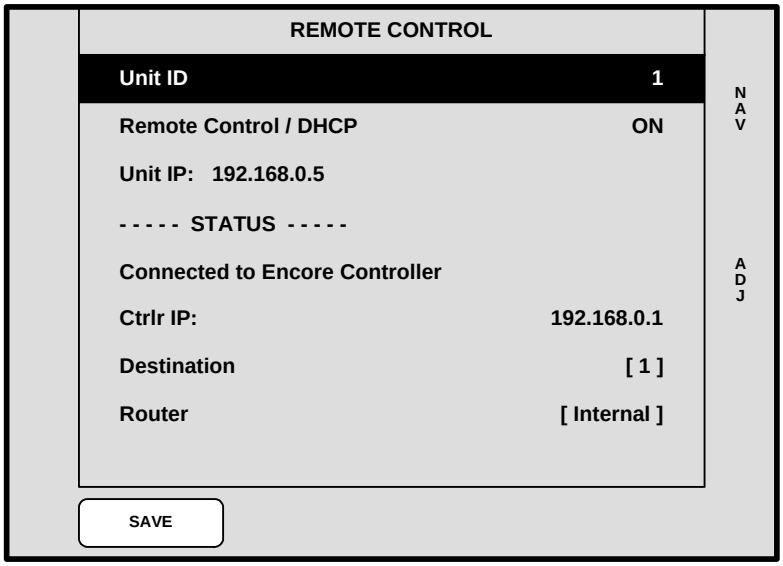


Figure 4-52. Remote Control Menu (sample)

The **Remote Control Menu** serves two purposes:

- When using ScreenPRO-II on a standalone basis, the **Remote Control Menu** is used to set communications parameters for downloading software updates — via Ethernet communications.
- When ScreenPRO-II is controlled from an Encore Controller, a ScreenPRO-II Controller or a network server (e.g., via Telnet), the **Remote Control Menu** is used to set the unit ID and enable/disable remote control and DHCP.

To access the menu:

- Press {**REMOTE CONTROL**} on the **Home Menu**.

The following functions are provided:

- **Unit ID** — When ScreenPRO-II is controlled from an Encore or ScreenPRO-II Controller, this function sets the ID of the ScreenPRO-II chassis. The ID range is **1** to **32**.

Important

Encore or ScreenPRO-II Controllers will detect multiple IDs and prompt the user to correct the problem. Only the first device will connect to the console. Other devices with conflicting IDs will be refused a connection.

- **Remote Control/DHCP** — enables or disables remote control and DHCP.
  - ~ When remote control is off, the ScreenPRO-II IP address is static.
  - ~ When remote control is on, the {**HOME**} buttons disappears, the ScreenPRO-II front panel is disabled, and the unit's IP address is dynamically assigned. All control now originates from the Encore console, the ScreenPRO-II Controller's console — or from a network server (e.g., via Telnet).
  - ~ If a controller is not found, but another DHCP server is found (e.g., a network server), the IP address will be assigned and displayed by the ScreenPRO-II unit.
  - ~ To re-establish "local" control, remote control must be turned off from the **Remote Control Menu**.
- **Unit IP** — displays the IP address of ScreenPRO-II.
  - ~ When remote control is on, this address will be assigned by one of the following device's DHCP server:
    - Encore Controller
    - ScreenPRO-II Controller
    - Network server
  - ~ When remote control is off, you can change the ScreenPRO-II static IP address. When you navigate to the field, the " **^** " symbol appears below the first quad, and a {**NEXT IP QUAD**} button appears:
    - Use the **ADJ** knob to change the quad's setting.
    - Press {**NEXT IP QUAD**} to advance to the next quad.
    - When you reach the last quad, the {**SET IP**} button appears. Press {**SET IP**} to store the unit's new Static IP address.

In the "**Status**" section:

- The top line indicates the connection status with the Encore or ScreenPRO-II Controller (e.g., **Not Connected**, **Establishing Connection**, **Connected**, etc.).
- **Ctrlr IP** — With a connection established, displays the IP address of the Encore or **ScreenPRO-II** Controller.
- **Destination** — with a connection established, displays the destination assigned to ScreenPRO-II by the Encore or ScreenPRO-II Controller.
- **Router** — with a connection established, displays the utilization of routers:
  - ~ **[Internal]** indicates that ScreenPRO-II's local router is used for source connections (the eight rear-panel analog connections plus the two rear-panel SD/HD connections).
  - ~ **[External]** indicates that an external (upstream) router is used for source connections to ScreenPRO-II. In this case, and a minimum of rear-panel ScreenPRO-II connections are used — connected directly to one or more router outputs.

In Appendix D, refer to the "**Using Remote Control**" section on page 168 for additional details.

5. System Setup

In This Chapter

This chapter provides detailed instructions for setting up the ScreenPRO-II system. It is recommended that you follow all procedures in the order outlined below:

Setup Prerequisites

Please note the following important setup prerequisites:

- Ensure that you are familiar with the operations of the **Touch Screen**. In Chapter 2, refer to the "**Touch Screen Menu Section**" heading on page 19 for instructions.
- In this chapter, when a procedure tells you to "**scroll to**" a certain line, use the rotary knob labelled **NAV** to move the highlight — or simply touch the desired line to highlight it.
- When a procedure tells you to "**adjust**" or "**select**" a certain parameter, use the **ADJ** rotary knob.

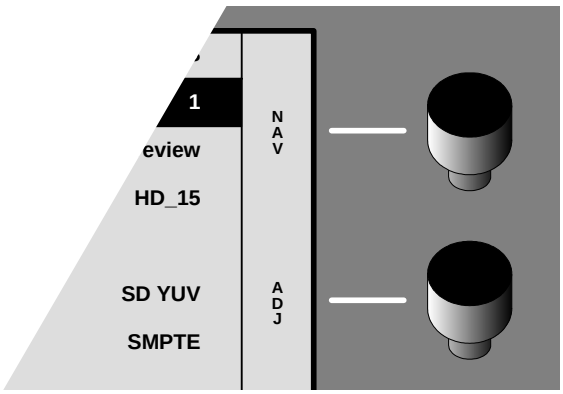


Figure 5-1. Menu Navigation

Return to Factory Default

Prior to starting your setup procedures, it is recommended that you perform a factory reset. This procedure guarantees that any previous setups (e.g., those that may have been programmed by other users), do not remain in system memory.

Please note the following important factory default prerequisite:

- Ensure that you are familiar with the **Reset Menu**. In Chapter 4, refer to the "**Reset Menu**" section on page 58 for details.

Use the following steps to return the system to factory default values:

1. From the **Home Menu**, press {**SYSTEM**} to access the **System Menu**.
2. From the **System Menu**, press {**RESET**} to display the **Reset Menu**.
3. On the **Reset Type** line, select **FACTORY**.
4. Press {**RESET**}. When the confirmation screen appears, press {**YES**} to reset the system to factory default values.

At the conclusion of the factory reset, the system will have the following basic attributes:

- All files erased from memory.
- No inputs selected.
- Layer A selected and blinking.
- PIP mode enabled.
- Output resolution set to XGA: **1024x768 @ 59.94**
- Output raster box **On** (on Preview).

Note

The factory reset "defaults" are designed so that initially, your ScreenPRO-II system is operationally compatible with a previous model.

Please continue with the "**Touch Screen Calibration**" section on page 101.

Touch Screen Calibration

Calibrating the Touch Screen is an excellent prerequisite to all setup (and operations) procedures.

Use the following steps to calibrate your Touch Screen display:

1. If required, press {**HOME**} to display the **Home Menu**.
2. Press {**DISPLAY**} to show the **Display Settings Menu**.
3. Press {**LCD CAL**} to display the first **Touch Screen Calibration Menu**.
4. Follow the directions on screen to complete the calibration procedure.

Please continue with the "**Output Setup**" section on page 102.

Output Setup

Please note the following important output setup prerequisite:

- Ensure that you know your projector's native resolution. Refer to your projector's technical manual for details.

■ Use the following steps to set up the ScreenPRO-II output.

Note — The ScreenPRO-II output format must match your projector's native resolution.

1. From the **Home Menu**, press {**OUTPUT**} to access the **Output Menu**.
2. Scroll to the **Format** line and select your projector's native resolution, and a frame rate that is consistent with your inputs.

   ▲ **Example**: If you are using 59.94 NTSC video inputs, run the output at the same rate in order to be synchronous.

   In Appendix A, refer to the "**Input and Output Resolutions**" section on page 149 for details on all available resolutions.

Please continue with the "**Projector Setup**" section on page 102.

Projector Setup

Please note the following important projector setup prerequisite:

- Ensure that you are familiar with the **Output Setup Menu** and all sub menus included on that screen. In Chapter 4, refer to the "**Output Menu Functions**" section on page 48 for details.

■ Use the following steps to set up your projector.

1. From the **Home Menu**, press {**OUTPUT**} to access the **Output Menu**.
2. Press {**TEST PATTERN**} to access the **Test Pattern Menu**.
   - **a.** Scroll to the **Output Monitor** line and select the monitor(s) on which you want the test pattern to appear.
   - **b.** Scroll to the **Type** line and select the **Burst** test pattern.
   - **c.** Scroll to the **Raster Box** line and enable the Raster Box.
   - **d.** At the projector itself, perform the following adjustments to ensure that the ScreenPRO-II output data is properly displayed:
     - Adjust the image for a minimum amount of noise
     - Adjust the image such that the entire Raster Box is visible.

Note — Refer to your projector's technical manual for information on all projector setup and adjustment procedures.

   - **e.** Once the projector is properly set, disable the Raster Box and select the **100% Color Bars** test pattern.

f. Press {**BACK**} to return to the **Output Menu**.

3. Press {**SETTINGS**} to display the **Settings Menu**.
   a. Scroll to the **Output Monitor** line and select the monitor(s) that you want to be affected by the sync settings.
   b. Scroll to the **Sync Out** line and set the desired sync value.
   c. Scroll to the **SOG** line and enable or disable the "sync on green" signal as required.
   d. Scroll to the **Gamma** line and set the output gamma to match that of your projector.
   e. Press {**BACK**} to return to the **Output Menu**.
4. Press {**GLCK**} to display the **Genlock Menu**.
   a. Scroll to the **Source** line and set the genlock source, either **Black Burst**, **CSync** or **None**.
   b. Press {**BACK**} to return to the **Output Menu**.
5. Press {**SAVE**} to save all output settings in the output file.
6. At the projector itself, perform additional setup procedures (e.g., color balance, alignment, etc.) as required. When all procedures are complete, you can turn the test pattern off using the **Test Pattern Menu**.

Please continue with the "**Quick Input Setup Procedure**" section on page 103.

Quick Input Setup Procedure

This procedure enables you to quickly acquire and save inputs. Please note the following important prerequisites:

- Ensure that you have completed your input connection chart. In Chapter 3, refer to the "**Input Connection Chart**" section on page 30 for details and instructions.
- Ensure that all inputs are properly connected to the chassis.
- Ensure that the system has been "factory" reset. Refer to the "**Return to Factory Default**" section on page 101 for details.

■ Use the following steps to perform a quick input setup:

1. On the **Source Selection Bus**, press an input button. The system will automatically perform a "force acquire" on the selected input, and the **Input Acquisition Menu** will be displayed.
2. If the acquisition was successful, the image will appear full screen on Preview.
   ~ If you are happy with the image's appearance, press {**SAVE**}. The **Input Menu** will appear for that specific source.
   ~ If an error message appears on the **Input Acquisition Menu**, check all cable connections. You can then:
      - Press {**FORCE ACQUIRE**} to re-attempt acquisition, or ...
      - Press {**ADJUST**} to display the **Input Menu** without performing a FORCE ACQUIRE.

   To fine tune the input using the **Input Menu**, refer to the "**Comprehensive Input Setup**" section on page 104 for details.

3. Repeat steps **1** and **2** for all remaining inputs

Please note:

- With all inputs acquired and saved, the **Input Acquisition Menu** will only re-appear in case of LOS (Loss of Signal), or a mismatch between the saved file and incoming video. In Chapter 6, refer to the "**A Word About LOS**" section on page 119 for details on LOS.
- If you do not press {**SAVE**} for a selected input, the **Input Acquisition Menu** will continue to appear each time an input is selected.
- If you need to fine tune your inputs, or if you change inputs, the **Input Menu** can be accessed at any time by pressing {**HOME**} > {**INPUT**}.

Please continue with the "**Comprehensive Input Setup**" section on page 104.

Comprehensive Input Setup

This procedure enables you to perform a more comprehensive input setup, if required.

Note

If your initial input acquisition was successful (as performed in the "**Quick Input Setup Procedure**" section on page 103), there is no need to perform a "comprehensive" input setup. Typically, you may wish to adjust input "sizing" to properly fit each input within the PIP's boundaries — so that no black edges are visible.

Please note the following important input setup prerequisites:

- Ensure that you are familiar with the **Input Menu** and *all sub menus* included on that screen. In Chapter 4, refer to the "**Input Menu Functions**" section on page 38 for complete details.
- Ensure that you have completed your input connection chart. In Chapter 3, refer to the "**Input Connection Chart**" section on page 30 for details and instructions.

- Use the following steps to set up inputs:

1. In the **Layer Control Section**, press a blue "layer" button (e.g., **LAYER A**). The button will blink. This step ensures that you will be able to see each source inside a PIP.
2. In the **Mixer Functions Section**, ensure that **PIP** is selected.
3. On the **Source Selection Bus**, select the input that you want to set up. The button will blink.
4. From the **Home Menu**, press {**INPUT**} to access the **Input Menu**.
   a. On the menu's top row, ensure that the selected input is correct (e.g., **SRC_1** or **SRC_4**).
   b. If required, press {**FORCE ACQUIRE**} to force the system to perform the optimum setup on the selected input. If the operation is successful, the **Format**, **Input Type** and **Color Space** fields should correctly reflect the characteristics of the incoming signal.
   c. If required, scroll to the **Format** line and manually set the resolution of the incoming source. In Appendix A, refer to the "**Input and Output Resolutions**" section on page 149 for details on all available resolutions.

d. If you manually selected a format in the previous step, press {**SELECT FORMAT**} to "accept" and activate the selection.

e. If required, scroll to the **Input Type** line and set the type of input connected to the chassis. Remember that available choices *change* depending on the selected **Format**.

f. If required, scroll to the **Color Space** line and set the input's color space. Choices include **SMPTE** and **RGB**. Note that the system may automatically set the **Color Space** based on the selected **Format**.

g. If required, scroll to the **Sampling Mode** line and set the sampling mode for the selected input — either 1:1 or oversample.

h. Scroll to the **Contrast** line and set the input's contrast as desired.

i. Scroll to the **Brightness** line and set the input's brightness as desired.

j. Scroll to the **Gamma** line and set the input gamma as desired.

k. Scroll to the **Input Sync Type** line and set the type of sync used by the selected source. Choices include **H/V**, **CSync** (composite sync), **SOG** (sync on green) and **Auto**.

l. For a video source that contains film transfer material, scroll to the **Pulldown Compensation** line and enable or disable 3:2 sequence detection.

m. Scroll to the **Sync Slice** line and adjust the threshold if desired.

Note

The default **Sync Slice** level has been optimized for virtually all sources that will be encountered and should rarely, if ever, require adjustment. For additional details, in Chapter 4 refer to the "**Input Menu Functions**" section on page 38.

n. Scroll to the **Sharpness** line and set the input's sharpness as desired. The adjustment range is from -10 (soft) to 10 (sharp).

o. Press {**SAVE**} to save the selected input in the designated file.

p. Press {**BACK**} to return to the **Input Menu**.

5. Press {**SIZING**} to access the **Sizing Menu**. This menu is context sensitive — it *changes* depending on the selected **Sampling Mode**.

a. If **1:1 Sampling** is selected, adjust **Clock Phase**, **H Total**, **H Active**, **H Position**, **V Total**, **V Active** and **V Position** as required.

b. If **Oversample** is selected, adjust **Right Edge**, **Left Edge**, **Top Edge** or **Bottom Edge** as required, to fit the image precisely in its raster box.

c. Press {**SAVE**} to save the selected input in the designated file.

d. Press {**BACK**} to return to the **Input Menu**.

6. Press {**COLOR BALANCE**} to access the **Color Balance Menu**.

a. For **RGB** sources, adjust **Red**, **Green** and **Blue Contrast** and **Brightness** as required.

b. For **Composite**, **S-Video** or **YP_bP_r** sources, adjust **Saturation** and **Hue** as required.

c. If required, press {**RESET ALL**} to return to default values.

d. Press {**SAVE**} to save the selected input in the designated file.

e. Press {**BACK**} to return to the **Input Menu**.

7. Press {**AR**} to access the **Aspect Ratio Menu**.
    a. Scroll to the **Mode** line and select **16:9**, **5:4**, **4:3**, **3:2**, **1:1** or **Custom** aspect ratios.
    b. If **Custom** is selected, scroll to the **Ratio** line and enter a custom aspect ratio as desired.
    c. Press {**SAVE**} to save the selected input in the designated file.
    d. Press {**BACK**} to return to the **Input Menu**.
8. When all of your adjustments are complete, press {**CFG**} to display the **Input Configuration Menu**.

Important

If you have not already performed incremental "saves," ensure that you save the input configuration before you exit the **Input Menu** — otherwise *all* of your adjustments will be lost. Because each input has its own file, if you do not save the input, the next time the source is selected, the input's default settings will be displayed.

Note

In the current version of ScreenPRO-II, the file number and name (into which you will save data) automatically default to the input number and cannot be changed.

    a. Press {**SAVE**} to save the selected input in the designated input file. All information is stored in non-volatile flash memory.
    b. If required, press {**DELETE**} to delete the file.
    c. Press {**BACK**} to return to the **Input Menu**.
9. To set up the next input, repeat the entire procedure from step **2**.

Please continue with the "**Setting up Backgrounds**" section on page 107.

Setting up Backgrounds

With ScreenPRO-II, you can use a DVI input, a matte color, or a still frame as a background source. You can also change which source you use during the course of a live production — provided that your backgrounds have been properly set up. Please note:

- The system has two available DVI connectors (**A** and **B**) that can be used for both **Background** and **DSK** inputs. These inputs (along with scaled images from layers A and B) are the sources of still frames that can be captured and used as backgrounds.
- The **BG/DSK B** input is shared between **Background B** and the **DSK**, and the on-air usage is mutually exclusive — both cannot be on-air simultaneously.
- Because of this shared usage, you should now decide how you wish to allocate (and setup) your background inputs — either as two background sources, or as one background and a DSK. Please remember:
  - ~ To use two background sources, connect one DVI source to connector **A** and one to connector **B**.
  - ~ To use one background and one DSK source, connect the background to connector **A** and the DSK source to connector **B**.

The following topics are discussed in this section:

Programming EDID

The EDID (Extended Display Identification Data) programming procedure is a prerequisite for background and DSK setup. The procedure guarantees proper communications at the preferred resolution between ScreenPRO-II's two DVI inputs and your external equipment.

■ Use the following steps to program the ScreenPRO-II EDID:

1. Ensure that the ScreenPRO-II output format matches your projector's native resolution. Refer to the "**Output Setup**" section on page 102 for instructions.
2. Ensure that the computer(s) or external equipment that you wish to use as background source(s) are capable of supporting the selected output resolution.
3. From the **HOME MENU**, press {**SYSTEM**} > {**EDID**} to display the **EDID DVI Input Format Menu**.
4. Note the **Current** line, which displays the current EDID video format that resides in ScreenPRO-II memory. If this format is *already* set to the desired resolution, no EDID programming is required. You can exit this procedure, and continue with other background setup steps as needed.
5. If a new resolution is required, use the **ADJ** knob to adjust the **Format** to the preferred setting at which you want to program the EDID.
6. Press {**PROGRAM EDID**} to program EDID with the new selected video format. A warning message will be shown. Press {**YES**} to continue.
7. Once EDID programming is complete on ScreenPRO-II, power down the external computer and power it back on.

8. On your PC's desktop, right-click to display the **Display Properties Window**.
9. Select the **Settings Tab**, and set the resolution to match that which you just programmed into EDID.
10. Repeat steps **7** through **9** for each external computer.

Please continue with the "**Using A Matte Color as a Background**" section on page 108.

Using A Matte Color as a Background

This procedure enables you to set up a background layer as a matte color. The procedure can also be performed during live production, enabling you to change a background from a DVI or still frame background to a background matte color.

- Use the following steps to set up a solid matte color as a background source:

1. Clear the background layer from Program that you wish to set up. You cannot set up a background while it is on Program.
    a. In the **Layer Control Section**, check if the **Red LED** above the **BG A** or **BG B** buttons is lit. If so, the background is on Program.
    b. If the desired background button is not lit, press to light it. The selected button blinks.
    c. In the **Mixer Functions Section**, press **Clear Layer**. The background button turns off, and the layer visually clears from Preview.
    d. Press **WIPE**, **CUT** or **MIX** to transition the selected layer off of Program.

Note

To ensure that the *full background* is visible, clear all PIPs, Keys, the DSK and the LOGO.

2. In the **Layer Control Section**, press the button for the background that you want to set up (**BG A** or **BG B**). The button will blink and its associated **BG Input Setup Menu** will appear.
3. Scroll to the **Type** line and select **MATTE**.
4. Press {**MATTE**} to display the **Background Matte Menu**.
5. Adjust the **Red**, **Green** and **Blue** values as desired. At this point, the new background can be used on air.
6. Press {**BACK**} to return to the **BG Input Setup Menu**, or {**HOME**} to return to the **Home Menu**.
7. Repeat from step **1** if you wish to set up a solid background matte color for the other background source.

Please continue with the "**Using a DVI Input as a Background or DSK**" section on page 109.

Using a DVI Input as a Background or DSK

This procedure enables you to set up a DVI source as the background layer or the DSK's input "type." The DVI source originates from an external computer or other external device. It is recommended that you perform these steps as a setup procedure. However, once the DVI input type is set, during live production you can easily do the following:

- Switch a background between a Matte color, a still frame and a DVI source.
- Switch the DSK between a still frame and a DVI source.

Please remember:

- All switching of background or DSK "types" must be performed on Preview.
- The **BG/DSK B** input is shared between **Background B** and the **DSK**, and the on-air usage is mutually exclusive — both cannot be on-air simultaneously

■ Use the following steps to set up a DVI input as a background or the DSK source:

1. Ensure that the ScreenPRO-II EDID is properly programmed. Refer to the "**Programming EDID**" section on page 107 for instructions.
2. Clear the background or DSK layer from Program that you wish to set up. You cannot set up a background or the DSK while it is on Program.
   a. In the **Layer Control Section**, check if the **Red LED** above the **BG A**, **BG B** or **DSK** buttons is lit. If so, the background is on Program.
   b. If the desired layer button is not lit, press to light it. The selected button blinks.
   c. In the **Mixer Functions Section**, press **Clear Layer**. The button turns off, and the layer visually clears from Preview.
   d. Press **WIPE**, **CUT** or **MIX** to transition the selected layer off of Program.

Note

To ensure that the *full background* will be visible, clear all PIPs, Keys, and the LOGO.

3. In the **Layer Control Section**, press the button for the layer that you want to set up (**BG A**, **BG B** or **DSK**). The button will blink:
   ~ If a background layer was selected, the button's associated **BG Input Setup Menu** will appear.
   ~ If the DSK was selected, the **DSK Adjustment Menu** appears. Press {**INPUT SETUP**} to display the **DSK Input Setup Menu**.
4. Scroll to the **Type** line and ensure that **DVI** is selected.
5. If required, press {**FORCE ACQUIRE**} to force the system to perform the optimum setup on the selected layer. If the operation is successful, **Format** and **Type** should correctly reflect the characteristics of the incoming signal.
6. If required, scroll to the **Format** line and manually set the resolution of the incoming source. In Appendix A, refer to the "**Input and Output Resolutions**" section on page 149 for details on all available resolutions.
7. If you manually selected a format in the previous step, press {**SELECT FORMAT**} to "accept" and activate the selection.

8. For the two **Crop** settings:
   - ~ If the input resolution matches the output resolution, or if the output resolution is *larger* than the input resolution, the **Crop** settings will be bracketed.
   - ~ If the input resolution is larger than the output resolution, adjust the **H Offset** and **V Offset** values to choose which portion of the input you want to display.
   - ~ If required, press {**RESET**} to reset the **H** and **V** offsets to **0**.
9. Press {**SAVE**} to save the selected source in the designated file.
10. To set up the next input, repeat the procedure from step **3**.

Please continue with the "**Using a Still Frame as a Background**" section on page 110.

Using a Still Frame as a Background

This procedure enables you to capture a still frame image, and assign it as the "type" for **Background A** or **B**. Please note:

- Capturing still frames into "temporary" memory can be performed either as a setup procedure or during live production.
- Once still frames are captured, during live production you can easily switch a selected background between Matte, a DVI input and a Still Frame.

Important

It is *highly recommended* that you save still frames into "permanent" flash memory as a setup procedure — as this is a very time-consuming step that locks the front panel of ScreenPRO-II.

- Use the following steps to assign a captured still frame as the background "type."

1. Ensure that your background input(s) are properly set up as DVI sources. These background inputs are the sources of the still frames which you will capture. Refer to the "**Using a DVI Input as a Background or DSK**" section on page 109 for background input setup details.
2. In Chapter 6, refer to the "**Capturing Still Frames**" section on page 137 for instructions on capturing still frames. Up to three frames can be captured into temporary memory: **FG_1**, **FG_2** and **FG_3**.
3. In the **Layer Control Section**, press the button for the background that you want to set up (**BG A** or **BG B**). The button will blink and its associated **BG Input Setup Menu** will appear.
4. Scroll to the **Type** line and select the desired still frame (**FG_1**, **FG_2** and **FG_3**).

Please continue with the "**Setting up the DSK**" section on page 111.

Setting up the DSK

With ScreenPRO-II, you can use a DVI input or a still frame as the DSK source. You can also change which source you use for the DSK during the course of a live production — provided that the DSK has been properly set up.

Note

Remember that the **B** DVI input is shared between **Background B** and the **DSK**, and the on-air usage is mutually exclusive — both cannot be on-air simultaneously. Similarly, you cannot setup the DSK if the **B** DVI input is currently in use on-air.

The following topics are discussed in this section:

Using a DVI Input as the DSK

This procedure enables you to set up a DVI source as the DSK's input "type." It is recommended that you perform these steps as a setup procedure. However, once the DSK is set up, during live production you can easily switch it between a captured still frame and a DVI source — provided that you change the DSK "type" on Preview.

- Use the following steps to set up a DVI input as your DSK source:

1. Ensure that the ScreenPRO-II EDID is properly programmed. Refer to the "**Programming EDID**" section on page 107 for instructions.
2. Ensure that the **DSK** and **Background B** sources are cleared from Program. You cannot set up the DSK while one of the two shared resources is on Program.
3. If you have not already set up the **BG/DSK B** input as a DVI source, follow the setup procedure as outlined in the "**Using a DVI Input as a Background or DSK**" section on page 109.

Please continue with the "**Using a Still Frame as the DSK**" section on page 112.

Using a Still Frame as the DSK

This procedure enables you to capture a still frame image, and assign it as the "type" for the **DSK**. Please note:

- Capturing still frames into "temporary" memory can be performed either as a setup procedure or during live production.
- Once still frames are captured, during live production you can easily switch the DSK between a DVI input and a Still Frame.

Important

It is *highly recommended* that you save still frames into "permanent" flash memory as a setup procedure — as this is a very time-consuming step that locks the front panel of ScreenPRO-II.

- Use the following steps to assign a captured still frame as the DSK "type."

1. Ensure that **BG/DSK Input B** is properly set up as a DVI source. This input is the source of the still frames which you will capture (when DSK is selected on Preview). Refer to the "**Using a DVI Input as a Background or DSK**" section on page 109 for setup details.
2. In Chapter 6, refer to the "**Capturing Still Frames**" section on page 137 for instructions on capturing still frames. Up to three frames can be captured into temporary memory: **FG_1**, **FG_2** and **FG_3**.
3. Ensure that the **DSK** and **Background B** sources are cleared from Program. You cannot set up the DSK while one of the two shared resources is on Program.
4. In the **Layer Control Section**, press the **DSK** button. The button will blink and the **DSK Adjustment Menu** will appear.
5. Press {**INPUT SETUP**} to display the **DSK Input Setup Menu**.
6. Scroll to the **Type** line and select the desired still frame.

Please continue with the "**Setting up the LOGO**" section on page 113.

Setting up the LOGO

With ScreenPRO-II, you can set the **LOGO** source as a captured still frame, or leave it as **Black** (the default value upon factory reset). You can also change which source you use during the course of a live production.

- Use the following steps to set up the **LOGO** source:

  1. Ensure that your background input(s) are properly set up as DVI sources. These background inputs (along with scaled images from layers A and B) are the sources of still frames which you can capture. Refer to the "**Using a DVI Input as a Background or DSK**" section on page 109 for setup details.
  2. In Chapter 6, refer to the "**Capturing Still Frames**" section on page 137 for instructions on capturing still frames. Up to three frames can be captured: FG_1, FG_2 and FG_3.
  3. Ensure that the **LOGO** is cleared from Program. You cannot set up the **LOGO** while it is on Program.
  4. In the **Layer Control Section**, press the **LOGO** button. The button will blink and the **LOGO Input Setup Menu** will appear.
  5. On the **Type** line, select the desired still frame, or select **Black**.

Note

Because the **LOGO** is the highest priority layer and downstream of all other effects, the "black" source can serve as a convenient way to fade all effects to black.

Please continue with the "**Saving the Setup**" section on page 113.

Saving the Setup

When all system setup procedures have been completed:

1. From the **Home Menu** press {**SYSTEM**} to display the **System Menu**.
2. Press {**SAVE**} to save all settings in the system file.

Once pressed, the Touch Screen menu reads "**Saving System Configuration**." This step ensures that when you cycle power, the ScreenPRO-II returns to the state in which it was configured at the time of the "save."

6. Operations

In This Chapter

This chapter includes operational instructions for all ScreenPRO-II modes and functions. The following topics are discussed:

Note

When a sequence of menu selections is required to complete a given procedure, the "**>**" symbol is used to divide each successive menu pick.

▲ **Example**: To access the **Genlock Menu**, press {**HOME**} **>** {**OUTPUT**} **>** {**GLCK**}.

Prerequisites

Prior to using the ScreenPRO-II system, please ensure the following:

- All system inputs, backgrounds, the DSK and the LOGO are properly configured. In Chapter 5, refer to the following sections for details:
  - ~ "**Comprehensive Input Setup**" on page 104.
  - ~ "**Setting up Backgrounds**" on page 107.
  - ~ "**Setting up the DSK**" on page 111.
  - ~ "**Setting up the LOGO**" on page 113.
- Ensure that you are familiar with all front panel controls. In Chapter 2, refer to the "**ScreenPRO-II Front Panel**" section on page 15 for details.
- Ensure that you are familiar with all system menus, and in particular, the operational menus. In Chapter 4, refer to the following sections for details:
  - ~ Refer to the "**PIP Adjustment Menu**" section on page 67 for details on all PIP adjustment menu items.
  - ~ Refer to the "**Key Menu**" section on page 75 for details on all Key adjustment menu items.
  - ~ Refer to the "**Input Source Adjustment Menu**" section on page 81 for details on all input source adjustment parameters.

Tip

As you review each function in this chapter, it is recommended that you try out each mode and feature at the ScreenPRO-II panel itself — using a fully configured system consisting of a Program and Preview monitor, and all the necessary sources and backgrounds.

Operational Configuration

The following topics are discussed in this section:

Monitor Layout

Use the following diagram as a recommended layout for your monitors.

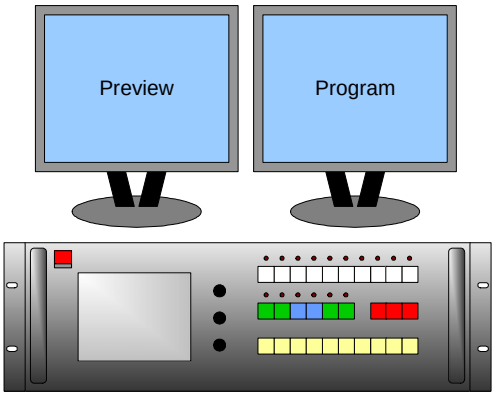


Figure 6-1. Recommended Monitor Layout

For optimum viewing and utility, place your Preview monitor on the left, and your Program monitor on the right.

Touch Screen Calibration

As an excellent prerequisite to all operating procedures, it is recommended that you calibrate the Touch Screen.

- Use the following steps to calibrate your Touch Screen display:

1. If required, press {**HOME**} to display the **Home Menu**.
2. Press {**DISPLAY**} to show the **Display Settings Menu**.
3. Press {**LCD CAL**} to display the first **Touch Screen Calibration Menu**.
4. Follow directions on screen to complete the calibration procedure.

Lookahead Preview

ScreenPRO-II uses a “lookahead” preview system that ensures the accuracy of all your transitions. The “look” or appearance that you create on your Preview monitor represents the *exact* appearance of your Program screen — after you cut, mix or wipe the images to program.

▲ **Example**: The illustration below represents a simple Preview-to-Program transition. **SPLIT LAYER** mode is on, enabling you to have two PIPs on screen simultaneously:

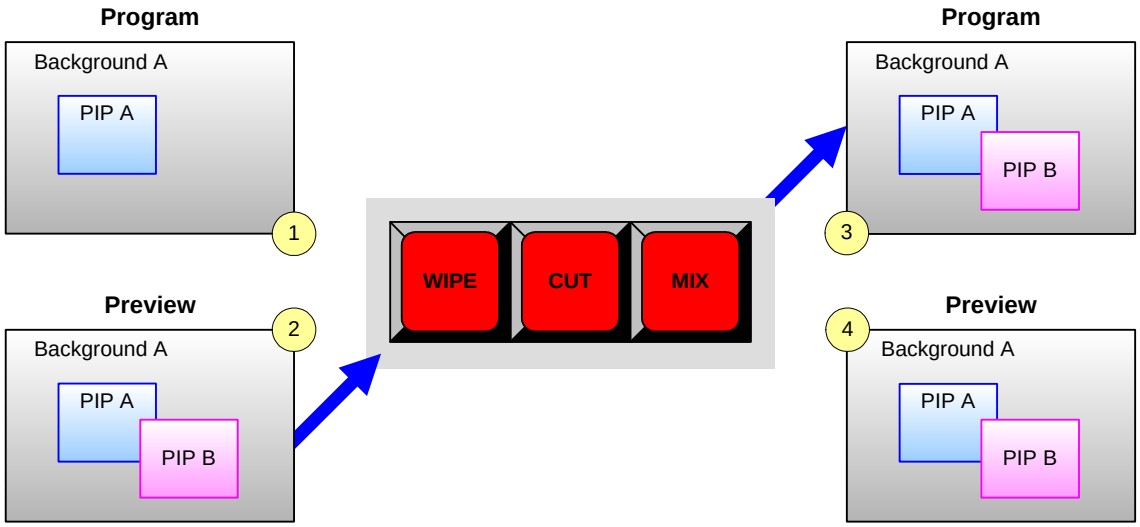


Figure 6-2. Program-to-Preview Transition with Lookahead

- In frame **1**, Program consists of a background and a single PIP.
- In frame **2**, a second PIP is selected and positioned on Preview.
- After the selected transition (**WIPE**, **CUT** or **MIX**), the PIP transitions onto Program. Frame **3** represents the Program screen — identical to the Preview “look” in frame **2**.
- Frame **4** represents Preview *after* the transition. Preview will continue to match program until you modify the preview image, in preparation for the next transition.

With these facts in mind, ensure that you always create the desired “next” look in Preview. In this manner, there won’t be any operational surprises:

- By using lookahead, you’ll always know visually what PIPs and keys you want to transition **TO** Program.
- Conversely, you’ll always know what PIPs and keys to you wish to clear — to visually remove elements **FROM** Program.

Understanding Raster Boxes

With ScreenPRO-II, **Raster Boxes** are always enabled on Preview, each PIP or Key is surrounded by a thin border that helps you identify the PIP or Key's original layer.

- The PIP or Key with a red "corner" style raster box is **Layer A**.
- The PIP or Key with a red "dashed" raster box is **Layer B**.

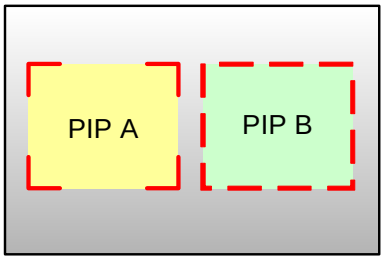


Figure 6-3. Raster Box Styles (sample)

- The "blinking" raster box is always the one enabled for modification, and its corresponding layer button will also blink.
- Raster boxes that are *underneath* other layers (such as another PIP, the DSK or the LOGO) are still visible on Preview.

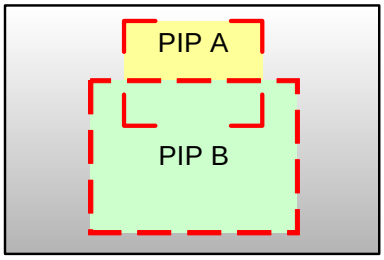


Figure 6-4. Raster Box Visibility (sample)

A Word About LOS

On rare occasion, you can experience **LOS** (loss of signal) — typically due to a poor video, graphics or computer connection. In these cases, ScreenPRO-II obeys a precise set of rules for how to handle the signals:

- **Scaler LOS** — If there is a LOS for a video signal inside a scaler (PIP or KEY), the video switches to black, but the scaler remains in its current size and position.
- **Background LOS** — If there is a LOS for a background DVI input, the video switches to the background's selected matte color.
- **DSK LOS** — If there is a LOS for the DSK, the system switches the DSK **Off** (specifically, selecting "**none**" as the type).

In each case, when the video signal recovers, the system re-enables it as before.

Working with Layers

The following topics are discussed in this section:

Switching Sources

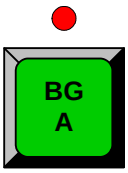
- Use the following steps to switch sources into a PIP or a Key:

  1. Press a layer button in the **Layer Control Section**. The button blinks to indicate that it is available for modification. If a PIP or Key is currently assigned to the layer, its source can now be changed.
  2. Press the desired button on the **Source Selection Bus** to assign that source to the PIP or Key. The source button blinks to indicate that it is selected and active for modification.

Please note the following important points regarding sources:

- When the **Red LED** above a source button is lit, the source is on Program.
- When a source button is lit solid, the source is on Preview — but it is not active for manipulation. Only blinking source buttons are active for modification.
- Multiple sources can appear on Program and Preview simultaneously, but only one button can be blinking and active for modification on Preview.
- If you select a layer in the **Layer Control Section** that is lit (but not blinking), it will blink — and the corresponding “assigned” source on the **Source Selection Bus** will blink. This method also allows you to quickly verify layer/source selections.

Background Transitions



- Use the following steps to perform a background transition:

1. To transition from one background to another, press and light the background button to which you want to transition. The button blinks to indicate it is selected and active for modification on Preview. Please note:
   - ~ If the background is already on Program, the **Background Input Setup Menu** appears, but changes *cannot* be made.
   - ~ If the background is *not* on Program, the **Background Input Setup Menu** appears and the background "type" can be changed.

Note

If you select **Background B** and a pop-up window alerts you to a resource conflict, the **DSK** is in use on Program. The **DSK** must be cleared from Program before **Background B** can be used.

2. With the background button blinking and active for modification, select the type of background to which you want to transition. Scroll to the **Type** line:
   - ~ Select **DVI** to use an unscaled full-screen graphic.
   - ~ Select **MATTE** to use a solid color. If the color has not already been set up, press {**MATTE**} to display the **Background Matte Menu**, and adjust the color as required. In Chapter 4, refer to the "**Background Matte Menu**" section on page 87 for details.
   - ~ Select **FG_1**, **FG_2** or **FG_3** to use a captured still frame as the background source. Refer to the "**Capturing Still Frames**" section on page 137 for details.
3. Select the desired background toggle mode. Press {**HOME**} > {**SYSTEM**} to display the **System Menu**. Scroll to the **Toggle** line and adjust as required:
   - ~ Enable toggle mode to toggle between the last two selected backgrounds on each transition.
   - ~ Disable toggle mode to retain the last selected background on the next transition.
4. Perform the desired transition (**WIPE**, **CUT** or **MIX**) in the normal manner.

Please note the following important points regarding background transitions:

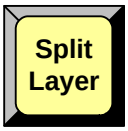
- If **BG A** is on Program and **BG A** is selected in Preview, there will be no change of backgrounds on the next transition. The similar situation is true for **BG B**.
- If **BG A** is on Program and **BG B** is selected in Preview, **BG A** will transition to **BG B** on the next **CUT**, **WIPE** or **MIX**.

Understanding Split and Mix Modes

ScreenPRO-II provides two different modes with which you can transition PIPs and Keys:

- **Split Mode**
- **Mix Mode**

Split Mode



With the **Split Layer** button lit, the mixer's two layers operate *independently*. You can size, position, manipulate and transition the following combinations of effects:

- One or two PIPs
- One or two Keys
- One PIP and one Key

Mix Mode

With the **Split Layer** button off, the mixer's layers are ganged together, and two *mutually-exclusive* sub-modes now determine the mixer's function: **Mix Source** and **Swap**.

Important

The **Mix Source** and **Swap** modes are enabled on the **System Menu**. From the **Home Menu**, press {**SYSTEM**} to access the menu. Scroll to the **Mix Src / Swap** line, and use the **ADJ** rotary knob to change modes.

The **Toggle** and **Mix Src / Swap** functions are only visible when **Split Layer** is off. When **Split Layer** is on, the two lines are hidden.

- With **Mix Source** mode enabled, both of the mixer's PIPs or Keys are perfectly co-located. Layer **A** and Layer **B** are exactly the same size — in exactly the same position — with exactly the same border and shadow. This layer mode is ideal for transitioning images inside a static PIP. Even though *two* identical PIPs are used, they visually appear as one.

Figure 6-5. System Menu: Mix Source Mode Enabled

- With **Swap** mode enabled, both of the mixer's PIPs or Keys can be located independently, with different positions, sizes, borders and shadows. Layer **A** and Layer **B** can be positioned and sized as desired — but only one can be on Program at a time.

Figure 6-6. System Menu: Swap Mode Enabled

With both **Mix Source** and **Swap** modes, one additional “transition” function can be used without restriction.

Figure 6-7. System Menu: Toggle Mode Enabled

- With **Toggle** mode enabled, sources toggle back and forth with each transition. When a PIP or Key source is selected in Preview and a transition is performed, the Program source “flip-flops” to Preview. Subsequent transitions simply alternate between sources. Any new source can be selected in Preview, and as long as **Toggle** is on, the last two selected sources will alternate.
- With **Toggle** off, the source selected in Preview *stays* in Preview, once the transition is complete. In this mode, you are required to change Preview sources manually.

Please note the following important points regarding **Mix Mode**:

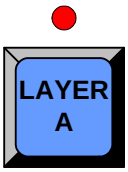
- In **Mix Mode**, there is always a layer available In Preview for a new source to be selected and taken to Program.
- Four transition combinations are possible:
  - ~ **Mix Source** with **Toggle On**
  - ~ **Mix Source** with **Toggle Off**
  - ~ **Swap** with **Toggle On**
  - ~ **Swap** with **Toggle Off**

Working with PIPs in Split Mode

In **Split Mode**, the mixer’s two layers operate *independently*.

Note

Even though this mode allows you to display two PIPs (or Keys) on air, it is more restrictive. Once both layers are on Program, you must transition them off Program, make changes — and then transition them back on.



- Use the following steps to work with PIPs in **Split Mode**.

1. In the **Mixer Functions Section**, ensure that the **Split Layer** button is **On**.
2. Press the desired layer button (**A** or **B**). Please note:
   - ~ The layer button blinks to indicate that it is active for modification.
   - ~ In the **Source Selection Bus**, the source currently assigned to the layer blinks.
   - ~ On the Preview monitor, the raster box for the selected layer blinks (even if it is hidden under another layer).
3. In the **Mixer Functions Section**, ensure that the **PIP** button is lit and the **PIP Adjustment Menu** is visible. If the menu is not visible, press **PIP**.

Note

Even if the layer is on Program, the **PIP Adjustment Menu** appears, but parameters can not be adjusted.

4. On the **Source Selection Bus**, press the button for the desired (new) source. The button blinks to indicate that it is selected, and the source appears within the PIP on Preview.
5. Adjust the PIP's size, position, border, shadow, source image, cropping and "special effects" as desired. Refer to the "**Modifying PIPs**" section on page 125 for details.
6. Prior to the transition, an additional PIP or key can be set up if desired in **Split Mode**:
   - ~ To set up an additional "**Split Mode**" PIP in Preview, repeat the procedure from step 2.
   - ~ To set up a Key in Preview, refer to the "**Working with Keys in Split Mode**" section on page 126.
7. Transition the "look" to program with a **WIPE**, **CUT** or **MIX**. Refer to the "**Working with Transitions**" section on page 135 for details.
8. Repeat the procedure from step **1** for the next transition.

Working with PIPs in Mix Mode

In **Mix Mode**, the mixer's layers are ganged together. Both PIPs can be perfectly co-located on screen (**Mix Source** mode), or both can operate independently (**Swap** mode), but only one PIP can be on screen at a time.

- Use the following steps to work with PIPs in **Mix Mode**.

1. In the **Mixer Functions Section**, ensure that the **Split Layer** button is **Off**.
2. Press the desired layer button (**A** or **B**). Please note:
   - ~ The layer button blinks to indicate that it is active for modification.
   - ~ In the **Source Selection Bus**, the source currently assigned to the layer blinks.
   - ~ On the Preview monitor, the raster box for the selected layer blinks (even if it is hidden under the DSK).
3. In the **Mixer Functions Section**, ensure that the **PIP** button is lit and the **PIP Adjustment Menu** is visible. If the menu is not visible, press **PIP**.
4. Press {**HOME**} **>** {**SYSTEM**} to display the **System Menu**.
   - ~ To co-locate the mixer's PIPs, select **MIX SOURCE**.
   - ~ To locate the mixer's PIPs independently, select **SWAP**.
   - ~ To toggle sources, enable **Toggle**.
5. On the **Source Selection Bus**, press the button for the desired (new) source. The button blinks to indicate that it is selected, and the source appears within the PIP on Preview.
6. Adjust the PIP's size, position, border, shadow, source image, cropping and "special effects" as desired. Refer to the "**Modifying PIPs**" section on page 125 for details.
7. Transition the new "look" to program with a **MIX**, **WIPE** or **CUT**. Refer to the "**Working with Transitions**" section on page 135 for details.
8. Repeat the procedure from step **1** for the next transition.

Modifying PIPs

- Use the following steps to modify a PIP:

1. Ensure that the PIP is selected in the **Layer Control Section**, and active for modification on Preview.
2. If the **PIP Adjustment Menu** is not visible, press **PIP** in the **Mixer Functions Section**.
3. **Size and Position** — Use the **SIZE**, **H POS** and **V POS** controls in the **PIP Adjustment Menu** to size and position the PIP on Preview as desired. In Chapter 4, refer to the "**PIP Adjustment Menu Description**" section on page 68 for menu details.
4. **Source Size** — From the **PIP Adjustment Menu**, press {**SRC**} to display the **Input Source Adjustment Menu**. Use the menu to adjust the source image's size and position within the PIP. In Chapter 4, refer to the "**Input Source Adjustment Menu Description**" section on page 82 for menu details.
5. **Crop** — From the **PIP Adjustment Menu**, press {**CROP**} to display the **Crop Adjustment Menu**. Use the menu to select the type of crop, the aspect ratio, and the image's H and V size. In Chapter 4, refer to the "**Crop Menu**" section on page 71 for menu details.
6. **Border** — From the **PIP Adjustment Menu**, press {**BORDER**} to display the **Border Menu**. Use the menu to select the border's style, color and size. In Chapter 4, refer to the "**Border Menu**" section on page 70 for menu details.
7. **Shadow** — From the **Border Menu**, press {**SHADOW**} to display the **Shadow Menu**. Use the menu to choose the shadow's size, position and transparency. In Chapter 4, refer to the "**Shadow Menu**" section on page 72 for menu details.
8. **Special Effects** — From the **Border Menu**, press {**EFX**} to display the **Image Effects Menu**. Use the menu to select monochrome or color mode, to modify chroma and hue, to invert the color, and to set a strobe effect. In Chapter 4, refer to the "**Image Effects Menu**" section on page 73 for menu details.
9. **Global Functions** — Remember that the following global functions are always available to you:
   - Press **Reset** to reset the *current effect* (e.g., PIP, Key, crop, etc.) to a nominal default value.
   - Press **Full Screen** to bring the PIP to full screen, using the source's height as the defining factor.
   - Press **Freeze** to freeze the PIP (on both Program and Preview). Press again to unfreeze.
10. **Transition** — Transition the new "look" to program with a **MIX**, **WIPE** or **CUT**. Refer to the "**Working with Transitions**" section on page 135 for details.

Working with Keys in Split Mode

In **Split Mode**, the mixer's two layers operate *independently*.

Note	Even though this mode allows you to display two PIPs (or Keys) on air, it is more restrictive. Once both layers are on Program, you must transition them off Program, make changes — and then transition them back on.

- Use the following steps to work with Keys in **Split Mode**.

1. In the **Mixer Functions Section**, ensure that the **Split Layer** button is **On**.
2. Press the desired layer button (**A** or **B**). Please note:
   - ~ The layer button blinks to indicate that it is active for modification.
   - ~ In the **Source Selection Bus**, the source currently assigned to the layer blinks.
   - ~ On the Preview monitor, the raster box for the selected layer blinks (even if it is hidden under another layer).
3. In the **Mixer Functions Section**, ensure that the **KEY** button is lit and the **Key Menu** is visible. If the menu is not visible, press **KEY**.

Note	Even if the layer is on Program, the **Key Menu** appears, but parameters can not be adjusted.

4. On the **Source Selection Bus**, press the button for the desired (new) key source. The button blinks to indicate that it is selected, and the source appears on Preview.
5. Adjust the Key's mode, clip, gain, opacity, fill source, size, position, source image and cropping as desired. Refer to the "**Modifying Keys**" section on page 127 for details.
6. Prior to the transition, an additional PIP or key can be set up if desired in **Split Mode**:
   - ~ To set up an additional "**Split Mode**" Key in Preview, repeat the procedure from step 2.
   - ~ To set up a PIP in Preview, refer to the "**Working with PIPs in Split Mode**" section on page 123.
7. Transition the "look" to program with a **WIPE**, **CUT** or **MIX**. Refer to the "**Working with Transitions**" section on page 135 for details.
8. Repeat the procedure from step **1** for the next transition.

Working with Keys in Mix Mode

In **Mix Mode**, the mixer's layers are ganged together. Both Keys can be perfectly co-located on screen (**Mix Source** mode), or both can operate independently (**Swap** mode), but only one Key can be on screen at a time.

- Use the following steps to work with Keys in **Mix Mode**.

1. In the **Mixer Functions Section**, ensure that the **Split Layer** button is **Off**.
2. Press the desired layer button (**A** or **B**). Please note:

- ~ The layer button blinks to indicate that it is active for modification.
- ~ In the **Source Selection Bus**, the source currently assigned to the layer blinks.
- ~ On the Preview monitor, the raster box for the selected layer blinks (even if it is hidden under the DSK).

3. In the **Mixer Functions Section**, ensure that the **KEY** button is lit and the **Key Menu** is visible. If the menu is not visible, press **KEY**.
4. Press {**HOME**} **>** {**SYSTEM**} to display the **System Menu**.
   - ~ To co-locate the mixer's Keys, select **MIX SOURCE**.
   - ~ To locate the mixer's Keys independently, select **SWAP**.
   - ~ To toggle sources, enable **Toggle**.
5. On the **Source Selection Bus**, press the button for the desired (new) key source. The button blinks to indicate that it is selected, and the source appears on Preview.
6. Adjust the Key's mode, clip, gain, opacity, fill source, size, position, source image and cropping as desired. Refer to the "**Modifying Keys**" section on page 127 for details.
7. Transition the new "look" to program with a **MIX**, **WIPE** or **CUT**. Refer to the "**Working with Transitions**" section on page 135 for details.
8. Repeat the procedure from step **1** for the next transition.

Modifying Keys

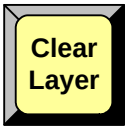
- Use the following steps to modify a Key:

1. Ensure that the Key is selected in the **Layer Control Section**, and active for modification on Preview.
2. If the **Key Menu** is not visible, press **KEY** in the **Mixer Functions Section**.
3. **Clip, Gain, Mode, Opacity** — Use the controls in the **Key Menu** to adjust the Key's clip, gain, invert mode and opacity on Preview as desired. In Chapter 4, refer to the "**Key Menu Description**" section on page 76 for menu details.
4. **Fill Source** — Use the controls in the **Key Menu** to select a self or matte fill key. If **Matte** is selected, press {**MATTE**} to display the **Matte Menu**, with which you can choose the matte fill color. In Chapter 4, refer to the "**Matte Menu**" section on page 78 for menu details.
5. **Size and Position** — From the **Key Menu**, press {**SIZE & POS**} to display the **Key Adjustment Menu**. Use the controls to size and position the Key on Preview as desired. In Chapter 4, refer to the "**Key Adjustment Menu**" section on page 79 for menu details.
6. **Crop** — From the **Key Menu**, press {**CROP**} to display the **Crop Adjustment Menu**. Use the menu to select the type of crop, the aspect ratio, and the image's H and V size. In Chapter 4, refer to the "**Crop Menu**" section on page 71 for menu details.
7. **Source Size** — From the **Crop Menu**, press {**SRC**} to display the **Key Source Adjustment Menu**. Use the menu to adjust the source image's size and position within the PIP. In Chapter 4, refer to the "**Input Source Adjustment Menu Description**" section on page 82 for menu details.

8. **Special Effects** — From the **Matte Menu**, press {**EFX**} to display the **Image Effects Menu**. Use the menu to select monochrome or color mode, to modify chroma and hue, to invert the color, and to set a strobe effect. In Chapter 4, refer to the "**Image Effects Menu**" section on page 73 for menu details.
9. **Global Functions** — Remember that the following global functions are always available to you:
   - ~ Press **Reset** to reset the *current effect* (e.g., PIP, Key, crop, etc.) to a nominal default value.
   - ~ Press **Full Screen** to bring the Key to full screen, using the source's height as the defining factor.
   - ~ Press **Freeze** to freeze the Key (on both Program and Preview). Press again to unfreeze.
10. **Transition** — Transition the new "look" to program with a **MIX**, **WIPE** or **CUT**. Refer to the "**Working with Transitions**" section on page 135 for details.

Clearing Layers from Program

The "clear layer" procedure enables you to remove layers from Program. By comparing your Program and Preview monitors and creating the desired look on Preview, you will you'll always know what PIPs and keys to you wish to clear. Refer to the "**Lookahead Preview**" section on page 118 for additional details.



- Use the following steps to clear a layer from Program:
  1. Check (and compare) the Program and Preview monitors, and note the layer(s) that you wish to clear. In the **Layer Control Section**, **Red LEDs** above buttons indicate layers that are on Program.
  2. If the button for the layer that you wish to clear is not lit, press to light it — and ensure the button is blinking.
  3. In the **Mixer Functions Section**, press **Clear Layer**. This action causes the layer button to extinguish, and its layer to clear from Preview. This step is valid for all buttons in the **Layer Control Section**.
  4. Prior to the transition, if you want to clear additional layers from Preview, repeat steps **2** and **3**.
  5. Transition the new "look" to program with a **MIX**, **WIPE** or **CUT**. The selected layer(s) will transition off of Program.

Working with Layer Functions

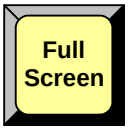
The following topics are discussed in this section:

Changing the Layer Mode

- Use the following steps to change the layer mode:

1. Ensure that the PIP or Key that you wish to change is selected in the **Layer Control Section**, and active for modification.
2. In the **Mixer Functions Section**:
   - ~ Press **PIP** to change a Key to a PIP, or ...
   - ~ Press **Key** to change a PIP to a Key.

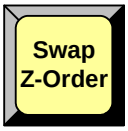
Using Full Screen



- Use the following steps to take the active PIP or Key to full screen:

1. Ensure that the PIP or Key is selected in the **Layer Control Section**, and active for modification in Preview.
2. In the **Mixer Functions Section**, press **Full Screen**. The source's height will be used as the parameter that define's the full screen size. If borders are **ON**, they will be taken into account so that they are visible.

Using Swap Z-Order



- Use the following steps to swap the Z-Order (priority) of two layers within the same mixer. The function works with two Keys, two PIPs, or one of each.

1. Ensure that you have two layers on Preview, with one layer visually overlapping the other.
2. In the **Mixer Functions Section**, press **Swap Z-Order**. The visual priority (on Preview) of the two layers changes. Note that the layers remain at their current locations — only the priority changes.
3. Transition the new "look" to program with a **MIX**, **WIPE** or **CUT**.

Using Freeze

- Use the following steps to freeze a layer's motion on both Program and Preview. This function is useful for PIPs and Keys that use video and animated graphics.

1. In the **Layer Control Section**, activate the layer that you wish to freeze. The button blinks to indicate it is active.
2. In the **Mixer Functions Section**, press **Freeze** to freeze the layer on both **Preview** and **Program** (if applicable). The button lights to indicate that a "freeze" is associated with the current layer.

Note

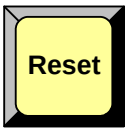
The lit **Freeze** button indicates the association between the selected layer and the "freeze" function. If you select a different layer that does not have an associated freeze, the button goes out. If you return to the "associated" layer, the button lights again.

3. With the layer selected and active, turn off the **Freeze** button to restore motion to the source.

Note

If a source is on Program, selecting its layer and pressing **Freeze** will freeze the image on Program. You can also use **Freeze** if the PIP is only on Preview, and then transition the frozen image to Program.

Using Reset

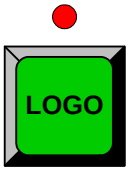


The **Reset** function is context sensitive. It is used to reset the *current effect* to a nominal default value on Preview.

- Use the following steps to reset a specific PIP or Key modification parameter:

1. In the **Layer Control Section**, activate the layer that you wish to reset. The layer button blinks to indicate it is active.
2. Ensure the layer is on Preview. Functions on Program cannot be reset.
3. Ensure that **Freeze** is off. Frozen PIPs or Keys cannot be reset.
4. If required, access the "menu" whose specific function you want to reset (e.g., borders, shadows, special effect, size, etc).
5. In the **Mixer Functions Section**, press **Reset** to reset the current effect.

Using LOGO as Black Preview



In addition to its use as a full screen downstream graphic (with the highest visual layer priority), the **LOGO** layer can also be used as a convenient “black preview” function. This enables you to fade to black at any time, from any simple or complex setup, without affecting the underlying "look."

- Use the following steps to fade to black using the **LOGO**:

  1. Set up your PIPs and Keys in the normal manner.
  2. In the **Layer Control Section**, press **LOGO** to display the **Logo Input Setup** menu. The full screen LOGO appears on preview. Note that raster boxes for PIPs and Keys remain visible.
  3. On the **Logo Input Setup** menu, select **Black** as the "type."
  4. Transition the **LOGO** to Program with a **MIX**, **WIPE** or **CUT**. A transition to black will occur.

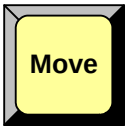
Note

After a transition, the **LOGO** layer is automatically cleared from Preview. In this way the next transition will always fade up from black to your previous setup.

Using Move

The following topics are discussed in this section:

Programming Moves



ScreenPRO-II enables you to move a PIP or a key smoothly from one screen location to another at a predefined rate, while the layer is on-air. All moves are two-keyframe effects, with a starting location and an ending (destination) location.

There are two ways to program a move — on **Preview** or on **Program**.

Program Move on Preview Method

This mode enables you to program a move with the image on Preview only — before it has transitioned to Program. When you press **Move Setup** to change a layer's size and position, the entire image moves to the new location.

- Use the following steps to program a move on Preview:

1. In the **Layer Control Section**, select the layer that you want to move (**A** or **B**). The button blinks to indicate that it is active for modification.
2. In the **Mixer Functions Section**, select **Key** or **PIP** as desired.
3. Size and position the PIP or Key in its "starting" location on Preview. Adjust all border, shadow and source parameters in the normal manner.
4. In the **Mixer Functions Section**, press **Move Setup**. The button blinks to indicate that you are now actively defining a move property.
5. Move the PIP or Key to its "ending" size and location.
6. To define the rate at which the PIP or Key moves, adjust the **Move Rate** parameter. The rate can be adjusted in 0.1 second increments.
7. Press **Move Setup** again to complete the programming. The button remains lit solid, and the PIP or Key returns to its starting location on Preview.

Note

The lit **Move Setup** button indicates an association between the selected layer and a programmed "move." If you select a different layer that does not have an associated move, the button goes out. If you return to the "associated" layer, the button lights again.

8. To set up an additional move (provided that you are in **Split Layer** mode), repeat the procedure from step 2.

To pend and trigger the move, refer to the "Pending and Triggering Moves" section on page 133.

Program Move on Program Method

This mode enables you to program a move with the image on both Program and Preview — after a layer has transitioned to Program. When you press **Move Setup** to change a layer's size and position, only the *raster box* moves — rather than the entire image.

- Use the following steps to program a move on Program:

1. In the **Layer Control Section**, select the layer (on Program) that you want to move (**A** or **B**). The button blinks to indicate that it is active for modification. Note that its current position is the move's "starting" location.
2. In the **Mixer Functions Section**, press **Move Setup**. The button blinks to indicate that you are now actively defining a move property.
3. Size and position the PIP or Key to its "ending" location. Note that on Preview, only the raster box moves.
4. Press **Move Setup** again to complete the programming. The button remains lit solid, and the raster box returns to its starting location on Preview.

Note

The move rate cannot be adjusted while the layer is on Program.

5. To set up an additional move (provided that you are in **Split Layer** mode), repeat the procedure from step 1.

To pend and trigger the move, refer to the "**Pending and Triggering Moves**" section.

Pending and Triggering Moves

For each layer on which you have programmed an associated move, you can "pend" and "trigger" the move in one of two ways — on **Preview** or on **Program**.

- **Pend on Preview Method**
- **Pend on Program Method**

Pend on Preview Method

This "move" method enables you to move the PIP or Key *automatically* on the next transition.

- Use the following steps to pend a move on Preview:

1. With the move properly programmed, ensure that the layer containing a move is selected and blinking.
2. To pend the move, press **Move** in the **Mixer Functions Section**. The button lights to indicate the pending move, and on Preview, the raster box blinks at the "destination" location — *not* the PIP or Key's current location.
3. Perform a **MIX**, **CUT or WIPE**. The transition takes the Preview image to air, and the move begins immediately on both Program and Preview.
4. To move the layer back to keyframe 1, press **Move**. The button lights and on Preview, the raster box blinks at the "starting" location.
5. Perform a **MIX**, **CUT or WIPE**. In this "ping-pong" manner, you can continue to transit back and forth between keyframes 1 and 2.

Pend on Program Method

This "move" method enables you to move the PIP or Key *manually,* when the layer is *already* on Program.

- Use the following steps to pend a move on Program:

1. With the move properly programmed, ensure that the layer containing a move is selected and blinking.
2. Perform a **MIX**, **CUT or WIPE**. The transition takes the Preview image to Program.
3. To pend the move, press **Move** in the **Mixer Functions Section**. The button lights to indicate the pending move, and on Preview, the raster box blinks at the "destination" location — *not* the PIP or Key's current location.
4. Perform a **MIX**, **CUT or WIPE**. The move begins when the button is pressed.
5. To move the layer back to keyframe 1, press **Move**. The button lights and on Preview, the raster box blinks at the "starting" location.
6. Perform a **MIX**, **CUT or WIPE**. In this "ping-pong" manner, you can continue to transit back and forth between keyframes 1 and 2.

Move Notes

Please note the following important points regarding the **Move** mode:

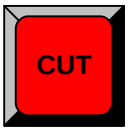
- **Clearing moves** — To clear a move (and remove the association between a layer and a move), press **Move Setup** twice.
- **On screen, off screen** — ScreenPRO-II enables you to move a PIP or Key from an offscreen location to an onscreen location, and vice-versa.
- **Switching modes** — If you program a move in **Split Layer** mode and switch to **Mix** mode (or vice-versa), the programmed move is lost.

Remember that **Move** behaves differently, depending on the selected mode:

- In **Split Layer** mode, two PIPs or Keys can be programmed and triggered independently (or simultaneously). You can pend layer **A**, layer **B**, or both, and then transition, as desired.
- In **Mix Source** mode, both PIPs or keys are perfectly co-located on screen. The move you program applies to both layers. After a move is programmed, the **Move Setup** button lights when either layer **A** or **B** is pressed.
  - ~ If **Toggle** is **On**, each time you transition, the source inside the PIP or Key changes automatically.
  - ~ If **Toggle** is **Off**, you must change sources manually (if desired) before each transition.
  - ~ "Ping-pong" transitions can be performed.
- In **Swap** mode, both layers can operate independently but only one PIP or key can be on screen at a time, and the system alternates between each layer on each transition.
  - ~ Each layer can have its own programmed move.
  - ~ The "toggle" mode applies in the normal manner.
  - ~ "Ping-pong" transitions cannot be performed.

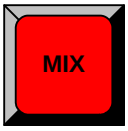
Working with Transitions

- Use the following steps to perform a **Cut**:



1. Set up the desired “look” in Preview.
2. In the **Transition Section**, press **CUT** to instantly cut the setup to Program.

- Use the following steps to perform a **Mix** (or "dissolve"):



1. Set up the desired “look” in Preview.
2. Preset the desired transition rate:
   a. Press {**HOME**} **>** {**EFFECTS**} to display the **Effects Menu**.
   b. Adjust the **Transition Rate** field for the desired rate, in 0.1 second increments.
3. In the **Transition Section**, press **MIX** to dissolve the setup to Program.

- Use the following steps to perform a **Wipe**:

1. Set up the desired “look” in Preview.
2. Preset the desired transition rate, wipe effect and wipe edge:
   a. Press {**HOME**} **>** {**EFFECTS**} to display the **Effects Menu**.
   b. Adjust the **Transition Rate** field for the desired rate, in 0.1 second increments.
   c. Adjust the **Transition Wipe** field for the desired wipe pattern.
   d. Adjust the **Transition Edge** field for the desired wipe edge.
3. In the **Transition Section**, press **WIPE** to wipe the setup to Program.

Modifying Layers On Program

The ScreenPRO-II system enables you to modify layers directly on Program, without first setting up a "look" on Preview. The mode is typically used for creating and viewing a "look" on Program, especially in conjunction with a large screen projector — when the Preview monitor may be too small to realize the desired result.

- Use the following steps to modify layers directly on Program:

  1. Press {**HOME**} > {**SYSTEM**} to access the **System Menu**.
  2. Scroll to the **Modify Layers On Program** line and turn the mode **ON**. You can now change PIPs and Keys directly on Program.

Important

When you switch sources directly on Program, you may notice a glitch in the image as the scalers recall the source's file. In addition, if you use camera inputs in this mode, it is recommended that all your sources are genlocked.

Capturing Still Frames

The following topics are discussed in this section:

Still Frame Capture Overview

ScreenPRO-II enables you to capture still frames into the system's three internal frame stores, using the system's **BG A** or **BG/DSK B** inputs as full screen sources, or using a layer as a full screen source. Please note:

- All full screen captures from the background inputs occur on the **Preview** monitor — thus the desired source that you want to capture must be visible on Preview.
- All "layer" captures also occur on the **Preview** monitor, but the system only captures the active layer in its *current size and position*, with no borders, and with black as the background.

Note

The "**Preview**" capture requirement ensures that the Program output does not glitch when a live image is momentarily frozen and placed in temporary memory.

Please note the following important prerequisites to all frame grab procedures:

- Ensure that you are familiar with the **Background Input Setup Menu**. In Chapter 4, refer to the "**Background Input Setup Menu**" section on page 84.
- Ensure that you are familiar with the **Frame Grab Menu**. In Chapter 4, refer to the "**Frame Grab Menu**" section on page 88 for details.

Capturing Still Frames from a Background Input

- Use the following steps to capture a still frame from a background input:

1. Ensure that the background input from which you want to capture a still is properly set up as a DVI input. In Chapter 5, refer to the "**Using a DVI Input as a Background or DSK**" section on page 109 for instructions.
2. Ensure that **BG A**, **BG B** or the **DSK** are not on Program. If they are, you will get a pop-up prompt. Transition them off Program in the normal manner.
3. If you want to capture from **BG B**, ensure that the **DSK** is not in use.
4. In the **Layer Control Section**, select the background button from which you want to capture a still. The button blinks, the source appears on Preview, and the selected **Background Input Setup Menu** appears.
5. Press {**FRAME GRAB**} to display the **Frame Grab Menu** for that specific background.
6. On the **FG to Capture** line, select the temporary frame store into which the still will be captured (**FG_1**, **FG_2** or **FG_3**).

7. Press {**CAPTURE**} to capture the still. Once pressed, the screen will indicate that the frame is being captured. A pop-up message confirms the procedure.
8. Repeat the procedure from step **4** to capture additional stills from a background input. Remember that you can always overwrite **FG_1**, **FG_2** or **FG_3**.

Please note:

- The captured still(s) can now be assigned as the input "type" for **BG A**, **BG B**, the **DSK** or the **LOGO**. In Chapter 5, refer to the "**Using a Still Frame as a Background**" section on page 110 for instructions.
- Captured stills reside in temporary memory. If the system is powered down or reset, the stills will be lost. To save stills in permanent memory, refer to the "**Saving Still Frames in Permanent Memory**" section on page 139.

Capturing Still Frames from a Layer

- Use the following steps to capture a still frame from a layer:

1. Ensure that the layer you want to capture is not on program. If it is, you will get a pop-up prompt. Transition the layer off Program in the normal way.
2. Ensure that **BG A**, **BG B** or the **DSK** are not on Program. If they are, you will get a pop-up prompt. Transition them off Program in the normal manner.
3. In the **Layer Control Section**, select the layer from which you want to capture a still. The button blinks and the layer appears on Preview.
4. Select **PIP** or **Key** in the normal manner. The selected **PIP** or **Key Adjustment Menu** appears.
5. Adjust the PIP or Key's size and position. Remember that:
   - ~ The system will capture the active layer in its *current size and position*, with no borders, and with black as the background.
   - ~ If you have two layers on Preview, only the active layer will be captured, regardless of image priority.
6. Press {**HOME**} **>** {**FRAME GRAB**} to display the **Frame Grab Menu**.
7. On the **FG to Capture** line, select the temporary frame store into which the still will be captured (**FG_1**, **FG_2** or **FG_3**).
8. Press {**CAPTURE**} to capture the still. Once pressed, the screen will indicate that the frame is being captured. A pop-up message confirms the procedure.
9. Repeat the procedure from step **1** to capture additional stills from a layer. Remember that you can always overwrite **FG_1**, **FG_2** or **FG_3**.

Please note:

- The captured still(s) can now be assigned as the input "type" for **BG A**, **BG B**, the **DSK** or the **LOGO**. In Chapter 5, refer to the "**Using a Still Frame as a Background**" section on page 110 for instructions.
- Captured stills reside in temporary memory. If the system is powered down or reset, the stills will be lost. To save stills in permanent memory, refer to the "**Saving Still Frames in Permanent Memory**" section on page 139.

Saving Still Frames in Permanent Memory

- Use the following steps to save a captured still into permanent memory.

1. Capture a still as outlined in the previous two sections.
   - ~ "**Capturing Still Frames from a Background Input**" on page 137.
   - ~ "**Capturing Still Frames from a Layer**" on page 138.

Warning

Do not execute the next step during live production. All controls will be locked during the "save" process. It is recommended that you save stills in pre-production as a "setup" procedure.

2. On the **Frame Grab Menu**, press {**SAVE**} to save the captured frame into the selected permanent storage register (**FG_1**, **FG_2** or **FG_3**). Once pressed, the screen will display an important warning:

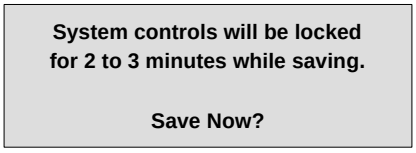


Figure 6-8. Background Frame Save Warning

   - ~ Press **YES** to save the frame. All front panel controls will be locked for up to three minutes.
   - ~ Press **NO** to cancel the procedure.

3. If required, press {**DELETE**} to delete the selected frame from permanent storage. This button only appears when frames are stored in permanent memory.

A. Specifications

In This Appendix

This appendix provides detailed technical specifications for the ScreenPRO-II. The following topics are provided:

Input Specifications

The table below lists ScreenPRO-II input specifications.

Table A-1. ScreenPRO-II Input Specifications

Parameter	Specification
Scaled Channel Inputs	Analog inputs (8) — RGBHV / RGBS / RGsB computer video, YPbPr video (SD or HD), S-video, or composite video on 15-pin HD connector
	SD and HD-SDI Input (2 optional) — Per SMPTE 259M-C (NTSC / PAL resolution) SMPTE 292M (HDTV) on BNC connector
Scaler Input Resolutions	480i
	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
Un-scaled Background / DSK Channel Inputs	DVI Inputs (2) — Digital DVI per DDWG 1.0 on DVI-I connector
Background / DSK Input Resolutions	Computer resolutions: VGA (640 x 480) through UXGA (1600 x 1200)
	HDTV resolutions, progressive up to 1920 x 1080 (1080p)
	2048 x 1080p (Digital Cinema format)
	Plasma display resolutions

Output Specifications

The table below lists ScreenPRO-II output specifications.

Table A-2. ScreenPRO-II Output Specifications

Parameter	Specification
Analog Outputs	RGBHV / RGBS / RGsB (non-interlaced only) on 15-pin HD connectors
	Preview and two Program monitor / projector outputs
Digital Outputs	Digital DVI per DDWG 1.0 on DVI-I connector (Program output)
Output Resolutions	Computer resolutions VGA (640 x 480) through UXGA (1600 x 1200)
	HDTV resolutions, progressive up to 1920 x 1080 (1080p)
	2048 x 1080p (Digital Cinema format)
	Plasma display resolutions

User Control

The table below lists ScreenPRO-II user control specifications.

Table A-3. ScreenPRO-II User Control Specifications

Parameter	Specification
Front Panel control	LCD Touch Screen, keyboard circuitry, rotary encoders and LED lighted push buttons.
Control Options	The unit may be controlled from a computer or external controller via LAN, or an RS-232 serial link.
	Control functions include:
	• Source input configuration
	• Output format selection
	• Test pattern selection
	• Video source selection for PIPs or Keys
	• Transition effect selection and control

Physical and Electrical Specifications

The table below lists ScreenPRO-II physical and electrical specifications.

Table A-4. ScreenPRO-II Physical and Electrical Specifications

Parameter	Specification
Power	120-240 VAC - 50/60 Hz., Auto-selecting 1.0A maximum
Mechanical	3 RU Rackmount Chassis
	H: 5.25 inches (13.34 cm)
	W: 17.00 inches (43.18 cm)
	D: 15.00 inches (38.10 cm)
Weight	22 lbs (9.98 kg)
Temperature	0-40 degrees C
Humidity	0-95% non-condensing

Communications Specifications

The table below lists ScreenPRO-II communications specifications.

Table A-5. ScreenPRO-II Communications Specifications

Parameter	Specification
RS-232	DB-9 Female, DCE, 115k Baud
Ethernet	RJ-45, 10/100 Mbps Autosense

Pinouts

The following topics are discussed in this section:

DVI Connector Pinouts

The figure below illustrates the DVI connector:

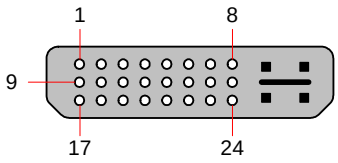


Figure A-1. DVI Connector

The table below lists DVI Connector pinouts. Please note:

- T.M.D.S = Transition Minimized Differential Signal
- DDC = Display Data Channel

Table A-6. DVI Connector Pinouts

Pin	Signal	Pin	Signal
1	T.M.D.S. Data 2-	13	T.M.D.S. Data 3+
2	T.M.D.S. Data 2+	14	+5V Power
3	T.M.D.S. Data 2/4 Shield	15	ground (for +5V)
4	T.M.D.S. Data 4-	16	Hot Plug Detect
5	T.M.D.S. Data 4+	17	T.M.D.S. Data 0-
6	DDC Clock	18	T.M.D.S. Data 0+
7	DDC Data	19	T.M.D.S. Data 0/5 Shield
8	Analog Vertical Sync	20	T.M.D.S. Data 5-
9	T.M.D.S. Data 1-	21	T.M.D.S. Data 5+
10	T.M.D.S. Data 1+	22	T.M.D.S. Clock Shield
11	T.M.D.S. Data 1/3 Shield	23	T.M.D.S. Clock +
12	T.M.D.S. Data 3-	24	T.M.D.S. Clock -

Analog 15-pin D Connector

The figure below illustrates the analog 15-pin D connector:

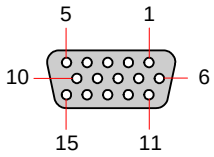


Figure A-2. Analog 15-pin D Connector

The table below lists Analog 15-pin D connector pinouts.

Table A-7. Analog 15-pin D Connector Pinouts

Pin	Signal	Pin	Signal
1	Red	9	
2	Green	10	GND
3	Blue	11	
4		12	
5		13	H Sync or C Sync
6	Red return	14	V Sync
7	Green return	15	
8	Blue return		

Note that each M/E's Analog Input connectors (**A** and **B**) accept a variety of analog formats including VGA, low-resolution composite video, S-video and YUV component video.

- For RGB with H and V sync, use the VGA connector directly.
- Using a (customer supplied) VGA to 5xBNC breakout cable, five input combinations are possible. Cells with check marks denote the connections required for the indicated format.

Table A-8. Analog Input Combinations using Breakout Cable

Breakout Cable Wire Color		Composite Video	S-Video (Y/C)	YUV (YP_bP_r)	RGB Sync on Green	RGB Comp Sync	RGB Separate H V
R			✓ (Chrom)	✓ (P_r)	✓	✓	✓
G		✓	✓ (Lum)	✓ (Lum)	✓	✓	✓
B				✓ (P_b)	✓	✓	✓
H Sync						✓	✓
V Sync							✓

Ethernet Connector

The figure below illustrates the Ethernet connector:

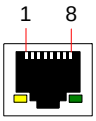


Figure A-3. Ethernet Connector

The table below lists Ethernet connector pinouts.

Table A-9. Ethernet Connector Pinouts

Pin	Signal	Wire Color
1	TX Data +	White / Orange
2	TX Data -	Orange
3	RX Data +	White / Green
4		Blue
5		White / Blue
6	RX Data -	Green
7		White / Brown
8		Brown

Serial Connector

The figure below illustrates the Serial connector:

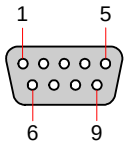


Figure A-4. Serial Connector

The table below lists Serial connector pinouts.

Table A-10. Serial Connector Pinouts

Pin	RS-232 Signal	Description
1	CD	Carrier Detect
2	RXD	Received Data
3	TXD	Transmitted Data
4	DTR	Data Terminal Ready
5	GND	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Unused

Input and Output Resolutions

This section provides a comprehensive list of available input and output resolutions, which you can assign to the selected input on the **Input Menu**, and as the system's output format on the **Output Menu** In Chapter 4, refer to the "**Input Menu Description**" and "**Output Menu Description**" sections for details.

Note

Please contact Barco **Technical Support** if you would like to request the addition of a new resolution.

Input and output resolutions are listed below. Each entry lists **Format @Fv (Hz)**.

Important

ScreenPRO-II does not support interlaced output resolutions. All interlaced video formats listed below are supported as inputs only, and noted as such in red.

- NTSC (480i) **(Input Only)**
- 720x480p
- PAL (576i) **(Input Only)**
- 720x575p
- 640x480 @59.94
- 640x480 @60
- 640x480 @72
- 640x480 @75
- 640x480 @85
- 800x600 @50
- 800x600 @56
- 800x600 @59.94
- 800x600 @60
- 800x600 @72
- 800x600 @75
- 800x600 @85
- 1024x768 @47.95
- 1024x768 @48
- 1024x768 @50
- 1024x768 @59.94
- 1024x768 @60
- 1024x768 @70
- 1024x768 @71.93
- 1024x768 @72
- 1024x768 @75

- 1024x768 @85
- 1152x864 @75
- 1280x768 @47.95
- 1280x768 @48
- 1280x768 @50
- 1280x768 @59.94
- 1280x768 @75
- 1280x960 @50
- 1280x960 @59.94
- 1280x960 @60
- 1280x960 @85
- 1280x1024 @47.95
- 1280x1024 @48
- 1280x1024 @50
- 1280x1024 @59.94
- 1280x1024 @60
- 1280x1024 @71.93
- 1280x1024 @72
- 1280x1024 @75
- 1280x1024 @85
- 1364x768 @47.95
- 1364x768 @48
- 1364x768 @50
- 1364x768 @59.94
- 1364x768 @75
- 1364x1024 @47.95
- 1364x1024 @48
- 1364x1024 @50
- 1364x1024 @59.94
- 1364x1024 @75
- 1400x1050 @48
- 1400x1050 @50
- 1400x1050 @59.94
- 1400x1050 @60
- 1400x1050 @75
- 1680x1050 @60
- 1600x1200 @47.95
- 1600x1200 @48
- 1600x1200 @50

- 1600x1200 @59.94
- 1600x1200 @60
- 1280x720p @50
- 1280x720p @59.94
- 1280x720p @60
- 1920x1080p @23.98
- 1920x1080p @24
- 1920x1080p @25
- 1920x1080p @29.97
- 1920x1080p @30
- 1920x1080p @50
- 1920x1080p @59.94
- 1920x1080p @60
- 1920x1080sF @23.98
- 1920x1080sF @24
- 1920x1080i @50 **(Input Only)**
- 1920x1080i @59.94 **(Input Only)**
- 1920x1080i @60 **(Input Only)**
- 2048x1080p @50
- 2048x1080p @59.94
- 2048x1080p @60
- 1920x1200p @60
- Apple 1200p @60
- 875p

B. Contact Information

In This Appendix

The following topics are discussed in this Appendix:

Warranty

All video products are designed and tested to the highest quality standards and are backed by a full 3-year parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferable. Barco warranties are only valid to the original purchaser/owner. Warranty related repairs include parts and labor, but do not include faults resulting from user negligence, special modifications, lightning strikes, abuse (drop/crush), and/or other unusual damages.

The customer shall pay shipping charges when unit is returned for repair. Barco will cover shipping charges for return shipments to customers.

Return Material Authorization (RMA)

In the unlikely event that a product is required to return for repair, please call the **Technical Support / Customer Service** direct line, and ask to receive a Return Merchandise Authorization number (RMA).

- (866) 374-7878

RMA Conditions are listed below:

a. Prior to returning any item, you must receive a Return Merchandise Authorization (RMA) number.

b. All RMA numbers must appear on their return-shipping label.

c. RMA numbers are valid for ten (10) days from issue date.

d. All shipping and insurance charges on all RMAs must be prepaid by the customer

Contact Information

Barco Events USA/Barco Folsom, LLC
11101 Trade Center Drive
Rancho Cordova, California 95670
USA

- Phone: (916) 859-2500
- Fax: (916) 859-2515
- Websites:
  - ~ www.folsom.com
  - ~ www.events.barco.com

Sales Contact Information

- Direct: (916) 859-2505
- Toll Free: (888) 414-7226
- E-mail: folsomsales@barco.com

Barco N.V.
Noordlaan 5
8520 Kuurne
BELGIUM

- Phone: +32 56.36.82.11
- Fax: +32 56.35.16.51
- Website: www.events.barco.com

Technical Support / Customer Service Information

- Tech Line: (866) 374-7878 — 24 hours per day, 7 days per week
- E-mail: folsomsupport@barco.com

C. Upgrading Software

In This Appendix

The following topics are discussed in this Appendix:

Software Upgrade Overview

Firmware files for the ScreenPRO-II system are loaded into the hardware at power-up. These files are stored in the unit's onboard flash memory, which can be accessed by using one of the following two methods:

- **Serial** — this method is the easiest to set up and use. The PC connection is made through the Serial 1 port on the ScreenPRO-II rear panel, in conjunction with the "Flash Loader" utility supplied with each upgrade.
- **Ethernet** — this method uses the rear panel's Ethernet port in conjunction with a small network consisting of a PC (or Laptop), a network hub and the ScreenPRO-II unit. However, this method still requires a serial port to be connected.

Note

The Ethernet method is twice as fast as the Serial method. Using Serial takes approximately 6 minutes, while using Ethernet takes approximately 3 minutes.

The Flash Loader utility enables you to update the Flash memory with the latest software revision. The utility should be run from a PC's hard drive (recommended).

Each upgrade method is discussed in the following sections:

- **Serial Upgrade Method**
- **Ethernet Upgrade Method**

Serial Upgrade Method

- Use the following steps to upgrade ScreenPRO-II software using a serial connection to your PC:

  1. Ensure that your PC (or laptop) uses the Windows® 2000 or XP operating systems.
  2. Ensure that your PC (or laptop) has RS-232 Serial Terminal software installed, such as **HyperTerminal**. This software enables the PC to send serial commands to the ScreenPRO-II unit.
  3. Download the latest ScreenPRO-II firmware update from the web:
     a. On the web, navigate to **http://video.folsom.com**.
     b. Click "**Downloads**" to access the **Downloads Page**.
     c. Using the "**Select Video Product**" pull-down menu, click ScreenPRO-II.
     d. In the "**Software**" section, click the **Download** button for the latest version of code.
     e. When the **File Download Dialog** appears, click **Save** to save the file to your computer.
     f. When the **Save As Dialog** appears, navigate to the desired folder (or create a new one) and click **Save**.
     g. After the download is complete, navigate to the target folder and double-click the **EXE** to launch the installation shield.

h. Follow the prompts to install the upgrade package in the desired folder. Note that at the conclusion of the procedure, a new path will be created under **Start > Programs > Barco Folsom**.

Note

Do not move or copy any files out of the target folder.

4. Connect the **Serial 1** port on the back of the ScreenPRO-II to the **COM 1** port on your PC. In Chapter 2, refer to the "**ScreenPRO-II Rear Panel**" section on page 12 for the location of the **Serial 1** port.
5. Power-up the ScreenPRO-II.
6. On the PC, click **Start > Programs > Barco Folsom > ScreenPRO-II Software >** ScreenPRO-II **Flash Loader** to launch the Flash Loader utility, as shown below.

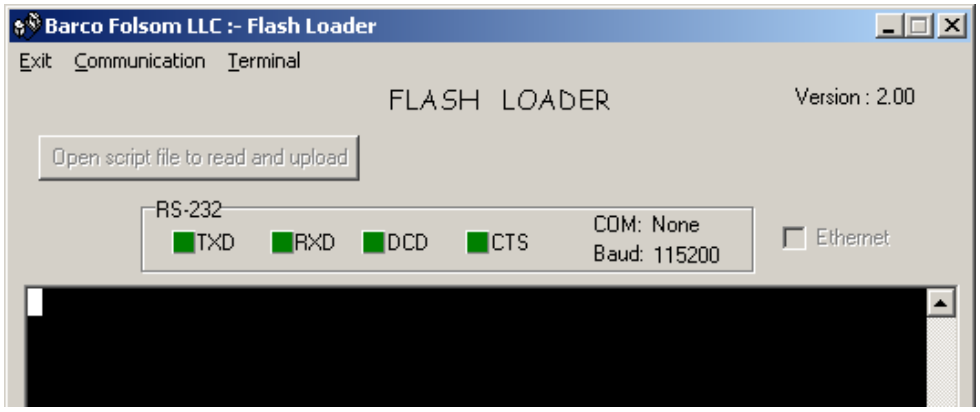


Figure C-1. Flash Loader Utility

Note

If you have not used the **COM 1** port on your PC, an error message will be shown at the bottom of the Flash Loader.

7. Click **Communication > RS232 Config > Baud**, and select 115200.
8. Click **Communication > RS232 Config > COM Port**, and select the COM port on your PC to which the ScreenPRO-II is connected. If no other programs are using the port, the "**Established communications**" message appears at the bottom of the Flash Loader.
9. To verify communications between the PC and the ScreenPRO-II unit:
   - **a.** In the loader program, click in the black terminal window area.
   - **b.** Note the condition of the status lights:
     - **DCD** and **CTS** should be red.
     - **TXD** and **RXD** should be green. They will flash if **Enter** is pressed.

Figure C-2. Flash Loader Status Lights, Normal Condition

   - **c.** Press **Enter** a few times to display the system prompt "#" on screen.

d. If the prompt does not appear, continue with step **10** (troubleshooting).

e. If the prompt appears, continue with step **11** (uploading files).

10. To troubleshoot the serial connection:

a. If the **DCD** and **CTS** status lights are green, re-check the communication settings in the loader, and verify that the COM port and Baud Rate settings are correct.

b. To verify ScreenPRO-II communication settings, on the front panel of the ScreenPRO-II unit press {**HOME**} **>** {**SYSTEM**} **>** {**SERIAL 1**} to display the **Serial 1 Port Setup Menu**.

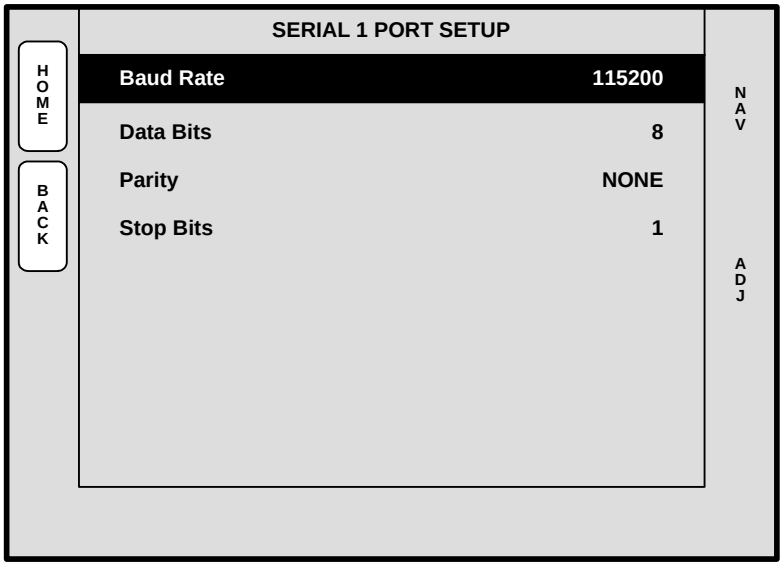


Figure C-3. Serial 1 Port Setup Menu (sample)

c. On the menu, ensure that the following settings are selected:

- **Baud Rate** = 115200
- **Data Bits** = 8
- **Parity** = NONE
- **Stop Bits** = 1

d. Repeat steps **7** and **8** above, then re-check the status lights.

e. With communication status OK, continue with step **11**.

11. To upload files to the ScreenPRO-II unit, click the "**Open script file to read and upload**" button.

12. In the dialog, select "**Upload_All.sld**" and click **Open**. The ScreenPRO-II unit should immediately display the "**System in LOADER MODE**" message.

13. It takes approximately 6 minutes to load the flash memory using the Serial method. When complete, the Flash Loader utility displays the "**Upload Complete**" message. Click **OK** to continue.

14. Cycle power on the ScreenPRO-II unit, and exit the Flash Loader utility.

15. On ScreenPRO-II, perform a factory reset.

Warning	Use caution when performing this step, as all saved files and saved still frames will be erased.

   a. From the **Home Menu**, press {**SYSTEM**} to access the **System Menu**.
   b. From the **System Menu**, press {**RESET**} to display the **Reset Menu**.
   c. On the **Reset Type** line, select **FACTORY**.
   d. Press {**RESET**}. When the confirmation screen appears, press {**YES**} to reset the system to factory default values.

16. On ScreenPRO-II, verify that the new software has been loaded correctly:
   a. From the **Home Menu**, press {**SYSTEM**} to access the **System Menu**.
   b. From the **System Menu**, press {**SW VER**} to display the **Software Version Menu**, then verify the new version.

Ethernet Upgrade Method

- Use the following steps to upgrade ScreenPRO-II software using an Ethernet connection to your PC:

1. Ensure that your PC (or laptop) uses the Windows® 2000 or XP operating systems.
2. Ensure that your PC (or laptop) has RS-232 Serial Terminal software installed, such as **HyperTerminal**. This software enables the PC to send serial commands to the ScreenPRO-II unit.
3. Please note the following important points:
   ~ Do not connect ScreenPRO-II to a Local Area Network (LAN) with an existing DHCP server running.
   ~ The factory default IP address for the ScreenPRO-II system is **192.168.0.10**, so the PC will use **192.168.0.191** as its IP address.
4. Download the latest ScreenPRO-II firmware update from the web:
   a. On the web, navigate to **http://video.folsom.com**.
   b. Click "**Downloads**" to access the **Downloads Page**.
   c. Using the "**Select Video Product**" pull-down menu, click ScreenPRO-II.
   d. In the "**Software**" section, click the **Download** button for the latest version of code.
   e. When the **File Download Dialog** appears, click **Save** to save the file to your computer.
   f. When the **Save As Dialog** appears, navigate to the desired folder (or create a new one) and click **Save**.
   g. After the download is complete, navigate to the target folder and double-click the **EXE** to launch the installation shield.

h. Follow the prompts to install the upgrade package in the desired folder. Note that at the conclusion of the procedure, a new path will be created under **Start > Programs > Barco Folsom**.

Note Do not move or copy any files out of the target folder.

5. Configure a small network system consisting of a Hub, the ScreenPRO-II and your PC (or laptop). Use the diagram below for reference.

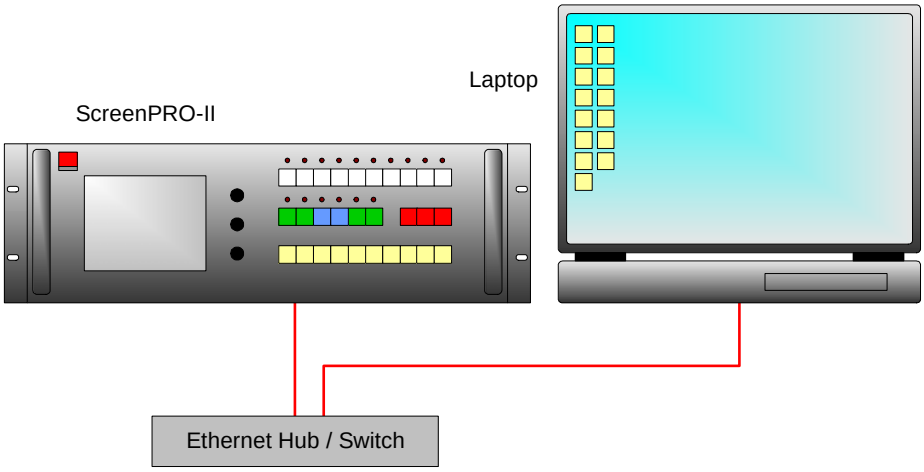


Figure C-4. Small Ethernet Network

Note Do not connect this small network to any other network.

6. Connect the **Serial 1** port on the back of the ScreenPRO-II to the **COM 1** port on your PC. In Chapter 2, refer to the "**ScreenPRO-II Rear Panel**" section on page 12 for the location of the **Serial 1** port.

7. Power-up the ScreenPRO-II and the Hub.

8. To assign a static IP address to the PC (or laptop), on the PC, click **Start > Settings > Control Panel** to display the Control Panel Window.

9. Double-click the **Network and Dial-up Connections** icon to display the Network and Dial-up Connections Window.

10. Note the status of the Local Area Connection, as shown below.

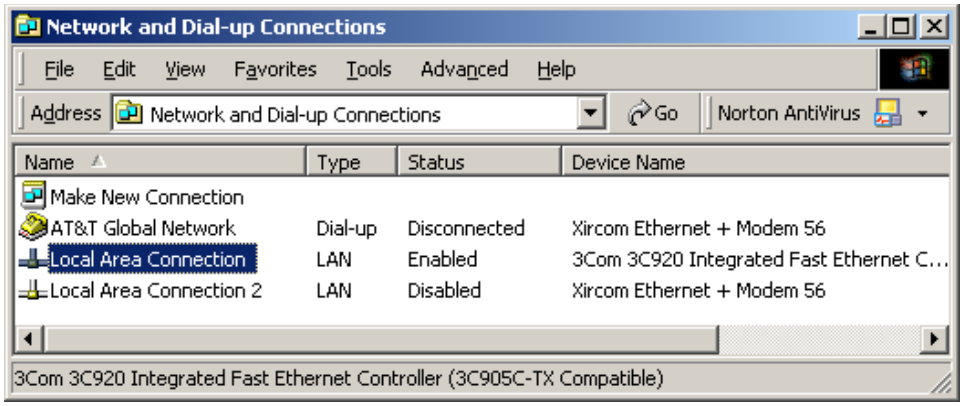


Figure C-5. Network and Dial-up Connections Window (sample)

- If the status is "**disabled**," contact your network administrator.
- If the status is "**enabled**," right click on the Local Area Connection label and select **Properties** from the pop-up menu.

The **Local Area Connection Properties Window** appears:

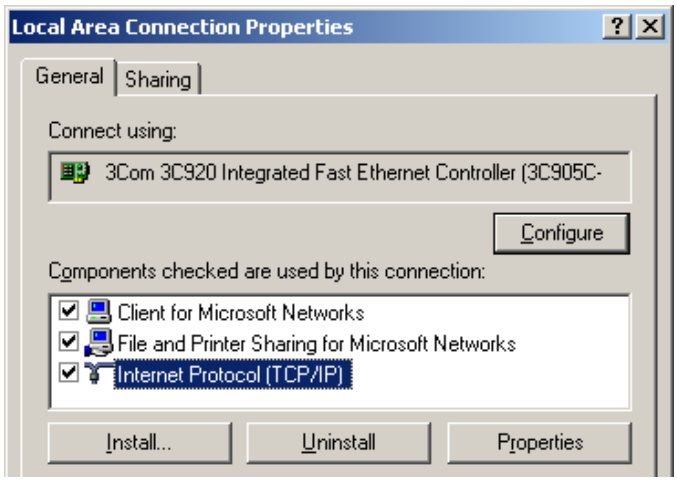


Figure C-6. Local Area Connection Properties Window (sample)

11. Ensure that the **Internet Protocol (TCP/IP)** check box is checked.

12. Click the **Internet Protocol (TCP/IP)** line to highlight it, then click the **Properties** button to display the **Internet Protocol (TCP/IP) Properties Dialog**.

13. Check the "**Use the following IP address**" check box, as shown below.

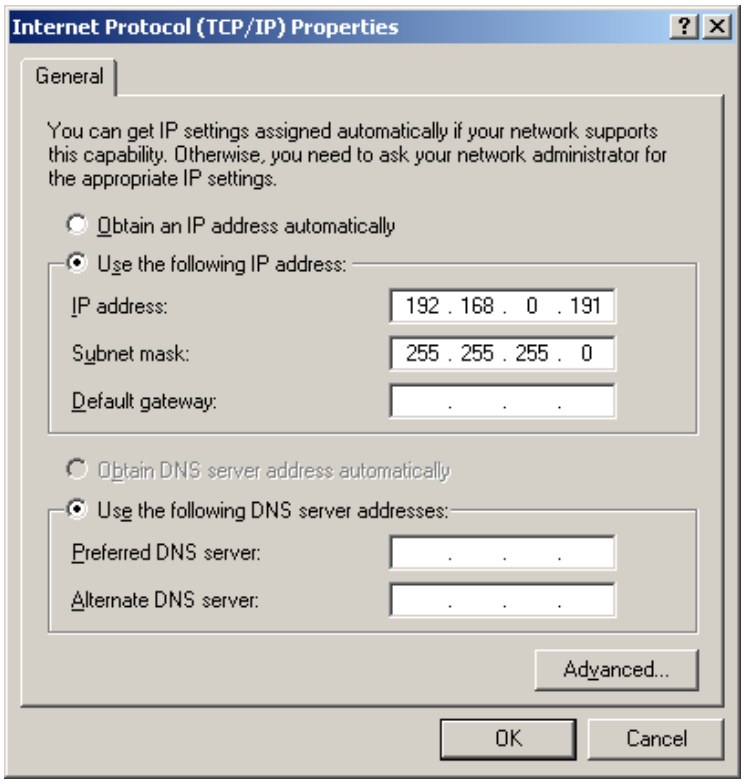


Figure C-7. Internet Protocol (TCP/IP) Properties Dialog (sample)

14. Set the IP Address to **192.168.0.191**.

Note

The static IP address shown above is within the unit's user-defined IP address range. If this address has already been assigned to another device, select a different IP address within the following range: **192.168.0.191** → **192.168.0.240**.

15. Set the Subnet Mask to **255.255.255.0**.
16. Set the Default Gateway to **192.168.0.1**.
17. When complete, click **OK** to close the dialog, then click **OK** to close the Local Area Connection Properties Window.
18. (Optional). Click **Start > Run** to display the **Run Dialog**.
    a. In the **Open** field, type **cmd**, then click **OK** to open a DOS command window.
    b. In the DOS command window, type **ipconfig**, and verify that the new IP address is correct.
    c. Close the DOS command window.

19. To connect to the ScreenPRO-II serial port:
    a. Click **Start > Programs > Accessories > Communications > HyperTerminal** to launch the HyperTerminal application.
    b. In the **Connection Description** dialog, enter a connection name, choose an icon, and click **OK**.
    c. In the **Connect To** dialog, click the **Connect using** pull-down menu, and choose **COM 1**.
    d. Click **OK** to display the **COM 1 Properties** dialog.
    e. Select the following settings:
        - **Baud Rate** = 115200
        - **Data Bits** = 8
        - **Parity** = NONE
        - **Stop Bits** = 1
20. In the terminal window, ensure that the # prompt is displayed, then type:

    ```
    LOADR
    ```

    .... and wait a few seconds for the > prompt.
21. In the terminal window, type:

    ```
    DHCP 0
    ```

    You might have to wait 10 seconds, until it binds to **192.168.0.10**.
22. On the PC, click **Start > Programs > Barco Folsom > ScreenPRO-II Software >** ScreenPRO-II **Flash Loader** to launch the Flash Loader utility, as shown below.

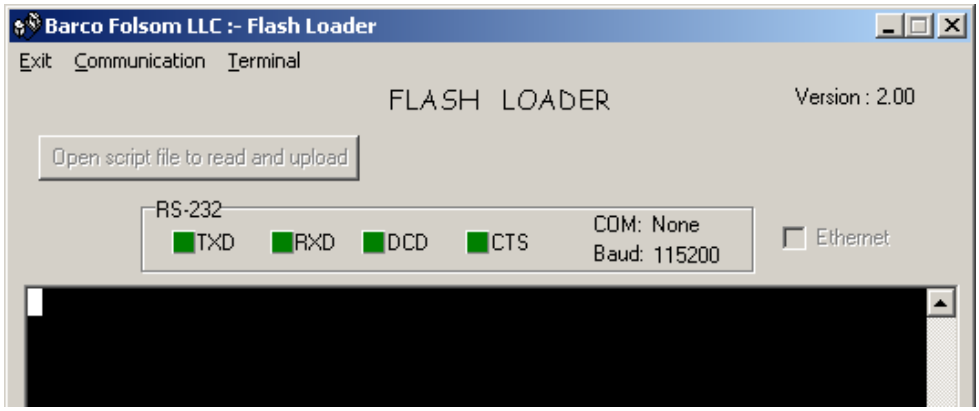


Figure C-8. Flash Loader Utility

23. Click **Communication > Ethernet > Connect** to display the **Ethernet Connection** dialog.

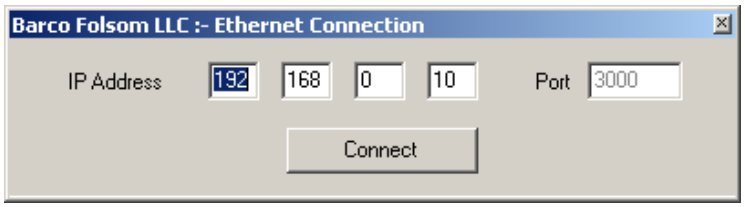


Figure C-9. Ethernet Connection Dialog (sample)

Note

If the **Ethernet** menu pick is grayed out, set the COM port to **None**.

24. In the dialog, enter the IP address of the ScreenPRO-II: **192.168.0.10**. The default port number is **3000**.
25. Click the **Connect** button. If the connection is successfully established, the message "**Connect via Ethernet successful**" will be shown in the Status Bar. If you cannot connect, refer to the "**Troubleshooting Ethernet Communications** section on page 165 for instructions.
26. To upload files to the ScreenPRO-II unit, click the "**Open script file to read and upload**" button.
27. In the dialog, select "**Upload_All.sld**" and click **Open**. The flash loader echoes commands while the flash is being loaded.
28. It takes approximately three minutes to load the flash memory using the Ethernet method. When complete, the Flash Loader utility displays the "**Upload Complete**" message. Click **OK** to continue.
29. Cycle power on the ScreenPRO-II unit, and exit the Flash Loader utility.
30. On ScreenPRO-II, perform a factory reset:

Warning

Use caution when performing this step, as all saved files and saved still frames will be erased.

   a. From the **Home Menu**, press {**SYSTEM**} to access the **System Menu**.
   b. From the **System Menu**, press {**RESET**} to display the **Reset Menu**.
   c. On the **Reset Type** line, select **FACTORY**.
   d. Press {**RESET**}. When the confirmation screen appears, press {**YES**} to reset the system to factory default values.

31. On ScreenPRO-II, verify that the new software has been loaded correctly:
   a. From the **Home Menu**, press {**SYSTEM**} to access the **System Menu**.
   b. From the **System Menu**, press {**SW VER**} to display the **Software Version Menu**, then verify the new version.

Troubleshooting Ethernet Communications

- Use the following steps to determine the IP address of the ScreenPRO-II, and establish proper communications:

1. The default IP address for the ScreenPRO-II unit is 192.168.0.10. To verify that this is the correct address, open the terminal program and create a serial communication link to the ScreenPRO-II:
    a. Click **Start > Programs > Accessories > Communications > HyperTerminal** to launch the HyperTerminal application.
    b. In the **Connection Description** dialog, enter a connection name, choose an icon, and click **OK**.
    c. In the **Connect To** dialog, click the **Connect using** pull-down menu, and choose **COM 1**.
    d. Click **OK** to display the **COM 1 Properties** dialog.
    e. Select the following settings:
        - **Baud Rate** = 115200
        - **Data Bits** = 8
        - **Parity** = NONE
        - **Stop Bits** = 1
        - **Flow Control** = hardware/software
2. Turn on the ScreenPRO-II.
3. In the terminal window, type:

    ```
    IPINFO
    ```

    (or SET if in the loader)
4. Verify that the following message is displayed:

    ```
    #ipinfo
    Server running
    IP Address 192.168.0.10
    Listen Port 3000
    Subnet Mask 255.255.255.0
    DHCP CLIENT
    DHCP Srvr IP Addr 192.168.0.11
    DHCP Srvr IP Count 180
    Static IP Address 192.168.0.10
    ```

    Note — The exact static IP Address may differ.
5. Ensure that Ethernet is connected from the PC to the hub (to which ScreenPRO-II is connected).

6. Open a DOS command window on the PC:

a. Click **Start > Run** to display the **Run Dialog**.

b. In the **Open** field, type **cmd**, then click **OK** to open a DOS command window.

7. In the DOS command window, type:

```
ping 192.168.0.10
```

... and press **Enter**.

Note Use the unit's actual IP address, as determined in step **4** above.

~ If the computer is able to successfully communicate with the ScreenPRO-II, you will see a series of "**replies**" from the target IP address.

~ If you see a "**Request timed out**" message, the PC is unable to locate and communicate with the ScreenPRO-II. If this is the case:

- Check your network connections and settings as described above, or ...
- Contact your network administrator.

8. With communications established, to find the current software revision:

a. Open the terminal program and create a serial communication link to the ScreenPRO-II unit.

b. At the ScreenPRO-II command prompt, type:

```
rev
```

... and press **Enter**.

D. Remote Control

In This Appendix

The following topics are discussed in this Appendix:

Using Remote Control

When ScreenPRO-II systems are controlled from an Encore or ScreenPRO-II Controller as unique destinations, the following procedures must be followed (in the order listed below) to ensure proper communications and control:

- **System Connection**
- **Setting Unique ScreenPRO-II IDs**
- **Enabling Remote Control**
- **Downloading Code**
- **Destination Setup**
- **Router Setup**
- **Output Patching**
- **Input Patching**
- **Disabling Remote Control**
- **Remote Control Caveats and Capabilities**

System Connection

The following sections provide examples of ScreenPRO-II communications connections when using an external controller. Configurations using both internal and external routing are shown.

Select the link below that is appropriate for your configuration:

- **Internal Router Configuration**
- **External Serial Router Configuration**
- **External Ethernet Router Configuration**
- **External Serial and Ethernet Router Configuration**

Important

The sections listed above cover input, routing and communications connections only. Background, output and genlock connections are performed in the normal manner. In Chapter 3, refer to the "**Installation**" section on page 32 for connection details.

Internal Router Configuration

The figure below illustrates the connections required for the following configuration:

- Two (or more) ScreenPRO-II units are used as unique destinations.
- Internal source routing is used on each ScreenPRO-II.

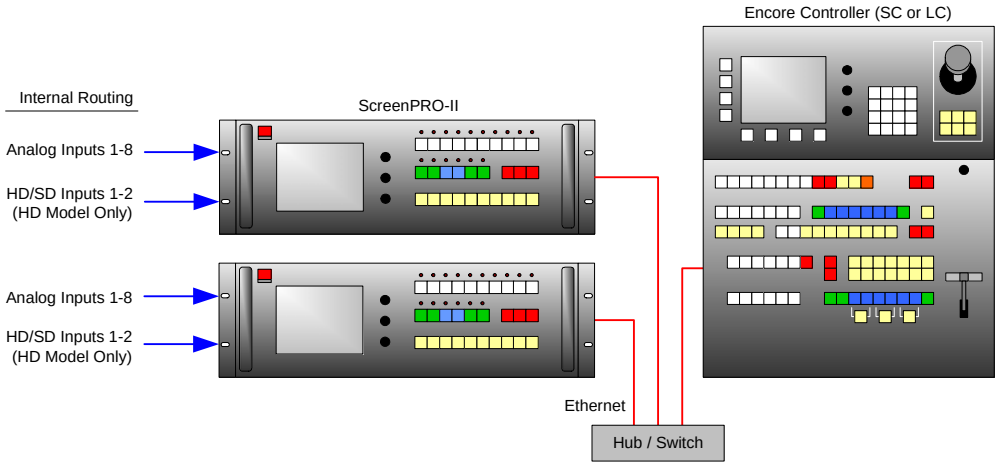


Figure D-1. ScreenPRO-II Units using Internal Source Routing

Use the following steps to connect ScreenPRO-II units as remote destinations, each using internal source routing:

1. Using a standard Ethernet cable, connect the **Ethernet Port** on the rear of the ScreenPRO-II chassis to your system's Ethernet **Hub** (or **Switch**). In Chapter 2, refer to the "**ScreenPRO-II Rear Panel**" section on page 12 for the location of the Ethernet port.

Note	A completely "local" network is strongly recommended, without IP connections to the outside world.

2. Repeat step **1** as required for each ScreenPRO-II chassis that you wish to use as a destination.
3. Using a standard Ethernet cable, connect the **Ethernet Port** on the rear of the Encore (or ScreenPRO-II) controller to the **Hub**. Refer to the "**Encore User's Guide**" for the location of the controller's Ethernet port.
4. Connect your analog and digital sources to each ScreenPRO-II in the normal manner. In Chapter 3, remember to complete the "**Input Connection Chart**" on page 30 to streamline your source installation procedure.
5. Please continue with the "**Setting Unique ScreenPRO-II IDs**" section on page 176.

External Serial Router Configuration

The figure below illustrates the connections required for the following configuration:

- Two (or more) ScreenPRO-II units are used as unique destinations.
- One external serial controlled router (RS-232) is used for analog source connections to each ScreenPRO-II.
- One external serial controlled router (RS-232) is used for SDI source connections to each ScreenPRO-II.

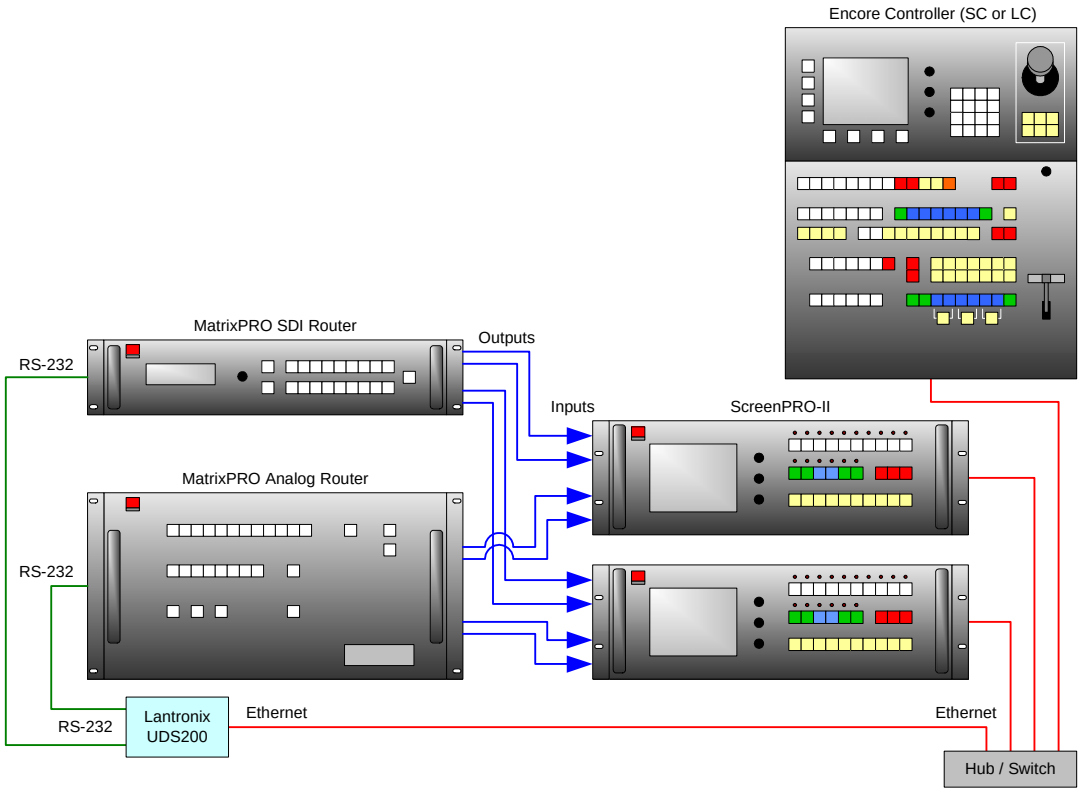


Figure D-2. ScreenPRO-II Units using External Serial Controlled Routers

Use the following steps to connect ScreenPRO-II units as destinations, using external serial controlled routers:

1. Using a standard Ethernet cable, connect the **Ethernet Port** on the rear of the ScreenPRO-II chassis to your system's Ethernet **Hub** (or **Switch**). In Chapter 2, refer to the "**ScreenPRO-II Rear Panel**" section on page 12 for the location of the Ethernet port.

Note

A completely "local" network is strongly recommended, without IP connections to the outside world.

2. Repeat step **1** as required for each ScreenPRO-II chassis that you wish to use as a destination.

3. Using a standard Ethernet cable, connect the **Ethernet Port** on the rear of the Encore (or ScreenPRO-II) controller to the **Hub**. Refer to the "**Encore User's Guide**" for the location of the controller's Ethernet port.

Note

For the next three steps, a **Lantronix UDS200** External Device Server is required (customer supplied). The UDS200 has two serial inputs marked **Channel 1** and **Channel 2**, plus one Ethernet port. (**www.lantronix.com**)

4. Connect the **RS-232** port on the analog router to the **Channel 1** input on the **UDS200** External Device Server.
5. Connect the **RS-232** port on the SDI router to the **Channel 2** input on the **UDS200** External Device Server.
6. Connect the **Ethernet** port on the **UDS200** External Device Server to the **Hub**.
7. To connect analog router outputs:
   a. Connect any two analog router outputs to any two analog inputs on the first ScreenPRO-II unit.
   b. Repeat for the second ScreenPRO-II unit.
   c. For the subsequent "output patch" procedure, make a note of the router outputs used, and the ScreenPRO-II inputs used.
8. To connect SDI router outputs:
   a. Connect any two SDI router outputs to SDI inputs **1** and **2** on the first ScreenPRO-II unit.
   b. Repeat for the second ScreenPRO-II unit.
   c. For the subsequent "output patch" procedure, make a note of the router outputs used, and the ScreenPRO-II inputs used.
9. Please continue with the "**Setting Unique ScreenPRO-II IDs**" section on page 176.

Note

The **Lantronix UDS200** is required in this configuration because there are *two* serial-to-Ethernet connections required. If only one serial connection was required (as illustrated in the "**External Serial and Ethernet Router Configuration**" section on page 174), you could connect serial control *direct* to the Encore controller's console.

External Ethernet Router Configuration

The figure below illustrates the connections required for the following configuration:

- Two (or more) ScreenPRO-II units are used as unique destinations.
- One external Ethernet controlled router is used for analog source connections to each ScreenPRO-II.
- One external Ethernet controlled router is used for SDI source connections to each ScreenPRO-II.

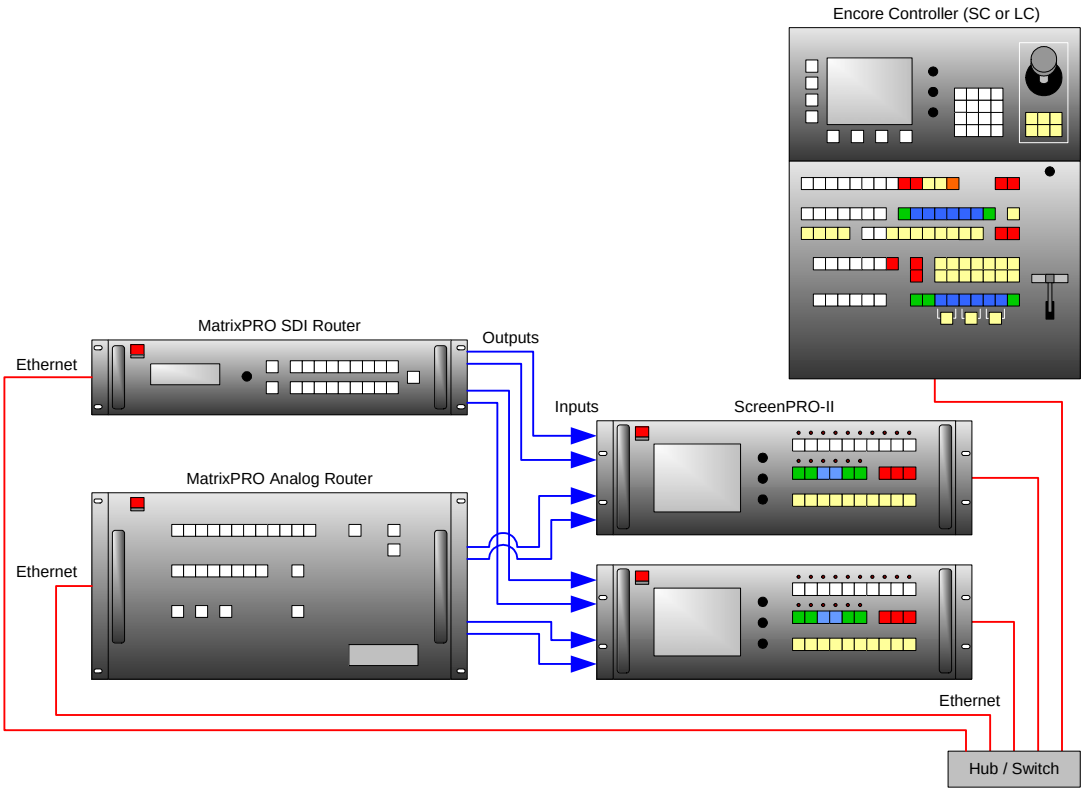


Figure D-3. ScreenPRO-II Units using External Ethernet Controlled Routers

Use the following steps to connect ScreenPRO-II units as destinations, using external Ethernet controlled routers:

1. Using a standard Ethernet cable, connect the **Ethernet Port** on the rear of the ScreenPRO-II chassis to your system's Ethernet **Hub** (or **Switch**). In Chapter 2, refer to the "**ScreenPRO-II Rear Panel**" section on page 12 for the location of the Ethernet port.

Note	A completely "local" network is strongly recommended, without IP connections to the outside world.

2. Repeat step **1** as required for each ScreenPRO-II chassis that you wish to use as a destination.

3. Using a standard Ethernet cable, connect the **Ethernet Port** on the rear of the Encore (or ScreenPRO-II) controller to the **Hub**. Refer to the "**Encore User's Guide**" for the location of the controller's Ethernet port.
4. Connect the **Ethernet Port** on the analog router to the **Hub**.
5. Connect the **Ethernet Port** on the SDI router to the **Hub**.
6. To connect analog router outputs:
    a. Connect any two analog router outputs to any two analog inputs on the first ScreenPRO-II unit.
    b. Repeat for the second ScreenPRO-II unit.
    c. For the subsequent "output patch" procedure, make a note of the router outputs used, and the ScreenPRO-II inputs used.
7. To connect SDI router outputs:
    a. Connect any two SDI router outputs to SDI inputs **1** and **2** on the first ScreenPRO-II unit.
    b. Repeat for the second ScreenPRO-II unit.
    c. For the subsequent "output patch" procedure, make a note of the router outputs used, and the ScreenPRO-II inputs used.
8. Please continue with the "**Setting Unique ScreenPRO-II IDs**" section on page 176.

External Serial and Ethernet Router Configuration

The figure below illustrates the connections required for the following configuration:

- Two (or more) ScreenPRO-II units are used as unique destinations.
- One external Ethernet controlled router is used for analog (or SDI) source connections to each ScreenPRO-II.
- One external serial controlled router (RS-232) is used for SDI (or analog) source connections to each ScreenPRO-II.

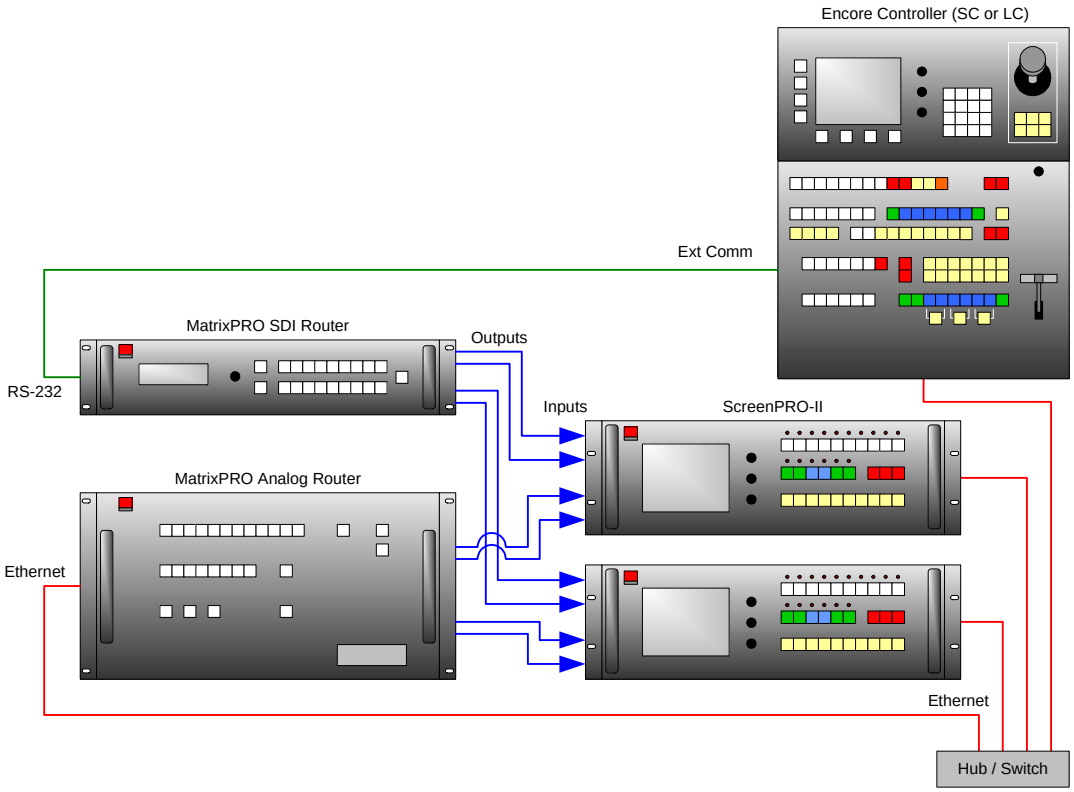


Figure D-4. ScreenPRO-II Units using External Serial and Ethernet Controlled Routers

Use the following steps to connect ScreenPRO-II units as destinations, using external serial and Ethernet controlled routers:

1. Using a standard Ethernet cable, connect the **Ethernet Port** on the rear of the ScreenPRO-II chassis to your system's Ethernet **Hub** (or **Switch**). In Chapter 2, refer to the "**ScreenPRO-II Rear Panel**" section on page 12 for the location of the Ethernet port.

Note	A completely "local" network is strongly recommended, without IP connections to the outside world.

2. Repeat step **1** as required for each ScreenPRO-II chassis that you wish to use as a destination.

3. Using a standard Ethernet cable, connect the **Ethernet Port** on the rear of the Encore (or ScreenPRO-II) controller to the **Hub**. Refer to the "**Encore User's Guide**" for the location of the controller's Ethernet port.
4. Connect the **RS-232** port on the analog (or SDI) router directly to the **Ext Comm Port** on the rear of the Encore (or ScreenPRO-II) controller.
5. Connect the **Ethernet** port on the SDI (or analog) router to the **Hub**.
6. To connect analog router outputs:
   a. Connect any two analog router outputs to any two analog inputs on the first ScreenPRO-II unit.
   b. Repeat for the second ScreenPRO-II unit.
   c. For the subsequent "output patch" procedure, make a note of the router outputs used, and the ScreenPRO-II inputs used.
7. To connect SDI router outputs:
   a. Connect any two SDI router outputs to SDI inputs **1** and **2** on the first ScreenPRO-II unit.
   b. Repeat for the second ScreenPRO-II unit.
   c. For the subsequent "output patch" procedure, make a note of the router outputs used, and the ScreenPRO-II inputs used.
8. Please continue with the "**Setting Unique ScreenPRO-II IDs**" section on page 176.

Setting Unique ScreenPRO-II IDs

On each ScreenPRO-II unit, the **Remote Control Menu** is used to set the ScreenPRO-II unit ID, and enable/disable remote control itself.

Note

Ensure that you know the unit IDs that are currently in use by the Encore (or ScreenPRO-II) Controller's system. If duplicate IDs are assigned, the Controller will detect the conflict and prompt you to take corrective action.

- Use the following steps to set unique ScreenPRO-II IDs:
  1. On the ScreenPRO-II unit, press {**HOME**} > {**REMOTE CONTROL**} to access the **Remote Control Menu**.
  2. Set the **Unit ID** to a value that is *not* used within the Encore (or ScreenPRO-II) Controller's system.
  3. Repeat steps **1** and **2** for each additional ScreenPRO-II unit.

Please continue with the "**Enabling Remote Control**" section on page 176.

Enabling Remote Control

- Use the following steps to enable ScreenPRO-II remote control:

1. On the ScreenPRO-II unit, press {**HOME**} > {**REMOTE CONTROL**} to access the **Remote Control Menu**.
2. Scroll to the **Remote Control** line, and turn it **ON**.

Important	When remote control is on, the {**HOME**} buttons disappears, the ScreenPRO-II front panel is disabled, and all control originates from the Encore or ScreenPRO-II Controller console. ScreenPRO-II is now a valid "destination."

3. In the "**Status**" section on the **Remote Control Menu**, verify the following:
   - ~ Connection status with the Controller.
   - ~ **Ctrlr IP** — the IP address of the Encore or ScreenPRO-II Controller.
   - ~ **Destination** — the destination currently assigned to ScreenPRO-II by the Controller.
   - ~ **Router** — the utilization of routers (either internal or external) as assigned by the Controller.

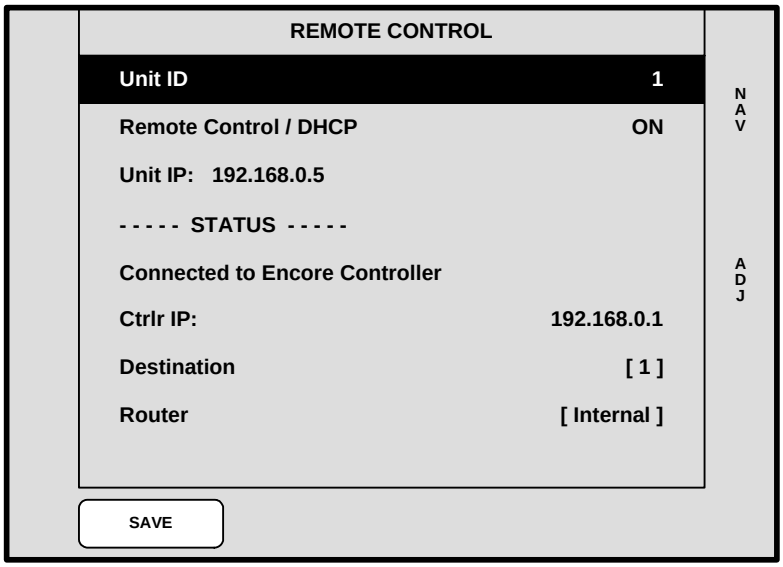


Figure D-5. Remote Control Menu (sample)

4. Press {**SAVE**} to save the configuration. In this manner, when the unit's power is cycled, the unit will power on and always look to connect to the remote Controller. If you do not save the configuration, the unit will power on in "standalone" operational mode.
5. Repeat from step **1** for each ScreenPRO-II unit.

Please continue with the "**Downloading Code**" section on page 177.

Downloading Code

Once the Controller connects to the remote ScreenPRO-II unit(s), it automatically checks the compatibility of the ScreenPRO-II code versions.

- If the ScreenPRO-II code versions match the Controller's version, the **System Status Menu** is shown, and you do not need to download code. Please continue with the "**Input Patching**" section on page 182.
- If the ScreenPRO-II versions are *incompatible* with the Controller, all buttons will flash on the Controller console. The **System Status Menu** is shown with the message "**Please Upgrade**." Continue with the procedure below.

Use the following steps to download code from the Controller to all connected ScreenPRO-II units:

1. On the Encore or ScreenPRO-II Controller console, press **SYSTEM** > {**SW VER**} to display the **Software Version Menu**.
2. Press {**DOWNLOAD CODE**} to begin the download process immediately. The entire process takes several minutes to complete.

   During the procedure, several "progress" messages will be shown. When complete, the **Download Code Results Menu** appears:

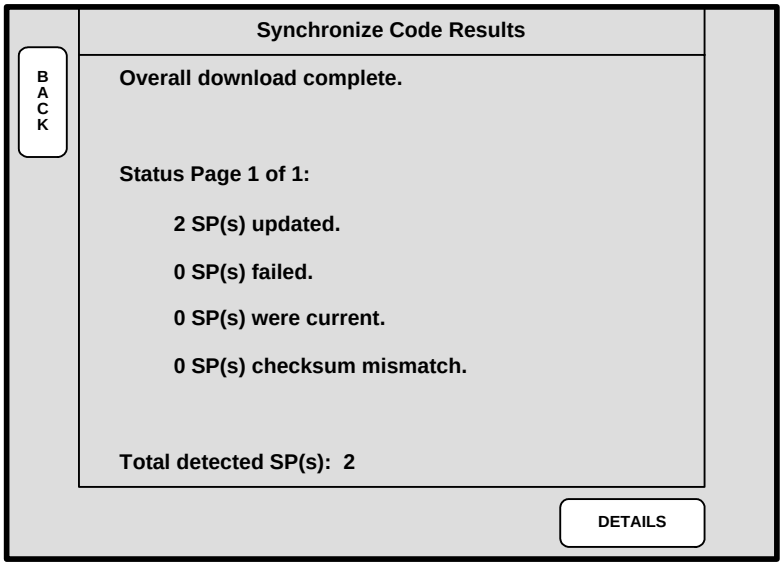


Figure D-6. Download Code Results Menu (sample)

At the conclusion of the download procedure, each ScreenPRO-II unit is running the same version of code as the Controller.

Please continue with the "**Destination Setup**" section on page 178.

Destination Setup

With code properly downloaded, the next procedure is to set up each ScreenPRO-II unit as a unique Encore (or ScreenPRO-II Controller) destination.

- Use the following steps to set up each ScreenPRO-II as a unique destination:

1. On the Encore or ScreenPRO-II Controller console (in the **System Keypad**), press **SYSTEM** > {**DEST SETUP**} to display the **Destination Setup Menu**.

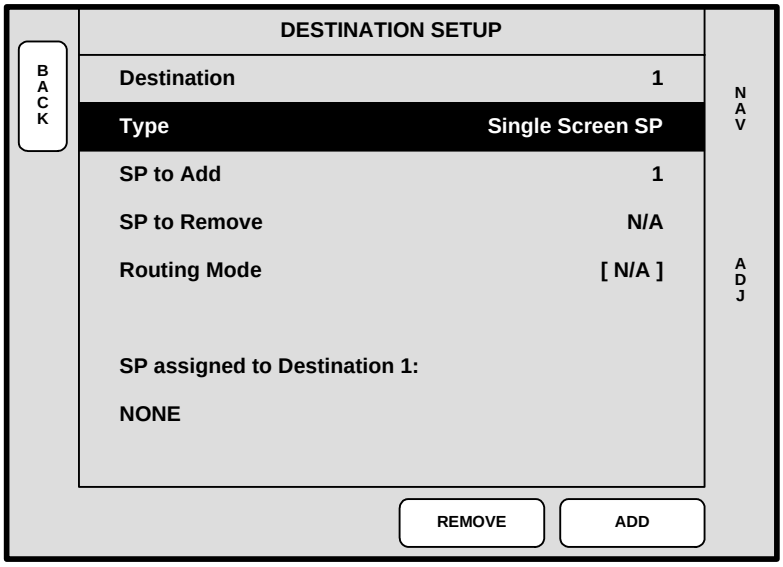


Figure D-7. Destination Setup Menu (sample)

2. Scroll to the **Destination** line and select the destination number that you wish to assign.
3. Scroll to the **Type** line and select **Single Screen SP**.
4. Scroll to the **SP to Add** line and select the ScreenPRO-II **ID** that you wish to add.
5. Press {**ADD**}.
6. (Optional) If you need to remove an ID from a selected destination, scroll to the **SP to Remove** line and press {**REMOVE**}.
7. Scroll to the **Routing Mode** line, and select either **Internal** or **External** — depending on the way that you want to configure your source routing.
8. Repeat from step **2** for each additional ScreenPRO-II destination that you want to assign.

At the conclusion of this procedure, each assigned destination can be selected on the Encore or ScreenPRO-II Controller console.

Please continue as follows:

- If you selected "**External**" routing, continue with the "**Router Setup**" section on page 179.
- If you selected "**Internal**" routing, please continue with the "**Input Patching**" section on page 182.

Router Setup

With your destinations properly set up, you can now set up each connected router.

Note

This procedure is not required if you are using "**Internal**" source routing on your ScreenPRO-II units.

- Use the following procedure to set up the routers that are connected to the ScreenPRO-II units:

1. On the Encore or ScreenPRO-II Controller console, press **SYSTEM** > {**ROUTER SETUP**} to display the **Router Specification Menu**.

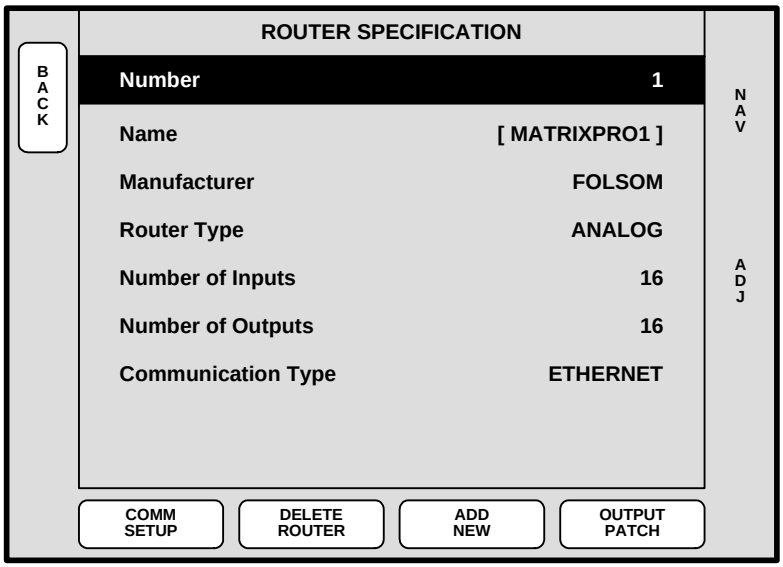


Figure D-8. Router Specification Menu (sample)

2. Scroll to the **Number** line and select the router number that you wish to define.

Note

After a factory reset, two default routers are pre-assigned: **MATRIXPRO1** (MatrixPRO1 16x16 Analog) and **MATRIXPRO2** (MatrixPRO2 16x16 SDI).

If you select and assign an "**EMPTY**" router number, press {**ADD NEW**}.

3. To continue:
   - ~ For Barco/Folsom routers, continue with step **4**.
   - ~ For routers from other manufacturers, continue with step **5**.
4. For Barco/Folsom routers, use the following steps:

Note

You may test the communication for any type of router. For Barco/Folsom routers, the input/output fields are automatically determined. For other manufacturers, these fields must be set manually.

a. Scroll to the **Communication Type** line and selects the router's communication type, either **RS-232** or **ETHERNET**.

b. Press {**COMM SETUP**} to display the **Ethernet** (or **RS-232**) **Setup Menu**.

c. Press {**TEST COMM**} to "detect" and test communications with the selected router.

d. Press {**BACK**} to return to the **Router Specification Menu**. The router specification file will be saved automatically, and the menu will be updated accordingly.

e. Verify all menu settings, and if necessary, continue with step **5**. However, If all remaining menu settings are correct, continue with the "**Output Patching**" section on page 181.

5. Scroll to the **Manufacturer** line and select the router manufacturer.

6. Scroll to the **Router Type** line and identify the router format.

7. For non Barco/Folsom routers only:

~ Scroll to the **Number of Inputs** line and enter the number of video or graphics inputs available on the selected router.

~ Scroll to the **Number of Outputs** line and enter the number of video or graphics outputs available on the selected router.

Note

For Barco/Folsom routers, these fields will have been completed automatically, provided that you pressed {**TEST COMM**} in step **4**.

8. Scroll to the **Communication Type** line and selects the router's communication type, either **RS-232** or **ETHERNET**.

Note

If your serial controlled router is connected to a **Lantronix UDS200**, select **ETHERNET**.

9. If necessary, press {**COMM SETUP**} to display the **Ethernet** or **RS-232 Setup Menu**, and set communication parameters for the selected router.

Note

By default, Encore connects with Barco/Folsom routers using their default IP addresses. The addresses of routers from other manufacturers must be entered manually.

10. Repeat the procedure from step **2** to set up each router that is connected to the ScreenPRO-II units.

Please continue with the "**Output Patching**" section on page 181.

Output Patching

With your router(s) specified, you can now set up output patching. This procedure enables you to define which router outputs are connected to which ScreenPRO-II inputs.

Note

This procedure is not required if you are using "**Internal**" source routing on your ScreenPRO-II units.

- Use the following procedure to set up each router's output patching.

1. From the previous "**System Connection**" section, ensure that you have written down which physical router outputs are used, and which physical ScreenPRO-II inputs are used.
2. On the Encore or ScreenPRO-II Controller console, press **SYSTEM** > {**ROUTER SETUP**} to display the **Router Specification Menu**.
3. Scroll to the **Number** line and select the router number that you wish to patch.
4. Press {**OUTPUT PATCH**} to display the **Output Patch Menu**, a sample of which is shown below.

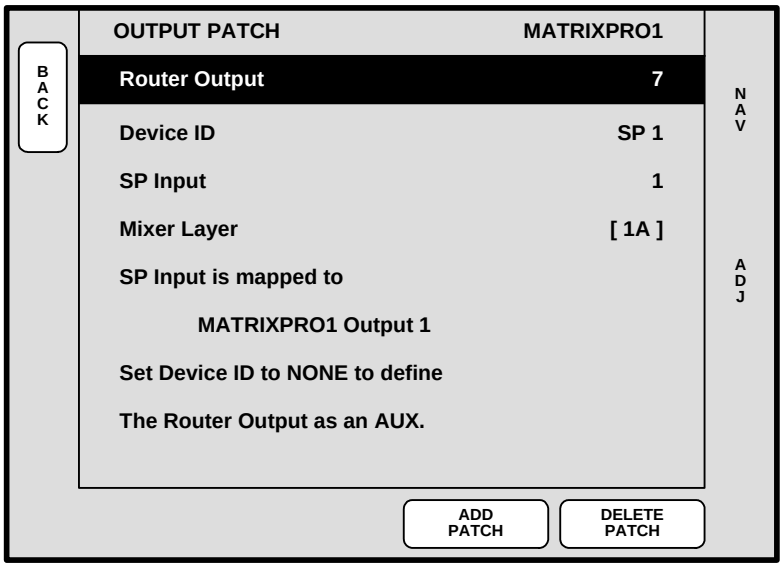


Figure D-9. Output Patch Menu (sample)

5. Scroll to the **Router Output** line and select the specific router output number that you want to patch.
6. Scroll to the **SP ID** line and select the physical ScreenPRO-II **ID** to which the Router's output is connected.
7. Scroll to the **SP Input** line and select the physical ScreenPRO-II input to which the router's output is connected. Please note:
   - ~ The **Mixer Layer** line shows the Mixer Layer button (on the Controller) that will be associated with the selected ScreenPRO-II input.
   - ~ The "mapping" lines show the current output patch.
8. Press {**ADD PATCH**} to finalize the new output patch. Note that the "mapping" lines will update accordingly.

9. (Optional) If required, press {**DELETE PATCH**} to delete the current patch — in case you need to start again, or re-define the patch.
10. Repeat from step **5** for all remaining outputs for the currently selected router.
11. Press {**BACK**} to return to the **Router Specification Menu**.
12. To select the next router whose outputs you wish to patch, repeat from step **3** .

Please continue with the "**Input Patching**" section on page 182.

Input Patching

The input patch procedure enables you to associate specific router inputs with specific source buttons on the Controller.

Note

This procedure is required for both "**Internal**" and "**External**" source routing on your ScreenPRO-II units.

- Use the following procedure to set up each router's input patching.

1. On the Encore or ScreenPRO-II Controller console, press **SYSTEM** > {**INPUT PATCH**} to display the **Input Patch Menu**, a sample of which is shown below:

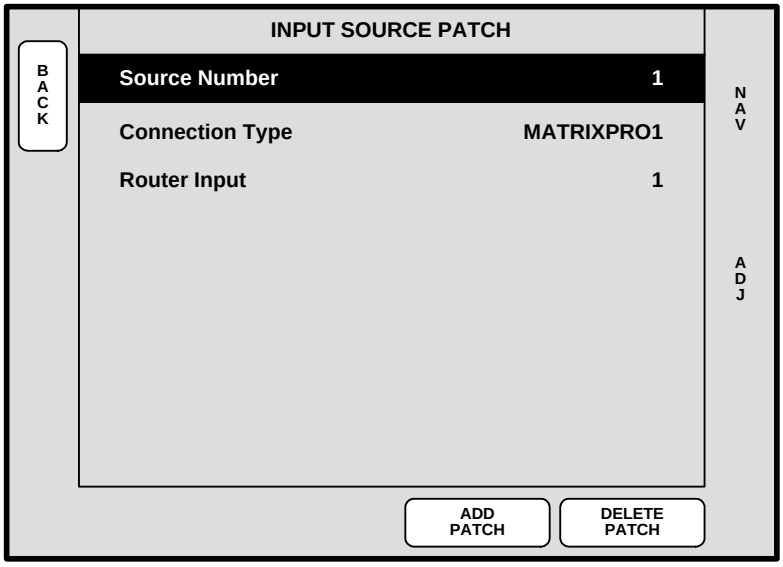


Figure D-10. Input Patch Menu (sample)

Note

The Controller is pre-programmed with a series of default input patches. For example, the first connected router will be assigned the first series of inputs (e.g., **1 - 12** on the Controller SC); the second router will be assigned the next series of inputs (e.g., **13 - 24**). You may elect to keep these defaults, or "re-patch" as required.

2. Scroll to the **Source Number** line and select the source button on the Controller that you want to patch.

3. Scroll to the **Connection Type** line:
   - ~ For "**External**" source routing, select the router whose inputs you wish to patch.
   - ~ For "**Internal**" source routing, select the desired ScreenPRO-II unit (e.g., **SP1** or **SP2**, etc.).

Tip

If you are using multiple ScreenPRO-II units whose direct (internal) router inputs are fed by DAs, select **ALL SPs** to patch a selected input for *all* ScreenPRO-II units simultaneously. For example, if the same VTR feeds input 1 on four ScreenPRO-II units (via DAs), selecting **ALL SPs** for the **Connection Type** saves patching time, and conserves input buttons on the Controller itself.

4. Scroll to the **Router Input** line and select the physical router input that you wish to associate with the selected source number. The range depends on the number of inputs defined in the **Router Specification Menu**.

Note

The same router input can be chosen for different source numbers.

5. Press {**ADD PATCH**} to finalize the new input patch.
6. (Optional) If required, press {**DELETE PATCH**} to delete the current patch — in case you need to start again, or re-define the patch.
7. Repeat from step **2** to assign all remaining inputs.

This completes the entire remote setup procedure. Please note:

- To set up your inputs (e.g., format, sizing, aspect, etc.), follow the normal procedures for the Encore or ScreenPRO-II Controller.
- To disable remote control, refer to the "**Disabling Remote Control**" section on page 184.

Important

Please review the "**Remote Control Caveats and Capabilities**" section on page 184 for important operational differences between ScreenPRO-II and the Encore (or ScreenPRO-II) Controller.

Disabling Remote Control

- Use the following steps to reestablish local ScreenPRO-II control:

  1. On the ScreenPRO-II **Remote Control Menu**, scroll to the **Remote Control** line turn it **OFF**. The {**HOME**} buttons reappears, the ScreenPRO-II front panel is re-enabled, and all control now originates locally.
  2. Press {**SAVE**} to save the configuration. In this manner, when the unit's power is cycled, the unit will power on in "standalone" operational mode.
  3. Repeat for each ScreenPRO-II unit.

Remote Control Caveats and Capabilities

Please note the following important caveats when using ScreenPRO-II units in conjunction with an Encore system:

- ScreenPRO-II units do not support widescreen configurations.
- The **Background** source is DVI only — and not analog.
- Additional effect and mixing capabilities are available, such as **Copy**.
- A **Joystick** is available for quick effect manipulation.
- Manual transition control is available, via the **T-Bar**.
- Preset capabilities are available.

The table below summarizes the feature differentiation between the Encore Video Processor and ScreenPRO-II:

Table D-1. Feature differentiation, Encore Video Processor and ScreenPRO-II

Feature	ScreenPRO-II	Encore Video Processor
Variable ME configuration	No	Yes
DVI input to Layer	No	Yes
Analog BG or DSK	No	Yes
Widescreen Displays	No	Yes
Interlaced Outputs	No	Yes
YUV Output Colorspace	No	Yes
SD/HD SDI Output	No	Optional
Internal Router	Yes	No
Front Panel Control	Yes	No
Clone Mode	No	Yes
Genlock Input termination	Selectable	Fixed

Refer to the "**Encore User's Guide**" for details on all Controller and Video Processor functions.

Index

{ Menu Buttons }

Numerics

A

B

C

D

E

F

G

H

I

K

L

M

N

O

P

Q

R

S

T

U

V

W