ScreenPRO-II Controller

User's Guide

- Manual # 26-0505000-00
- Revision A

BARCO

Visibly yours

ScreenPRO-II Controller • User's Guide

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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 Controller User's Guide.

Table 0-1. Change History

Rev	Date	ECO #	Description	Approved By
A	8/3/06	1666	ScreenPRO-II Controller User's Guide	R. Pellicano

Table of Contents

1. Introduction

This chapter is designed to introduce you to the ScreenPRO-II Controller User's Guide. Areas to be covered are:

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

Note

Once you have reviewed all of the sections in this chapter, please continue with Chapter 2, "**Hardware Orientation**" on page 31.

Chapter Structure

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

- Chapter 1, “**Introduction**” provides a system overview, a list of features, and discusses easy ways to use this guide.
- Chapter 2, “**Hardware Orientation**” on page 31 explains the ScreenPRO-II Controller’s front and rear panels in detail.
- Chapter 3, “**Hardware Installation**” on page 53 provides comprehensive system installation instructions.
- Chapter 4, “**Menu Orientation**” on page 85 explains the system’s configuration, setup and adjustment menus, and provides basic menu “navigation” procedures.
- Chapter 5, “**System Setup**” on page 183 outlines procedures for setting up and configuring the ScreenPRO-II Controller.
- Chapter 6, “**Operations**” on page 215 provides system operating instructions.
- Appendix A, “**Specifications**” on page 255 lists the ScreenPRO-II Controller’s input, output, video, mechanical and power specifications, and includes connector pinouts.
- Appendix B, “**Contact Information**” on page 267 lists important RMA, warranty, contact and technical support details.
- Appendix C, “**Upgrading Software**” on page 269 provides a detailed procedure for upgrading ScreenPRO-II Controller software.

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.

General Operations

To ensure trouble-free operation, please follow all procedures as listed below:

- For detailed installation instructions, refer to Chapter 3, "**Hardware Installation**" on page 53.
- For system setup instructions, refer to Chapter 5, "**System Setup**" on page 183.
- For operating instructions, refer to Chapter 6, "**Operations**" on page 215.

Should you have any questions regarding the installation or operation of the MatrixPRO ScreenPRO-II Controller, please consult with the factory. Refer to Appendix C, "**Upgrading Software**" on page 269 for contact information.

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** 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.

  ▲ **Example**: Press **Learn + 2** to store the ScreenPRO-II Controller setup in preset register 2.
- 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. A background source 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**.
- The term "**Controller**" is synonymous with ScreenPRO-II Controller.
- 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 each individual ScreenPRO-II unit. A maximum of 12 still frames can therefore be controlled from the ScreenPRO-II Controller.
- 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**." Each individual ScreenPRO-II has one internal M/E that can layer 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 Controller and its associated individual ScreenPRO-II units.
- 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 Controller

The ScreenPRO-II Controller is a versatile interface that enables users to control up to four individual ScreenPRO-II units and peripheral equipment (such as BlendPRO-II, MatrixPRO routers and ImagePRO). The ScreenPRO-II Controller offers the complete functionality of the ScreenPRO-II front panel, plus many features that are not available on the local panel.

Features include:

- Enhanced hardware and software features:
  - ~ Control of multiple ScreenPRO-II units as “destinations,” including both single and widescreen configurations. Refer to the “**System Combinations**” section on page 22 for sample configurations.
  - ~ Support for widescreen applications using two or more ScreenPRO-II units in conjunction with BlendPRO-II.
  - ~ In “internal” routing mode, support for 16 analog inputs and 2 HD-SDI/SD-SDI inputs. In “external” routing mode, support for 16 inputs, in any combination of analog and digital.
  - ~ Optional Tally board provides eight programmable tallies, which can be assigned to any input source. The board also provides a PS-2 connector, and when a customer-supplied keyboard is connected, users can enter system values and names.
  - ~ 3.8” LCD Touch Screen with eight soft menu buttons and two rotary encoders for menu navigation.
  - ~ 3-Axis Joystick for quick sizing and positioning of PIPs and Keys.
  - ~ Color-coded buttons and layouts match color scheme of Encore and ScreenPRO-II product family.
  - ~ Dimmable, flexible light stick (script light) with XLR connector.
  - ~ Internal convection-cooled power supply (no fan needed).
  - ~ The programmable Controller Lockout feature allows operators to lock the Controller, thus disabling all button presses. The lockout code is user-programmable.
  - ~ The Controller’s Flash Memory Card Slot enables users to backup and restore system configuration parameters. The Flash Memory card itself is customer supplied.
  - ~ The “Join” feature allows both layers to be locked together, proportionally. Manipulations to one layer are automatically performed on the other layer, including size, position, moves, PIPs and Keys.

- Router control:
  - ~ Support for internal routers (within individual ScreenPRO-II units).
  - ~ Support for external analog and digital routers, such as MatrixPRO and other third-party router manufacturers.
- Enhanced transition capability:
  - ~ Automatic transitions via dedicated **AUTO TRANS** button.
  - ~ Manual transitions via **T-Bar**.
- Preset control:
  - ~ Control of up to 36 user presets in a dedicated “Preset” section (six pages of six preset each).
  - ~ **NEXT** and **PREV** (Previous) buttons for convenient preset recall.

A Word About Layers

Just like the individual ScreenPRO-II units, the ScreenPRO-II Controller is a five layer system, as illustrated below:

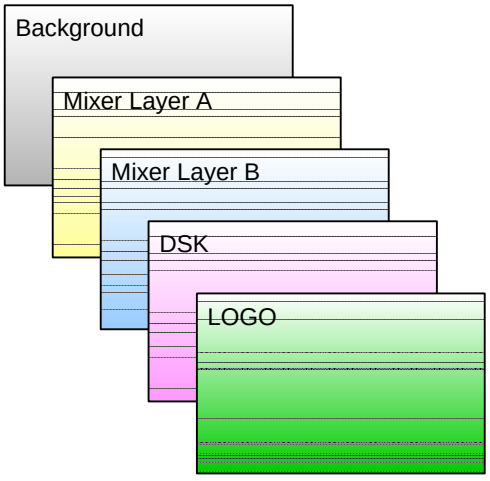


Figure 1-1. ScreenPRO-II Controller Layers

Note

Regardless of the number of individual ScreenPRO-II destinations under control, you are still working with individual five layer systems — whether or not the destinations are individual screens or blended widescreens.

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

A typical ScreenPRO-II Controller application is illustrated below.

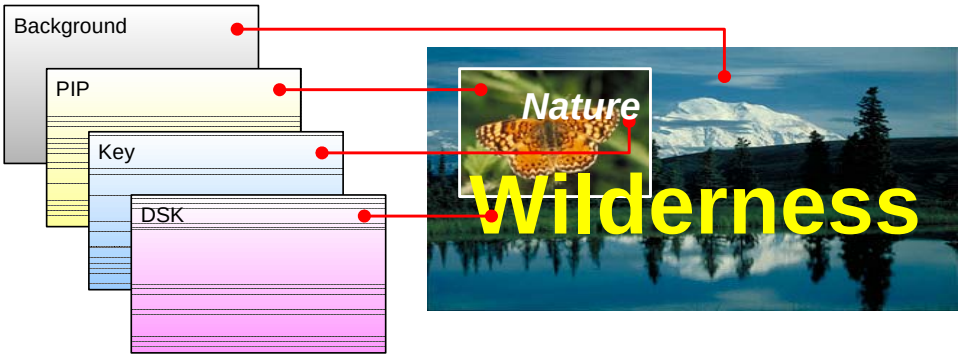


Figure 1-2. Layer Illustration — Background, Mixer and DSK

Please note the following important points:

- The full screen **LOGO** is the highest priority layer. The **LOGO** 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 controller can transition between two background sources — both of which must be provided at native projector resolution.
- A **PIP** layer appears "over" backgrounds and "under" the **DSK** and **LOGO**. Effects include mixes, wipes, linear moves, 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 with the **Swap Z-Order** button.
- Up to eight analog inputs and up to two SD/HD SDI inputs can be scaled to produce PIPs or Keys.

System Combinations

The ScreenPRO-II Controller can be configured in a variety of different ways, using both single screen and widescreen destinations. You can use up to four ScreenPRO-II units and up to four Aux destinations. The only limitation is one widescreen destination per ScreenPRO-II Controller, comprised of up to four ScreenPRO-II units and a BlendPRO-II.

Several sample configurations are listed below, in simplified block diagram format:

- **Dual Destination System**
- **Quadruple Destination System**
- **Dual Destination plus Widescreen Destination System**
- **Dual Destination, Dual Aux System**

Dual Destination System

The figure below illustrates a dual-destination system comprised of the ScreenPRO-II Controller, two individual ScreenPRO-II units and two single-screen projectors (destinations). Within this system, Ethernet is used for communications between components, and all ScreenPRO-II inputs are received via routers or direct connections.

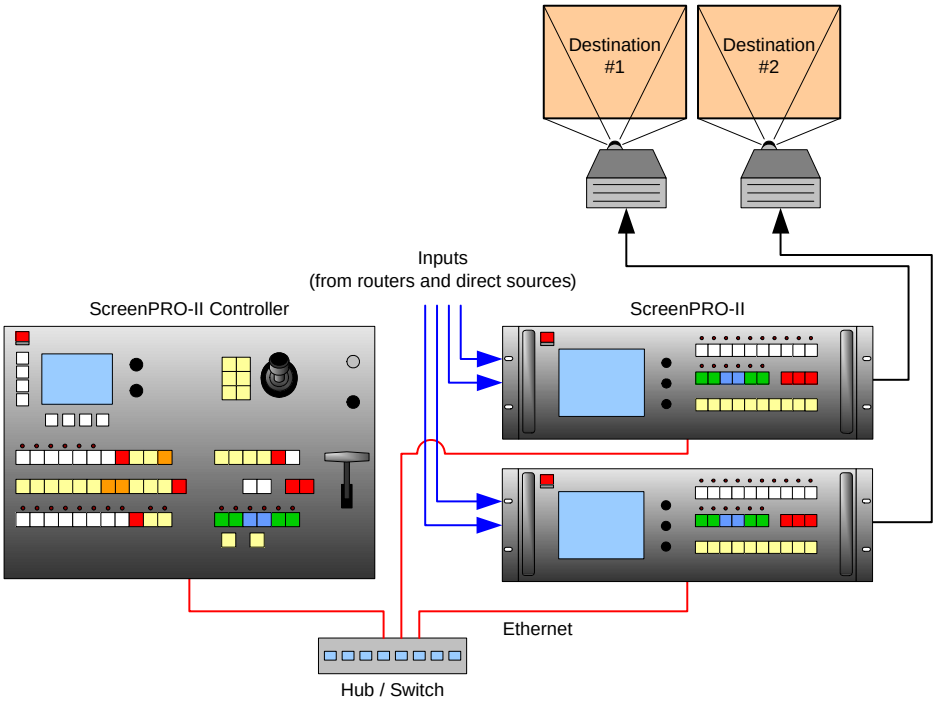


Figure 1-3. ScreenPRO-II Controller system with two destinations

Quadruple Destination System

The figure below illustrates a quadruple-destination system comprised of the ScreenPRO-II Controller, four individual ScreenPRO-II units and four single-screen projectors.

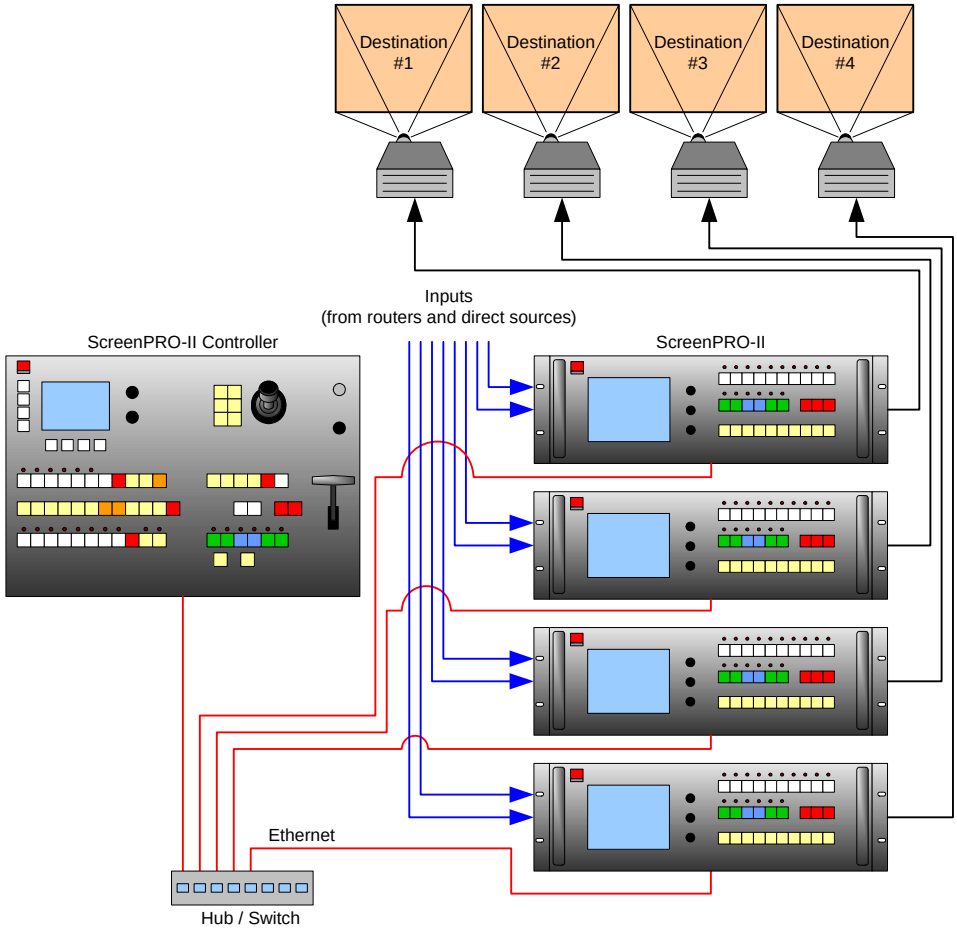


Figure 1-4. ScreenPRO-II Controller system with four destinations

Dual Destination plus Widescreen Destination System

The figure below illustrates a system that includes two single screen destinations and one widescreen destination. Note the use of BlendPRO-II on the outputs of the two ScreenPRO-II units designated as “widescreen.”

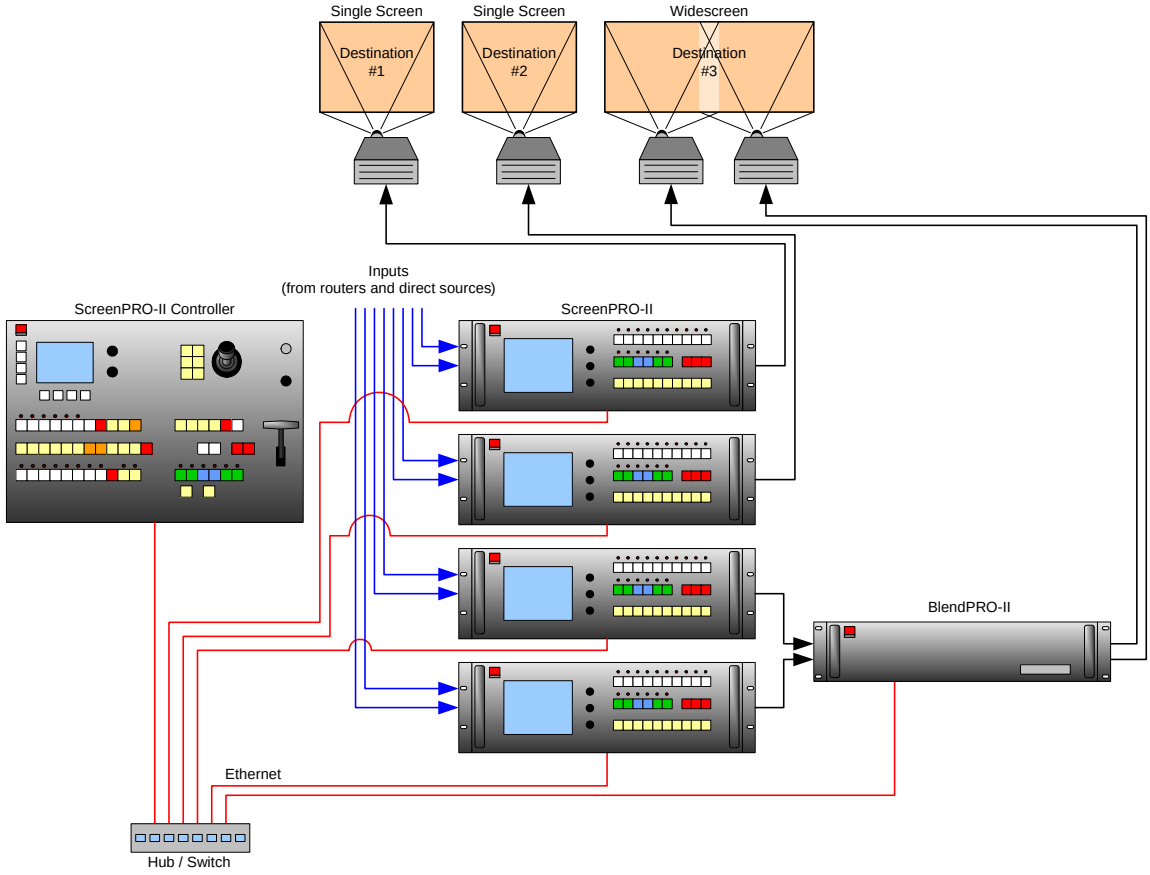


Figure 1-5. ScreenPRO-II Controller system with one widescreen destination

The BlendPRO-II accepts up to four inputs, thus, widescreen systems can be configured with dual (as shown above), triple or quadruple screen blends.

Important

For all Widescreen configurations using BlendPRO-II, ensure that you review the “**BlendPRO-II Widescreen Lock Connections**” section on page 77 in Chapter 3.

Dual Destination, Dual Aux System

The figure below illustrates a system that includes two individual ScreenPRO-II units, two single-screen projectors and two “Aux” destinations:

- The “standard” Aux destination is a single monitor that takes its input from one router output (in a single format).
- The “PresentationPRO” Aux destination takes its input(s) from multiple routers and sources, in multiple formats. When connected to a single monitor or projector, a scaled signal is provided in one format.

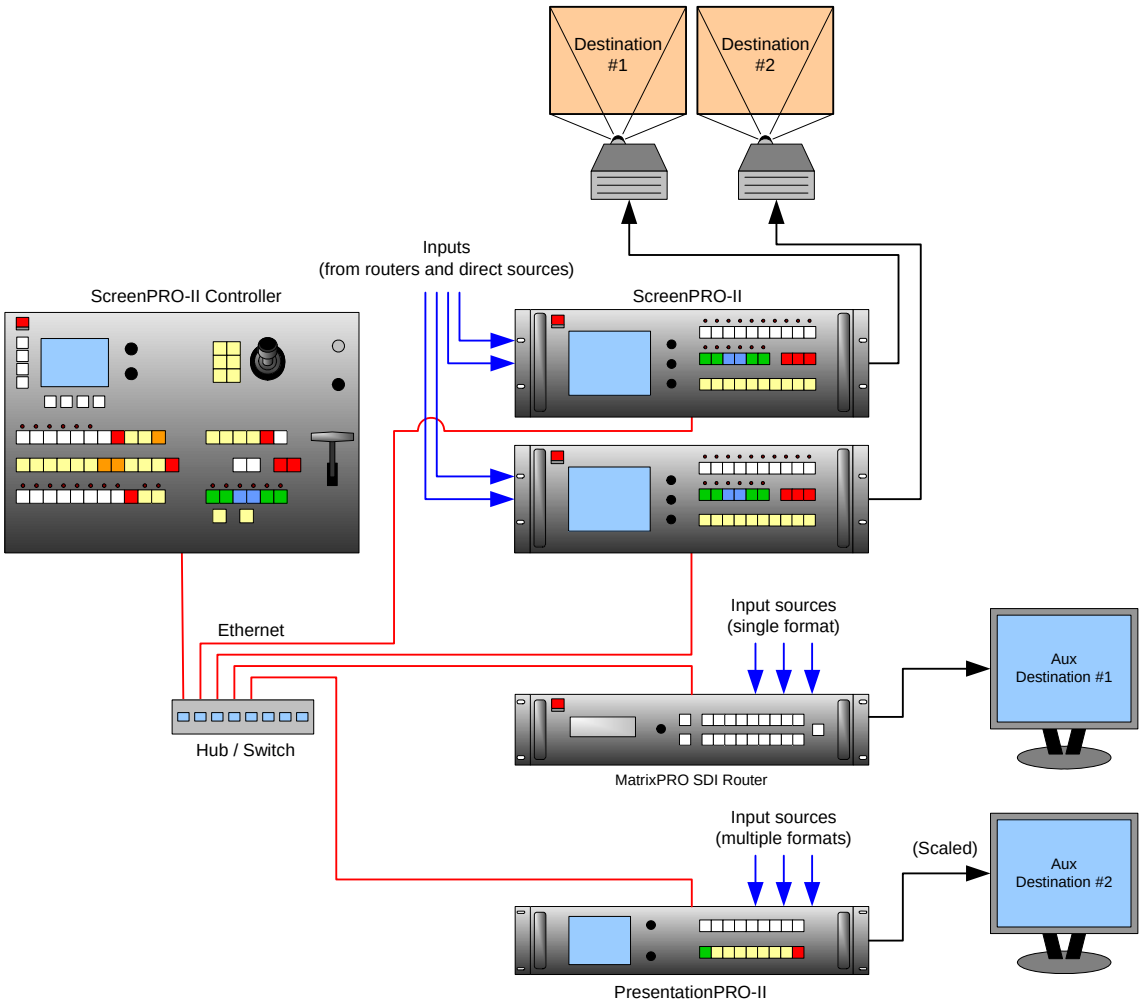


Figure 1-6. ScreenPRO-II Controller system with two Aux destinations

Effect Combinations

This section illustrates the many (but not all) combinations of image effects that you can create using the ScreenPRO-II Controller. 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.

Similar to individual ScreenPRO-II units, the ScreenPRO-II Controller enables you to control 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.

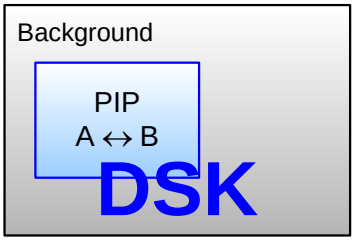


Figure 1-7. Effect 1 Diagram

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.

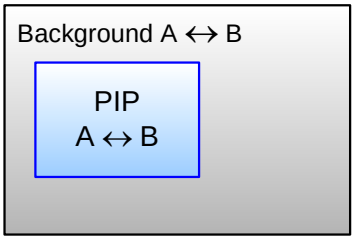


Figure 1-8. Effect 2 Diagram

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.

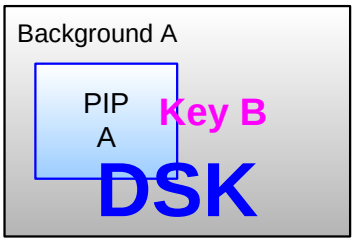


Figure 1-9. Effect 3 Diagram

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.

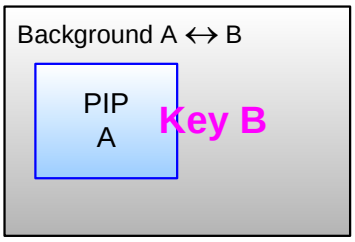


Figure 1-10. Effect 4 Diagram

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.

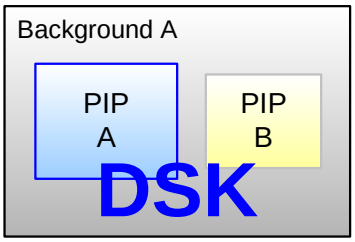


Figure 1-11. Effect 5 Diagram

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.

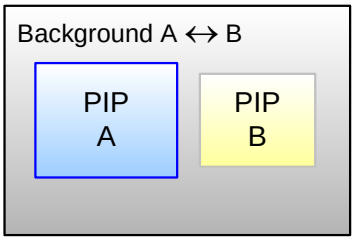


Figure 1-12. Effect 6 Diagram

Application Questions

At Barco, we take pride in offering unique solutions to demanding technical problems. If you have application questions, require further information or would like to discuss your application requirements in more detail, please call (916) 859-2500. Our Customer Support Engineers will be happy to provide you with the support you need. Refer to Appendix B, "**Contact Information**" on page 267 for contact details.

2. Hardware Orientation

In This Chapter

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

Note For complete details on BlendPRO-II's hardware, refer to the "**BlendPRO-II User's Guide**."

Note Once you have reviewed all of the sections in this chapter, please continue with Chapter 3, "**Hardware Installation**" on page 53.

ScreenPRO-II Controller Rear Panel

The figure below illustrates the ScreenPRO-II Controller rear panel:

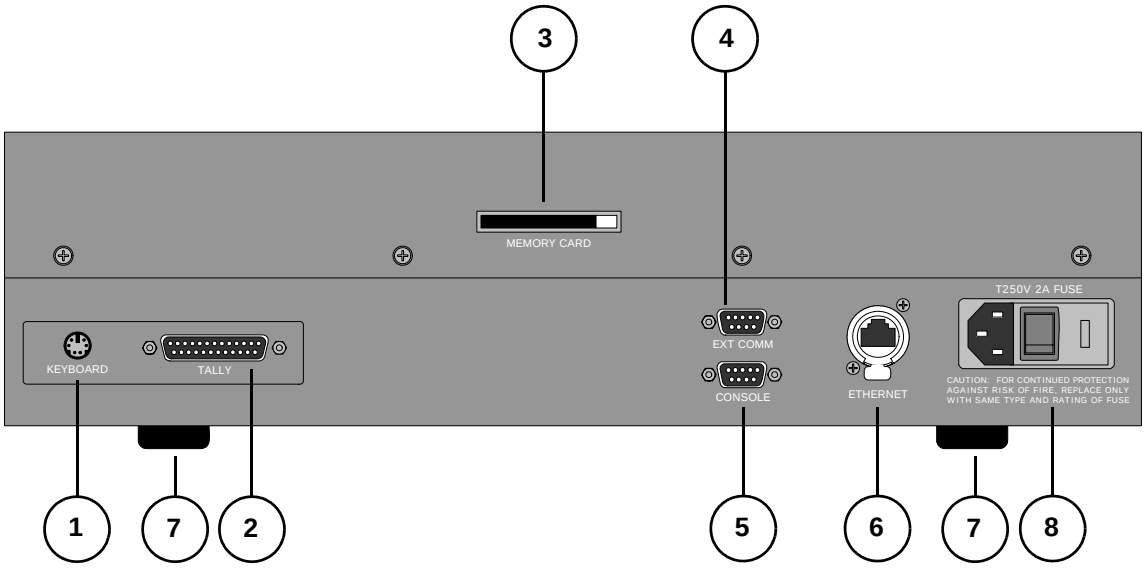


Figure 2-1. ScreenPRO-II Controller Rear Panel

1)	**Keyboard Port**	4)	**Ext Comm Port**	7)	**Adjustable Feet**
2)	**Tally Connector**	5)	**Console Port**	8)	**AC Connector and Fuse**
3)	**Memory Card Slot**	6)	**Ethernet Port**		

Following are descriptions of each rear panel connector and section.

1) Keyboard Port

On the optional **Tally** board, one standard PS-2 connector is provided for the **Keyboard Port**. When a customer-supplied keyboard is connected, users can enter system values and names.

2) Tally Connector

On the optional **Tally** board, one 25-pin D connector is provided for issuing tally "relay closure" commands to external devices such as cameras. Eight tally circuits are provided. In Appendix A, refer to the "**Tally Connector**" section on page 262 for pinout details.

3) Memory Card Slot

One **Memory Card Slot** is provided for a customer supplied **Flash Memory Card**, which enables users to externally store and recall system configurations — one configuration per card. The minimum size card that the system accepts is 512 MB. The card also enables users to transfer configurations between Controllers as required. In Chapter 6, refer to the "**Using Backup and Restore**" section on page 253 for instructions.

4) Ext Comm Port

One 9-pin D **Ext Comm** connector is provided for RS-232 communications with a serial device, such as a router. The port is configured as follows:

~ DCE, 115K baud, 8 data bits, 1 stop bit, no parity bits

In Appendix A, refer to the "**Serial Connector**" section on page 261 for pinouts.

5) Console Port

One 9-pin D connector is provided for RS-232 "command line" communications with the ScreenPRO-II Controller, and for downloading code in the field. The port is configured as follows:

~ DCE, 115K baud, 8 data bits, 1 stop bit, no parity bits

The serial port can be connected to a standard PC serial port with a straight through DB-9 to DB-9 cable. In Appendix A, refer to the "**Serial Connector**" section on page 261 for pinout details.

6) Ethernet Port

One RJ-45 connector is provided for 10/100BaseT **Ethernet** communications with the ScreenPRO-II Controller. When (optionally) connecting the Controller to peripheral devices (such as BlendPRO-II), a standard Ethernet hub or switch on an isolated network is recommended.

The Ethernet port is 10/100 Mbit auto sensing capable, and is configured to run as a DHCP server. A variety of Barco Folsom protocols for communication, control, and code loading are implemented. The Ethernet connector is compatible with:

~ Standard RJ-45 Ethernet cables

~ Neutrik EtherCon® series cables

In Appendix A, see the "**Ethernet Connector**" section on page 260 for pinouts.

7) Adjustable Feet

The two rear feet of the ScreenPRO-II Controller are adjustable, enabling you to raise the rear of the Controller for increased Touch Screen visibility.

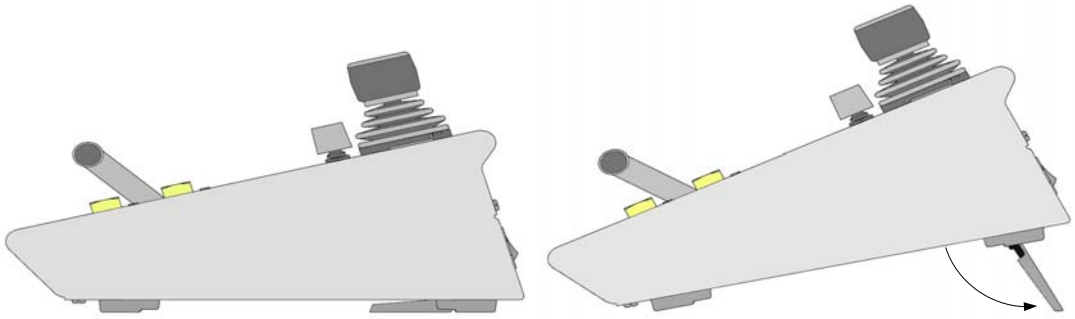


Figure 2-2. Controller Side View, showing adjustable feet retracted and extended

8) AC Connector and Fuse

One **AC Connector** with integral **Fuse** is provided to connect the ScreenPRO-II Controller to your facility's AC power source. Please note:

~ The integral switch turns the chassis on and off.

~ The fuse rating is T250V, 2A. For continued protection against risk of fire, replace only with a fuse of the same type and rating.

ScreenPRO-II Controller Front Panel

The figure below illustrates the ScreenPRO-II Controller front panel:

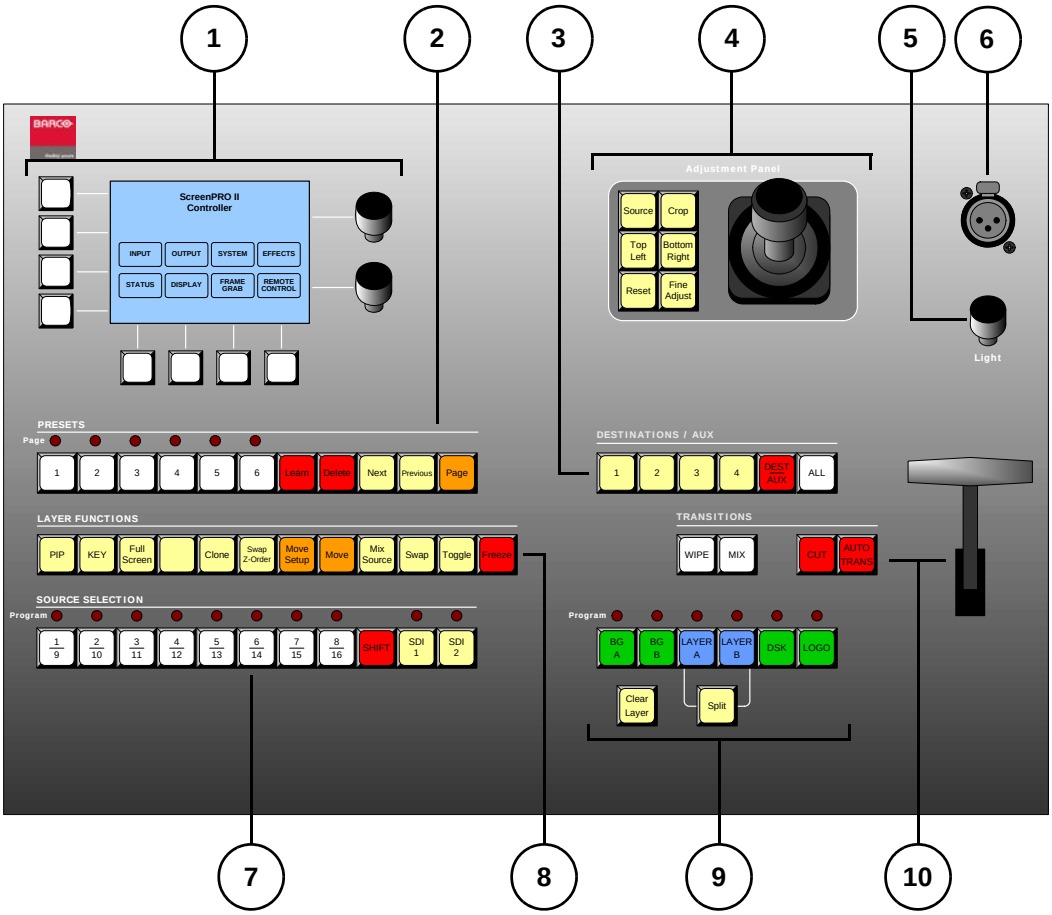


Figure 2-1. ScreenPRO-II Controller Front Panel

1)	Touch Screen Menu Section	5)	Light Adjustment Knob	9)	Layer Control Section
2)	Presets Section	6)	XLR Connector	10)	Transition Section
3)	Destination/Aux Bus	7)	Source Selection Bus		
4)	Joystick Section	8)	Layer Functions Section		

Following are descriptions of each front panel feature:

1) 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 38 for details.

2) Presets Section

The **Preset Section** enables you to store and recall Controller setups. Each button represents a single "look" of the projected image. Thirty-six presets are available. Refer to the "Presets Section" heading on page 39 for details.

3) Destination/Aux Bus

The **Destination/Aux Bus** enables you to route the Controller's output to one or more destinations, such as projectors and Aux (auxiliary) monitors. Four "Projector" and four "Aux" destinations are available. Refer to the "**Destination/ Aux Bus**" section on page 40 for details.

4) Joystick Section

The **Joystick Section** includes a 3-axis joystick that enables you to adjust PIPs, Keys and additional system parameters. The section also includes dedicated buttons that change the Joystick's assigned function. Refer to the "**Joystick Section**" heading on page 42 for details.

5) Light Adjustment Knob

The **Light Adjustment Knob** enables you to control the brightness of the low-voltage "script" light.

6) XLR Connector

One **XLR Connector** is provided for the low-voltage "script" light.

7) Source Selection Bus

The **Source Selection Bus** allows you to choose the sources that are routed into PIPs and keys. Buttons are provided for up to 16 analog sources and up to two HD-SDI/SD-SDI sources. Refer to the "**Source Selection Bus**" section on page 44 for details.

8) Layer Functions Section

When a layer is active (and blinking) in the **Layer Control Section**, all buttons in the **Layer Functions Section** apply to that layer, enabling you to change its mode and manipulate the source. Refer to the "**Layer Functions Section**" heading on page 46 for details.

9) Layer Control Section

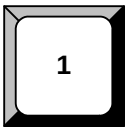
The **Layer Control Section** is the operational heart of the ScreenPRO-II Controller, enabling you to assign sources to PIPs and keys. Here, you control the overall "look" on Preview and Program. Refer to the "**Layer Control Section**" heading on page 48 for details.

10) Transition Section

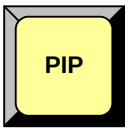
The **Transition Section** includes the **T-Bar** for manually mixing sources on and off Program, plus dedicated buttons for cutting, mixing and wiping. Refer to the "**Transition Section**" heading on page 50 for details.

Use of Color

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



White buttons are used for sources.

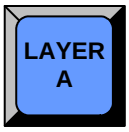


Yellow buttons are functions and modes that apply to the active (blinking) layer. Functions include assigning PIPs and keys to the active layer, setting up moves, freezing the active layer and swapping layer priority.

Orange buttons are used to control pages of presets, and for special **MOVE** and **MOVE SETUP** functions.

Red buttons are designated “important.” They are used in dual-button sequences such as **SHIFT**, **Learn** and **Delete**, and with important transition functions such as **CUT** and **AUTO TRANS**.

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



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 shown for reference.

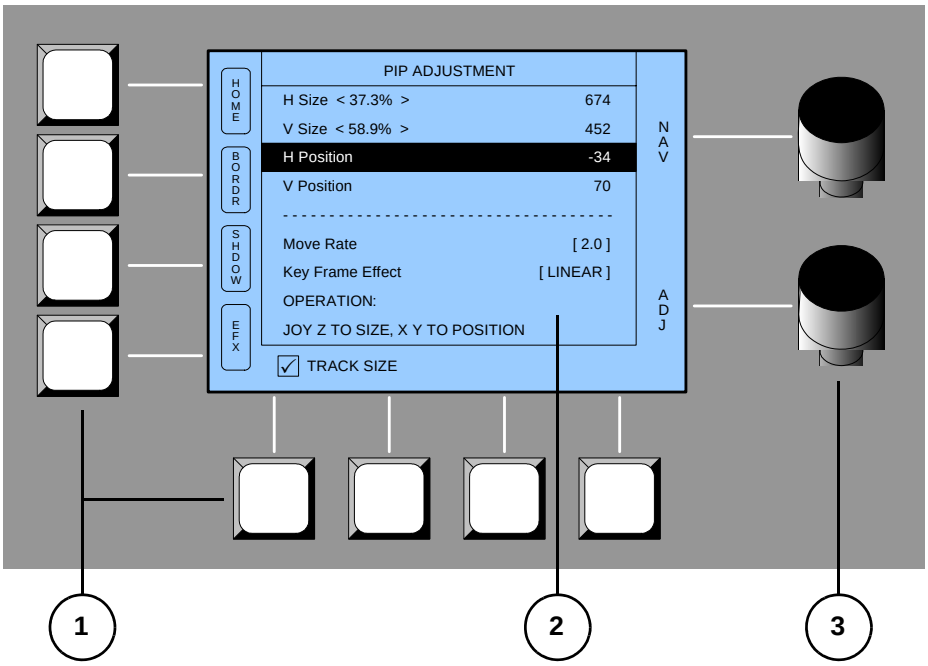


Figure 2-2. Touch Screen Menu Section

1)	Softkeys	2)	Touch Screen	3)	Rotary Knobs

Following are descriptions of each area:

1) Softkeys

Eight un-labeled softkeys are provided — four to the left of the Touch Screen and four below. Softkey labels (when present) appear on the Touch Screen itself. Press the adjacent softkey to access the menu or activate the indicated function.

2) Touch Screen

On the Touch Screen, all menus and functions can be accessed in a variety of different ways:

- Touch the desired button on the Touch Screen itself (for example, the {**BORDR**} or {**SHDOW**} buttons) to access the menu as indicated.
- Press a **Softkey** that is directly adjacent to a button label.
- Use the top **NAV** knob to move the highlight to the desired line, then use the **ADJ** rotary knob to adjust the value.
- Touch a particular line to move the highlight to that line, then use the **ADJ** rotary knob to adjust the value.

Important

When adjusting parameters, there is no **Enter** button. If you adjust a value with the knobs or the softkeys, that function, parameter or value is immediately active in Preview.

3) Rotary Knobs

Two **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 menu fields. 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 **Bottom Knob** is generally assigned to adjusting the highlighted parameter, as labeled on the Touch Screen.

Presets Section

The figure below illustrates the **Presets Section**:

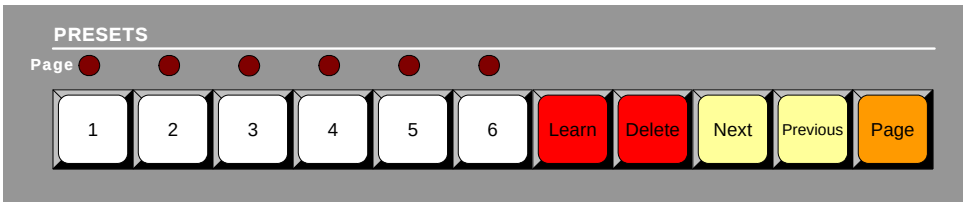
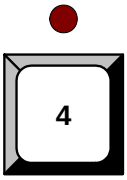


Figure 2-3. Presets Section

A **Preset** is a register in which you can store and recall entire Controller setups. One preset represents a single "look" of the Controller — including the current state of all mixers, layers, sources, and the DSK. The Controller provides buttons for 36 Presets (6 pages of 6 presets each).

Following are descriptions of each button's function.



Preset Buttons — press to recall a Preset to the Preview bus. If resources are available, the "look" stored with that preset will be recalled. If the button does not light, system resources are not currently available to process the request.

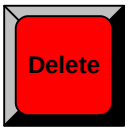
When lit, the **Red LED** above each button indicates the currently selected page.

- If **LED 3** and button **6** are lit, the 6th Preset on page 3 is active.

In Chapter 6, refer to the "**A Word About Resources**" section on page 243 for additional important information.

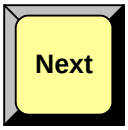
Learn — hold down **Learn**, then press the desired Preset button to store the overall look of the Controller into that register.

- To store a Controller setup in Preset register 2, press **Learn + 2**.



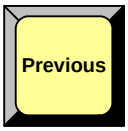
Delete — hold down **Delete**, then press the desired Preset button to delete that register from memory.

- To delete Preset 5 from memory, press **Delete + 5**.



Next — press to recall the next valid Preset in sequential order. Please note:

- If Preset **2** is lit, pressing **Next** recalls Preset **3**.
- If Preset **6** is active on page **2**, pressing **Next** advances to Preset **1** on page **3**.
- If a Preset is undefined, it will be skipped when **Next** is pressed.



Previous — this function is currently not implemented.

Page — hold down **Page**, then press the desired Preset button to switch to that page of Presets. The **Red LED** above the button lights to indicate the selected page.

▲ To switch to page 5, press **Page + 5**.

Note

The **Page** button is also used (in conjunction with the **ALL** button) to lock and unlock the Controller. In Chapter 6, refer to the "**Locking and Unlocking the Controller**" section on page 252 for details.

In Chapter 6, refer to the "**Working with Presets**" section on page 243 for complete instructions on all Preset modes.

Destination/Aux Bus

The figure below illustrates the **Destination/Aux Bus**:

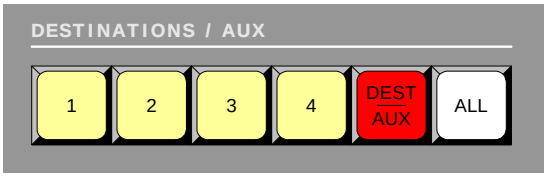


Figure 2-4. Destination/Aux Bus

Each numbered button on the **Destination Bus** represents a *location* to which you can route *some form* of controller (or router) output. The transitions that you perform will affect the selected destinations only, leaving the unselected destinations as they were. The ScreenPRO-II Controller provides eight destinations — four standard (e.g., projectors) and four Aux (auxiliary).

Important

Operationally, remember that the **Destination/Aux Bus** is one bus — it is *not* two separate and independent buses.

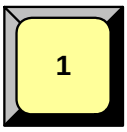
- Any source selection will apply to all enabled buses.
- Any transition will apply to all enabled buses.

Examples of destinations are listed below:

- **Single Screen Destination** — this is a “single projector” destination that takes its input from a ScreenPRO-II.
- **Wide Screen Destination** — this is a “multiple projector” destination that takes its inputs from two, three or four ScreenPRO-IIs, as routed through a BlendPRO-II.
- **Aux Destination** — this is a single monitor that takes its input from one router output (in a single format). When you select an Aux destination and a source on the Controller, you are talking *directly* to a specific router output via RS-232 or Ethernet communications — and making a source-to-destination connection.
- **ImagePRO Aux Destination** — this is a standalone ImagePRO that takes its input(s) from multiple routers, in multiple formats. When connected to a single monitor or projector, a scaled output signal is provided — in one format. Whereas an **Aux** Destination requires a single input format, an ImagePRO Aux Destination accepts inputs in multiple formats.
- **PresentationPRO-II Aux Destination** — similar to an ImagePRO Aux destination, this is a standalone PresentationPRO-II that takes its input(s) from standalone sources or routers, in multiple formats. When connected to a single monitor or projector, a scaled signal is provided in one format.

In Chapter 5, refer to the “**Standard Destination Setup**” section on page 192 for details on all destination setup procedures.

Following are descriptions of each button’s function.

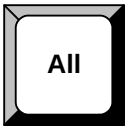


Destination/Aux Buttons — press to toggle the numbered destination on or off. Any combination of destinations can be selected. The transitions that you perform will affect only the selected destination(s). Please note:

- The four destination buttons work in conjunction with the **DEST/AUX** button. See the description of the **DEST/AUX** button (immediately below) for details.
- Press a numbered destination button *by itself* to enable that destination and toggle all other destinations off. In this mode, the buttons are mutually exclusive.
- Press two or more destination buttons simultaneously to enable a “group” of destinations. In this mode, the selected group is mutually exclusive with any other active destinations:
  - ▲ Destinations **1**, **2** and **3** are lit. If you press destinations **1** and **2** simultaneously (to enable them), destination **3** turns off.
- Use the **All** button to turn all destinations on or off. See the description of the **All** button (below) for details.

DEST/AUX — press to switch the bus between standard (projector) destinations and Aux (auxiliary) destinations, such as monitors.

- When **DEST/AUX** is off, you are selecting standard (projector) destinations.
- When **DEST/AUX** is lit, you are selecting Aux (auxiliary) destinations.



All — the **All** button works in conjunction with the currently selected bus (as chosen with the **DEST/AUX** button):

- Press **All** once to turn all "defined" destinations on.
- Double-punch the **All** button to turn all "defined" destinations off.

Note

The **All** button is also used (in conjunction with the **Page** button) to lock and unlock the Controller. In Chapter 6, refer to the "**Locking and Unlocking the Controller**" section on page 252 for details.

In Chapter 6, refer to the "**Working with Destinations**" section on page 222 for complete instructions on all destination modes.

Joystick Section

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

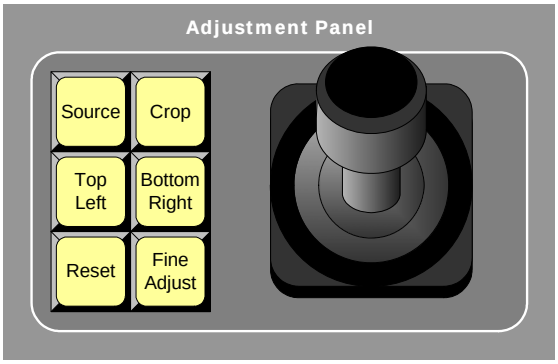


Figure 2-5. Joystick Section

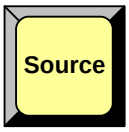
When a PIP or Key is selected in the **Layer Control Section**, the controls in the Joystick section are automatically assigned to manipulate that feature on Preview. When none of the six function buttons are lit, the 3-axis Joystick has the following functions:

- **X-Axis Control** — Move the Joystick left and right to move the PIP (or Key) left and right respectively.
- **Y-Axis Control** — Move the Joystick up and down to move the PIP (or Key) up and down on Preview.
- **Z-Axis Control** — Twist the Joystick's top knob clockwise and counterclockwise to increase or decrease the PIP (or Key) size.

Note

The **Z-Axis Control** can also be used to increase or decrease the value of a highlighted parameter, such as a matte color, key clip and gain, border size and much more.

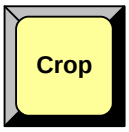
Descriptions of each button in the **Joystick Section** are listed below.



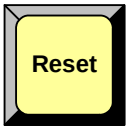
Source — press to assign the Joystick to sizing and positioning the source image *within* the PIP or Key boundaries. Please note:

- In Source mode, the PIP or Key's placement on screen remains static, while the image is adjusted within.
- If a PIP is selected, the **Input Source Adjustment Menu** appears when **Source** is enabled.
- If a Key is selected, the **Key Source Adjustment Menu** appears when **Source** is enabled.

To return to normal PIP adjustment, turn the button off. In Chapter 4, refer to the "**Source Adjustment Menus**" section on page 165 for additional details.



Crop — press to re-assign the Joystick to cropping the boundaries of the PIP or Key. When enabled, the **Top Left** and **Bottom Right** buttons are also enabled, and the **Crop Adjustment Menu** appears. To return to normal PIP adjustment, toggle the button off. In Chapter 4, refer to the "**Crop Menu**" section on page 164 for additional details.

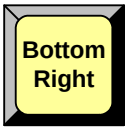


Reset — the **Reset** button is a *momentary* function. Press to reset the *current effect* (e.g., PIP, Key, crop, etc.) to a nominal default value. Think of this function as being "context sensitive" — as it resets only the current effect, without affecting other modifications.

Top Left — when the **Crop** button is lit, press to crop the PIP or Key's top and left edges:

- Move the Joystick left and right to crop the left edge.
- Move the Joystick up and down to crop the top edge.

In Chapter 4, refer to the "**Crop Menu**" section on page 164 for additional details.



Bottom Right — when the **Crop** button is lit, press to crop the PIP or Key's bottom and right edges:

- Move the Joystick left and right to crop the right edge.
- Move the Joystick up and down to crop the bottom edge.

In Chapter 4, refer to the "**Crop Menu**" section on page 164 for additional details.

Fine Adjust — the **Fine Adjust** button is a *latching* function. In any PIP or Key adjustment mode, press to increase the precision of the Joystick's adjustment range.

In Chapter 6, refer to the "**Modifying Layers On Program**" section on page 234 for additional details on Joystick usage.

Source Selection Bus

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

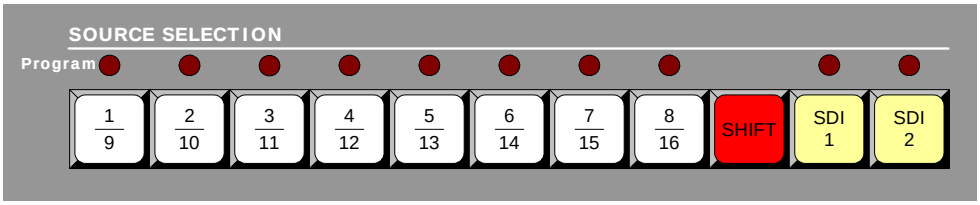


Figure 2-6. Source Selection Bus

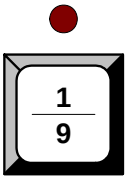
On the **Source Selection Bus**, each numbered button represents an input that you can assign to a PIP or Key, or route to an Aux destination. Each input is either a direct connection to a ScreenPRO-II or a router input. Please note:

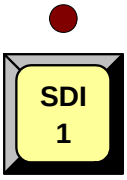
- If you have configured a ScreenPRO-II to use **internal routing** (on the **Destination Setup Menu**), both the white buttons (analog sources) and the yellow buttons (HD-SDI/SD-SDI sources) are active. You can assign a maximum of 16 analog and 2 HD-SDI/SD-SDI sources.
- If you have configured a ScreenPRO-II to use **external routing** (on the **Destination Setup Menu**), only the white buttons are active. You can assign a maximum of 16 sources, comprised of any mix of analog and digital.

Important

In this mode, with **external routing** enabled, the two yellow **SDI** buttons are disabled.

Following are descriptions of each button's function in the **Source Selection Bus**.





Source Buttons — press to assign the source (analog or digital) to the blinking "mixer" button in the **Layer Control Section**. The following rules apply:

- When the source button is lit and *blinking*, the source is on Preview, the associated layer is active for modification, and the associated layer's raster box blinks on Preview.
- When the source button is lit solid, the source is on Preview — but its associated layer is *not* active for modification.
- Multiple source buttons can be lit simultaneously, but only one source button can be blinking — with its associated layer active for modification and the associated raster box blinking on Preview.
- When the **Red LED** above a source button is lit solid, the source is on Program — and its associated destination is enabled.

Important

The **Red LEDs** only appear if the route's associated destination button is enabled. For example, if **Source 1** on **Destination 1** is on Program, the Red LED above Source 1 will turn off if Destination 1 is cleared.

- When the **Red LED** above a source button is *blinking*:
  - ~ The mixer is set to **Mix Mode** (the **Split** button is not lit).
  - ~ The blinking **Red LED** indicates the layer that is on Program.
  - ~ The *alternate layer* is enabled for modification on Preview, and its associated raster box blinks.
  - ▲ The **Red LED** above source **1** is blinking, and the **Red LED** above **Layer A** is blinking. This indicates that the mixer is set to **Mix Mode**, source 1 is on program in **Layer A**, and **Layer B** is active for modification on Preview.
- Multiple **Red LEDs** can be lit simultaneously, but only one **Red LED** can be blinking — indicating a "**Mix Mode**" association between a source and a layer.
- Source buttons cannot be selected if they have not been assigned during the source setup procedure. The button will not light.
- Source buttons are also used to route inputs to selected **Aux** destinations. In Chapter 6, refer to the "**Working with Destinations**" section on page 222 for details.

Note

When the Controller is locked, source buttons are used to enter the 4-digit password. In Chapter 6, refer to the "**Locking and Unlocking the Controller**" section on page 252 for details.

Shift — the **Shift** button is a toggle: press once to light, press again to turn off. When lit, press the desired source button to access the *second row* of numbered sources (**9** - **16**).

Layer Functions Section

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

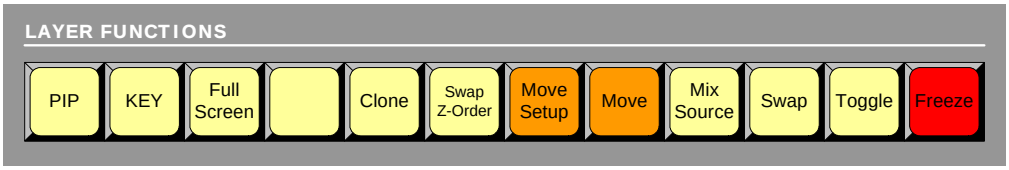
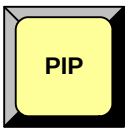


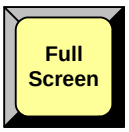
Figure 2-7. Layer Functions Section

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



PIP — press to change the selected layer (in the **Layer Control Section**) and its associated source to a PIP. The **PIP Adjustment Menu** appears on the Touch Screen. In Chapter 4, refer to the "**PIP Adjustment Menu**" section on page 148 for details.

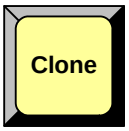
Key — press to change the selected layer (in the **Layer Control Section**) and its associated source to a Key. The **Key Adjustment Menu** appears. In Chapter 4, refer to the "**Key Menu**" section on page 155 for details.



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

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

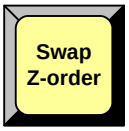
In Chapter 6, refer to the "**Using Full Screen**" section on page 235 for instructions.



Clone — for widescreen configurations only, press to make an exact copy of a layer onto the opposite screen. All parameters of the PIP or Key are cloned, including the source's shadow, key effects, border and size. Once cloned, you can select between a "mirror" or an "offset" clone.

- If **Layer A** is a PIP on screen 1, press **Clone** to make an exact copy of the PIP on screen 2. When you adjust the PIP, both the original and the "cloned" copy are adjusted simultaneously.

In Chapter 6, refer to the "**Using Clone**" section on page 235 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.

- If the PIP on **Layer B** is visually on top of the PIP on **Layer A**, press **Swap Z-Order** to place **Layer A's** PIP on top.

In Chapter 6, refer to the "**Using Swap Z-Order**" section on page 236 for instructions.

Move Setup — two functions are provided:

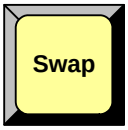
- Press **Move Setup** to set up a "move" for a PIP or Key, enabling you to choose the move's start and end points.
- Double-punch the **Move Setup** button to un-define (or clear) the "move setup" for the selected layer.

In Chapter 6, refer to the "**Using Move**" section on page 238 for complete instructions.

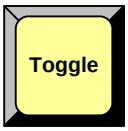
Move — press to pend a "move" for a PIP or Key, enabling you to fly the PIP or Key from one location to another on the next auto transition.

In Chapter 6, refer to the "**Using Move**" section on page 238 for complete instructions.

Mix Source — in "**Mix Mode**" (with the **Split** button off) press **Mix Source** to co-locate both PIPs in the mixer. Layers **A** and **B** will be exactly the same size — in exactly the same position. **Mix Source** and **Swap** modes are mutually exclusive. In Chapter 6, refer to the "**Understanding Split and Mix Modes**" section on page 228 for instructions.



Swap — in "**Mix Mode**" (with the **Split** button off) press **Swap** to allow both PIPs in the mixer to be located independently. Layers **A** and **B** can be positioned and sized anywhere as desired. **Mix Source** and **Swap** modes are mutually exclusive. In Chapter 6, refer to the "**Understanding Split and Mix Modes**" section on page 228 for instructions.



Toggle — press to toggle sources back and forth with each transition. Once a source transitions off Program within a PIP, it "flip-flops" to Preview. **Toggle** is used with both the **Mix Source** and **Swap** modes, and also functions with background transitions. In Chapter 6, refer to the "**Understanding Split and Mix Modes**" section on page 228 for details.

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

In Chapter 6, refer to the "**Using Freeze**" section on page 236 for instructions.

Layer Control Section

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

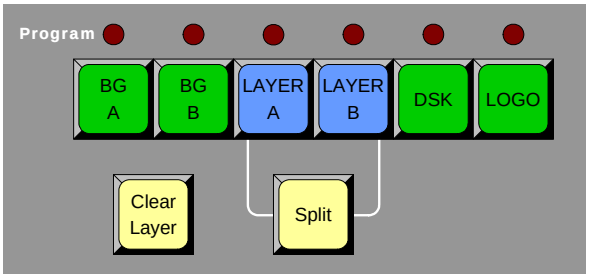


Figure 2-8. Layer Control Section

The buttons in the **Layer Control Section** enable you to select (on Preview) the sources that will transition to or from Program — including backgrounds, 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, two layers (in the mixer), one DSK and one full screen LOGO are provided — identical to the layers on an individual ScreenPRO-II.
- 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.

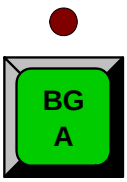
Note

In both single and widescreen modes, 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** on all individual ScreenPRO-II units.

Following are descriptions of each button’s function.

Important

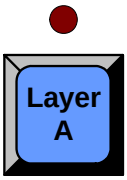
Each ScreenPRO-II unit uses a “lookahead” Preview monitor that fully represents how the Program output will appear *next*. By selecting combinations of PIPs, keys, backgrounds and the DSK, you are composing a Preview image that will appear on Program — after the next transition. A “lit” button does not 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:

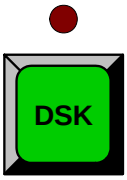
- If the **Red LED** is lit, the background is on Program.
- If **BG A** is on Program and **BG A** is selected in Preview, there will be no change of backgrounds on the next transition.

- 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 affects background transitions. In Chapter 6, refer to the "**Background Transitions**" section on page 227 for complete instructions.



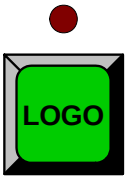
Layer Buttons — press to select a layer on Preview for transition to or from Program.

- 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 **Layer 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 or from 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**. This turns off the layer button. If the **Red LED** above the layer button is lit, on the next transition the layer will transition off Program.



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.

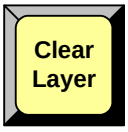


LOGO — press to select the unscaled, full screen **LOGO** on Preview for transition to or from Program. The button lights when selected. Please note:

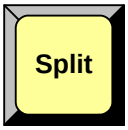
- When the **Red LED** above the button is lit, the **LOGO** is on Program.
- The **LOGO** is the system's highest priority layer. The **LOGO** "source" is selected from one of the individual ScreenPRO-II's three internal frame stores.
- The **LOGO** layer is often used as a "black preview" function. 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. In Chapter 4, refer to the "**LOGO Menu**" section on page 182 for details.
- 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.



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 234 for instructions.



Split — press to select whether or not the mixer's two layers work independently (in **Split Mode**), in tandem (**Mix Mode**), or in "**Join**" mode.

- **Mix Mode** — the **Split Layer** button is off. In this mode, the two layers are ganged together, offering a variety of additional transitions including the toggle, mix source and swap functions.
- **Split Mode** — the **Split Layer** button is on. In this mode, each layer works independently. You have the freedom to size, position, manipulate and transition each one independently of the other.
- **Join Mode** — the **Split Layer** button is on. The currently blinking layer button is considered the "master." *Press and hold* the **Split Layer** button, then press the other (non-blinking) layer button to "join" the two layers together. Both layer buttons blink, and in this mode, both are now joined together.
  - ~ Any manipulation that you perform to the "master" layer is also performed to the joined layer. Both can be sized, positioned, moved and manipulated as if they are one.
  - ~ To un-join the two layers, press and hold the **Split Layer** button, then press either **Layer** button.

In Chapter 6, refer to the "**Working with Layers**" section on page 226 for details.

Transition Section

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

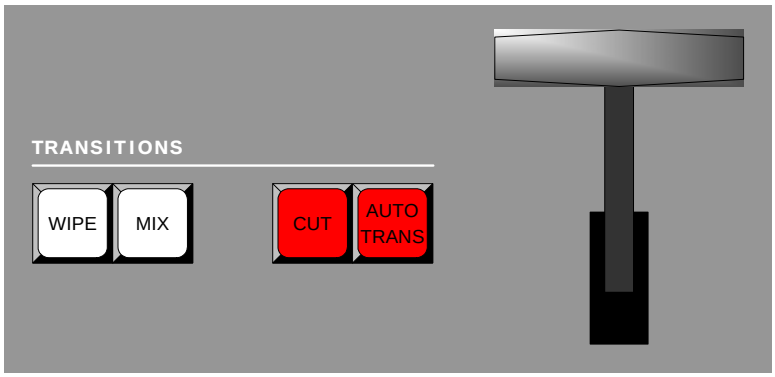
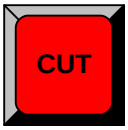


Figure 2-9. Transition Section

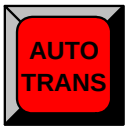
Descriptions of each button and control are provided below:

WIPE — press to select a wipe as the current transition type for the selected destination. The button lights when enabled, and the wipe is initiated by pressing **AUTO TRANS**. The wipe patterns, edge types and transition rates are selected using the **Effects Menu**.

MIX — press to select a mix (dissolve) as the current transition type for the selected destination. The button lights when enabled, and the mix is initiated by pressing **AUTO TRANS**. Auto transition rates are defined using the **Effects Menu**.



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

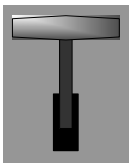


Auto Trans — press to transition automatically from Preview to Program at a pre-defined rate, using the selected transition type (**MIX** or **WIPE**). Auto transition rates are defined using the **Effects Menu**.

Note

Because the Controller's **Effects Menu** is destination-based, **WIPE** and **MIX** effects can be assigned per destination.

For example, with destinations 1 and 3 lit, select **WIPE**. Next, with destination 2 lit, select **MIX**. Next, select all three destinations and press **AUTO TRANS** to perform a wipe on destinations 1 and 3, and a dissolve on destination 2.



T-Bar — enables you to perform smooth, manual transitions. Each time the T-Bar is moved from limit to limit, the setup on Preview transitions to Program using the selected transition type (**MIX** or **WIPE**).

For additional information on transitions and the **Effects Menu**:

- In Chapter 4, refer to the "**Effects Menu**" section on page 146 for menu details.
- In Chapter 6, refer to the "**Working with Transitions**" section on page 241 for operational procedures.

3. Hardware Installation

In This Chapter

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

Note

Once you have reviewed all of the sections in this chapter, please continue with Chapter 4, "**Menu Orientation**" on page 85.

Safety Precautions

For all ScreenPRO-II Controller 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 Controller 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 Controller should be clean, properly lit, free from static, and have adequate power, ventilation, and space for all components.

Controller Installation

The ScreenPRO-II Controller is designed to be used in a “tabletop” configuration, without rack mounting.

Because the Controller is part of a larger system, which can involve a variety of components including ScreenPRO-II, BlendPRO-II, MatrixPRO routers, ImagePRO, PresentationPRO-II and one or more projectors, please refer to the “**System Installation**” section on page 73 for comprehensive installation instructions.

Cable, Adapter and Accessory Information

The table below provides information regarding cables and adapters:

Table 3-1. ScreenPRO-II Controller System Cables, Adapters and Accessories

Item	Description	Note
Accessories		
Gooseneck Lamp	Connects to the XLR connector on the Controller panel	1 Lamp Supplied
Power Connections		
AC Power Cord	AC Power, 7 foot, 10A	1 Cord Supplied

Note

In Chapter 3, "**Hardware Installation**" of the **ScreenPRO-II User's Guide**, refer to the "**Cable and Adapter Information**" section for details on the components supplied with individual ScreenPRO-II units.

Connection Charts

The following topics are discussed in this section:

Connection Chart Overview

A series of **Connection Charts** are provided on the following pages to assist with your ScreenPRO-II input and output connections. Please note the following points:

- Each ScreenPRO-II provides:
  - ~ 8 x analog inputs, scaled. These can be used to connect RGB, composite, S-Video (Y/C) and component video.
  - ~ 2 x HD-SDI/SD-SDI inputs, scaled (on the HD model).
  - ~ 2 x DVI inputs, unscaled (BG/DSK).
- You can connect sources *directly* to inputs (**internal routing**), or you can connect router outputs to inputs (**external routing**). This assignment is performed on the **Destination Setup Menu**. Note that the use of routers offers less restrictions with regard to assigning sources to layers.
  - ~ If you have configured a ScreenPRO-II to use **internal routing**, both the white buttons (analog sources) and the yellow buttons (HD-SDI/SD-SDI sources) are active on the **Source Selection Bus**. You can assign a maximum of 16 analog and 2 HD-SDI/SD-SDI sources.
  - ~ If you have configured a ScreenPRO-II to use **external routing**, only the white source buttons on the **Source Selection Bus** are active. You can assign a maximum of 16 sources, using any mix of analog and digital.

Important

In this mode, with **external routing** enabled, the two yellow **SDI** buttons are disabled.

- On each ScreenPRO-II, 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**.

Chart instructions:

- **Analog Router I/O Chart**

  If you are using external routing, complete the Analog I/O router chart for your analog input and output connections. The chart can also be used to specify router outputs that connect to Aux destinations.

- **Digital Router I/O Chart**

  If you are using external routing, complete the digital I/O router chart for your digital input and output connections. The chart can also be used to specify router outputs that connect to Aux destinations.

- **Analog Input Chart — Direct or DA Connections**

  If you are using internal routing, complete the analog input chart for direct or DA analog connections to each ScreenPRO-II and other target analog destinations. Be sure to check (✓) whether or not the analog input is a direct connection, or from a DA output.

- **Digital Input Chart — Direct or DA Connections**

  If you are using internal routing, complete the digital input chart for direct or DA digital connections to each ScreenPRO-II and other target analog destinations. Be sure to check (✓) whether or not the digital input is a direct connection, or from a DA output.

- **DVI Connection Chart**

  For *all* system configurations, complete the **DVI Connection Chart** to map your **Background** and **DSK** DVI connections. Be sure to check (✓) whether or not the DVI source originates from a multi-head graphics card, or a DA (or splitter).

- **Standard Destination Chart**

  For *all* system configurations, complete the **Standard Destination Chart**. The ScreenPRO-II Controller enables you to configure up to four standard destinations. Note that the chart is also used to map the usage of BlendPRO-II in widescreen configurations.

- **Auxiliary Destination Chart**

  For *all* system configurations, complete the **Auxiliary Destination Chart**. The ScreenPRO-II Controller enables you to configure up to four auxiliary destinations.

Before you complete the actual charts, please review the sample charts as provided in the following two sections:

- "**Sample Connection Charts — External Routing**", page 58.
- "**Sample Connection Charts — Internal Routing**", page 62.

Sample Connection Charts — External Routing

Following are sample connection charts for a ScreenPRO-II Controller system configured for **external routing**. The system is comprised of the following components:

- 2 x ScreenPRO-II
- 1 x widescreen destination (using two projectors)
- 1 x BlendPRO-II
- 2 x Aux destinations (PresentationPRO-II, ImagePRO)
- 1 x Analog router, 8x8
- 1 x SDI router, 8x8

The figure below provides a simplified diagram of the system:

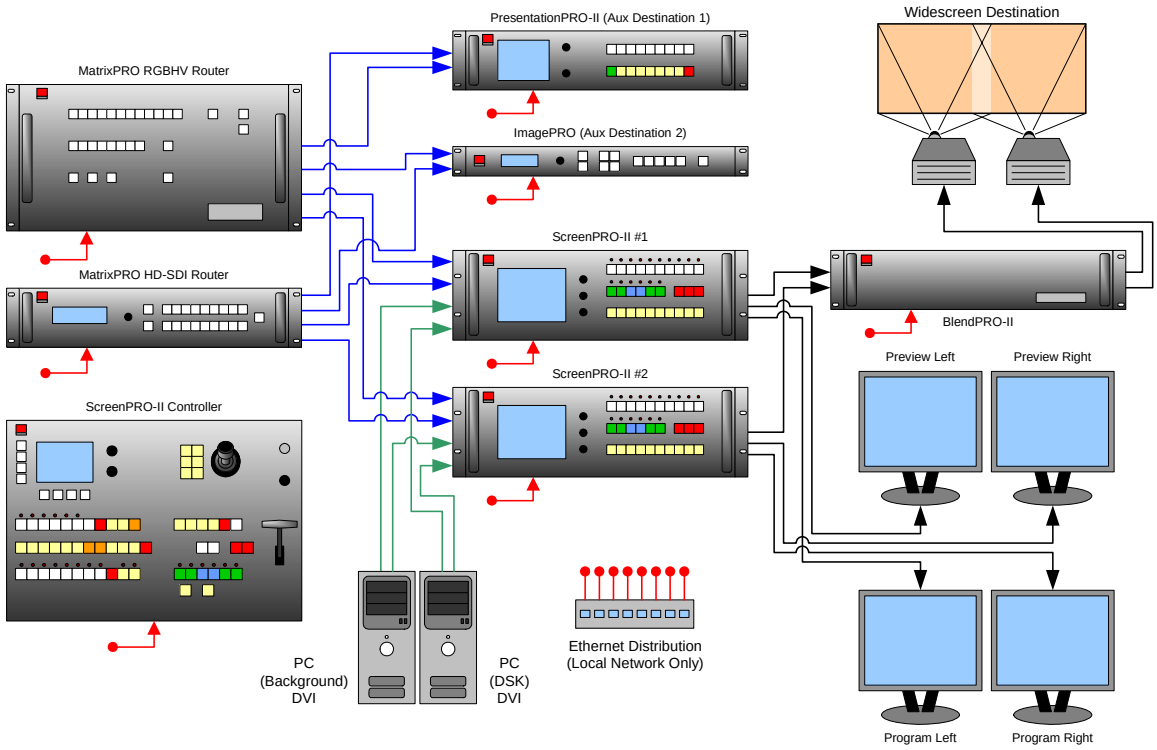


Figure 3-1. Sample System with External Routing

The following sample charts are provided:

- **External Routing — Sample Analog Router I/O Chart**
- **External Routing — Sample Digital Router I/O Chart**
- **Widescreen — Sample DVI Connection Chart**
- **Widescreen — Sample Standard Destination Chart**
- **Widescreen — Sample Auxiliary Destination Chart**

Note Abbreviated charts are used in the following sections.

External Routing — Sample Analog Router I/O Chart

With a ScreenPRO-II configured to use external routing (on the **Destination Setup Menu**), use the following chart to map **Analog Router** input and output connections:

Table 3-2. Sample Analog Router I/O Chart

Router #1 — Analog			
Source Name	**Controller Input #**	**Router ← Input | Output →**	**Connects to:**
DVD A	7	1	ScreenPRO-II #1, Input 1 Analog
DVD B	8	2	ScreenPRO-II #1, Input 2 Analog
LOGO	9	3	ScreenPRO-II #2, Input 1 Analog
PowerPoint	10	4	ScreenPRO-II #2, Input 2 Analog
PowerPoint Backup	11	5	PrePRO-II, Input 1 Analog
Demo A	12	6	ImagePRO, Analog Input
Demo B	13	7	
Betacam	6	8	

External Routing — Sample Digital Router I/O Chart

With a ScreenPRO-II configured to use external routing, use the following chart to map **SDI Router** input and output connections:

Table 3-3. Sample Digital Router I/O Chart

Router #2 — SDI			
Source Name	**Controller Input #**	**Router ← Input | Output →**	**Connects to:**
Camera 1	1	1	ScreenPRO-II #1, Input 1 SDI
Camera 2	2	2	ScreenPRO-II #1, Input 2 SDI
Camera 3	3	3	ScreenPRO-II #2, Input 1 SDI
Digital Betacam	4	4	ScreenPRO-II #2, Input 2 SDI
Server	5	5	PrePRO-II, Input 1 SDI
		6	ImagePRO, SDI Input
		7	
		8	

Widescreen — Sample DVI Connection Chart

Each ScreenPRO-II has two DVI inputs for the **Background** and **DSK** (**BG/DSK in A** and **BG/DSK in B**). Widescreen backgrounds will typically originate from a multi-head graphics card, while single screen backgrounds are typically distributed from one computer through a DA or signal splitter. Use the following chart to map your **Background** and **DSK** DVI connections:

Table 3-4. Sample DVI Connection Chart

Background DVI Routing					
Source	**Multi-Head Graphics Card**	**Out**	**DA (or Splitter)**	**Connects to:**	**Note**
Computer 1	✓	1		ScreenPRO-II #1, BG/DSK In A	Widescreen BG
	✓	2		ScreenPRO-II #2, BG/DSK In A	Widescreen BG
		3			
		4			
Computer 2		1	✓	ScreenPRO-II #1, BG/DSK In B	Single screen DSK
		2	✓	ScreenPRO-II #2, BG/DSK In B	Single screen DSK
		3			
		4			

Widescreen — Sample Standard Destination Chart

The ScreenPRO-II Controller enables you to configure up to four standard destinations. Use the following chart to map the distribution of each destination, the usage of **BlendPRO-II** if required, and the routing of your additional program and preview outputs:

Table 3-5. Sample Standard Destination Connection Chart

Standard Destinations				
Output	**Dest**	**Screen**	**BlendPRO-II Channel**	**Notes**
ScreenPRO-II #1 Pgm DVI	1	Widescreen left	1	R12+
ScreenPRO-II #1 Pgm Analog 1		VGA 1		
ScreenPRO-II #1 Pgm Analog 2				
ScreenPRO-II #1 Pvw		VGA 2		
ScreenPRO-II #2 Pgm DVI	2	Widescreen right	2	R12+
ScreenPRO-II #2 Pgm Analog 1		VGA 3		
ScreenPRO-II #2 Pgm Analog 2				
ScreenPRO-II #2 Pvw		VGA 4		

Widescreen — Sample Auxiliary Destination Chart

The ScreenPRO-II Controller enables you to configure up to four auxiliary destinations. Use the following chart to map the distribution of each auxiliary destination:

Table 3-6. Sample Aux Destination Connection Chart

Aux Destinations				
Dest	**Device**	**Inputs from**	**Screen / Device**	**Notes**
1	PresentationPRO-II	Analog Router Out #5 Digital Router Out #5	Downstage monitor	LC47
2	ImagePRO	Analog Router Out #6 Digital Router Out #6	Record VTR	Digital Betacam

Important

For all Widescreen configurations using BlendPRO-II, ensure that you review the "**BlendPRO-II Widescreen Lock Connections**" section on page 77.

Sample Connection Charts — Internal Routing

Following are sample connection charts for a ScreenPRO-II Controller system configured for **internal routing**. The system is comprised of the following components:

- 2 x ScreenPRO-II
- 2 x single screen destinations
- 2 x Aux destinations (PresentationPRO-II, ImagePRO)

The figure below provides a simplified diagram of the system:

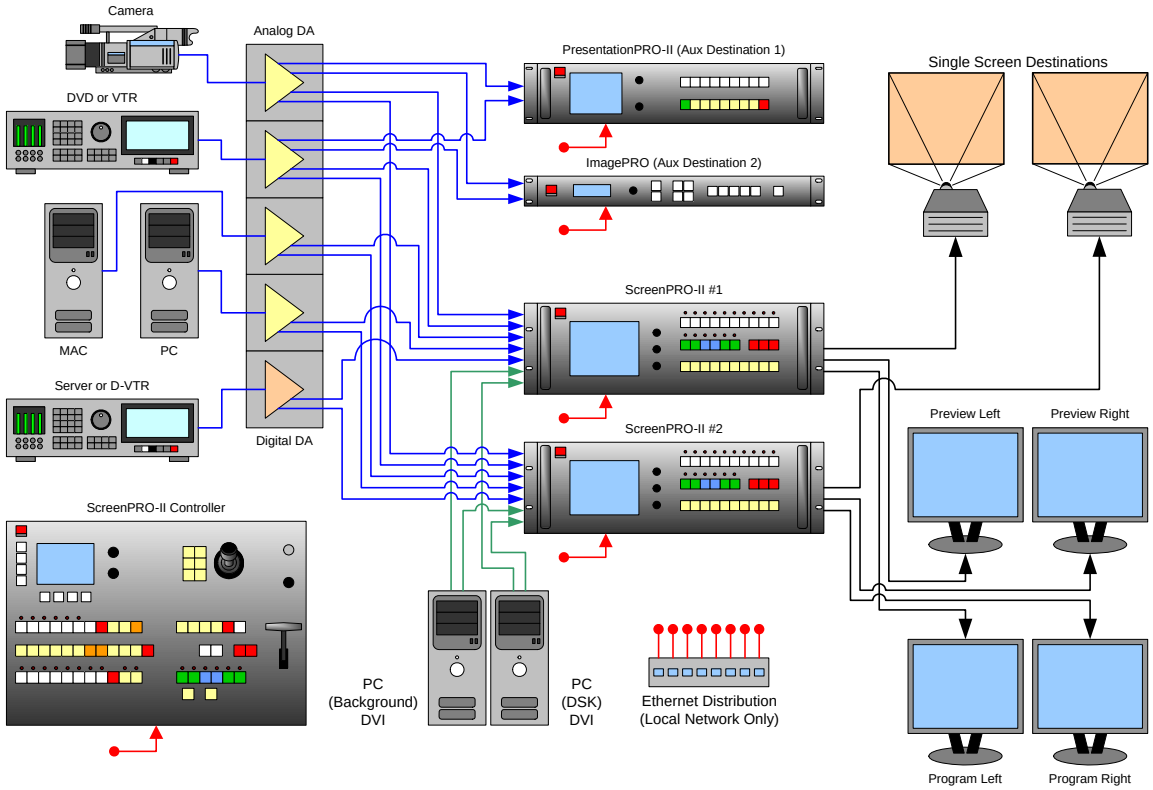


Figure 3-2. Sample System with Internal Routing

The following sample charts are provided:

- **Internal Routing — Sample Analog Input Chart**
- **Internal Routing — Sample Digital Input Chart**
- **Single Screens — Sample DVI Connection Chart**
- **Single Screens — Sample Standard Destination Chart**
- **Single Screens — Sample Auxiliary Destination Chart**

Note Abbreviated charts are used in the following sections.

Internal Routing — Sample Analog Input Chart

With a ScreenPRO-II configured to use internal routing (on the **Destination Setup Menu**), use the following chart to map **Analog Inputs** to each ScreenPRO-II and other target analog destinations. Note that the use of DAs is recommended to provide identical inputs to each ScreenPRO-II (or target device).

Table 3-7. Sample Analog Input Chart — Direct or DA Connections

Analog Inputs				
Source Name	**Direct**	**DA**	**DA Output**	**Target Input**
Camera		✓	1	PresentationPRO-II, Analog Input
			2	ImagePRO, Analog Input
			3	ScreenPRO-II #1, Input 1 Analog
			4	ScreenPRO-II #2, Input 1 Analog
DVD		✓	1	PresentationPRO-II, Analog Input
			2	ImagePRO, Analog Input
			3	ScreenPRO-II #1, Input 2 Analog
			4	ScreenPRO-II #2, Input 2 Analog
MAC		✓	1	
			2	
			3	ScreenPRO-II #1, Input 3 Analog
			4	ScreenPRO-II #2, Input 3 Analog
PC		✓	1	
			2	
			3	ScreenPRO-II #1, Input 4 Analog
			4	ScreenPRO-II #2, Input 4 Analog

Internal Routing — Sample Digital Input Chart

With a ScreenPRO-II configured to use internal routing, use the following chart to map **Digital Inputs** to each ScreenPRO-II and other target digital destinations. The use of DAs is recommended to provide identical inputs to each ScreenPRO-II (or target device).

Table 3-8. Sample Digital Input Chart — Direct or DA Connections

Digital Inputs				
Source Name	**Direct**	**DA**	**DA Output**	**ScreenPRO-II Input**
Server		✓	1	ScreenPRO-II #1, Input 1 Digital
			2	ScreenPRO-II #2, Input 1 Digital
			3	
			4	

Single Screens — Sample DVI Connection Chart

Each ScreenPRO-II has two DVI inputs for the **Background** and **DSK** (**BG/DSK in A** and **BG/DSK in B**). Single screen backgrounds are typically distributed from one computer through a DA or signal splitter. Use the following chart to map your **Background** and **DSK DVI** connections:

Table 3-9. Sample DVI Connection Chart

Background DVI Routing					
Source	**Multi-Head Graphics Card**	**Out**	**DA (or Splitter)**	**Connects to:**	**Note**
Computer 1		1	✓	ScreenPRO-II #1, BG/DSK In A	Single screen BG
		2	✓	ScreenPRO-II #2, BG/DSK In A	Single screen BG
		3			
		4			
Computer 2		1	✓	ScreenPRO-II #1, BG/DSK In B	Single screen DSK
		2	✓	ScreenPRO-II #2, BG/DSK In B	Single screen DSK
		3			
		4			

Single Screens — Sample Standard Destination Chart

The ScreenPRO-II Controller enables you to configure up to four standard destinations. Use the following chart to map the distribution of each destination and the routing of your additional program and preview outputs:

Table 3-10. Sample Standard Destination Connection Chart

Standard Destinations				
Output	**Dest**	**Screen**	**BlendPRO-II Channel**	**Notes**
ScreenPRO-II #1 Pgm DVI	1	Stage left	n/a	R12+
ScreenPRO-II #1 Pgm Analog 1		VGA 1		
ScreenPRO-II #1 Pgm Analog 2				
ScreenPRO-II #1 Pvw		VGA 2		
ScreenPRO-II #2 Pgm DVI	2	Stage right	n/a	R12+
ScreenPRO-II #2 Pgm Analog 1		VGA 3		
ScreenPRO-II #2 Pgm Analog 2				
ScreenPRO-II #2 Pvw		VGA 4		

Single Screens — Sample Auxiliary Destination Chart

The ScreenPRO-II Controller enables you to configure up to four auxiliary destinations. Use the following chart to map the distribution of each auxiliary destination:

Table 3-11. Sample Aux Destination Connection Chart

Aux Destinations				
Dest	**Device**	**Inputs from**	**Screen / Device**	**Notes**
1	PresentationPRO-II	Analog DA #1, Out #1	Downstage monitor	LC47
		Analog DA #2, Out #1		
2	ImagePRO	Analog DA #2, Out #2	Record VTR	Digital Betacam
		Analog DA #2, Out #2		

Blank Connection Charts

The following blank connection charts are provided:

- External Routing — Analog Router I/O Chart
- External Routing — Digital Router I/O Chart
- Internal Routing — Analog Input Chart
- Internal Routing — Digital Input Chart
- DVI Connection Chart
- Standard Destination Chart
- Auxiliary Destination Chart

External Routing — Analog Router I/O Chart

If you are using external routing, complete the following **Analog Router I/O Chart** to map your analog input and output connections. The chart can also be used to specify analog router outputs that connect to Aux destinations. Refer to the "External Routing — Sample Analog Router I/O Chart" section on page 59 for a sample chart.

Table 3-12. Analog Router I/O Chart

Router #1 — Analog			
Source Name	**Controller Input #**	**Router ← Input | Output →**	**Connects to:**
		1	
		2	
		3	
		4	
		5	
		6	
		7	
		8	
		9	
		10	
		11	
		12	
		13	
		14	
		15	
		16	

External Routing — Digital Router I/O Chart

If you are using external routing, complete the following **Digital Router I/O Chart** to map your digital input and output connections. The chart can also be used to specify digital router outputs that connect to Aux destinations. Refer to the "**External Routing — Sample Digital Router I/O Chart**" section on page 59 for a sample chart.

Table 3-13. Digital Router I/O Chart

Router #2 — Digital			
Source Name	**Controller Input #**	**Router ← Input | Output →**	**Connects to:**
		1	
		2	
		3	
		4	
		5	
		6	
		7	
		8	
		9	
		10	
		11	
		12	
		13	
		14	
		15	
		16	

Internal Routing — Analog Input Chart

If you are using internal routing, complete the following **Analog Input Chart** to map your analog input connections, either direct or via DA. The chart can also be used to specify other analog destinations such as Aux device inputs. Please copy the chart as required for additional inputs. Refer to the "**Internal Routing — Sample Analog Input Chart**" section on page 63 for a sample chart.

Table 3-14. Analog Input Chart — Direct or DA Connections

Analog Inputs				
Source Name	**Direct**	**DA**	**DA Output**	**Target Input**
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	

Internal Routing — Digital Input Chart

If you are using internal routing, complete the following **Digital Input Chart** to map your digital input connections, either direct or via DA. The chart can also be used to specify other digital destinations such as Aux device inputs. Please copy the chart as required for additional inputs. Refer to the "**Internal Routing — Sample Digital Input Chart**" section on page 63 for a sample chart

Table 3-15. Digital Input Chart — Direct or DA Connections

Digital Inputs				
Source Name	**Direct**	**DA**	**DA Output**	**ScreenPRO-II Input**
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	
			1	
			2	
			3	
			4	

DVI Connection Chart

Each ScreenPRO-II has two DVI inputs for the **Background** and **DSK** (**BG/DSK in A** and **BG/DSK in B**). Widescreen backgrounds will typically originate from a multi-head graphics card, while single screen backgrounds are typically distributed from one computer through a DA or signal splitter. Use the following chart to map your **Background** and **DSK** DVI connections. Refer to the "**Widescreen — Sample DVI Connection Chart**" section on page 60 for a sample chart.

Table 3-16. Sample DVI Connection Chart

Background DVI Routing					
Source	**Multi-Head Graphics Card**	**Out**	**DA (or Splitter)**	**Connects to:**	**Note**
Computer 1		1			
		2			
		3			
		4			
Computer 2		1			
		2			
		3			
		4			
Computer 3		1			
		2			
		3			
		4			
Computer 4		1			
		2			
		3			
		4			

Standard Destination Chart

The ScreenPRO-II Controller enables you to configure up to four standard destinations. Use the following chart to map the distribution of each destination, the usage of **BlendPRO-II** if required, and the routing of your additional program and preview outputs. Refer to the "**Widescreen — Sample Standard Destination Chart**" section on page 60 for a sample chart.

Table 3-17. Standard Destination Connection Chart

Standard Destinations				
Output	**Dest**	**Screen**	**BlendPRO-II Channel**	**Notes**
ScreenPRO-II #1 Pgm DVI				
ScreenPRO-II #1 Pgm Analog 1				
ScreenPRO-II #1 Pgm Analog 2				
ScreenPRO-II #1 Pvw				
ScreenPRO-II #2 Pgm DVI				
ScreenPRO-II #2 Pgm Analog 1				
ScreenPRO-II #2 Pgm Analog 2				
ScreenPRO-II #2 Pvw				
ScreenPRO-II #3 Pgm DVI				
ScreenPRO-II #3 Pgm Analog 1				
ScreenPRO-II #3 Pgm Analog 2				
ScreenPRO-II #3 Pvw				
ScreenPRO-II #2 Pgm DVI				
ScreenPRO-II #2 Pgm Analog 1				
ScreenPRO-II #2 Pgm Analog 2				
ScreenPRO-II #2 Pvw				

Auxiliary Destination Chart

The ScreenPRO-II Controller enables you to configure up to four auxiliary destinations. Use the following chart to map the distribution of each auxiliary destination:

Table 3-18. Aux Destination Connection Chart

Aux Destinations				
Dest	**Device**	**Inputs from**	**Screen / Device**	**Notes**
1				
2				
3				
4				

System Installation

This section provides instructions for installing your ScreenPRO-II Controller system. If required, use the two previous sample system diagrams for reference:

- Refer to "**Figure 3-1**" on page 58 for an illustration of a **Sample System with External Routing**.
- Refer to "**Figure 3-2**" on page 62 for an illustration of a **Sample System with Internal Routing**.

You will need one (or more) of the items listed below:

Table 3-19. Equipment List, ScreenPRO-II Controller System

Qty.	Item	Note
1	ScreenPRO-II Controller chassis	Required
1-4	ScreenPRO-II	Required, quantity based on production and screen requirements
1-4	Video projector	Required, quantity based on single or widescreen requirements
1-4	Analog monitor(s)	Preview, quantity based on single or widescreen requirements
1-4	Analog or digital monitor(s)	Program, quantity based on single or widescreen requirements
1	Ethernet hub or switch	Customer supplied
TBD	Ethernet cables	Customer supplied
TBD	Video cables	Customer supplied (Genlock, Genlock Loop, Widescreen Lock)
1	Analog router	Required for systems configured for external routing
1	Digital router	Required for systems configured for external routing
1	BlendPRO-II	Required for systems configured for widescreen blends
TBD	Discreet analog sources	Required for systems configured for internal routing
TBD	Discreet digital sources	Required for systems configured for internal routing
TBD	PC(s), Mac(s)	Required for BG and DSK DVI sources, and discreet RGB sources
TBD	DA(s)	Required for signal distribution, when internal routing utilized

- Use the following steps to install ScreenPRO-II Controller:

1. Follow the unpacking procedures as listed in the "**Unpacking and Inspection**" section on page 54.
2. As required, refer to the "**Physical and Electrical Specifications**" section on page 258 in Appendix A for electrical and mechanical details.
3. As required, refer to the "**ScreenPRO-II Controller Rear Panel**" section on page 32 in Chapter 2 for the locations of all connectors.
4. If you are rack mounting peripheral equipment such as the BlendPRO-II and MatrixPRO routers, follow the rack mount procedures as outlined in each individual User's Guide.

5. As required, ensure that your system interconnection charts are handy. Refer to the "**Connection Charts**" section on page 56 for details on completing the charts.
6. **Ethernet Connections** — a completely "local" network connection is recommended, without IP connections to the outside world.
    a. Using an Ethernet cable, connect the ScreenPRO-II Controller's Ethernet port to a Hub or Switch.
    b. Connect all ScreenPRO-II units to the Ethernet Hub or Switch.
    c. If your system uses BlendPRO-II, connect the BlendPRO-II chassis to the Ethernet Hub or Switch.
    d. Connect all routers (such as MatrixPRO) to the Ethernet Hub or Switch.
7. **Serial Connections** — the ScreenPRO-II Controller's serial port is configured as DCE, 115K baud, 8 data bits, 1 stop bit, no parity bits.
    e. For a single serial controlled router, use an RS-232 cable to connect the router to the ScreenPRO-II Controller's **EXT COMM** port.
    f. To connect two (or more) serial routers, a third-party Ethernet-to-Serial converter box is required, such as the **Lantronix** model **UDS200** Device Server (**http://www.lantronix.com/pdf/UDS200_PB.pdf**). Each Lantronix **UDS200** can control two serial routers.
        - Using RS-232 cables, connect each router to the **UDS200**.
        - Set up a static IP address on the Lantronix device itself. The recommended range is **192.168.0.200** - **192.168.0.239** — such as not to conflict with other devices. Refer to the **Lantronix UDS200 User's Guide** for instructions.
        - Using an Ethernet cable, connect the **UDS200** to the same LAN that includes the ScreenPRO-II Controller.

Note

The ScreenPRO-II Controller supports Lantronix models **UDS100** and **UDS200**. In Chapter 4, refer to the "**Lantronix Setup Menu**" section on page 131 for addition information about **Lantronix** setup.

8. **Source Connections**
    a. If you are using external routing:
        - Ensure that all sources are properly connected to your analog and digital routers.
        - Connect analog router outputs to analog inputs 1 and 2 on each ScreenPRO-II. These are the default analog router inputs.
        - Connect digital router outputs to SDI inputs 1 and 2 on each ScreenPRO-II.
    b. If you are using internal routing:
        - As required, connect discreet analog source outputs to the desired analog inputs on each ScreenPRO-II.
        - As required, connect discreet digital source outputs to the desired digital inputs on each ScreenPRO-II.
        - If analog DAs are utilized (recommended), connect analog source outputs to DA inputs, and DA outputs to the desired analog inputs on each ScreenPRO-II.

- If digital DAs are utilized (recommended), connect digital source outputs to DA inputs, and DA outputs to the desired digital inputs on each ScreenPRO-II.

c. For widescreen backgrounds and DSK sources, connect your computers' DVI outputs (typically from multi-head graphics cards) to the **BG/DSK in A** and **BG/DSK in B** inputs on each ScreenPRO-II.

d. For single screen backgrounds and DSK sources, connect your computers' DVI outputs (typically from DAs or splitters) to the **BG/DSK in A** and **BG/DSK in B** inputs on each ScreenPRO-II.

9. Output Connections

a. One **Analog Preview Output** is provided on each ScreenPRO-II. Connect this output to the input of each analog Preview Monitor, as required per your configuration.

b. Three **Program Outputs** are provided on each ScreenPRO-II: one digital and two analog. For each chassis (for single screen applications), use these outputs to connect your Program Monitor(s) and your projector(s). 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.

10. BlendPRO-II Input/Output Connections — for widescreen applications, BlendPRO-II requires the following connections:

a. Connect the **Digital Program Output** on each ScreenPRO-II to the desired **DVI Input** (1 - 4) on BlendPRO-II.

b. Per your system configuration, connect **DVI Outputs** (1 - 4) on BlendPRO-II to the DVI inputs on your projectors, or connect **Analog Outputs** (1 - 4) on BlendPRO-II to the analog inputs on your projectors.

11. Genlock Connections

For single screen applications, genlock connections are optional:

a. If you will be using synchronous camera sources in your production, use a BNC cable to connect a PAL or NTSC black burst (or a composite sync) signal to the **Genlock In** connector on each ScreenPRO-II.

b. If desired, you can loop reference video from one ScreenPRO-II chassis to another by connecting a BNC cable from the **Genlock Loop** connector to the next ScreenPRO-II's **Genlock In** connector (or to other video devices in the chain).

c. If a particular ScreenPRO-II is the last device in a reference video chain, do not make any connections to the **Genlock Loop** connector. Refer to the "**ScreenPRO-II Genlock Termination**" section on page 76 for details.

Important

For wide screen applications that use BlendPRO-II, specific "**Widescreen Lock**" connections are *mandatory*. Refer to the "**BlendPRO-II Widescreen Lock Connections**" section on page 77 for instructions.

12. **Power Connection**
    a. Connect an AC power cord to the **AC Power Connector** on the rear of each ScreenPRO-II chassis, and then to AC outlets.
    b. Connect an AC power cord to the **AC Power Connector** on the rear of the ScreenPRO-II Controller chassis, and then to an AC outlet.
    c. Per your system configuration, connect AC Power cords to MatrixPRO routers and BlendPRO-II, and then to AC outlets.
    d. 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 of rack-mounted equipment should be maintained.
13. **Tally Connection** — If you are using the optional Tally board, connect tally "relay closure" lines from the ScreenPRO-II Controller's **Tally** connector to the desired external devices (such as cameras). Eight tally circuits are provided. In Appendix A, refer to the "**Tally Connector**" section on page 262 for pinout details
14. **Power On** — turn on power to all units.
15. **System ID** — required for use with the ScreenPRO-II Controller. On each ScreenPRO-II chassis:
    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 unique value that is not used by another chassis. The system will not function if duplicate IDs are in use.

Note

The ScreenPRO-II Controller will detect duplicate 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.

16. **Display Calibration** — calibrate the ScreenPRO-II Controller's Touch Screen display using the **Display Settings Menu**. From the **Home Menu**, press {**DISPLAY**} **>** {**LCD CAL**}, and following the prompts to calibrate the display.

If you are using BlendPRO-II, please review the "**Overview of Edge-Blending Technology**" section on page 79.

ScreenPRO-II Genlock Termination

On the rear of each ScreenPRO-II chassis, one recessed **Termination Switch** is provided for genlock termination (adjacent to the **Genlock Loop** connector).

- **Terminated** — when the switch is pushed in, the connection is terminated (75 Ohms).
- **Un-terminated** — when the switch is out, the connection is un-terminated.

If a particular ScreenPRO-II chassis is the last device in a reference video chain, ensure that the **Termination Switch** is pushed in. If a particular ScreenPRO-II chassis is in the middle of a reference chain, ensure that the **Termination Switch** is out.

BlendPRO-II Widescreen Lock Connections

The figure below illustrates the required **Widescreen Lock** and **Genlock** connections for any ScreenPRO-II Controller system that uses BlendPRO-II. Use this figure for reference during the signal installation process. If required, refer to the "**BlendPRO-II User's Guide**" and the "**ScreenPRO-II User's Guide**" for details on specific rear panel connectors.

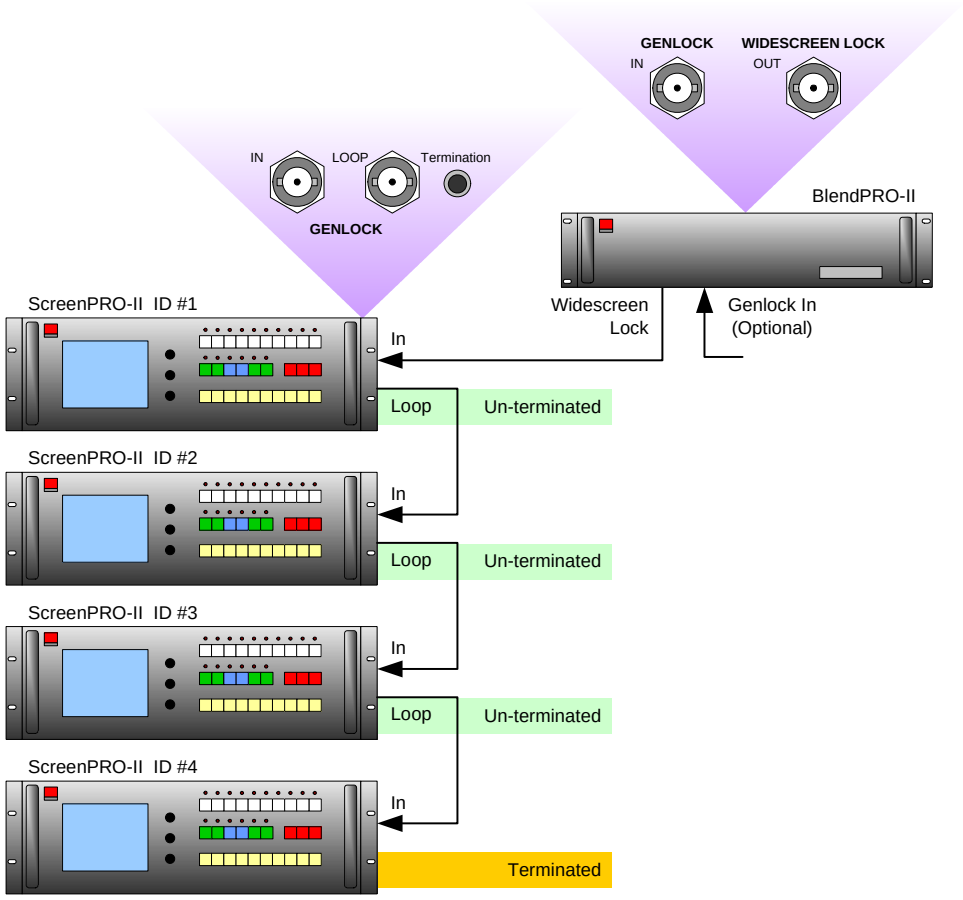


Figure 3-3. Required Widescreen Lock Connections (sample)

- For all widescreen systems that utilize BlendPRO-II, use the following steps to connect "**Widescreen Lock**" and "**Genlock**" signals.

  1. External **Genlock** connections to BlendPRO-II are optional.

     a. If desired (particularly if you will be using synchronous cameras), use a BNC cable to connect a PAL or NTSC black burst (or a composite sync) signal to the **GENLOCK IN** connector on BlendPRO-II.

     b. *Do not* connect an external Genlock signal to any ScreenPRO-II unit in your system.

  2. **Widescreen Lock** connections are *mandatory*:

     a. Connect a BNC cable from BlendPRO-II's **WIDESCREEN LOCK** output to the **GENLOCK IN** connector on the ScreenPRO-II unit with the **lowest numbered ID**.

b. Connect the first ScreenPRO-II's **GENLOCK LOOP** connector to the **GENLOCK IN** connector on the ScreenPRO-II unit with the **next highest numbered ID**.

c. (If your system includes three ScreenPRO-IIs) — Connect the second ScreenPRO-II's **GENLOCK LOOP** connector to the **GENLOCK IN** connector on the ScreenPRO-II with the **next highest numbered ID**.

d. (If your system includes four ScreenPRO-IIs) — Connect the third ScreenPRO-II's **GENLOCK LOOP** connector to the **GENLOCK IN** connector on the ScreenPRO-II unit with the **highest numbered ID**.

e. Set the **Termination Switch** for all ScreenPRO-IIs in your system:

- For all ScreenPRO-IIs ***except the last one*** in the chain, ensure that the ScreenPRO-II is un-terminated (**HI-Z**). Refer to the "**ScreenPRO-II Genlock Termination**" section on page 76 for details.
- On the **last unit** in the chain (only), ensure that the ScreenPRO-II is terminated (**75-OHM**).

Overview of Edge-Blending Technology

The following topics are discussed in this section:

Introduction to Edge Blending

Edge-blending technology is becoming increasingly popular for supporting very large high-resolution displays. The technology is very flexible and supports a wide range of screen configurations. A typical three projector system is illustrated below.

As shown, multiple projectors are used to project on a common surface in order to create one high-resolution image. The creation of a seamless image requires careful attention to detail. High quality results depend upon a system-level approach that integrates content creation, video processing, projector setup and system adjustments as described below.

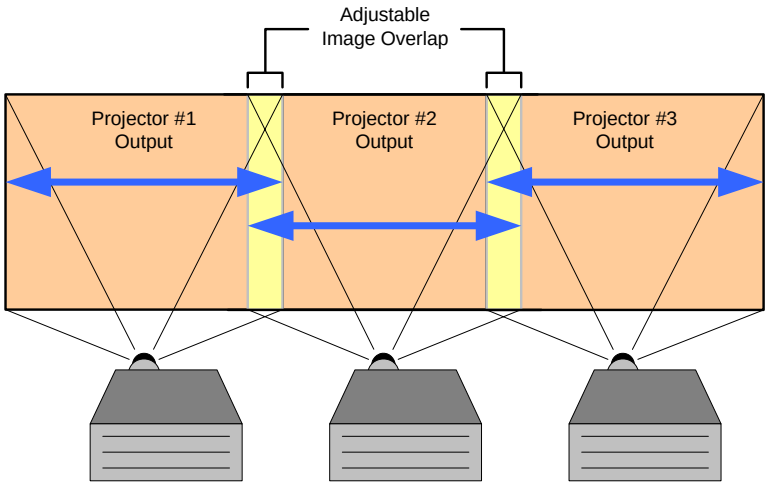


Figure 3-4. Typical three projector system

Content Creation

When projecting an image across a large screen, it is important to maintain sufficient resolution to obtain a crisp, clear image from the perspective of the viewer. Generally, high-resolution source material is used to maintain content that is pleasing to the eye. There are two methods that are commonly used to generate wide-screen source material, each of these methods is explained below.

- **Use of a Single High Definition Image**

  High Definition source material has a resolution of 1920 pixels x 1080 lines. Images of this type can be reformatted to drive multiple screens. The reformatting

is usually performed by a seamless switching system such as the Encore Video Processor, or BlendPRO-II.

Reformatting allows the resultant images to provide seamless switching, integration of picture-in-picture (PIP) video and keying features. Note that the input image can be effectively spread to cover multiple screens, however, the inherent resolution of the output image remains that of the source material, 1920x1080 pixels.

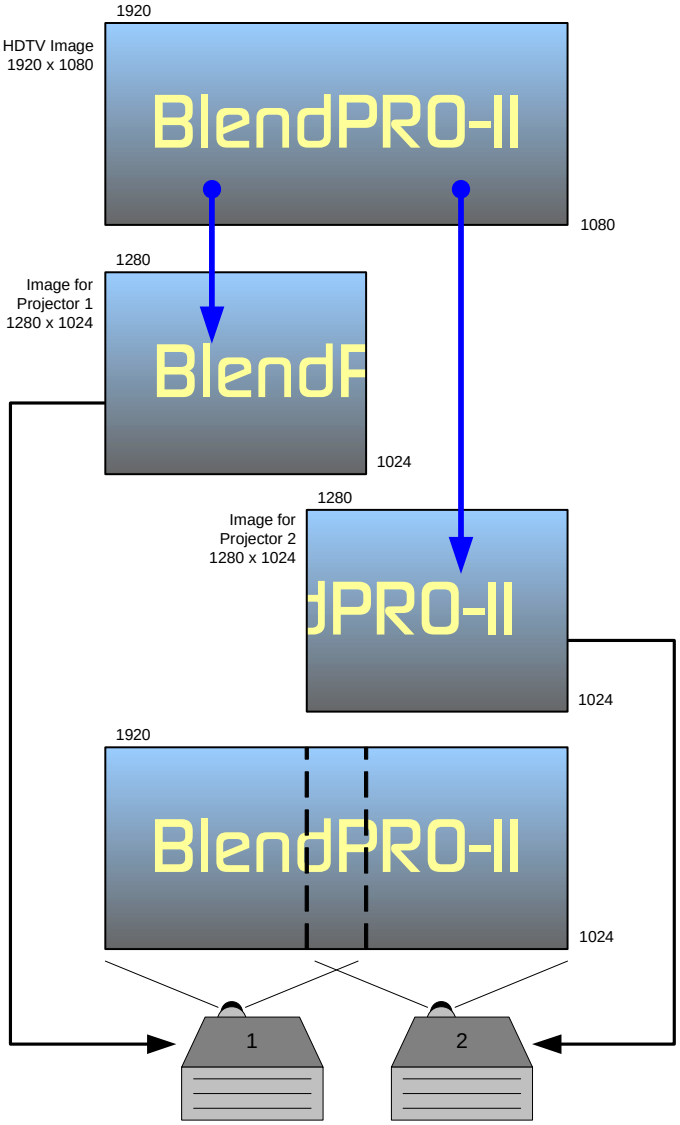


Figure 3-5. HD Source Material Formatting

- **Use Of Multi-Head Graphics Boards**

  Standard multi-head graphics boards can be used to directly generate image data to drive multiple screens. In this case, the computer generates one very high-resolution image and the image is output by multiple graphics heads. The inherent resolution of the output image is limited only by the processing power of the multi-head graphics board. Image resolutions with up to 10,000 pixels of horizontal resolution can be achieved with current technology.

Video Processing

The purpose of the edge-blending process is to provide a smooth transition for the eye over the blending region. To provide a smooth transition, identical image data from two (or more) different projectors must be superimposed, and the output from each projector must be edge feathered to provide seamless optical mixing of the two source images.

There are two video processing functions that are required specifically to support wide-screen edge blended displays: **Image Overlap** and **Edge Feathering**.

- **Image Overlap**

  Source images consist of a single HD image that has been split into multiple channels, or a series of images from a multi-head graphics card. In either case, the source images must be re-formatted to provide image overlap to support the edge-blending process. The Image Overlap processing is illustrated below. The width of the blending region determines the amount of required image overlap and this must be programmable to support different applications.

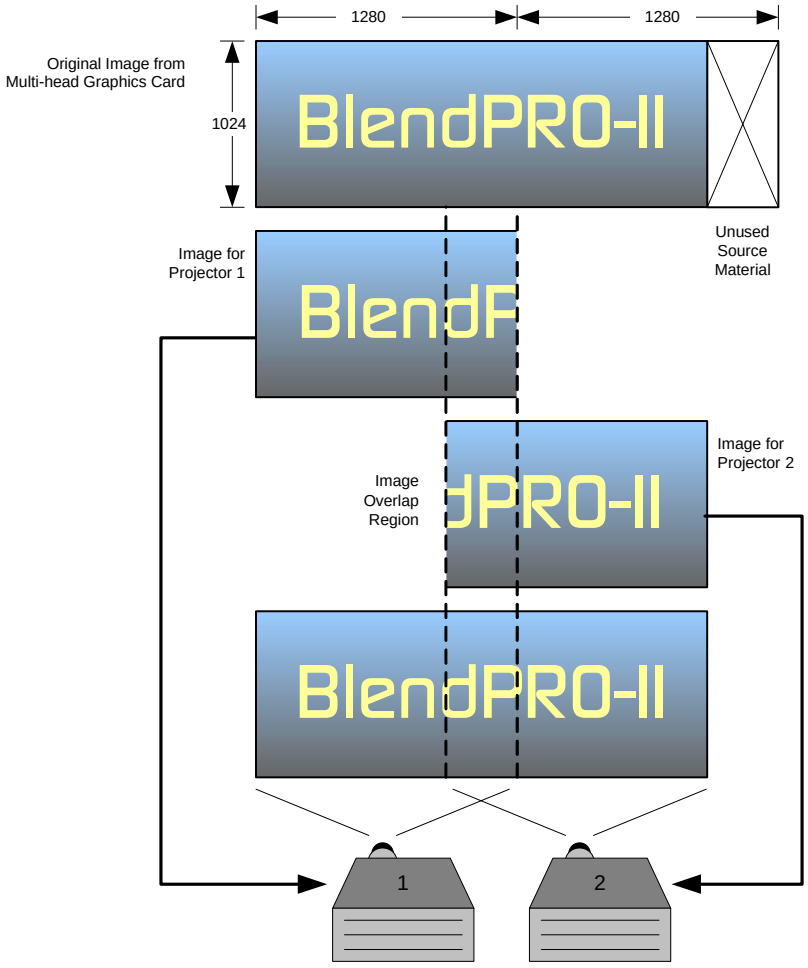


Figure 3-6. Image Overlap and Data Doubling

- **Edge Feathering**

  The overlapping image data in the blend region must be edge-feathered to support a seamless optical blend. The transfer function must be programmable to support blend regions of different widths and adjust to different video characteristics. A typical blend function is illustrated below.

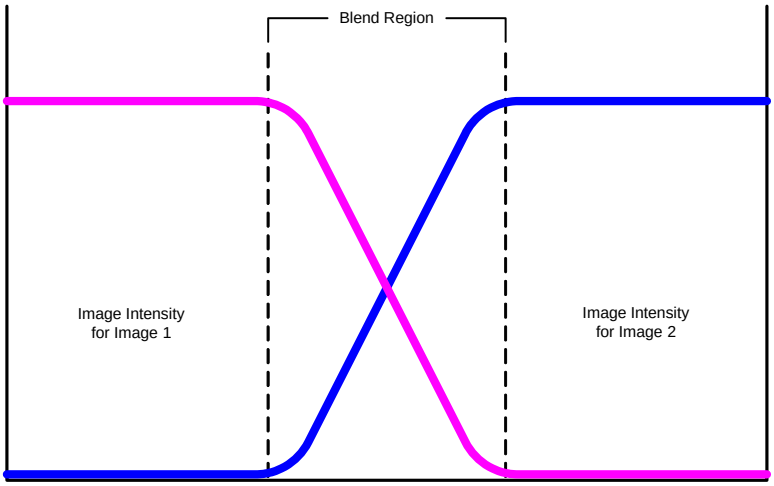


Figure 3-7. Typical Blend Function

Projector Setup and System Adjustments

Accurate projector setup is essential for creating seamless images. Please note the following important guidelines:

- The projectors must be precisely aligned to overlap the adjacent blending regions.
- The brightness, contrast and color balance of the projectors must be adjusted to provide a uniform appearance across the entire screen.
- Custom test patterns and an alignment procedure are used to simplify this process and provide an optimal result.
- Mixing and matching projectors is not recommended as it makes the adjustment process much more difficult.

Left Justified Configurations

Left justification means that the first pixels of the projected image begin immediately at the left, and that unused source material is removed from the far right of the image. A two-projector sample is illustrated below.

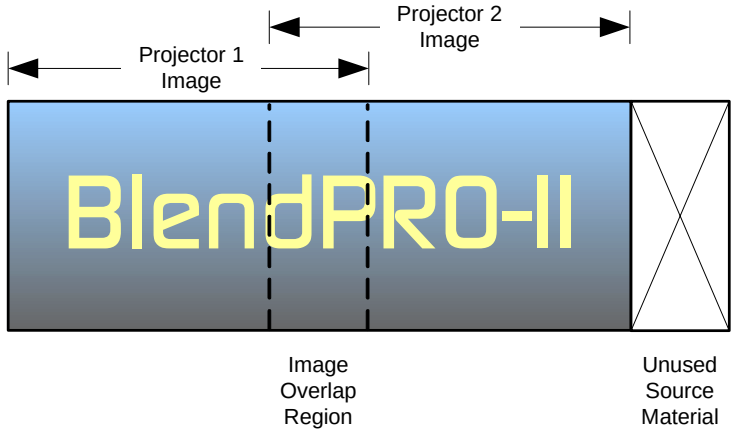


Figure 3-8. Left Justification

Center Justified Configurations

Center justification means that the projected image is properly centered within the available number of pixels, and that unused source material is removed from the far left and far right of the image. A two-projector sample is illustrated below.

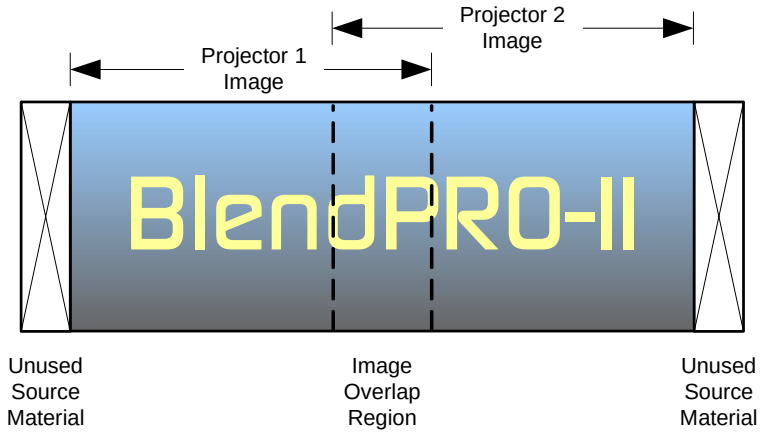


Figure 3-9. Center Justification

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

4. Menu Orientation

In This Chapter

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

Note

In this chapter, softkey labels on the menus are shown in bold upper and lowercase letters between brackets.

▲ Press {**BORDR**} to …

The following topics are discussed:

Note

Once you have reviewed all of the sections in this chapter, please continue with Chapter 5, “**System Setup**” on page 183.

Global Rules

The following global rules apply to all menus:

- **Brackets** — parameters and values displayed between brackets (e.g., **[525]**) cannot be changed.
- **ID "All"** — For widescreen destinations, when the value "**All**" is shown for the **ID** parameter, it represents the lowest numbered ID in the destination, as configured (typically, number 1).
- **Exclamation Points** — For widescreen destinations, if an exclamation point (**!**) appears after a value (e.g., **Contrast 100!**), one (or more) of the destinations is not set to **100**.
- **"All" Adjustments** — For widescreen destinations, if a parameter is adjusted on a menu displaying an "**All**" ID condition, all values for all ScreenPRO-II's in the destination will snap to the new value. To adjust an individual ScreenPRO-II's values within the widescreen configuration, highlight the **ID** line, use the **ADJ** knob to select a specific destination, and then adjust a parameter in the normal manner.
- Press {**HOME**} to return to the **Home Menu**.
- Press {**BACK**} to return to the menu from which you accessed the current menu.

Note

The {**HOME**} and {**BACK**} buttons will not be explained again in this chapter.

Home Menu

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

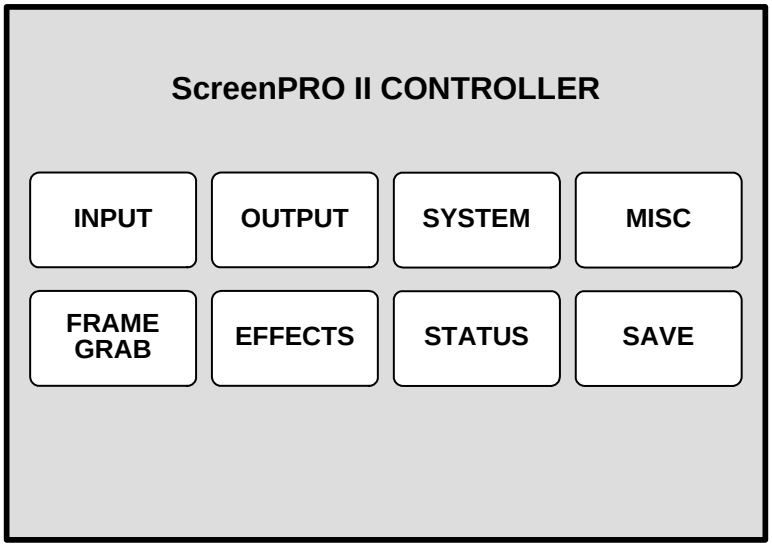


Figure 4-1. Home Menu

The **Home Menu** is the system's top level menu. To access a menu, press the desired button on the **Touch Screen**. You can also return to the **Home Menu** by pressing the {**HOME**} softkey at the top left of the Touch Screen (on most menus).

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

- Press **INPUT** to access the **Input Menu**. Refer to the "**Input Menu**" section on page 88 for details.
- Press **OUTPUT** to access the **Output Menu**. Refer to the "**Output Menu**" section on page 100 for details.
- Press **SYSTEM** to access the **System Menu**. Refer to the "**System Menu**" section on page 108 for details.
- Press **MISC** to access the **Miscellaneous Menu**. Refer to the "**Miscellaneous Menu**" section on page 133 for details.
- Press **FRAME GRAB** to access the **Frame Grab Menu**. Refer to the "**Frame Grab Menu**" section on page 142 for details.
- Press **EFFECTS** to access the **Effects Menu**. Refer to the "**Effects Menu**" section on page 146 for details.
- Press **STATUS** to access the **Status Menu**. Refer to the "**Status Menu**" section on page 147 for details.
- Press **SAVE** to save the system configuration in non-volatile memory.

Input Menu

The following topics are discussed in this section:

Input Menu Tree

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

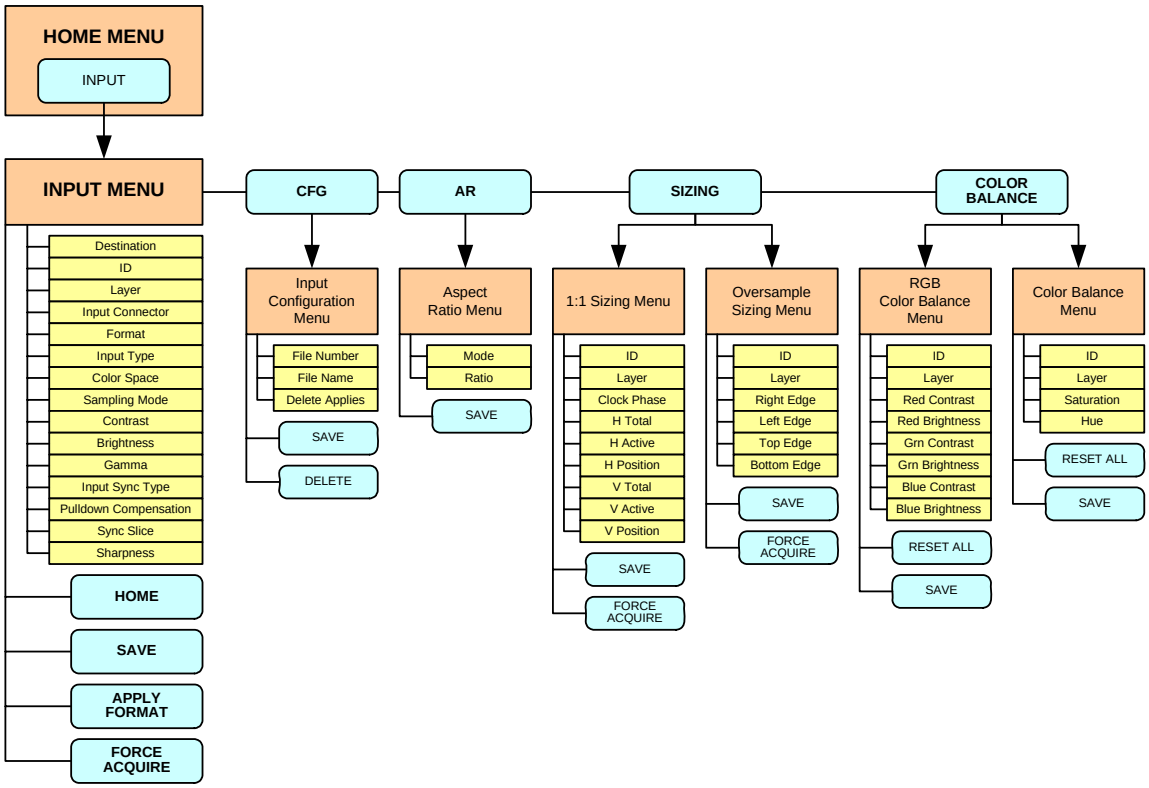


Figure 4-2. Input Menu Tree

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

Input Menu Description

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

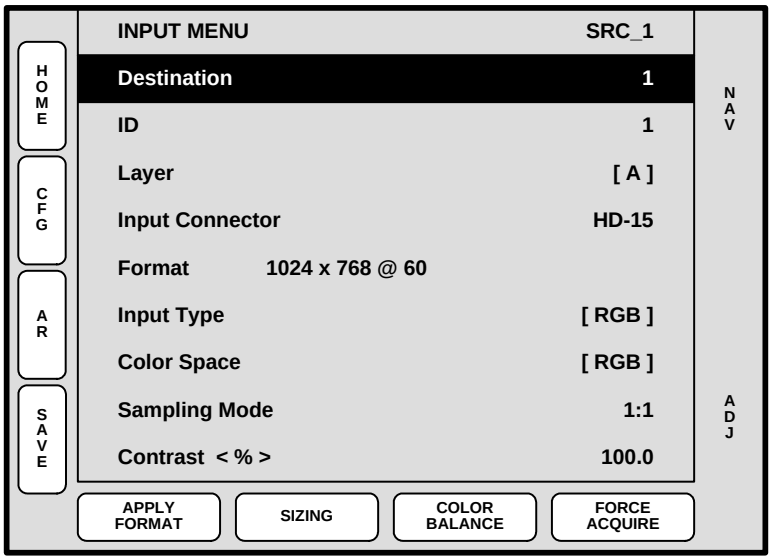


Figure 4-3. Input Menu (sample)

The **Input Menu** is used to adjust all parameters relating to dedicated and routed inputs, including the physical sources connected to individual ScreenPRO-II units. The menu enables you to set all configuration options for the selected input.

To access the menu:

- Press a blue layer button in the **Layer Control Section** (the button blinks).
- Select an input on the **Source Selection Bus** (the button blinks).
- Press **INPUT** on the **Home Menu**.

Note

The menu cannot be accessed without a selected layer. An error message will be shown.

The currently selected input appears in the menu's upper right corner. 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.

Important

From a conceptual standpoint, there are no "direct" connections to a ScreenPRO-II scaler. All connections, whether they are from a single source or an external router, connect to the internal router matrix of each ScreenPRO-II.

Input Menu Functions

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

- **Destination** — indicates the destination on which you are currently working (as selected on the **Destination Bus**).
- **ID** — indicates the ID of the associated ScreenPRO-II.

Note	The **ID** line only appears when a widescreen destination is selected.

  - ~ If "**All**" is shown in a widescreen configuration, menu values represent those of the lowest numbered ID in the destination. When a parameter is adjusted, all values for all ScreenPRO-II's in the destination will snap to the new value.
  - ~ If an individual ID is shown (e.g., **2**), it represents that ScreenPRO-II alone, and adjustments will only affect that unit.
- **Layer** — for widescreen destinations, indicates the layer on which you are adjusting the selected input.

Important	In a widescreen configuration, because the electronics on individual ScreenPRO-II scalers may not match from unit to unit, you may be required to adjust ScreenPRO-II scalers and layers individually — by first selecting a specific destination ID, followed by a specific layer.

- **Input Connector** — selects the physical connector to which the input is connected on the ScreenPRO-II, either **HD-15** or **BNC**.

Note	The choice of available formats varies depending on the selected connector. For example, when BNC is selected, only **Standard Definition** and **High Definition** resolutions can be selected.

- **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, press {**APPLY FORMAT**} to accept the selection.

  In Appendix A, refer to the "**ScreenPRO-II Input and Output Resolutions**" section on page 263 for details on all available resolutions.

Note	Selecting a format manually automatically defaults the **Input Type** and **Color Space**. In some cases, the **Input Type** and **Color Space** cannot be changed due to the selected resolution.

- **Input Type** — sets the type of input connected to the ScreenPRO-II. Available choices *change* depending on the selected **Format**, and the choice affects the **Color Space** selection. Input types include:
  - ~ RGB
  - ~ YP_bP_r
  - ~ Composite/S-Vid
  - ~ HD SDI
  - ~ SDI
- **Color Space** — sets the input's color space, either **SMPTE** or **RGB**. The system automatically sets the Color Space based on the selected **Format** and/or **Input Connector** and **Input Type** — but in some cases, color space can be changed.
- **Sampling Mode** — sets the sampling mode for the selected input.
  - ~ 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. Adjustment range: 75% to 125%.
- **Brightness** — sets the input's brightness. Adjustment range: 75% to 125%.
- **Gamma** — sets the input gamma, enabling you to match the gamma of the source. Adjustment range: 1.0 to 3.0.
- **Input Sync Type** — sets the type of sync used by the selected source. Choices include:
  - ~ H/V
  - ~ CSync (composite sync)
  - ~ SOG (sync on green)
  - ~ 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 the ScreenPRO-II Controller 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, you can adjust the level to improve sync detection and synchronization in cases of extremely noisy RGsB or YP_bP_r video signals.

- **Sharpness** — sets the input's sharpness. Adjustment range: -10 (very smooth) to 10 (very sharp).

- Press {**CFG**} to display the **Input Configuration Menu**. Refer to the "**Input Configuration Menu**" section on page 93 for details.
- Press {**AR**} to display the **Aspect Ratio Menu**. Refer to the "**Aspect Ratio Menu**" section on page 94 for details.
- Press {**SAVE**} to save the selected input in the designated input file, using all current information on the **Input Menu**. Using an automatic "copy down" function, the saved file will also be transferred to all active destinations.

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.

- Press {**APPLY FORMAT**} to apply a manually selected input format. In Appendix A, refer to the "**ScreenPRO-II Input and Output Resolutions**"section on page 263 for details on all available resolutions.
- Press {**SIZING**} to display the **Sizing Menu**. Refer to the "**Sizing Menu**" section on page 95 for details.
- Press {**COLOR BALANCE**} to display the **Color Balance Menu**. Refer to the "**Color Balance Menu**" section on page 98 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.

Note

FORCE ACQUIRE only works on the selected input connector. Be sure to select the correct connector type before issuing the **FORCE ACQUIRE** command.

Input Sub Menus

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

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

Input Configuration Menu

From the **Input Menu**, press {**CFG**} to display the **Input Configuration Menu**.

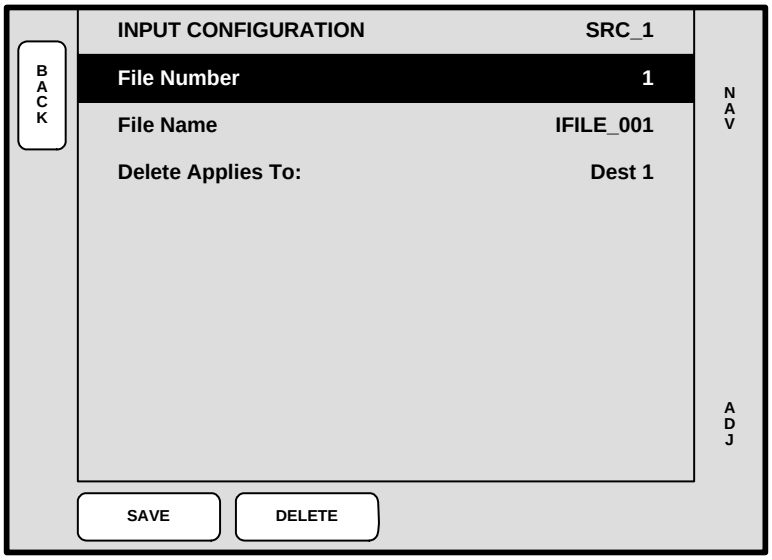


Figure 4-4. Input Configuration Menu (sample)

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

The **Input Configuration Menu** enables you to save or delete 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 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.
- **Delete Applies To** — because inputs may be set up differently depending upon the destination, this parameter enables you to identify the destination from which you want to delete the associated file.
- Press {**SAVE**} to save the selected input in the designated input file.
- Press {**DELETE**} to delete the selected input file from the designated destination.

Note

If multiple destinations are selected (for example, when you are using two single-screen configurations), pressing {**SAVE**} copies input parameters to both destinations, eliminating the need to configure and save each input twice.

Aspect Ratio Menu

From the **Input Menu**, press {**ASPECT RATIO**} to display the **Aspect Ratio Menu**.

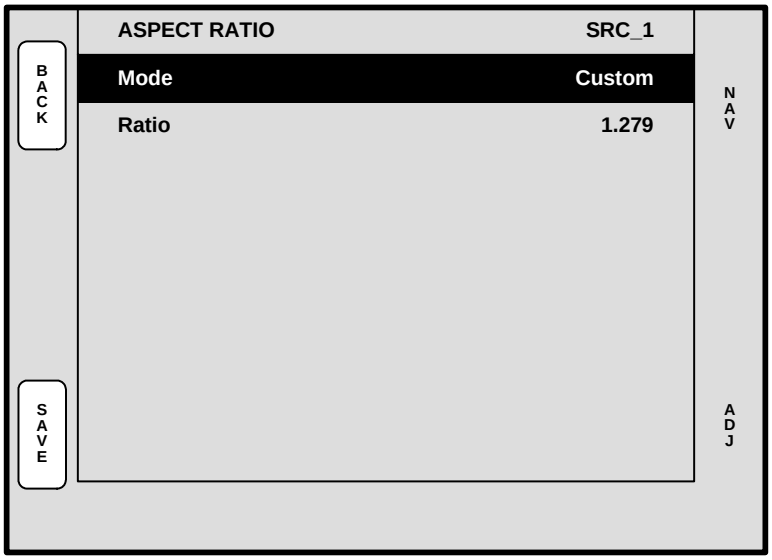


Figure 4-5. Aspect Ratio Menu (sample)

The **Aspect Ratio Menu** enables you to change the input'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, use the knob to enter a custom aspect ratio. The field is hidden when pre-defined ratios are selected.

Sizing Menu

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

- 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 the **1:1 Sizing Menu**. All functions apply to the selected source.

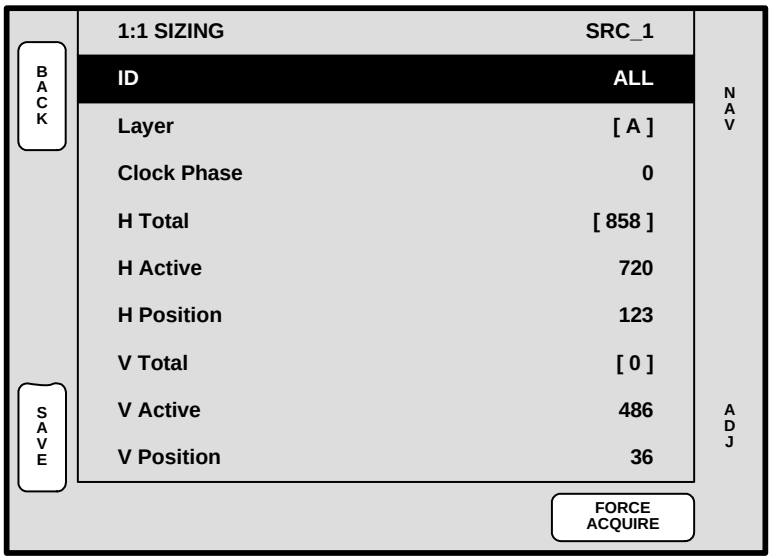


Figure 4-6. 1:1 Sizing Menu (sample)

With **1:1 Sampling** enabled, the following timing parameters allow you to adjust the image to properly fit the layer's blinking raster box.

- **ID** — indicates the ID of the associated ScreenPRO-II.

Note The **ID** line only appears when a widescreen destination is selected.

~ If "**All**" is shown in a widescreen configuration, menu values represent those of the lowest numbered ID in the destination. When a parameter is adjusted, all values for all ScreenPRO-II's in the destination will snap to the new value.

~ If an individual ID is shown (e.g., **2**), it represents that ScreenPRO-II alone, and adjustments will only affect that unit.

- **Layer** — for widescreen destinations, indicates the layer on which you are adjusting the selected input.

Important	In a widescreen configuration, because the electronics on individual ScreenPRO-II scalers may not match from unit to unit, you may be required to adjust ScreenPRO-II scalers and layers individually — by first selecting a specific destination ID, followed by a specific layer.

- **Clock Phase** — sets the system's A/D converter, allowing you to select where pixels are sampled (ideally, on the pixel's peak). Adjustment range: **-16** to **15**. For optimum visual results when adjusting high-resolution sources, project a burst test pattern and adjust the sampling for minimum noise. Refer to the "**Test Pattern Menu**" section on page 105 for information on test patterns.
- **H Total** — for the selected source, sets the total pixel count per line.

Note	This field is not adjustable for digital sources, including digital signals on the DVI and BNC input connectors. This field is 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 ScreenPRO-II Controller to perform the optimum image setup.

Note	If you switch to another input and there is no valid input video, the settings are not applicable and **N/A** is displayed.

Oversample Sizing Menu

The figure below illustrates the **Oversample Sizing Menu**. All functions apply to the selected source.

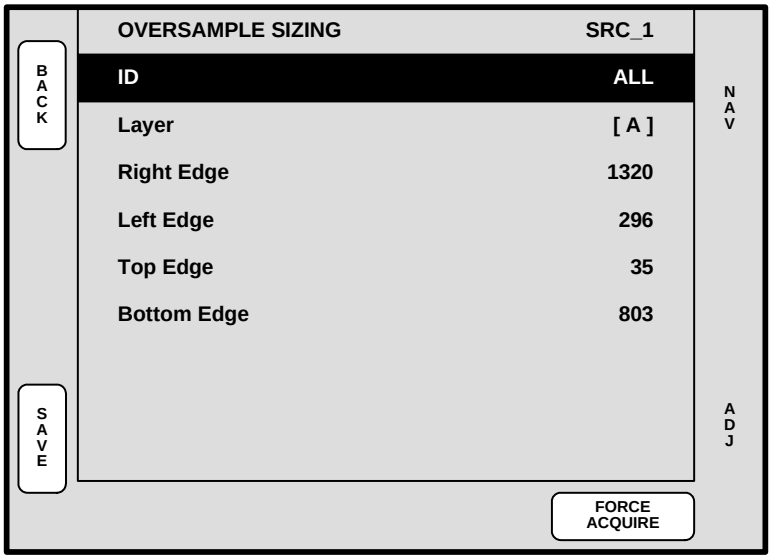


Figure 4-7. Oversample Sizing Menu (sample)

With **Oversample** enabled, the following timing parameters allow you to adjust the image to properly fit the layer's blinking raster box.

- **ID** — indicates the ID of the associated ScreenPRO-II.

  Note — The **ID** line only appears when a widescreen destination is selected.

  ~ If "**All**" is shown in a widescreen configuration, menu values represent those of the lowest numbered ID in the destination. When a parameter is adjusted, all values for all ScreenPRO-II's in the destination will snap to the new value.

  ~ If an individual ID is shown (e.g., **2**), it represents that ScreenPRO-II alone, and adjustments will only affect that unit.

- **Layer** — for widescreen destinations, indicates the layer on which you are adjusting the selected input.

  Important — In a widescreen configuration, because the electronics on individual ScreenPRO-II scalers may not match from unit to unit, you may be required to adjust ScreenPRO-II scalers and layers individually — by first selecting a specific destination ID, followed by a specific layer.

- Select and adjust **Right Edge**, **Left Edge**, **Top Edge** or **Bottom Edge** as required, to fit the image precisely in the layer's blinking 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. After the Force Acquire function is performed, the system remains on the **Oversample Sizing Menu**.

Note

If you switch to another input and there is no valid input video, the settings are not applicable and **N/A** is displayed.

Color Balance Menu

From the **Input Menu**, press {**COLOR BALANCE**} to display the **Color Balance Menu**.

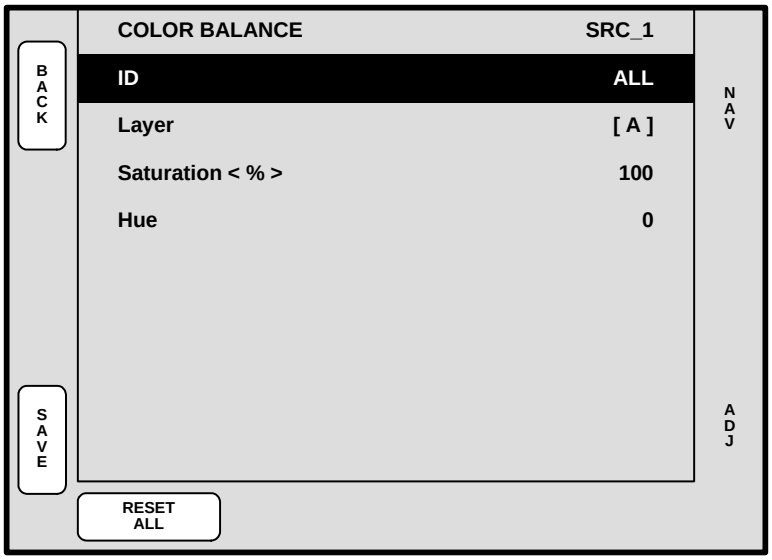


Figure 4-8. Color Balance Menu (sample — for Composite, S-Video or YPbPr sources)

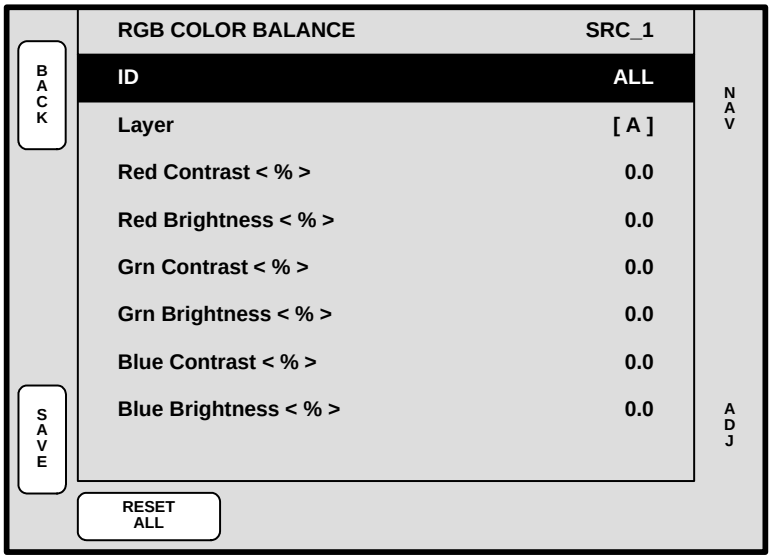


Figure 4-9. Color Balance Menu (sample — for RGB sources)

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

- **ID** — indicates the ID of the associated ScreenPRO-II.

Note

The **ID** line only appears when a widescreen destination is selected.

  - ~ If "**All**" is shown in a widescreen configuration, menu values represent those of the lowest numbered ID in the destination. When a parameter is adjusted, all values for all ScreenPRO-II's in the destination will snap to the new value.
  - ~ If an individual ID is shown (e.g., **2**), it represents that ScreenPRO-II alone, and adjustments will only affect that unit.

- **Layer** — for widescreen destinations, indicates the layer on which you are adjusting the selected input.

Important

In a widescreen configuration, because the electronics on individual ScreenPRO-II scalers may not match from unit to unit, you may be required to adjust ScreenPRO-II scalers and layers individually — by first selecting a specific destination ID, followed by a specific layer.

- When **RGB** sources are selected, the **Color Balance Menu** provides individual RGB contrast and brightness adjustments. Adjustment range: -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 and Hue:
  - ~ Adjust **Saturation** as required. Adjustment range: 75% to 125%.
  - ~ Adjust **Hue** as required. Adjustment range (in degrees): -90.0 to 90.0.

Note

When the **Input Type** is **YP_bP_r**, the **Hue** field reads **N/A** 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 **0** (zero).

Output Menu

The following topics are discussed in this section:

Output Menu Tree

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

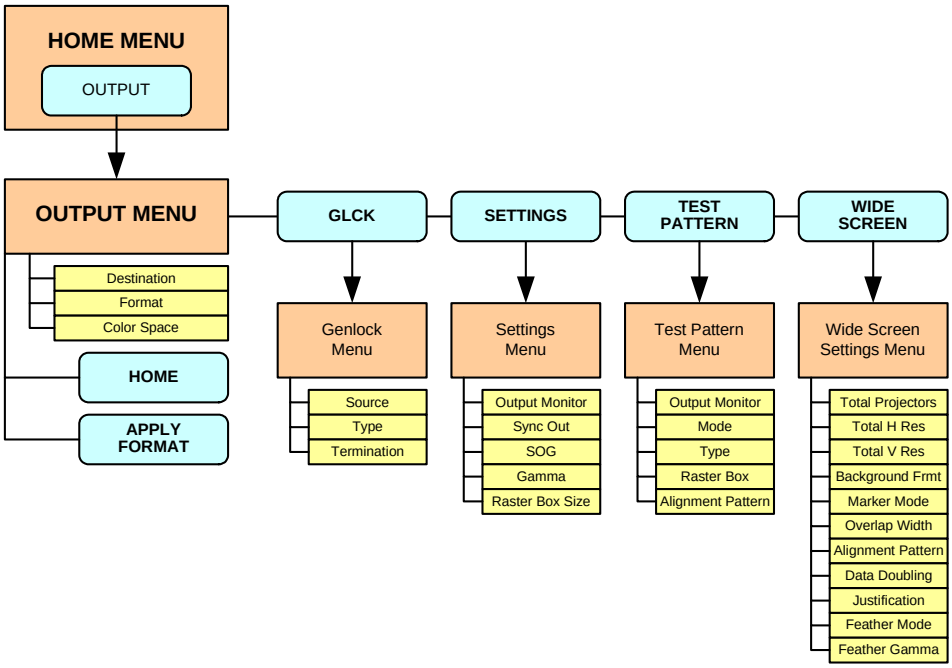


Figure 4-10. Output Menu Tree

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

Output Menu Description

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

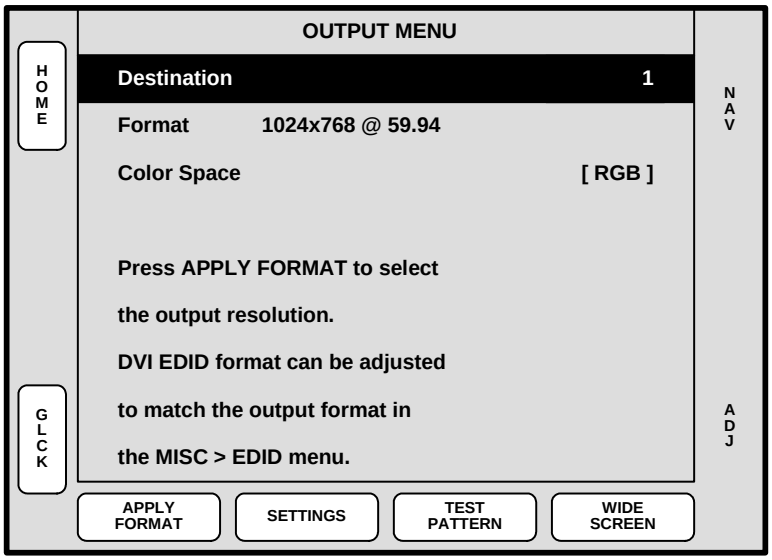


Figure 4-11. Output Menu (sample)

The **Output Menu** enables you to configure ScreenPRO-II outputs, wide screen parameters and test patterns.

To access the menu:

- Select a destination on the **Destination Bus**.
- Press **OUTPUT** on the **Home Menu**.

The menu cannot be accessed unless a destination is selected. The currently selected destination is shown in the menu's upper right corner. The menu tracks the destination, thus, if you switch destinations, the menu is immediately re-assigned.

Output Menu Functions

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

- **Destination** — indicates the destination on which you are currently working (as selected on the **Destination Bus**).

  Note — The selected destination can be configured as a single screen or multiple screens (in a wide screen application). In this situation, all changes to the **Output Menu** affect all ScreenPRO-II units in the wide screen definition.

- **Format** — sets the resolution and frame rate at which you want to drive the destination's projector(s). 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, press {**APPLY FORMAT**} to accept the selection. In Appendix A, refer to the "**ScreenPRO-II Input and Output Resolutions**" section on page 263 for details on all available resolutions.

- **Color Space** — displays the output color space per the specifics of the selected output resolution and frame rate.
- Press {**GLCK**} to display the **Genlock Menu**. Refer to the "**Genlock Menu**" section on page 103 for details.
- Press {**APPLY FORMAT**} to accept a selected output format. In Appendix A, refer to the "**ScreenPRO-II Input and Output Resolutions**" section on page 263 for details on all available resolutions.
- Press {**SETTINGS**} to display the **Settings Menu**. Refer to the "**Settings Menu**" section on page 104 for details.
- Press {**TEST PATTERN**} to display the **Test Pattern Menu**. Refer to the "**Test Pattern Menu**" section on page 105 for details.
- Press {**WIDE SCREEN**} to display the **Wide Screen Menu**. Refer to the "**Wide Screen Settings Menu**" section on page 106 for details.

  Note — This softkey only appears when a wide screen destination is selected.

Output Sub Menus

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

- **Genlock Menu**
- **Settings Menu**
- **Test Pattern Menu**
- **Wide Screen Settings Menu**

Genlock Menu

From the **Output Menu**, press {**GLCK**} to display the **Genlock Menu**.

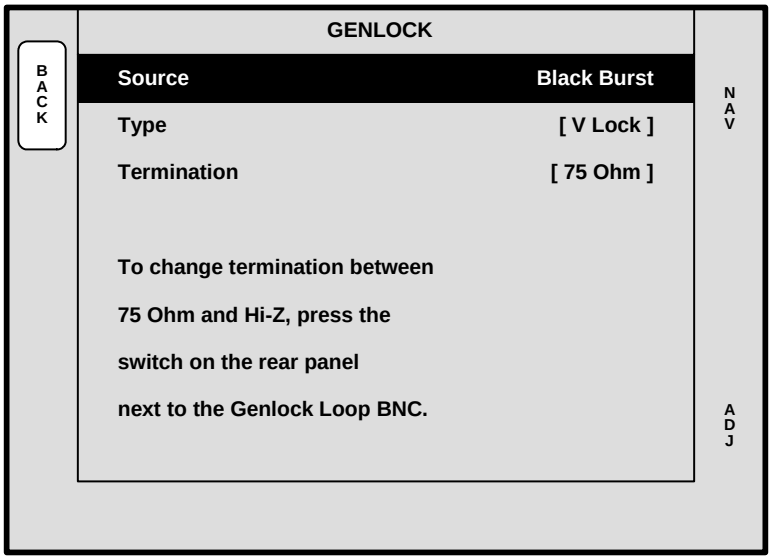


Figure 4-12. Genlock Menu (sample)

The **Genlock Menu** changes depending on the type of destination selected — widescreen or single screen. Please note:

- For **single screen destinations**, the menu tells the ScreenPRO-II Controller which type of analog genlock signal is connected to each ScreenPRO-II's **Genlock** BNC connector, and indicates the current setting of the selected ScreenPRO-II's **Termination Switch**.
- For **widescreen destinations**, the menu tells the ScreenPRO-II Controller which type of analog genlock signal is connected to BlendPRO-II's **Genlock** connector. Remember that in this mode, each ScreenPRO-II's **Genlock In** connector *must* be connected to BlendPRO-II's **Widescreen Lock** output — and *not* to an external Genlock source. In Chapter 3, refer to the "**BlendPRO-II Widescreen Lock Connections**" section on page 77 for details.

The following functions are provided:

- **Source** — (applies to all types of destinations). This function sets the genlock source, either **Black Burst**, **CSync** or **None**.
- **Type** — (applies to all types of destinations)**.** Displays the type of genlock:
  - ~ When Source = **None**, Type = **[Free-Run]**
  - ~ When Source = **Black Burst**, Type = **[V Lock]**
  - ~ When Source = **CSync**, Type = **[V Lock]**
- **Termination** — (applies to single screen destinations only). This field indicates the current setting of the selected ScreenPRO-II's **Termination Switch**.

Please note:

- If you elect to use external Genlock for single or widescreen configurations, PAL or NTSC black burst or composite sync signals are recommended.
- In widescreen mode, you can optionally connect external Genlock to BlendPRO-II's **Genlock In** connector — but *not* to the individual ScreenPRO-II units.

- In widescreen configurations, BlendPRO-II is the master — whether or not you are using an external Genlock signal.
- Genlock is recommended in configurations that utilize video camera sources.

Settings Menu

From the **Output Menu**, press {**SETTINGS**} to display the **Settings Menu**.

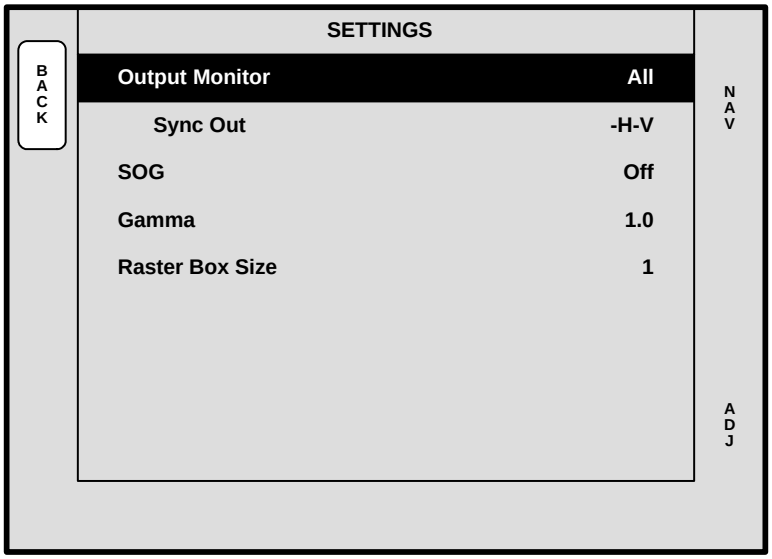


Figure 4-13. Settings Menu (sample)

The **Settings Menu** enables you to set sync parameters for the monitors and projectors connected to the system — for the destination selected on the **Output Menu**.

- **Output Monitor** — selects the device(s) that are affected by the sync settings. Choose between:
  - ~ **All** — adjustments affect all program and preview monitors/projectors.
  - ~ **Preview** — adjustments affect preview monitors only.
  - ~ **SPII Program** — adjustments affect only the monitors/projectors connected to ScreenPRO-II program outputs.
  - ~ **BPII Program** — adjustments affect only the monitors/projectors connected to BlendPRO-II program outputs.

Note

Individual settings are maintained for each selection in the **Output Monitor** list.

- **Sync Out** — sets the sync value. Select **+H+V**, **-H-V**, **+H-V**, **-H+V** or **CSync**.
- **SOG** — selects a specific “sync on green” signal. Choose between **Off**, **Standard** or **Tri-Level** (for certain HD devices).
- **Gamma** — sets the output gamma for the selected destination.
- **Raster Box Size** — sets the size of the raster box that appears around PIPs and Keys. Range (in pixels): **0** to **8**.

Test Pattern Menu

From the **Output Menu**, press {**TEST PATTERN**} to display the **Test Pattern Menu**.

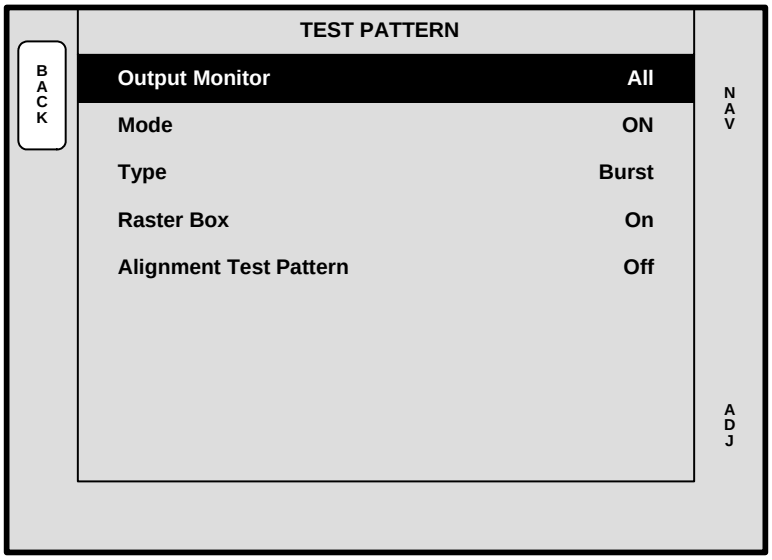


Figure 4-14. Test Pattern Menu (sample)

The **Test Pattern Menu** enables you to display a variety of test patterns, for system and projector alignment — for the destination selected on the **Output Menu**.

- **Output Monitor** — selects the monitor(s) and projector(s) that are affected by the test pattern settings. Choose between:
  - ~ **All** — adjustments affect all program and preview monitors/projectors.
  - ~ **Preview** — adjustments affect preview monitors only.
  - ~ **SPII Program** — adjustments affect only the monitors/projectors connected to ScreenPRO-II program outputs. With this selection, test patterns will be data-doubled and edge-feathered.
  - ~ **BPII Program** — adjustments affect only the monitors/projectors connected to BlendPRO-II program outputs. With this selection, test patterns will not be data-doubled and edge-feathered.
- **Mode** — enables you to turn test patterns on or off.
- **Type** — sets the test pattern. Choose between **Off**, **H Ramp**, **V Ramp**, **100% Color Bars**, **16x16 Grid**, **32x32 Grid**, **Burst**, **75% Color Bars**, **50% Gray**, **Gray Steps 1**, **Gray Steps 2**, **White**, **Black**, **Red**, **Green** and **Blue**.
- **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**.

- **Alignment Test Pattern** — for convenience, this function enables you to turn the alignment test pattern on or off from *this menu* (in addition to the **Wide Screen Settings Menu**).

Note	This field only appears when a wide screen destination is selected.

Wide Screen Settings Menu

From the **Output Menu**, press {**WIDE SCREEN**} to display the **Wide Screen Settings Menu**.

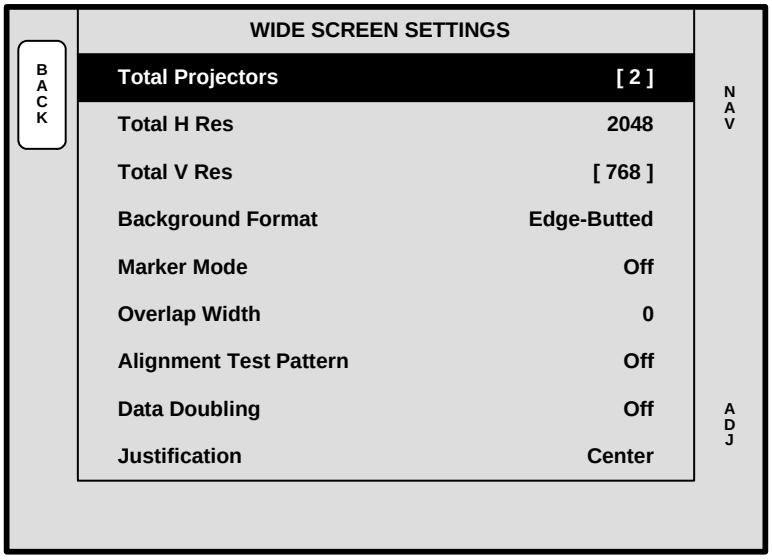


Figure 4-15. Wide Screen Settings Menu (sample)

The **Wide Screen Settings Menu** provides the tools required for wide screen setup and adjustment. Note that this menu can only be accessed when the destination selected in the **Output Menu** is designated as wide screen. Refer to the "**Destination Setup Menu**" section on page 117 for details.

Important	As an important prerequisite to widescreen setup (and to make widescreen setup easy), Barco offers the **Configurator** application to assist with wide screen setup. The software is available via download from the website, or you can contact Barco **Technical Support** for details. In Appendix B, refer to the "**Contact Information**" section on page 268 for information.

The following functions are provided on the **Wide Screen Settings Menu**.

- **Total Projectors** — indicates the total number of ScreenPRO-II systems that have been assigned to the wide screen destination. This field is for information only, as derived from the **Destination Setup Menu**.

- **Total H Res** — sets the total number of horizontal pixels in the overall wide screen display. The formula is:

```
# screens * horizontal output resolution -
(overlap width * (# screens - 1))
```

  ▲ **Example**: If two screens are used, each with an output resolution of 1024 x 768 and an overlap of 200 pixels, the **Total H Res** is:

```
2 * 1024 - (200 * 1) = 1848
```

  As you adjust the **Total H Res**, the **Overlap Width** value tracks and the wide screen markers adjust accordingly.

- **Total V Res** — displays the vertical resolution of the wide screen configuration. This field is fixed.
- **Background Format** — selects the method by which your background graphics were originally produced:
  - ~ **Edge-butted** — choose this option if your background graphics were produced with no pre-data doubling (e.g., typically from a multi-head graphics card).
  - ~ **Overlapped** — choose this option if your backgrounds were produced using pre-data doubling (e.g., such as from a Dataton® system).
- **Marker Mode** — enables and disables the system's wide screen markers, to show the boundaries of active data. In Chapter 6, refer to the "**Wide Screen Markers**" section on page 218 for details.
- **Overlap Width** — sets the overlap (in pixels) between projectors. As you adjust the width, the **Total H Res** value tracks and the wide screen markers adjust accordingly.
- **Alignment Test Pattern** — enables or disables the test pattern used for performing projector lens shift and registration adjustments.
- **Data Doubling** — enables or disables data doubling. Typically, the function is only disabled when unscaled background sources are pre-data doubled. In Chapter 3, refer to the "**Overview of Edge-Blending Technology**" section on page 79 for details.
- **Justification** — sets the desired wide screen justification, either **Center** or **Left**. Once set, wide screen markers adjust accordingly.

In the **Feathering** section:

- **Mode** — enables or disables edge feathering.
- **Gamma** — sets gamma for the feathered regions. Adjustment range: **1.0** to **5.0**.

System Menu

The following topics are discussed in this section:

System Menu Tree

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

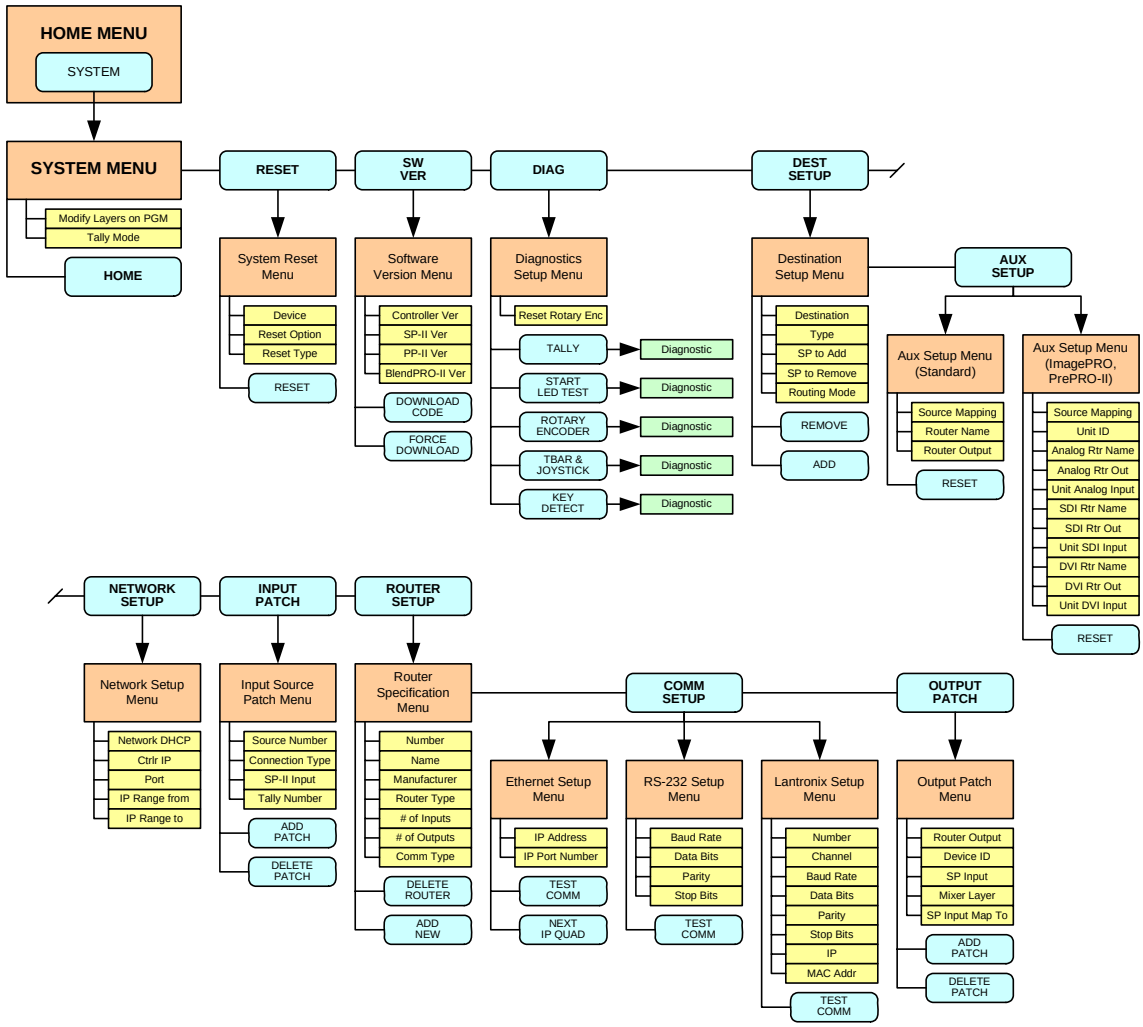


Figure 4-16. System Menu Tree

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

System Menu Description

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

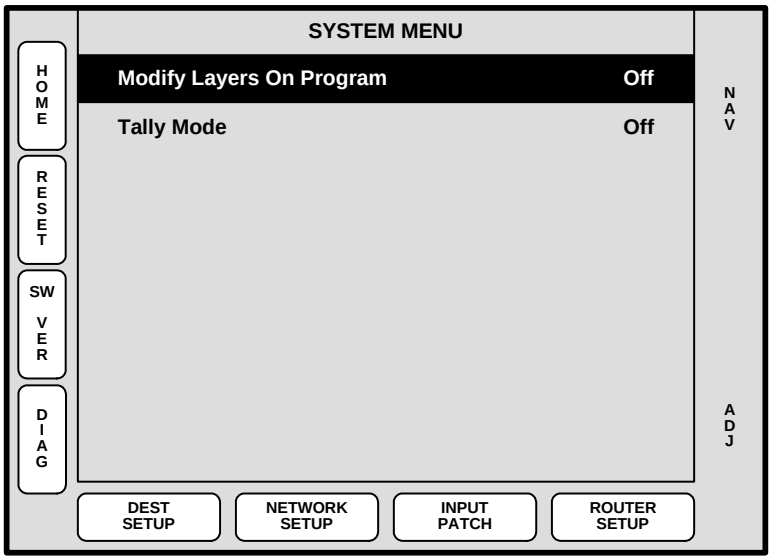


Figure 4-17. System Menu (sample)

To access the menu:

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

The **System Menu** provides the following functions:

- **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 "**Working with Still Frames**" section on page 246 for details.
- **Tally Mode** — enables or disables the tally function. When enabled, all eight tallies are activated, and can be triggered by pressing a source button. When disabled, all tallies are deactivated (but tally setups remain as configured).
  - ~ Refer to the "**Input Source Patch Menu**" section on page 125 for details on assigning tallies to sources.
  - ~ In Chapter 6, refer to the "**Working with Tallies**" section on page 253 for tally operating instructions.
- Press {**RESET**} to display the **System Reset Menu**. Refer to the "**System Reset Menu**" section on page 111 for details.
- Press {**SW VER**} to display the **Software Version Menu**. Refer to the "**Software Version Menu**" section on page 112 for details.
- Press {**DIAG**} to display the **Diagnostics Setup Menu**. Refer to the "**Diagnostics Setup Menu**" section on page 113 for details.
- Press {**DEST SETUP**} to display the **Destination Setup Menu**. Refer to the "**Destination Setup Menu**" section on page 117 for details.
- Press {**NETWORK SETUP**} to display the **Network Setup Menu**. Refer to the "**Network Setup Menu**" section on page 124 for details.

- Press {**INPUT PATCH**} to display the **Input Source Patch Menu**. Refer to the "**Input Source Patch Menu**" section on page 125 for details.
- Press {**ROUTER SETUP**} to display the **Router Specification Menu**. Refer to the "**Router Specification Menu**" section on page 127 for details.

System Sub Menus

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

- **System Reset Menu**
- **Software Version Menu**
- **Diagnostics Setup Menu**
- **Destination Setup Menu**
- **Network Setup Menu**
- **Input Source Patch Menu**
- **Router Specification Menu**

System Reset Menu

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

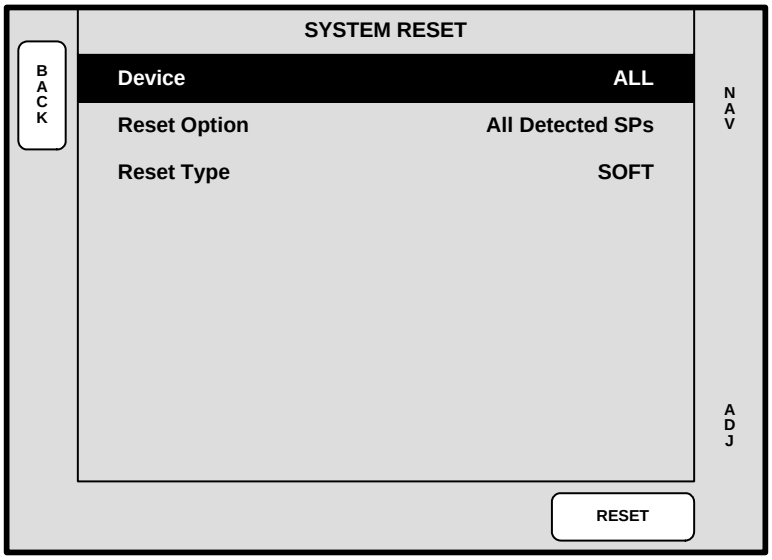


Figure 4-18. System Reset Menu (sample)

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

- **Device** — selects which device(s) to reset. Choose between **ALL**, **CONTROLLER**, **SP**, or **BP**.

Note

BP = BlendPRO-II
SP = ScreenPRO-II

- **Reset Option** — for the selected device(s), chooses the specific subset that you wish to reset. Choose between **All Detected SPs** or **Active Dests**.
- **Reset Type** — selects the 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.

Software Version Menu

From the **System Menu**, press {**SW VER**} to display the **Software Version Menu**.

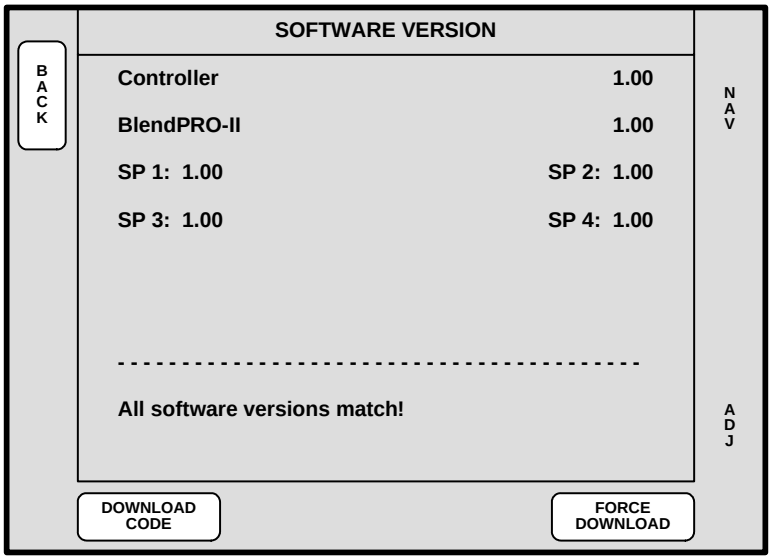


Figure 4-19. Software Version Menu (sample)

The **Software Version Menu** displays the software versions for the ScreenPRO-II Controller, all connected ScreenPRO-IIs, and BlendPRO-II. The following functions are provided:

- **Controller** — displays the Controller's software version.
- **BlendPRO-II** — displays BlendPRO-II's software version.
- **SP** — these lines display each ScreenPRO-II's software version. One line is shown for each active destination.
- In the lower portion of the menu, the system actively compares all software versions to that of the Controller:
  - ~ If all software versions match the Controller's version, the display indicates "**All Software version(s) match!**"
  - ~ If a mismatch is present, the display indicates "**Software version mismatch!**."
- Press {**DOWNLOAD CODE**} to begin the software download process, downloading code from the Controller to only those "mismatched" units. The entire process takes several minutes to complete.
- Press {**FORCE DOWNLOAD**} to download code to *all* connected devices, typically for troubleshooting purposes, or to simply guarantee identical code in your entire system. This process also takes several minutes to complete.

Note

The two "download" softkeys are always present on this menu, even when all code versions match.

Diagnostics Setup Menu

From the **System Menu**, press {**DIAG**} to display the **Diagnostics Setup Menu**.

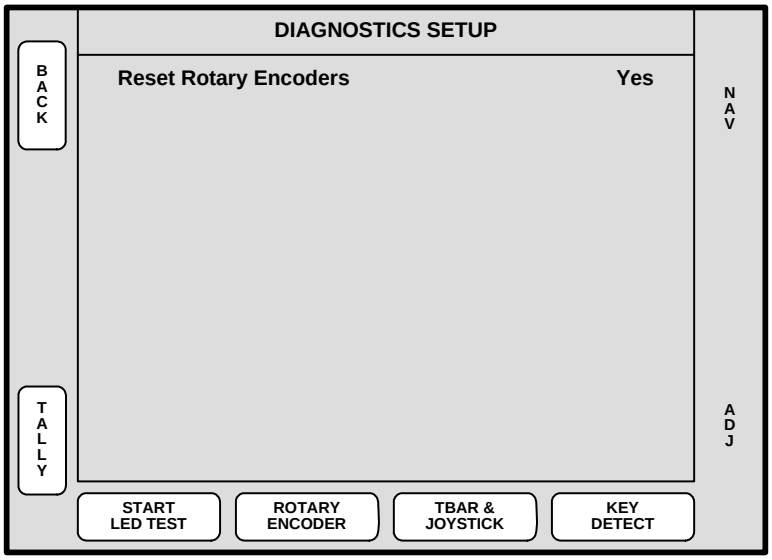


Figure 4-20. Diagnostics Setup Menu (sample)

The **Diagnostics Setup Menu** enables you to perform a variety of diagnostic tests on the ScreenPRO-II Controller. 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**.
- Press {**TALLY**} to display the **Tally Diagnostic Menu**, and immediately start a test of all eight tally relays. This procedure takes several seconds to complete. Press {**EXIT**} when complete.
- Press {**START LED TEST**} to begin testing all ScreenPRO-II Controller LEDs. This procedure takes several seconds to complete. Press {**EXIT**} when complete.
- Press {**ROTARY ENCODER**} to display the **Rotary Encoder Menu**. Refer to the "**Rotary Encoder Menu**" section on page 114 for details.
- Press {**TBAR & JOYSTICK**} to display the **TBar & Joystick Menu**. Refer to the "**TBar & Joystick Menu**" section on page 115 for details.
- Press {**KEY DETECT**} to display the **Key Detect Menu**. Refer to the "**Key Detect Menu**" section on page 116 for details.

Rotary Encoder Menu

From the **Diagnostics Setup Menu**, press {**ROTARY ENCODER**} to display the **Rotary Encoder Menu**.

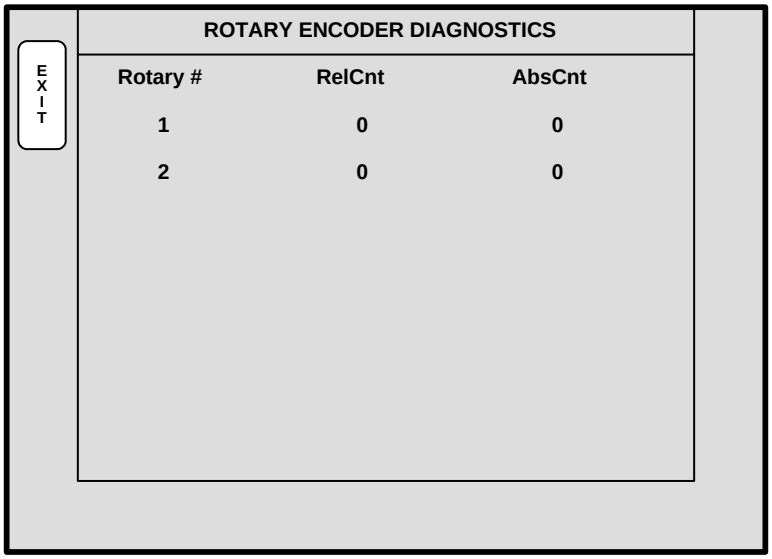


Figure 4-21. Rotary Encoder Menu (sample)

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**.

TBar & Joystick Menu

From the **Diagnostics Setup Menu**, press {**TBAR & JOYSTICK**} to display the **TBar & Joystick Menu**.

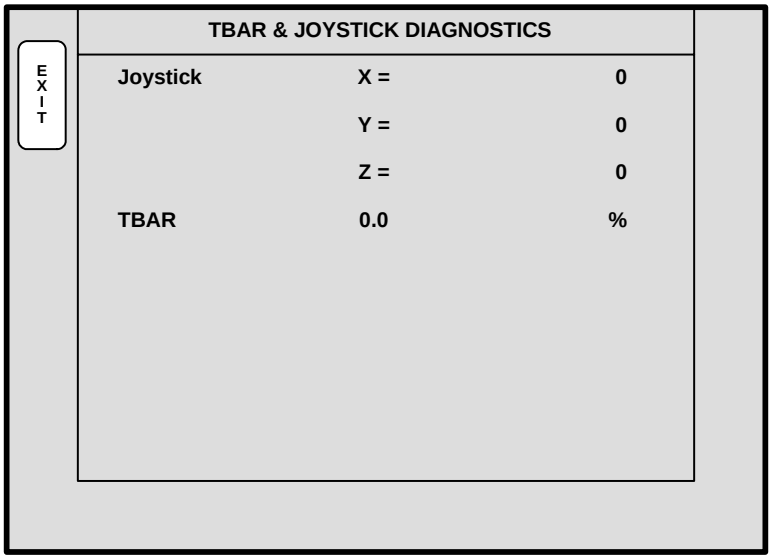


Figure 4-22. TBar & Joystick Menu (sample)

The **TBar & Joystick Menu** enables you to test the functionality of the TBar and Joystick.

- The TBAR range is 0 to 100%.
- The Joystick range is -100 to 100 on each axis (**X**, **Y** and **Z**).
- 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**.

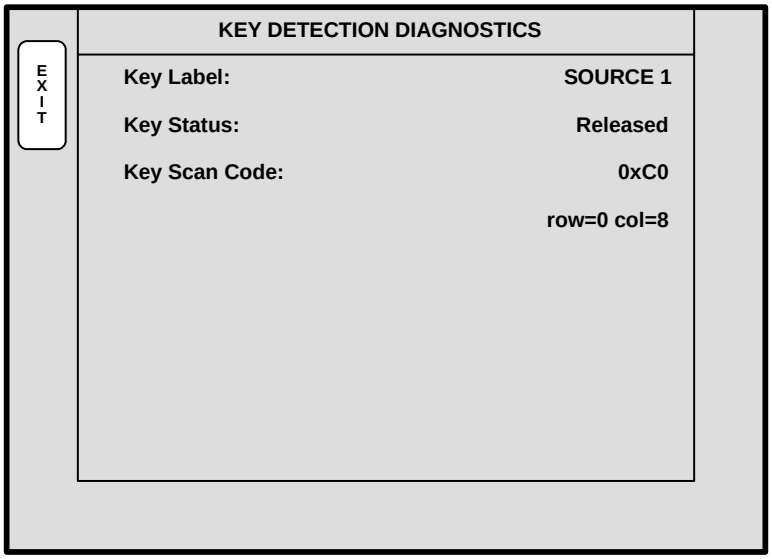


Figure 4-23. Key Detect Menu (sample)

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

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

Destination Setup Menu

From the **System Menu**, press {**DEST SETUP**} to display the **Destination Setup Menu**.

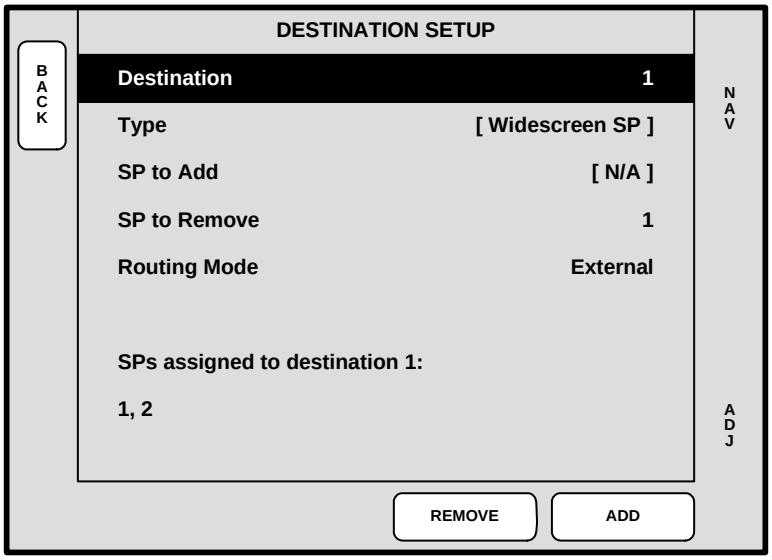


Figure 4-24. Destination Setup Menu (sample)

The **Destination Setup Menu** enables you to define each destination. The following functions are provided:

- **Destination** — sets the destination that you want to define. Choices are **1 - 4** (standard destinations), and **Aux 1 - 4**. This field is independent of the destination(s) currently selected on the **Destination Bus**.

Note — The destination that you select *does* equate to the same destination button on the Controller.

- **Type** — displays (or sets) the selected destination type.
  - ~ For standard destinations:
    - Displays **[Single Screen SP]** if one ScreenPRO-II has been added to the destination's configuration.
    - Displays **[Widescreen SP]** if two, three or four ScreenPRO-IIs have been added to the destination's configuration.
  - ~ For Aux destinations, enables you to select between **Aux**, **ImagePRO Aux** or **PrePRO-II Aux** destinations.

Note — When **Aux 1**, **2**, **3**, or **4** is selected, the {**AUX SETUP**} button appears, which enables you to set Aux destination parameters. Refer to the "**Aux Destination Setup**" section on page 120 for details.

- **SP to Add** — (as you rotate the **ADJ** knob), lists all available ScreenPRO-II units that can be assigned to the selected destination. **Units are identified by their ID number.** If a ScreenPRO-II is currently assigned to another destination, it will not appear in the list.
- **SP to Remove** — lists all assigned ScreenPRO-II units that can be removed from the selected destination. **Units are identified by their ID number.**
- **Routing Mode** — enables you to set the ScreenPRO-II's routing mode — either **Internal** or **External**. This function instructs the system how sources are used on the assigned ScreenPRO-II unit(s).
- At the bottom of the menu, the **Status** section dynamically lists the ScreenPRO-II IDs assigned to the current destination.
- Press {**ADD**} to add the selected ScreenPRO-II (on the **SP to Add** line) to the current destination configuration.
- Press {**REMOVE**} to remove the selected ScreenPRO-II (on the **SP to Remove** line) from the current destination configuration.
- Press {**BACK**} to return to the **System Menu**.

Important

If you have configured a widescreen destination, the moment you press {**BACK**}, the system automatically checks the termination status of each ScreenPRO-II.

- If the termination switch is properly set on each ScreenPRO-II, no action is required.
- If any termination switch is improperly set, the **ScreenPRO-II Genlock Termination Menu** appears, with instructions on how to correct the problem.

Refer to the "**ScreenPRO-II Genlock Termination Menu**" section on page 119 for details.

ScreenPRO-II Genlock Termination Menu

After having configured a wide screen destination, the **ScreenPRO-II Genlock Termination Menu** will automatically appear if the system senses that any of the termination switches (in the **Widescreen Lock** signal chain) are improperly set.

Note

In Chapter 3, refer to the "**BlendPRO-II Widescreen Lock Connections**" section on page 77 for instructions on proper **Widescreen Lock** connection.

A sample **ScreenPRO-II Genlock Termination Menu** is shown below:

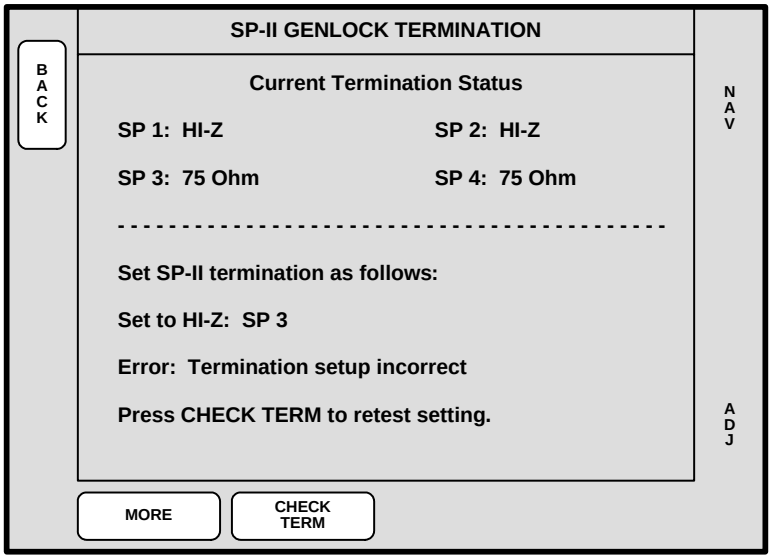


Figure 4-25. ScreenPRO-II Genlock Termination Menu

This menu provides important information about the current status of your system's **Widescreen Lock** chain, and each ScreenPRO-II's **Termination Switch**.

Important

If you press {**BACK**}, the **ScreenPRO-II Genlock Termination Menu** and the **Destination Setup Menu** will endlessly loop — until the termination problem is fixed.

To correct the error:

- Review the menu information in detail.
- Follow the instructions as noted in the menu to change the physical position of the termination switch(es) as instructed. For information on the termination switch, in Chapter 3 refer to the "**ScreenPRO-II Genlock Termination**" section on page 76.
- Press {**CHECK TERM**} to re-test the settings.
- If required, press {**MORE**} for additional "help" menus.

Aux Destination Setup

When **Aux 1**, **2**, **3**, or **4** is selected on the **Destination Setup Menu**, you can select one of three types of Aux Destinations on the **Type** line:

- **Aux**
- **ImagePRO Aux**
- **PrePRO-II Aux**.

In each case, the {**AUX SETUP**} button appears, and when pressed, the **Aux Setup Menu** appears — which enables you to set parameters for the selected Aux destination. Note that the menu changes, depending upon the selected type of destination.

By way of definition:

- Each type of **Aux** destination can be switched from the ScreenPRO-II Controller by selecting it on the **Destination Bus**, and then selecting the desired source on the **Source Selection Bus**.
- An **Aux** destination is the output of a router, which is typically connected directly to a monitor — rather than to the ScreenPRO-II. This type of destination is single format (e.g., an analog monitor can only accept signals from an analog router).
- An **ImagePRO Aux** destination is an external ImagePRO, a multi-format processor with three inputs (one analog, one SDI and one DVI) and the ability to scale these inputs to one common output format. Typically, the ImagePRO output is connected to another display device such as a monitor or projector.
- A **PrePRO-II Aux** destination is an external PresentationPRO-II, a multi-format processor with nine inputs (eight analog and one SDI), and the ability to scale these inputs to one common output format. Similar to ImagePRO, the PrePRO-II output is connected to another display device such as a monitor or projector.

▲ For “standard” **Aux** destinations, press {**AUX SETUP**} to display the **Aux Setup Menu**:

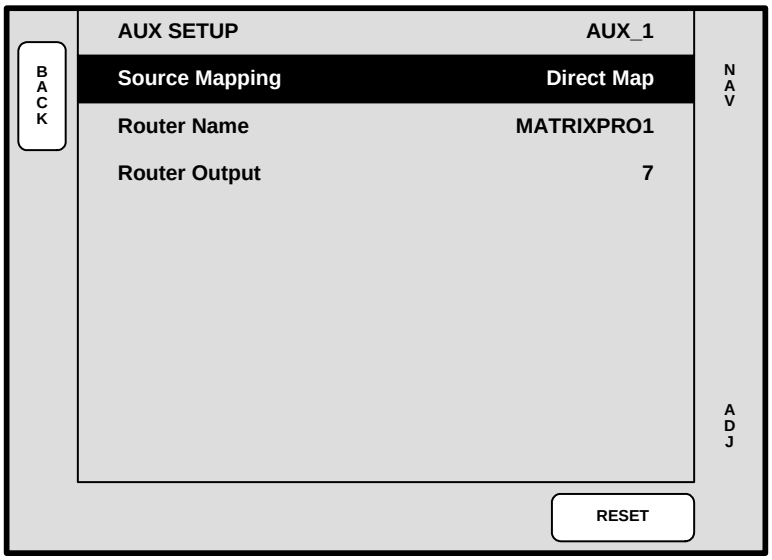


Figure 4-26. Aux Setup Menu — Aux Destination (sample)

The following functions are provided:

- **Top Line** — displays the selected Aux destination number.

- **Source Mapping** — two selections are available:
  - ~ **Input Patch** — maps Aux sources according to how your inputs are patched to buttons in the console's **Source Selection** bus.
  - ~ **Direct Map** — maps the **Source Selection** bus as a 1:1 map of your router inputs — for *this* destination only.
- **Router Name** — selects the router from which the Aux sources will be output.
- **Router Output** — selects the specific router output designated as an Aux (as assigned on the router's **Output Patch Menu**).
- Press {**RESET**} to return all fields to <**UNDEFINED**>.

▲ For **ImagePRO Aux** and **PrePRO-II Aux** destinations, press {**AUX SETUP**} to display the **Aux Setup Menu**:

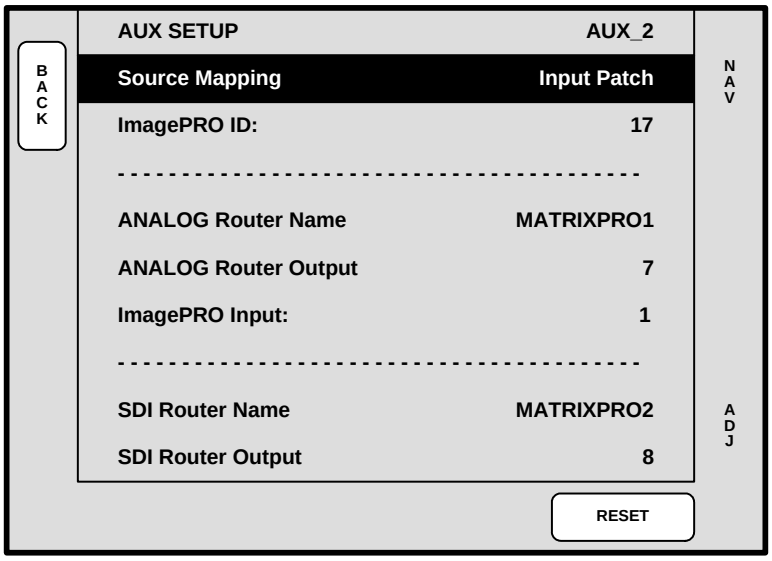


Figure 4-27. Aux Setup Menu — ImagePRO Aux Destination (sample)

The following functions are provided:

- **Top Line** — displays the selected Aux destination number.
- **Source Mapping** — two selections are available:
  - ~ **Input Patch** — maps Aux sources according to how your inputs are patched to buttons in the console's **Source Selection** section.
  - ~ **Direct Map** — maps Aux sources according to how your inputs are connected to the router.
- **ImagePRO ID** or **PrePRO-II ID** — selects the ID of the ImagePRO or PrePRO-II, to which you want to route Aux sources.
- In the **Analog** section:
  - ~ **Analog Router Name** — selects the router from which analog sources will be routed to the ImagePRO or PrePRO-II.
  - ~ **Analog Router Output** — selects the specific router output designated as Aux (as assigned on the router's **Output Patch Menu**).

- **ImagePRO Input** or **PrePRO-II Input** — selects the ImagePRO or PrePRO-II input to which the analog router output is connected.

- In the **SDI** section:
  - **SDI Router Name** — selects the router from which SDI sources will be routed to the ImagePRO or PrePRO-II.
  - **SDI Router Output** — selects the specific router output designated as Aux (as assigned on the router's **Output Patch Menu**).
  - **ImagePRO Input** or **PrePRO-II Input** — selects the ImagePRO or PrePRO-II input to which the SDI router output is connected.

- In the **DVI** section (applies to ImagePRO Aux destinations only):
  - **DVI Router Name** — selects the router from which DVI sources will be routed to the ImagePRO.
  - **DVI Router Output** — selects the specific router output designated as Aux (as assigned on the router's **Output Patch Menu**).
  - **ImagePRO Input** — selects the ImagePRO input to which the DVI router output is connected.
- Press {**RESET**} to return all fields to <**UNDEFINED**>.

Please note the following important points regarding Aux destinations:

- For proper operation, ImagePRO and PrePRO-II devices must be connected to the ScreenPRO-II Controller via Ethernet.
- ImagePRO and PrePRO-II output setups must be performed locally on the units themselves.
- Only one router of each type (Analog, DVI and SDI) can be connected to an ImagePRO unit.
- Only one Analog and one SDI router can be connected to a PrePRO-II unit.
- In order to properly create "source files" on ImagePRO:
  - On the ScreenPRO-II Controller console, select a ScreenPRO-II Controller destination.
  - On the **Input Menu**, acquire the selected source in the normal manner.
  - Press {**SAVE**} to save the source in the normal manner, which in turn also creates a source file on the ImagePRO.
  - Repeat for all desired sources.

Note

The "**copy down**" of source file information is possible because the system "knows" that ImagePRO is connected to the same router from which the newly acquired input originates — all based on the patching configuration.

Network Setup Menu

From the **System Menu**, press {**NETWORK SETUP**} to display the **Network Setup Menu**.

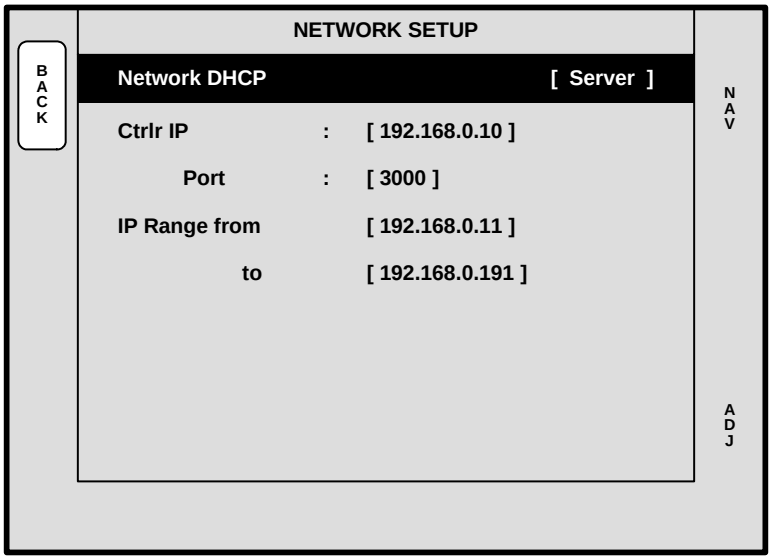


Figure 4-28. Network Setup Menu (sample)

For reference only, the **Network Setup Menu** displays the available IP range for the ScreenPRO-II Controller system. The following information is provided:

- **Network DHCP** — this non-selectable field confirms that the Controller is a DHCP server, by showing the **[SERVER]** label.
- **Ctrlr IP** — this non-selectable field shows the Controller's IP address.
- **Port** — this non-selectable field shows the Controller's port.
- **IP Range from / to** — these non-selectable fields show the system's available IP range that the server can provide.

Input Source Patch Menu

From the **System Menu**, press {**INPUT PATCH**} to display the **Input Source Patch Menu**.

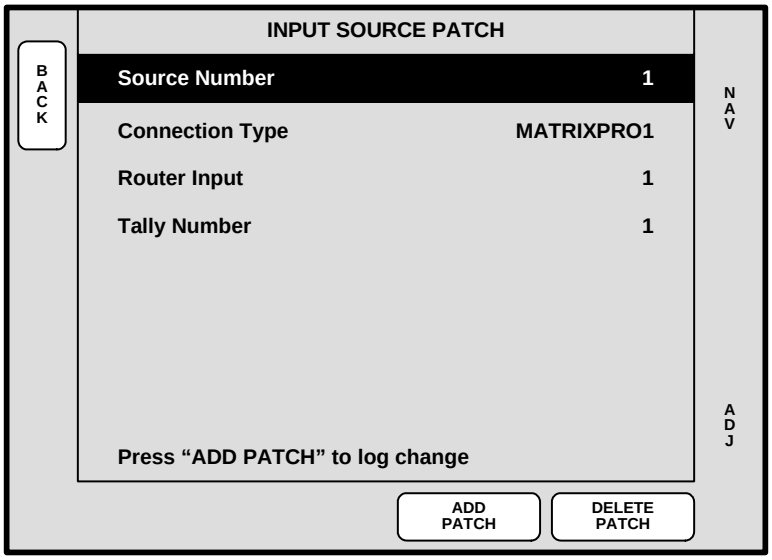


Figure 4-29. Input Source Patch Menu (sample)

The **Input Source Patch Menu** enables you to associate (patch) specific router inputs to specific source buttons on the ScreenPRO-II Controller. The menu also enables you to assign tallies, and select connections to the ScreenPRO-II units.

Important

The fields that are shown on the **Input Source Patch Menu** *change* depending upon the selected **Connection Type**.

Important

From a conceptual standpoint, there are no "direct" connections to a ScreenPRO-II scaler. All connections, whether they are from a single source or an external router, connect to each ScreenPRO-II's internal router matrix.

The following functions are provided:

- **Source Number** — selects the source button on the Controller that you want to patch. The selection range is **1** - **16**. The source is chosen with the **ADJ** knob — *not* with the source buttons.
- **Connection Type** — determines how the selected source is connected:
  - ~ **From a router** — choose between up to eight **MATRIXPRO** routers, or a third party router (e.g., **SIERRA**, **LEITCH**, etc.) as selected on the **Router Specification Menu**.
  - ~ **To ScreenPRO-II's internal matrix** — choose **ALL SP** or an individual ScreenPRO-II **ID**. The "**ALL SP**" selection assumes connections from

DAs to similar ScreenPRO-II inputs, and enables all ScreenPRO-IIs to switch simultaneously to the same input.

Note

Asterisks around the ID number (e.g., ***1***) indicate that the selected ID has not been detected by the system. However, you can proceed with patching, and once the ID is detected, the patch will be completed as programmed.

- **Router Input** — **Applies to Router connections** — this option selects the physical router input that you wish to associate with the source. The available range depends on the number of router inputs that are defined in the **Router Specification Menu**.

Note

The same router input can be chosen for different source numbers.

- **ScreenPRO-II Input** — selects the specific input on the ScreenPRO-II.
- **Tally Number** — **Applies to all connections** — this option enables you to assign any of the eight available tallies to any input source. There are no restrictions on tally usage. For example, inputs **1** and **8** could both map to tally **1** if desired.
- Press {**ADD PATCH**} to confirm any change that you make on the menu. As you dial through the choices, the "**SP Input is mapped to**" lines will show if the current choice is already in use. If the patch already exists and you "add" it, you will be asked to confirm.
- Press {**DELETE PATCH**} to delete all input patch registers for the selected input. When pressed:
  - ~ The **Connection Type** setting changes to "**UNDEFINED**."
  - ~ The **Router Input** line is cleared.

  This procedure is an excellent starting point if you are uncertain about specific input patch settings.

In Chapter 5, refer to the "**Input Patching**" section on page 198 for important information about the system's default **Input Patch Table**.

Router Specification Menu

From the **System Menu**, press {**ROUTER SETUP**} to display the **Router Specification Menu**.

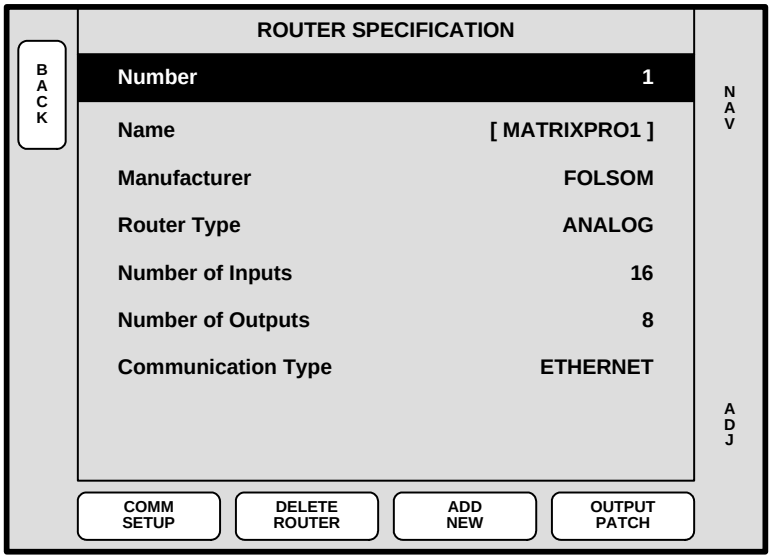


Figure 4-30. Router Specification Menu (sample)

The **Router Specification Menu** enables you to define input, output and communication parameters for all connected routers.

The following functions are provided:

- **Number** — select the number of the router that you wish to configure. The system supports up to eight definitions.
- **Name** — this non-selectable field shows the router's assigned name. After a factory reset, router number **1** defaults to **[MATRIXPRO1]** in Analog format, router number **2** defaults to **[MATRIXPRO2]** in SDI format, and router number **3** defaults to **[MATRIXPRO3]** in DVI format.

> **Note** — When a router number is undefined, the name **[ROUTER #]** appears, and in the **Number** field, the word "**EMPTY**" appears before the selected number.

- **Manufacturer** — identifies the router manufacturer. Choose between **FOLSOM**, **EXTRON**, **SIERRA**, **LEITCH**, **ISIS**, **DVILINK** and **DPI**. Refer to the "**Router Interface Notes**" section on page 128 for additional details about third party manufacturers.
- **Router Type** — identifies the type of router being used. The choices are **ANALOG**, **DVI**, **SDI**, **D/A ANALOG**, **D/A DVI** and **D/A SDI**. Please note:
  - ~ The {**COMM SETUP**} function must be set for Analog, DVI and SDI routers.
  - ~ The **D/A** selections are provided for future implementation.
- **Number of Inputs** — identifies the number of inputs on the selected router.
- **Number of Outputs** — identifies the number of outputs on the selected router.

- **Communication Type** — sets the device's communication type, either **RS-232**, **ETHERNET** or **LANTRONIX**.
- Press {**COMM SETUP**} to display one of three **Comm Setup Menus**, depending on the selected **Communication Type**. Refer to the "**Comm Setup Menus**" section on page 129 for details.
- Press {**DELETE ROUTER**} to delete the current specification and change the selected router **Number** to **<EMPTY>**.
- Press {**ADD NEW**} after choosing an empty configuration's **Manufacturer**, **Type**, **Number of Inputs** and **Number of Outputs** to save a new router specification.
- Press {**OUTPUT PATCH**} to display the **Output Patch Menu**. Refer to the "**Output Patch Menu**" section on page 132 for details.

Router Interface Notes

For selected third party routers, additional interface information is provided below.

- **Extron Router Support**

  The ScreenPRO-II Controller supports Extron routers enabled with Ethernet.

  ~ In the **Router Specification Menu**, set the Communication Type to **ETHERNET**.

  ~ In the **Ethernet Setup Menu**, dial in the router's IP address, and keep the port number set to **23**.

  ~ Press {**TEST COMM**} to establish communications.

  Due to the Extron protocol, the router's matrix size will not be read by the Controller, but will instead default to 16 x 16. When you return from the **Ethernet Setup Menu** to the **Router Specification Menu**, dial in the proper number of inputs and outputs to gain full access to the router.

Note

Ensure that you set the router's IP address to work with the ScreenPRO-II Controller's **192.168.0.xxx** standard (e.g., **192.168.0.245**). Any **192.168.0.xxx** address will work provided it does not conflict with the Controller, VPs or other network routers and devices.

- **DVILink 18x18 Router Support**

  The ScreenPRO-II Controller supports the DVILink 18x18 router enabled with serial control. Connect the router to the **EXT COMM** port on the back of the Controller. In Appendix A, refer to the "**Serial Connector**" section on page 261 for pinouts.

- **Sierra Video Systems Router Support**

  The ScreenPRO-II Controller supports Sierra Video Systems routers enabled with serial control. Connect the router to the **EXT COMM** port on the back of the Controller. In Appendix A, refer to the "**Serial Connector**" section on page 261 for pinouts.

Comm Setup Menus

Information is provided for three different Comm Setup Menus:

- **Ethernet Setup Menu**
- **RS-232 Setup Menu**
- **Lantronix Setup Menu**

Ethernet Setup Menu

On the **Router Specification Menu**, when the **Communication Type** is set to **ETHERNET**, press {**COMM SETUP**} to display the **Ethernet Setup Menu**:

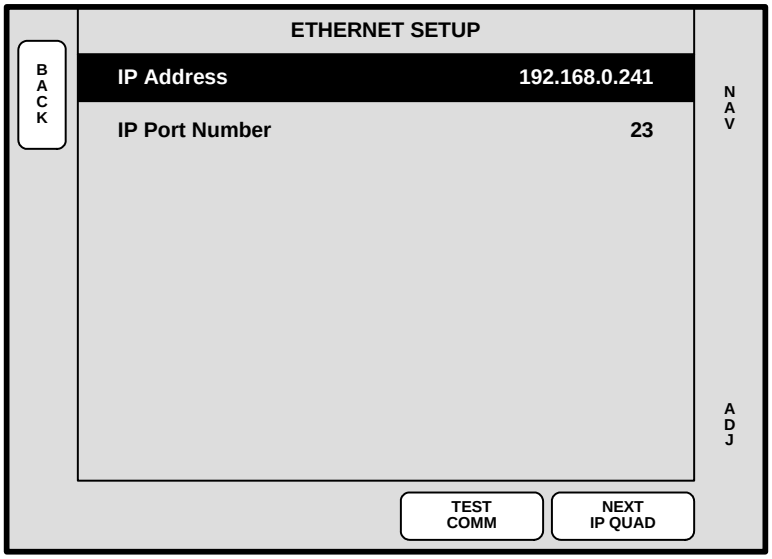


Figure 4-31. Ethernet Setup Menu (sample)

The **Ethernet Setup Menu** enables you to set the selected router's IP address and port number.

- **IP Address** — sets the router's IP address.
- **IP Port Number** — sets the router's IP port number, if applicable.
- Press {**NEXT IP QUAD**} to advance to the next 3-digit set of numbers in the address. Use the **ADJ** knob in the normal manner to change the digits.
- Press {**TEST COMM**} to test communications with the defined router:
  - ~ If the test is successful, a "**ROUTER CONNECTED**" message will appear that includes the Router name and version.
  - ~ If the test is unsuccessful, a "**ROUTER FAILED**" message will appear. In this condition, re-check all connections and settings, and repeat the test.

RS-232 Setup Menu

On the **Router Specification Menu**, when the **Communication Type** is set to **RS-232**, press {**COMM SETUP**} to display the **RS-232 Setup Menu**:

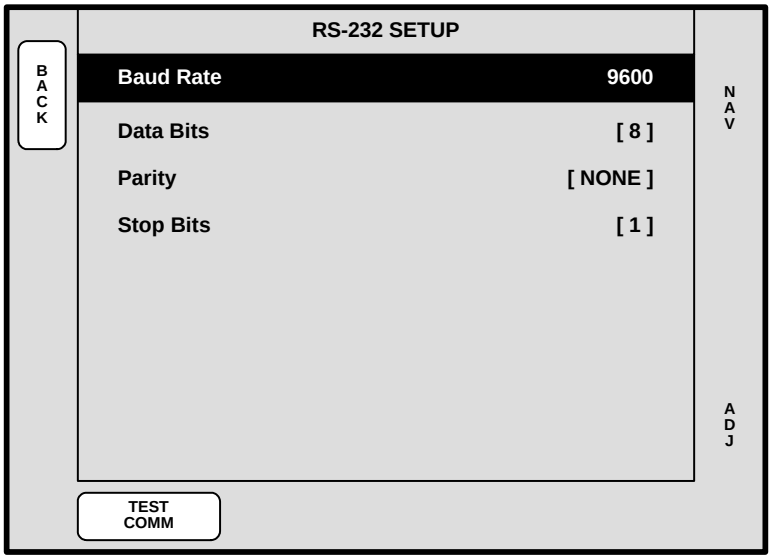


Figure 4-32. RS-232 Setup Menu (sample)

The **RS-232 Setup Menu** enables you to set the router's RS-232 communications parameters.

- **Baud Rate** — sets the desired baud rate (**9600**, **14400**, **19200**, **28800**, **38400**, **57600**, **115200**).
- **Data Bits** — this value is fixed at **[8]**.
- **Parity** — this value is fixed at **[None]**.
- **Stop Bits** — this value is fixed at **[1]**.
- Press {**TEST COMM**} to test communications with the defined router:
  - ~ If the test is successful, a "**ROUTER CONNECTED**" message will appear that includes the Router name and version.
  - ~ If the test is unsuccessful, a "**ROUTER FAILED**" message will appear. In this condition, re-check all connections and settings, and repeat the test.

Lantronix Setup Menu

On the **Router Specification Menu**, when **Communication Type** is set to **LANTRONIX**, press {**COMM SETUP**} to display the **Lantronix Setup Menu**:

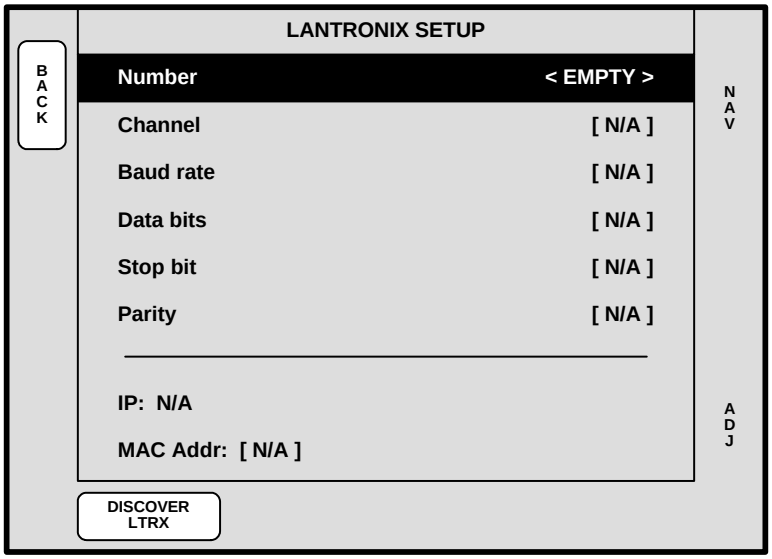


Figure 4-33. Lantronix Setup Menu (sample)

The **Lantronix Setup Menu** enables you to set parameters for multiple Lantronix Ethernet-to-Serial device servers. The ScreenPRO-II Controller supports Lantronix models **UDS100** and **UDS200**. The menu will appear blank until the Lantronix device is "discovered."

Important

Prior to pressing {**DISCOVER LTRX**}, it is highly recommended that you set up a static IP address on the Lantronix device itself. The recommended range is **192.168.0.200** - **192.168.0.239** — such as not to conflict with other devices in the ScreenPRO-II Controller system. Refer to the **Lantronix UDS100** or **UDS200 User's Guide** for instructions.

- **Number** — selects the number of the Lantronix device that you wish to set up.
- Press {**DISCOVER LTRX**} to set up communications with the Lantronix device.
- **Channel** — sets the specific Lantronix channel (**1** or **2**) that you wish to set up. Each Lantronix can control two serial routers.
- **Baud Rate** — sets the selected channel's baud rate.
- **Data Bits** — sets the selected channel's data bits.
- **Stop Bit** — sets the selected channel's stop bit.
- **Parity** — sets the selected channel's parity.
- **IP** — displays the IP address of the Lantronix. This parameter must be set at the device itself.
- **MAC Addr** — displays the hard-coded MAC address of the Lantronix.

Output Patch Menu

From the **Router Specification Menu**, press {**OUTPUT PATCH**} to display the **Output Patch Menu**.

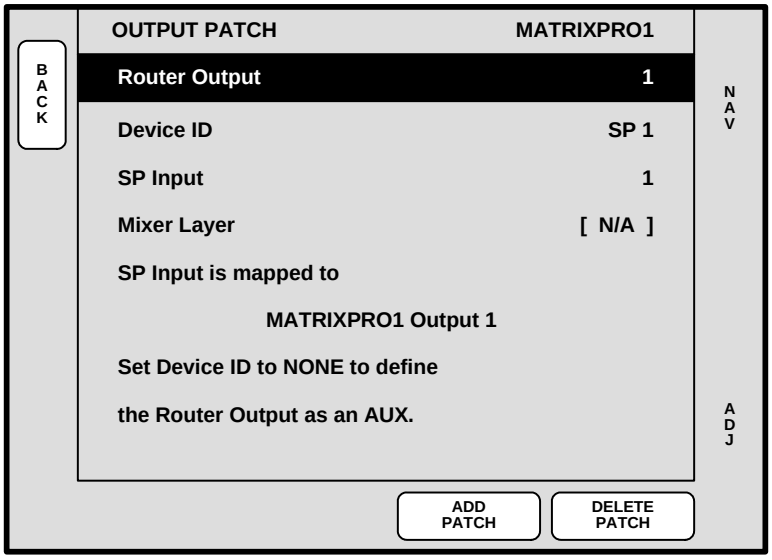


Figure 4-34. Output Patch Menu (sample)

The **Output Patch Menu** allows you to associate router outputs to ScreenPRO-II inputs. When a router is chosen on the **Router Specification Menu**, you then use the **Output Patch Menu** to associate a specific output with a ScreenPRO-II ID and input. This process creates a unique "**Output Patch Table**" for *each defined router*.

The following functions are provided:

- **Router Output** — selects the specific router output that is being patched. The selectable range is **1** to the number of outputs defined in the **Router Specification Menu** (e.g., **1 - 16**).
- **Device ID** — selects the ScreenPRO-II ID to which the Router's output will be connected. The selectable range is **1** - **32**.

Note — If "**None**" is selected, the output is designated as an Aux output.

- **SP Input** — selects the physical ScreenPRO-II input to which the router's output is patched.
- **Mixer Layer** — this line displays **N/A**, as it does not apply to ScreenPRO-II.
- Press {**ADD PATCH**} to confirm any change that you make on the menu. As you dial through the choices, the "**SP Input is mapped to**" lines will show if the current choice is already in use. If the patch already exists and you "add" it, you will be asked to confirm.
- Press {**DELETE PATCH**} to delete all "Output Patch Table" registers for the selected router output. This function is an excellent starting point if you are uncertain about specific output patch settings.

In Chapter 5, refer to the "**Router Setup**" section on page 193 for important information about the system's default **Output Patch Table**.

Miscellaneous Menu

The following topics are discussed in this section:

- **Miscellaneous Menu Tree**
- **Miscellaneous Menu Description**
- **Miscellaneous Sub Menus**

Miscellaneous Menu Tree

The figure below illustrates the **Miscellaneous Menu Tree**:

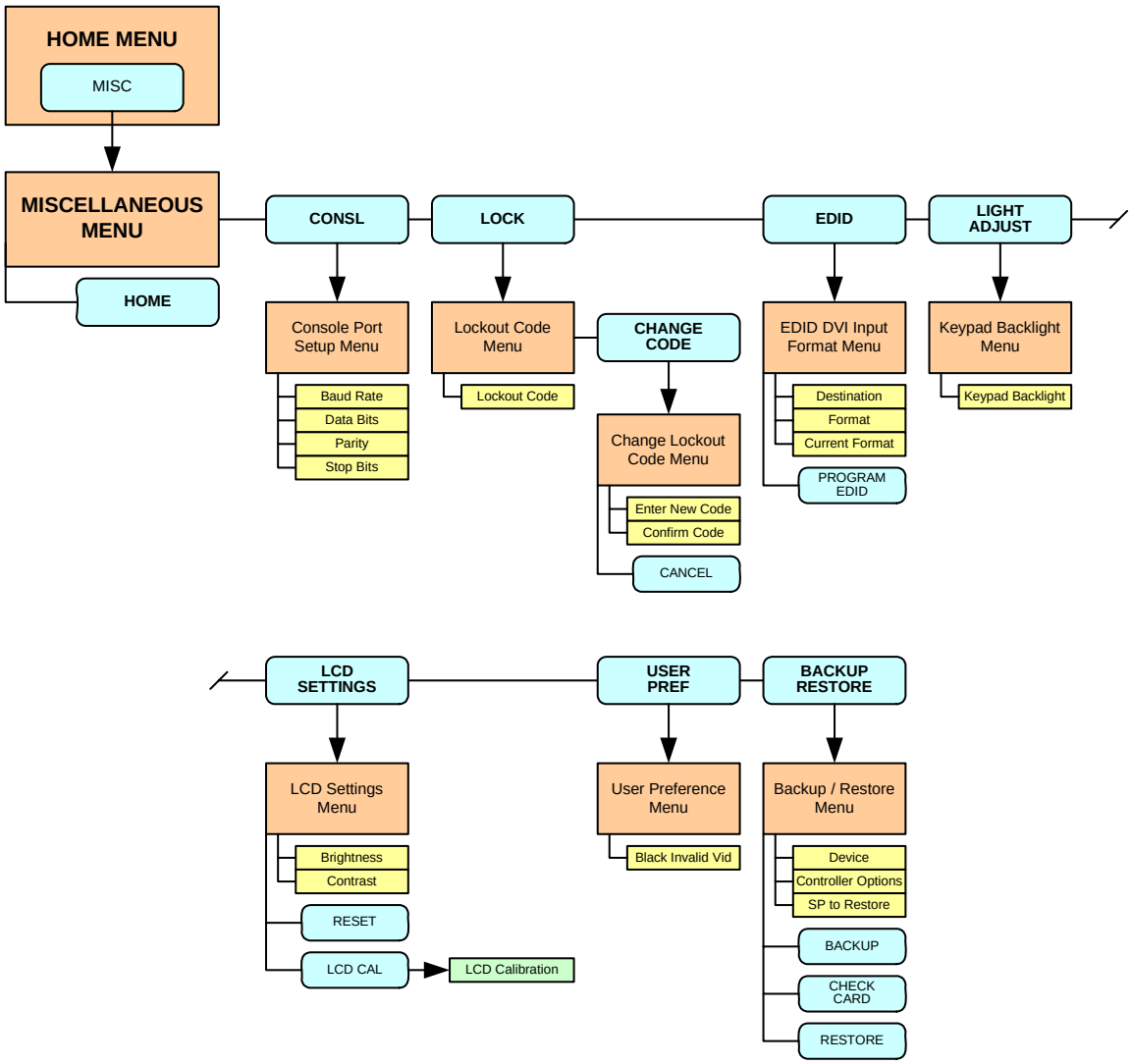


Figure 4-35. Miscellaneous Menu Tree

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

Miscellaneous Menu Description

The **Miscellaneous Menu** accesses ScreenPRO-II Controller functions that do not fall into other distinct menu categories.

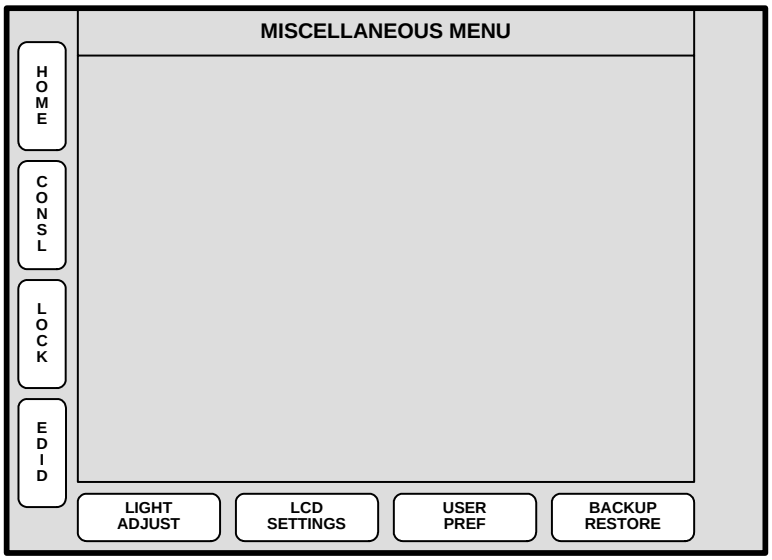


Figure 4-36. Miscellaneous Menu

To access the menu:

- Press **MISC** on the **Home Menu**.

The following “miscellaneous” functions are provided:

- Press {**CONSL**} to access the **Console Port Setup Menu**. Refer to the “**Console Port Setup Menu**” section on page 135 for details.
- Press {**LOCK**} to access the **Lockout Code Menu**. Refer to the “**Lockout Code Menu**” section on page 136 for details.
- Press {**EDID**} to access the **EDID DVI Input Format Menu**. Refer to the “**EDID DVI Input Format Menu**” section on page 137 for details.
- Press {**LIGHT ADJUST**} to access the **Keypad Backlight Menu**. Refer to the “**Keypad Backlight Menu**” section on page 138 for details.
- Press {**LCD SETTINGS**} to access the **LCD Settings Menu**. Refer to the “**LCD Settings Menu**” section on page 139 for details.
- Press {**USER PREF**} to access the **User Preference Menu**. Refer to the “**User Preference Menu**” section on page 140 for details.
- Press {**BACKUP RESTORE**} to access the **Backup/Restore Menu**. Refer to the “**Backup/Restore Menu**” section on page 141 for details.

Miscellaneous Sub Menus

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

- **Console Port Setup Menu**
- **Lockout Code Menu**
- **EDID DVI Input Format Menu**
- **Keypad Backlight Menu**
- **LCD Settings Menu**
- **User Preference Menu**
- **Backup/Restore Menu**

Console Port Setup Menu

From the **Miscellaneous Menu**, press {**CONSL**} to display the **Console Port Setup Menu**:

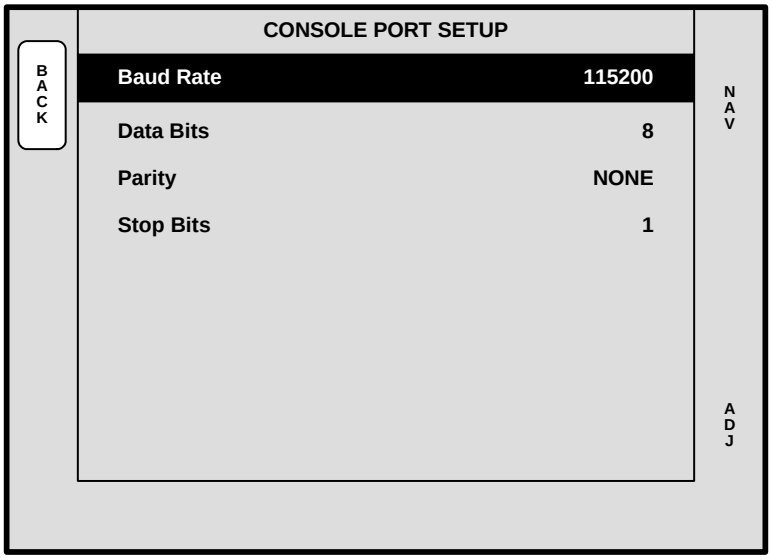


Figure 4-37. Console Port Setup Menu (sample)

This menu enables you to verify (or change) ScreenPRO-II Controller's serial port communication settings (for the **Ext Comm** port). The following functions are provided:

- **Baud Rate** — sets the port's baud rate. Range: **2400** to **115200**.
- **Data Bits** — sets the port's data bits. Range: **5** to **8**.
- **Parity** — sets the port's parity: **Even**, **Odd** or **None**.
- **Stop Bits** — sets the port's stop bits: **1**, **1.5** or **2**.

Lockout Code Menu

From the **Miscellaneous Menu**, press {**LOCK**} to display the **Lockout Code Menu**:

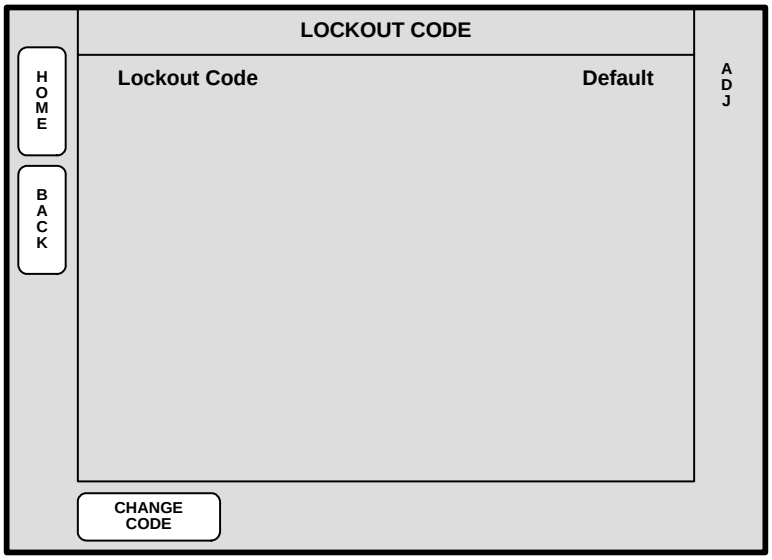


Figure 4-38. Lockout Code Menu (sample)

The **Lockout Code Menu** enables you to define a programmable lockout code, so that the Controller can be locked out from unauthorized users. The following functions are provided:

- The **Lockout Code** field defines which code is currently enabled.
  - ~ Select **Default** to enable the system's default lockout code: **1111**
  - ~ Select **Custom** to enable a custom lockout code, as entered on the **Change Lockout Code Menu**.
- Press {**CHANGE CODE**} to display the **Change Lockout Code Menu**.

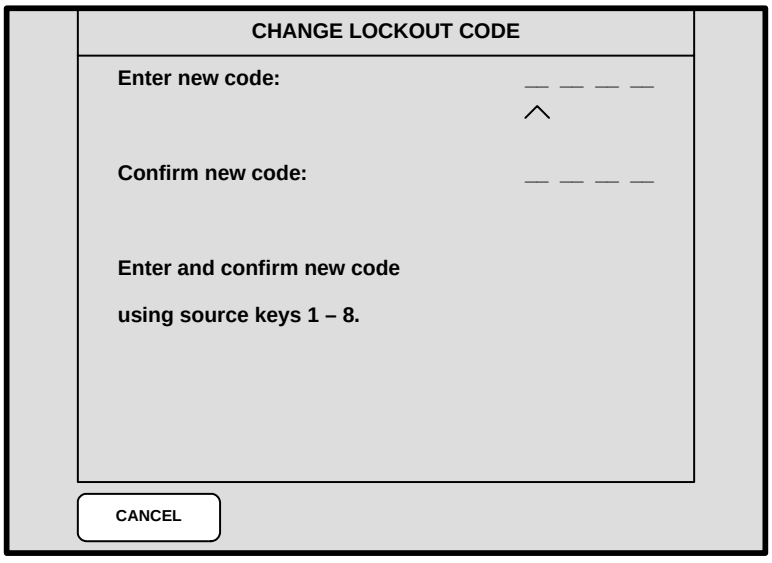


Figure 4-39. Change Lockout Code Menu (sample)

To enter a new lockout code, use the eight numbered buttons on the **Source Selection Bus**, and then confirm the new code.

In Chapter 6, refer to the "**Locking and Unlocking the Controller**" section on page 252 for instructions on using the **Controller Panel Lockou**t mode.

EDID DVI Input Format Menu

From the **Miscellaneous Menu**, press {**EDID**} to display the **EDID DVI Input Format Menu**:

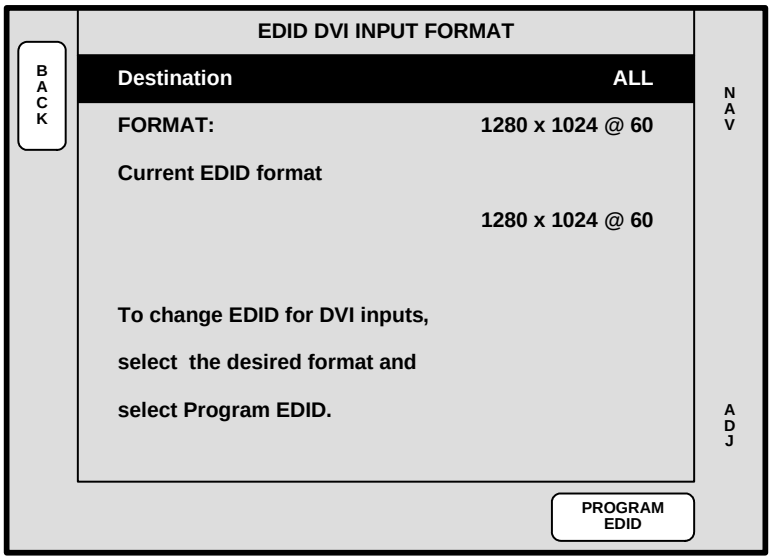


Figure 4-40. EDID DVI Input Format Menu (sample)

The **EDID DVI Input Format Menu** enables you to update the system's preferred EDID resolution for each ScreenPRO-II's two DVI inputs (**Background** and **DSK**) — for the selected destination bus.

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, both preferred and allowed. The system's EDID file is stored in non-volatile memory. This file is read by an external computer's DVI graphic card when the computer's DVI output is connected to ScreenPRO-II via the DVI-I connector during boot-up. The ScreenPRO-II must be powered on first for the EDID information to be read.

The following functions are provided:

- **Destination** — sets the destination bus on which you want to program EDID — all or individual ScreenPRO-II units.
- **Format** — selects the preferred DVI video format with which you want to program the selected 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.

Please note the following important points regarding EDID:

- For the computer to correctly see the EDID data:
  - **a.** Turn on ScreenPRO-II power.
  - **b.** Connect the DVI cable from the computer's video card to one of ScreenPRO-II's DVI connectors.
  - **c.** Boot the computer.
  - **d.** Once EDID programming is complete, 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.
- A ScreenPRO-II's EDID prom is *not* reset to any default during a factory reset. To change the EDID, you must use the **EDID DVI Input Format Menu**.

Keypad Backlight Menu

From the **Miscellaneous Menu**, press {**LIGHT ADJUST**} to show the **Keypad Backlight Menu**:

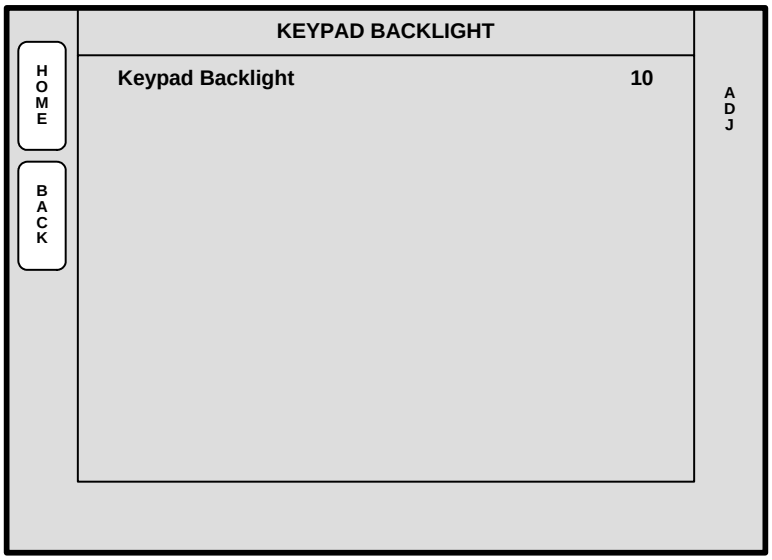


Figure 4-41. Keypad Backlight Menu (sample)

The **Keypad Backlight Menu** enables you to adjust the backlight level of all buttons on the ScreenPRO-II Controller.

The following functions are provided:

- **Keypad Backlight** — adjusts the backlight level. Backlight range is **0** (backlight off) to **100** (backlight on full).

LCD Settings Menu

From the **Miscellaneous Menu**, press {**LCD SETTINGS**} to show the **LCD Settings Menu**:

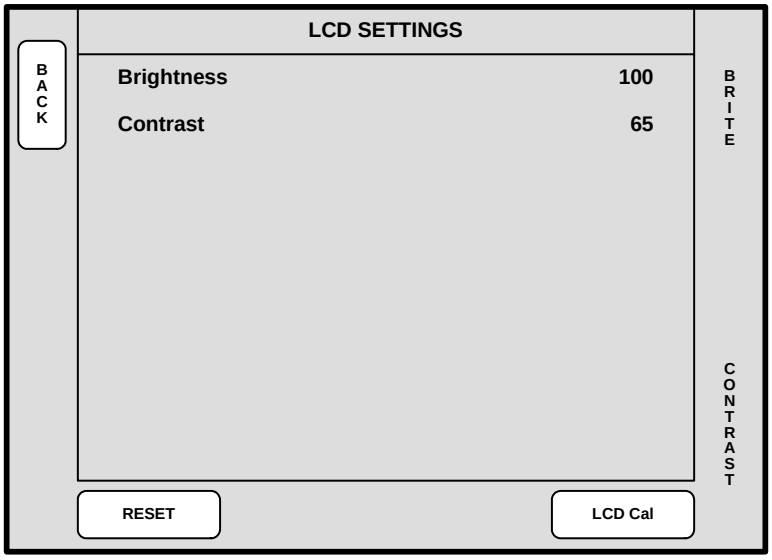


Figure 4-42. LCD Settings Menu (sample)

The **LCD Settings Menu** enables you to adjust contrast and brightness settings for the touch screen, and also calibrate the touch screen. The following functions are provided:

- Rotate the **BRITE** knob to adjust touch screen brightness.
- Rotate the **CONTRAST** knob to adjust touch screen contrast.
- Press {**RESET**} to return settings to the factory default values.
- 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**.

User Preference Menu

From the **Miscellaneous Menu**, press {**USER PREF**} to display the **User Preference Menu**:

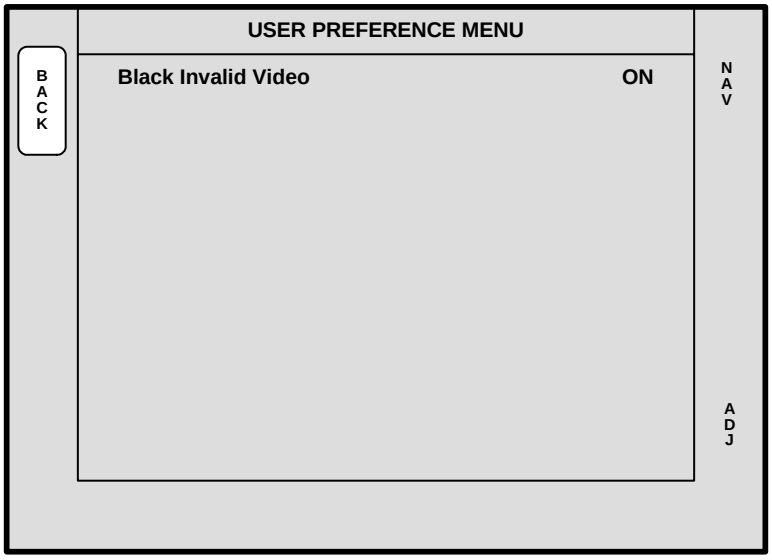


Figure 4-43. User Preference Menu (sample)

The **User Preference Menu** enables you to set a variety of user preference parameters. The following functions are provided:

- **Black Invalid Video** — selects the method by which the scaler "loading" procedure is shown on Preview, when the user changes inputs:
  - ~ **ON** — shows black when scalers are loaded. In addition:
    - Black is shown when a background channel (**BG**) becomes invalid.
    - The DSK will be turned off when source video becomes invalid.
  - ~ **OFF** — shows the full scaler loading procedure, which can temporarily include non-sync and non-stable video.

In Chapter 6, refer to the "**Setting User Preferences**" section on page 221 for instructions.

Backup/Restore Menu

From the **Miscellaneous Menu**, press {**BACKUP RESTORE**} to display the **Backup/ Restore Menu**:

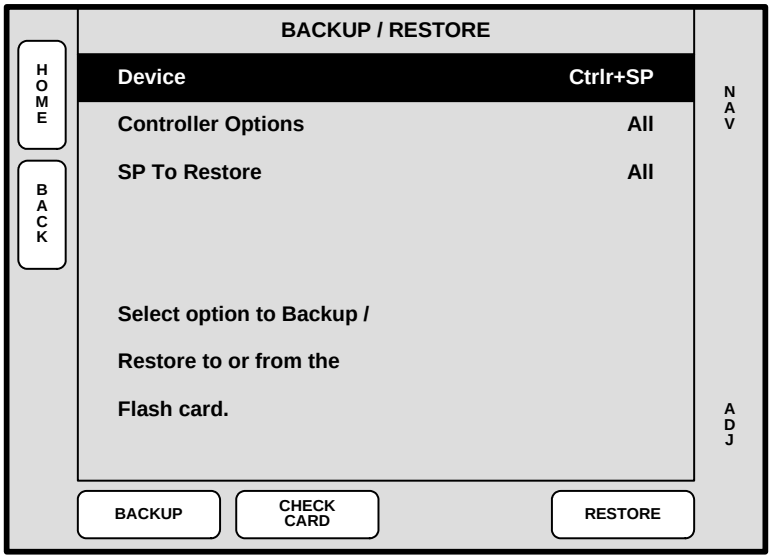


Figure 4-44. Backup/Restore Menu (sample)

The **Backup/Restore Menu** enables you to back up and restore system configurations, using the console's **Flash Memory Card** capability. You can also use this function to transfer configurations between Controllers as required.

Note

You can only store one system configuration on a Flash Memory Card.

The following functions are provided:

- **Device** — Selects the device(s) that you want to backup or restore. Choose between the **Ctrlr**, **SP** or **Ctrlr+SP**.
- **Controller Options** — Selects which portion of the selected devices you want to backup or restore. Choose between **All**, **System** or **Presets**.
- **SP to Restore** — Selects the device(s) that you wish to restore. Choose between **All** devices, or the ID of a specific ScreenPRO-II (e.g., **1**, **2**, **3**).
- Press {**BACKUP**} to perform a backup operation to the Flash Memory Card using the selected device(s) and options.
- Press {**CHECK CARD**} to check the system for the presence of a Flash Memory Card. If a memory card is present, the system then checks for the presence of a system configuration on the card.
- Press {**RESTORE**} to restore a system configuration from the Flash Memory Card to the selected device(s).

In Chapter 6, refer to the "**Using Backup and Restore**" section on page 253 for instructions.

Frame Grab Menu

The following topics are discussed in this section:

- **Frame Grab Menu Tree**
- **Frame Grab Menu Description**

Frame Grab Menu Tree

The figure below illustrates the **Frame Grab Menu Tree**:

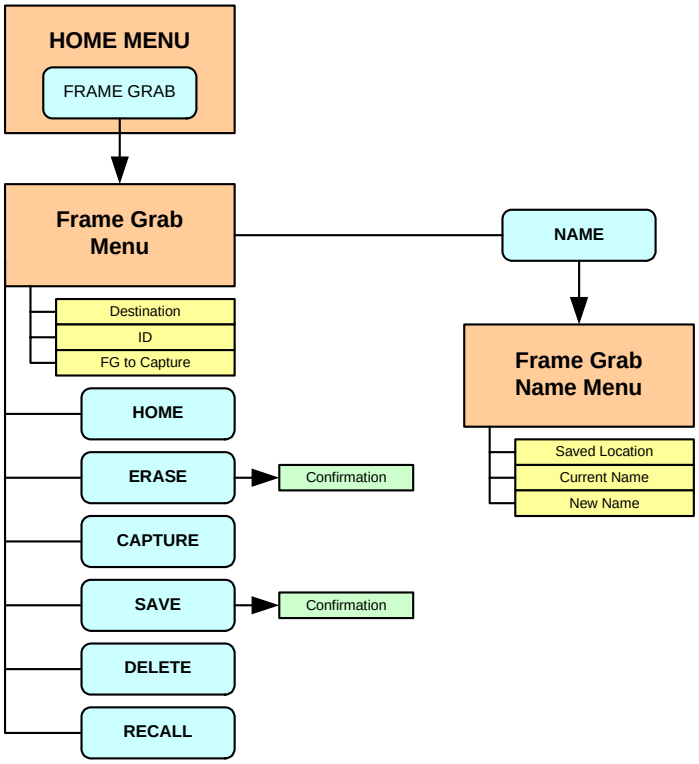


Figure 4-45. Frame Grab Menu Tree

All functions and menus are discussed in the following sections.

Frame Grab Menu Description

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

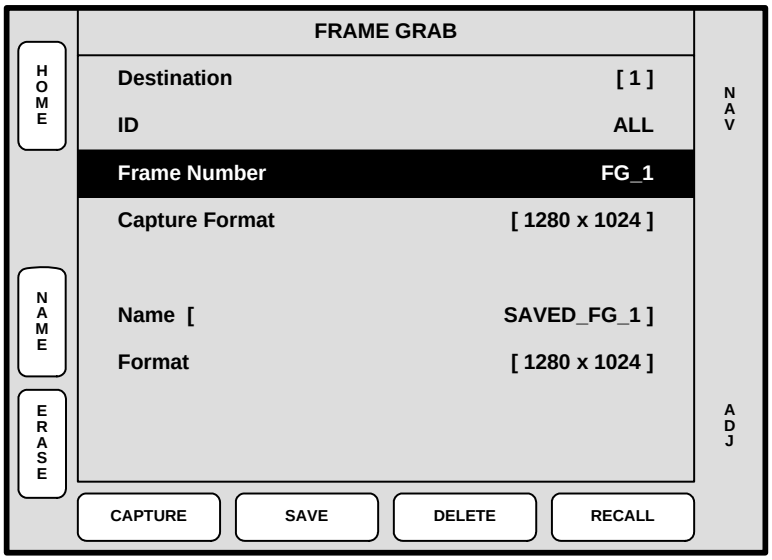


Figure 4-46. Frame Grab Menu (sample)

To access the **Frame Grab Menu**:

- On **Preview**, select the layer (**Layer A** or **B**) or the background (**BG A** or **BG B**) from which you want to capture a “full screen” still frame.
- Press **FRAME GRAB** on the **Home Menu**.

The **Frame Grab Menu** enables you to capture still frames into each ScreenPRO-II system’s three internal frame stores. The “sources” of the still frames are each ScreenPRO-II’s **BG A** and **BG B** inputs, or the scaled inputs (**Layer A** or **B**).

Please note:

- For widescreen destinations, even though you are using the frame stores of *multiple* ScreenPRO-II units, you are conceptually working with only three frame stores — each of which captures’s its “slice” of the complete widescreen image.
- For single screen destinations, you are working with the individual destination’s three frame stores in the normal manner.

Regarding captures:

- All captures of the background (**BG A** or **BG B**) must occur on **Preview** — the desired full screen source to capture must be visible on Preview. You will get an error message if you attempt to capture while the source is on Program.
- All captures of the layers (**Layer A** or **Layer B**) can occur on either **Preview** or **Program**.

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

Each frame store utilizes the “**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. Thus, at any one time, you could have a maximum of three stills in temporary memory, and three *different* stills in permanent memory.

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.

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

- **Destination** — displays the currently selected destination.
- **ID** — displays the ID(s) of the selected destination’s associated ScreenPRO-II system(s).
- **Frame Number** — enables you to select **FG_1**, **FG_2** or **FG_3** for capture, storage, erasure, recall or deletion.
- **Capture Format** — displays the output resolution. Each ScreenPRO-II always captures a full screen image at the output resolution — regardless of the input resolution.
- **Name** — displays the name of the file.
  - ~ **UNSAVED** indicates that the file’s source is temporary memory.
  - ~ **SAVED** indicates that the file is permanently stored. If this appears, the permanent file has been read into “temp” memory for use on-air.
- **Format** — displays the resolution of the captured frame.
- Press {**NAME**} to display the **Frame Grab Name Menu**. Refer to the “**Frame Grab Name Menu**” section on page 145 for details.
- Press {**ERASE**} to *permanently* erase the selected frame from permanent (flash) memory. This process takes from 1 to 2 minutes, and locks the console during the procedure. You will be asked to confirm before proceeding.

Note	You can perform this function even if there is no frame stored in the permanent register.

- Press {**CAPTURE**} to capture a still into the selected “temporary” frame store. Once pressed, the screen will indicate that the frame is being captured.
- Press {**SAVE**} to save the captured frame into permanent (flash) memory within the selected register. This process takes from 2 to 3 minutes, and locks the console during the procedure. You will be asked to confirm before proceeding.
- Press {**DELETE**} to *mark* the selected permanent frame as deleted — but note that the **ERASE** function is still required for permanent deletion. You can consider this as a “quick” delete function.
- Press {**RECALL**} to recall a selected frame from permanent (flash) storage back into temporary memory.

In Chapter 6, refer to the “**Working with Still Frames**” section on page 246 for instructions.

Frame Grab Name Menu

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

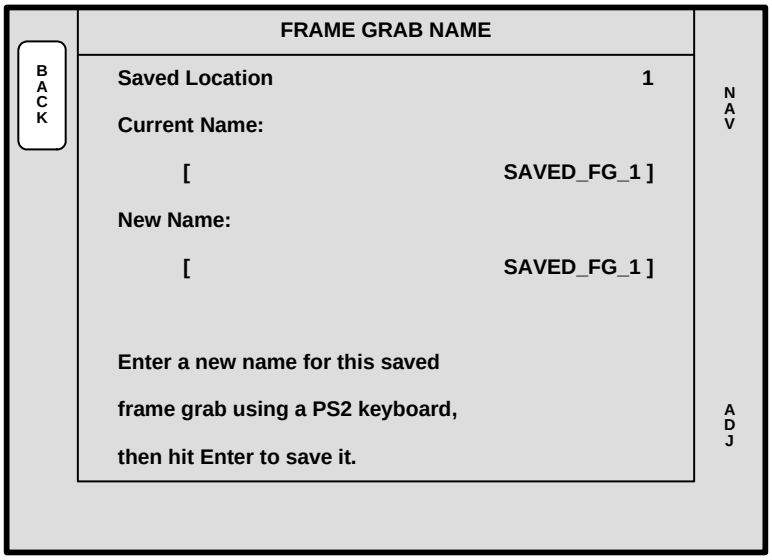


Figure 4-47. Frame Grab Name Menu (sample)

The **Frame Grab Name Menu** enables you to name a saved frame grab, using a customer supplied PS-2 keyboard.

Note

The optional **Tally** board is required for the “naming” feature. The board includes the tally connector plus a PS-2 connector for the **Keyboard Port**.

The following functions are provided:

- **Saved Location** — enables you to select the saved frame that you want to name. You must use the **Save** function (on the **Frame Grab Menu**) as a prerequisite to naming the frame.
- **Current Name** — displays the name of the saved frame.
- **New Name** — enables you to enter a new name with the PS-2 keyboard. Once entered, the name is “attached” to the file that already resides in permanent (flash) memory. The name will now be shown on all menus in which a still frame can be selected (e.g., **LOGO Menu**, **DSK Input Setup Menu**, **Background Input Setup Menu**, etc.).

Effects Menu

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

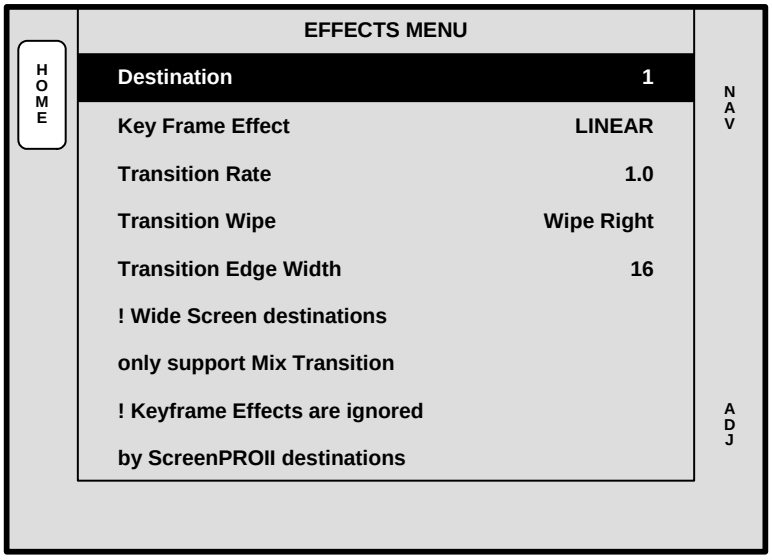


Figure 4-48. Effects Menu (sample)

To access the menu:

- Press **EFFECTS** on the **Home Menu**.

The **Effects Menu** allows you to modify and manage effects on a destination-by-destination basis, including the ability to define key frames, paths and effect properties. The following functions are provided:

- **Destination** — displays the currently selected destination.
- **Key Frame Effect** — enables you to select the type of motion for a "move."

Note Only the **Linear** motion type is supported. All other key frame effects are ignored by ScreenPRO-II destinations.

- **Transition Rate** — sets the auto-transition rate that is used when the **Auto Trans** button is pressed. The transition value is in 0.1 second increments.
- **Transition Wipe** — sets the transition type when the **WIPE** button is selected. Choose between **Wipe Right**, **Wipe Left**, **Wipe Down**, **Wipe Up**, **Curtain Open**, **Curtain Close**, **Box In** and **Box Out**.

Note Wide screen destinations only support **Mix** transitions. Key frame effects are ignored by ScreenPRO-II destinations.

- **Transition Edge Width** — When **WIPE** is selected, this field enables you to set the transition's edge type. The range (in pixels) is from **0** to **256**.

In Chapter 6, refer to the "**Working with Transitions**" section on page 241 for instructions.

Status Menu

The **Status Menu** provides basic status information:

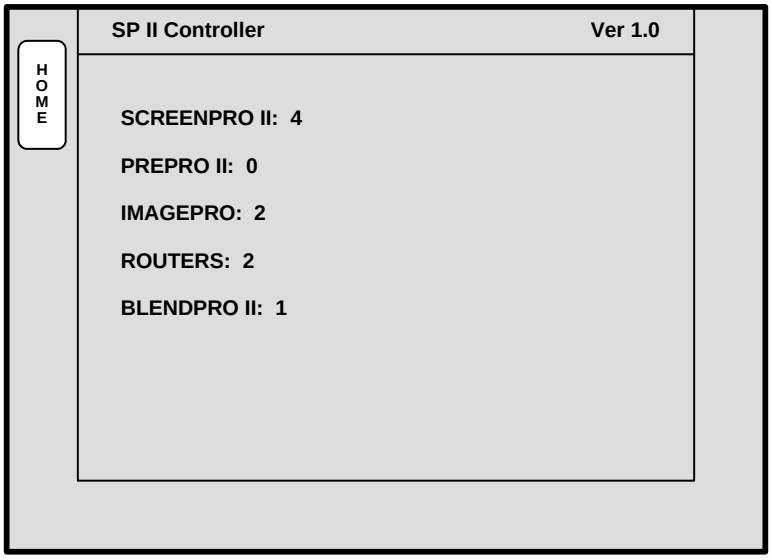


Figure 4-49. Status Menu (sample)

To access the **Status Menu**:

- Press **STATUS** on the **Home Menu**.

The following status information is provided:

- **ScreenPRO-II Controller** — (top line) displays the Controller's software version.
- **SCREENPRO-II** — lists the number of ScreenPRO-II units detected.
- **PREPRO-II** — lists the number of PresentationPRO-II units detected.
- **IMAGEPRO** — lists the number of ImagePRO units detected.
- **ROUTERS** — lists the number of Routers detected.
- **BLENDPRO-II** — lists the number of BlendPRO-II units detected.

Note

If certain error conditions exist, the **Status Menu** displays additional messages such as "**Checksum Mismatch**" and "**Please Upgrade**."

PIP Adjustment Menu

The following topics are discussed in this section:

PIP Adjustment Menu Tree

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

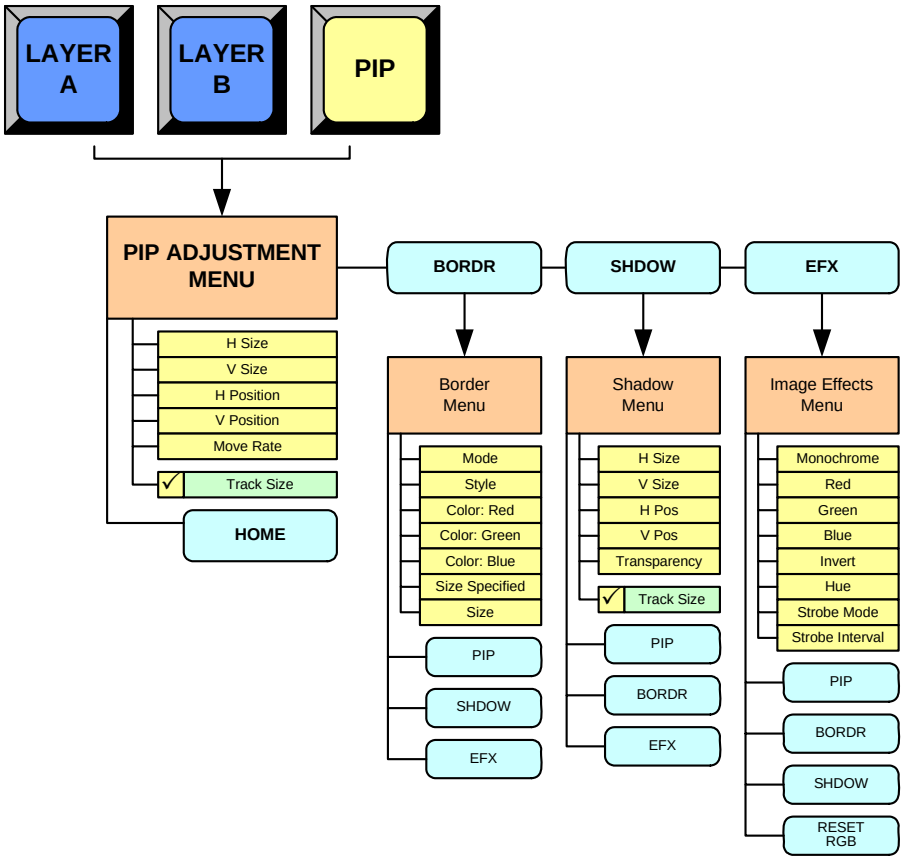


Figure 4-50. PIP Adjustment Menu Tree

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

PIP Adjustment Menu Description

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

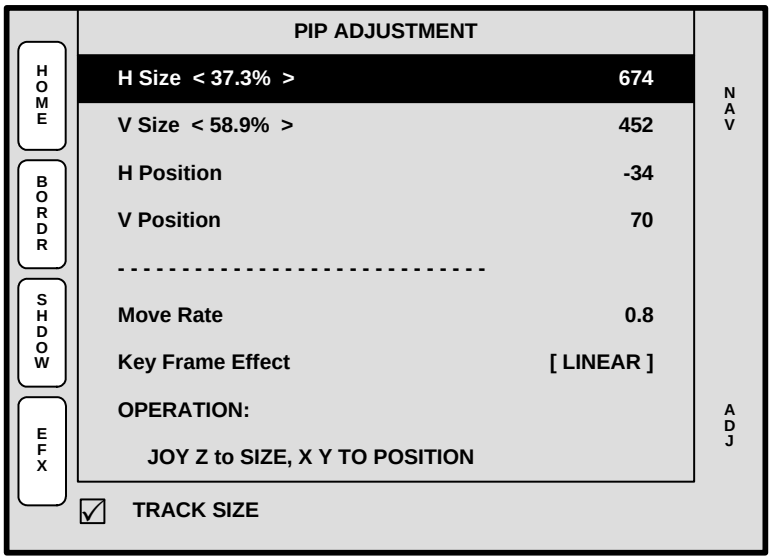


Figure 4-51. PIP Adjustment Menu (sample)

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

- Press **LAYER A** or **LAYER B** in the **Layer Control Section**, then ...
- Press the **PIP** button in the **Layer Function Section**.

PIP Adjustment Menu Functions

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

- **H Size** — adjusts the PIP's horizontal size in pixels. The "**%**" value is the PIP's size as a percentage of the screen's horizontal resolution. The numeric value is the PIP's width in pixels. To adjust, use the **ADJ** knob or the Joystick's Z-Axis knob.
- **V Size** — adjusts the PIP's vertical size in pixels. The "**%**" value is the PIP's size as a percentage of the screen's vertical resolution. The numeric value is the PIP's height in pixels. To adjust, use the **ADJ** knob or the Joystick's Z-Axis knob.
- **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. To adjust, move the Joystick left and right or use the **ADJ** knob.
- **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. To adjust **V Position**, move the Joystick up and down or use the **ADJ** knob.
- **Move Rate** — adjusts the rate (in 0.1 second increments) for programmed PIP movement from key frame to key frame. To adjust, use the **ADJ** knob or twist the Joystick Z-Axis knob.

- **Key Frame Effect** — indicates the “motion type” that is used to move the PIP from point to point.

Note	Only the **Linear** motion type is supported. All other key frame effects are ignored by ScreenPRO-II destinations.

- Press {**BORDR**} to display the **Border Menu**. Refer to the “**Border Menu**” section on page 151 for details.
- Press {**SHDOW**} to display the **Shadow Menu**. Refer to the “**Shadow Menu**” section on page 152 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the “**Image Effects Menu**” section on page 153 for details.
- At the bottom of the **PIP Adjustment Menu**, the {**TRACK SIZE**} check box has the following functions:
  - ~ Check the {**TRACK SIZE**} check box to lock **H Size** and **V Size** together. Regardless of the PIP’s current aspect ratio, its size will adjust proportionally when the Joystick’s Z-Axis knob or the **ADJ** rotary knob is used to change size.
  - ~ Uncheck the {**TRACK SIZE**} check box to adjust H Size or V Size individually, without affecting the other parameter. In this way, you can stretch the PIP horizontally or vertically.
- Press **Source** in the **Joystick Section** to display the **Input Source Adjustment Menu**. Refer to the “**Source Adjustment Menus**” section on page 165.

Please note the following related functions:

- To return the PIP to its default size and aspect ratio, press the **Reset** button in the **Joystick Section**.
- To adjust the PIP with fine resolution, press the **Fine Adjust** button in the **Joystick Section**.

PIP Adjustment Sub Menus

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

- **Border Menu**
- **Shadow Menu**
- **Image Effects Menu**

Complete descriptions are provided in the following sections.

Border Menu

From the **PIP Adjustment Menu**, press {**BORDR**} to display the **Border Menu**.

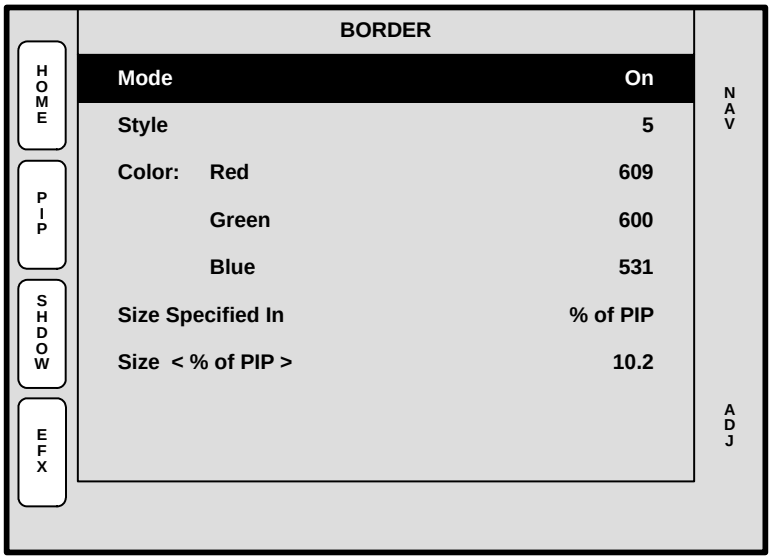


Figure 4-52. Border Menu (sample)

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

Note

You can also access the **Border Menu** from the **Shadow Menu** and the **Image Effects Menu** by pressing {**BORDR**}.

The following functions are provided:

- **Mode** — enables or disables the PIP's border.
- **Style** — select one of multiple 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 149 for details.
- Press {**SHDOW**} to display the **Shadow Menu**. Refer to the "**Shadow Menu**" section on page 152 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 153 for details.

Shadow Menu

From the **PIP Adjustment Menu**, press {**SHDOW**} to display the **Shadow Menu**.

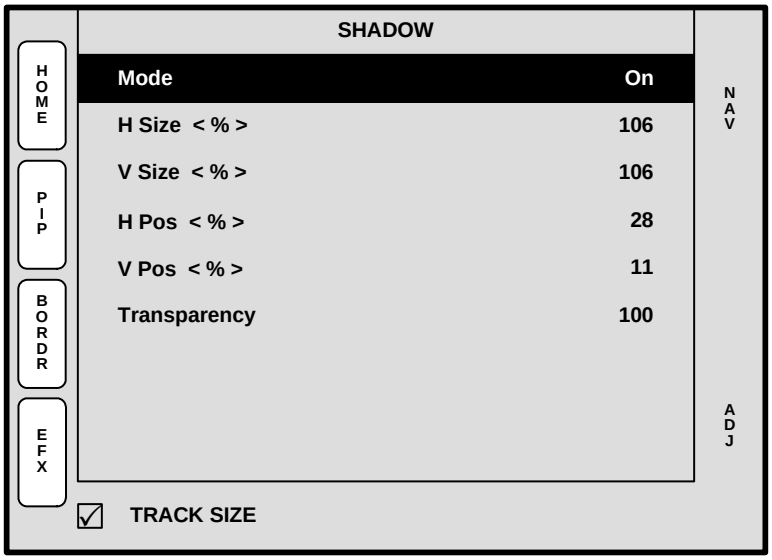


Figure 4-53. Shadow Menu (sample)

The **Shadow Menu** enables you place a shadow behind a PIP, and adjust its size, position and transparency.

Note

You can also access the **Shadow Menu** from the **Border Menu** and the **Image Effects Menu** by pressing {**SHDOW**}.

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 < % >** — adjusts the shadow's horizontal position as an offset from the base PIP image. The value represents a percentage of the PIP's size.
- **V Pos < % >** — adjusts the shadow's vertical position as an offset from the base PIP image. The value represents a percentage of the PIP's size.
- **Transparency** — adjusts the shadow's transparency, from **0** (full transparency) to **1024** (opaque).
- Check {**TRACK SIZE**} 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 149 for details.
- Press {**BORDR**} to display the **Border Menu**. Refer to the "**Border Menu**" section on page 151 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 153 for details.

Image Effects Menu

From the **PIP Adjustment Menu** (or the **Key Menu**), press {**EFX**} to display the **Image Effects Menu**.

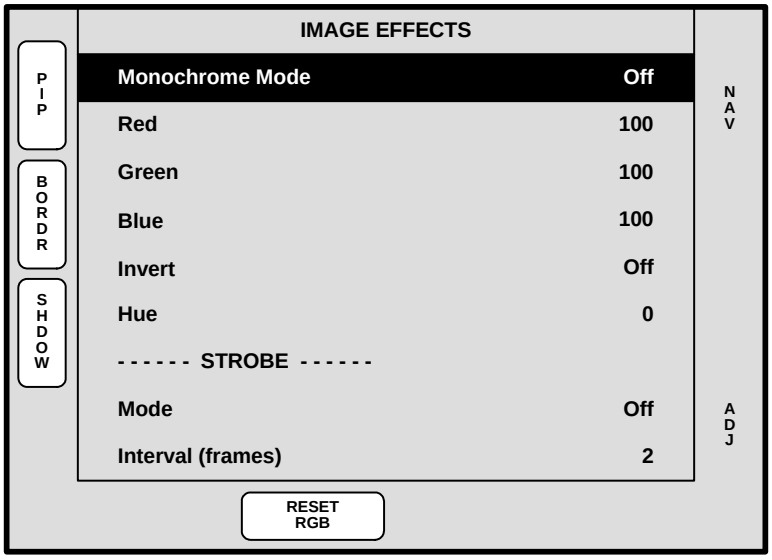


Figure 4-54. Image Effects Menu (sample)

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

Note

When adjusting PIPs, you can also access the **Image Effects Menu** from the **Border Menu** or the **Shadow Menu** by pressing {**EFX**}.

When adjusting Keys, you can also access the **Image Effects Menu** from the **Key Adjustment Menu** or the **Matte Menu** by pressing {**EFX**}.

- **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 work 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** — inverts 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 149 for details.
- Press {**BORDR**} to display the **Border Menu**. Refer to the "**Border Menu**" section on page 151 for details.
- Press {**SHDOW**} to display the **Shadow Menu**. Refer to the "**Shadow Menu**" section on page 152 for details.

Note

To remove any image effects from the PIP or Key, press the **RESET** button in the **Layer Functions Section** — while the **Image Effects Menu** is active. No other PIP 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**:

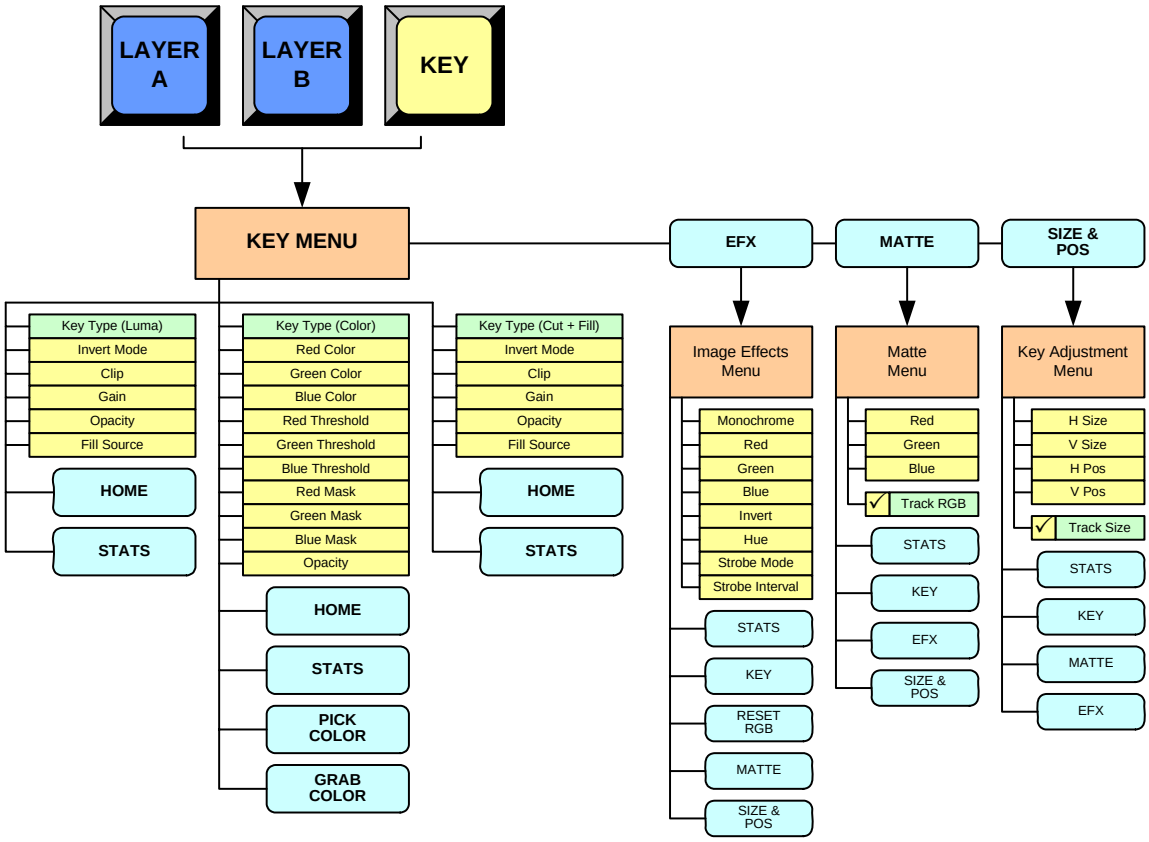


Figure 4-55. Key Menu Tree

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

Key Menu Description

The figure below illustrates a sample **Key Menu**, when **Luma** key is selected:

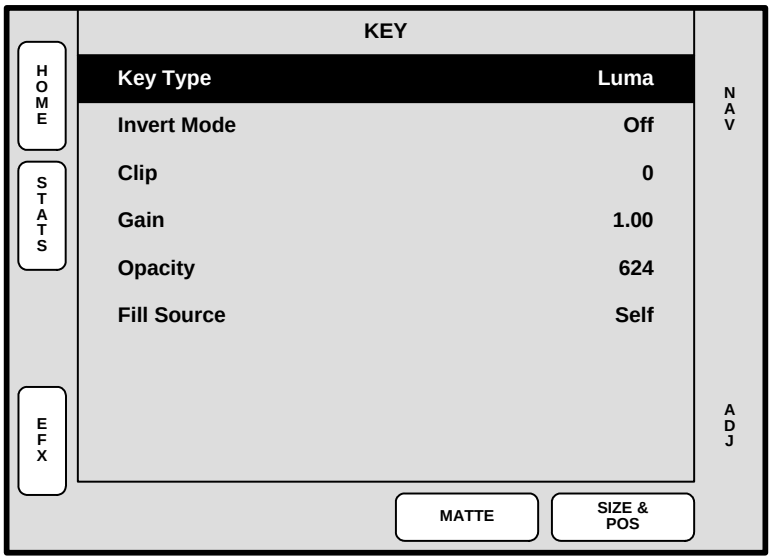


Figure 4-56. Key Menu (sample)

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

- Press **LAYER A** or **LAYER B** in the **Layer Control Section**, then ...
- Press the **KEY** button in the **Layer Function Section**.

Key Menu Functions

The available **Key Menu** functions change, depending upon the type of key selected.

- **Key Type** — enables you to choose the type of key:
  - ~ Choose between **Luma** or **Color** when the **Mix Mode** is enabled (**Split** button is off).
  - ~ Choose between **Luma**, **Color**, or **Cut + Fill** when **Split Mode** is enabled (**Split** button is on).

Refer to the following sections for details.

- **Luma Key Functions**
- **Color Key Functions**
- **Cut + Fill Key Functions**

Luma Key Functions

A **Luma** (luminance) key is one in which the hole-cutting information is derived from the luminance (brightness) level of the key source.

Note

Luma keys can be selected on both the **Layer A** and **Layer B** keyers, in both **Split** and **Mix** modes.

The following **Key Menu** functions are provided when **Luma** key is selected:

- **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 or logo.
  - ~ **Matte** — fills the hole with a color, which can then be adjusted with the **Matte Menu**.
- Press {**STATS**} to display the **Status Menu**. Refer to the "**Status Menu**" section on page 147 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 153 for details.
- Press {**MATTE**} to display the **Matte Menu**. Refer to the "**Matte Menu**" section on page 159 for details.
- Press {**SIZE & POS**} to display the **Key Adjustment Menu**. Refer to the "**Key Adjustment Menu**" section on page 160 for details.

Color Key Functions

A **Color** key is one in which the hole-cutting information is derived from a specific RGB value — including luminance.

Note

Color keys can be selected on both the **Layer A** and **Layer B** keyers, in both **Split** and **Mix** modes.

The following **Key Menu** functions are provided when **Color** key is selected:

- **Red Color** — adjusts the red component of the selected key color, from 0 to 1024.
- **Green Color** — adjusts the green component of the key color, from 0 to 1024.
- **Blue Color** — adjusts the blue component of the key color, from 0 to 1024.
- **Red Threshold** — adjusts the key's clip along the Cyan vector (as demonstrated using a CIE color chip chart).

- **Green Threshold** — adjusts the key's clip along the Magenta vector.
- **Blue Threshold** — adjusts the key's clip along the Yellow vector
- **Red Mask** — adjusts the background mask to/from black along the Cyan vector.
- **Green Mask** — adjusts background mask to/from black along the Magenta vector.
- **Blue Mask** — adjusts background mask to/from black along the Yellow vector.
- **Opacity** — adjusts the opacity of the keyed image, from fully opaque to fully transparent. Adjustment range is 0 to 1024.
- Press {**STATS**} to display the **Status Menu**. Refer to the "**Status Menu**" section on page 147 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 153 for details.
- Press {**PICK COLOR**} to choose the keying color visually. Once pressed, the {**GRAB COLOR**} label appears, and a crosshair appears on Preview. Use the Joystick to move the crosshair around the Preview monitor as desired.
- Press {**GRAB COLOR**} to select the color directly underneath the crosshair. These values are immediately mapped into the **Red**, **Green** and **Blue** color fields on the menu, and can be adjusted with the knobs in the normal manner.
- Press {**SIZE & POS**} to display the **Key Adjustment Menu**. Refer to the "**Key Adjustment Menu**" section on page 160 for details.

Cut + Fill Key Functions

A **Cut + Fill** key is one in which the hole-cutting information is provided by a Key on **Layer B**, while the fill information is provided by the effect on **Layer A** (either a PIP or a Key).

Note

Cut + Fill keys can only be selected on Layer B when the **Split Mode** is enabled.

Cut + Fill functions are *identical* to those available when a **Luma** Key is selected. Refer to the "**Luma Key Functions**" section on page 157 for details.

In Chapter 6, refer to the "**Working with Layers**" section on page 226 for instructions on using all types of keys.

Key Sub Menus

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

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

Matte Menu

From the **Key Menu**, press {**MATTE**} to display the **Matte Menu**.

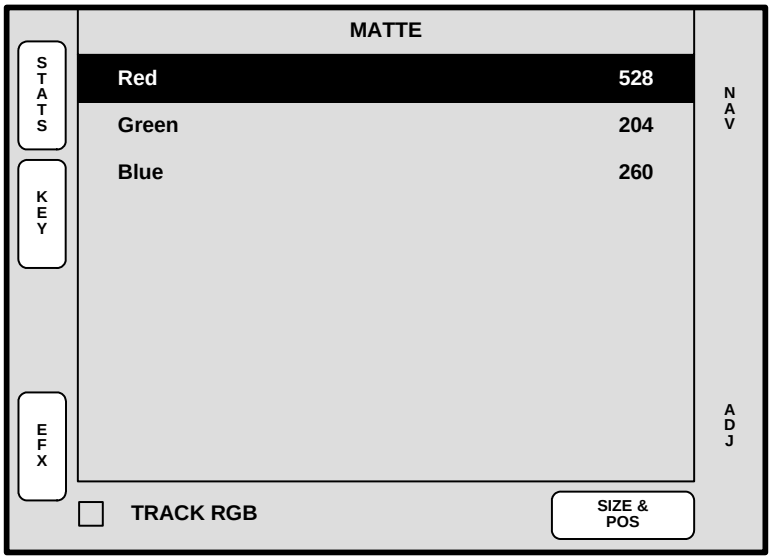


Figure 4-57. Matte Menu (sample)

Note

The menu (and slight variations of the menu) can also be accessed from the **DSK Adjustment Menu** and the **BG Input Setup Menus**. The menu's "title" on the top line will change accordingly.

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

- **Red** — adjusts the red component of the matte fill as required, from 0 to 1024.
- **Green** — adjusts the green component of the matte fill, from 0 to 1024.
- **Blue** — adjusts the blue component of the matte fill, from 0 to 1024.
- Press {**STATS**} to display the **Status Menu**. Refer to the "**Status Menu**" section on page 147 for details.
- Press {**KEY**} to display the **Key Menu**. Refer to the "**Key Menu Description**" section on page 156 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 153 for details.
- Check {**TRACK RGB**} to lock **RGB** values together, and adjust them all simultaneously. Uncheck to unlock the values, and adjust colors individually.
- Press {**SIZE & POS**} to display the **Key Adjustment Menu**. Refer to the "**Key Adjustment Menu**" section on page 160 for details.
- Press {**MIN**} (if present) to change the highlighted color to **0**.
- Press {**MAX**} (if present) to change the highlighted color to **1023**.
- Press {**BLACK**} (if present) to change all three colors to **0**.

Key Adjustment Menu

From the **Key Menu**, press {**SIZE & POS**} to display the **Key Adjustment Menu**.

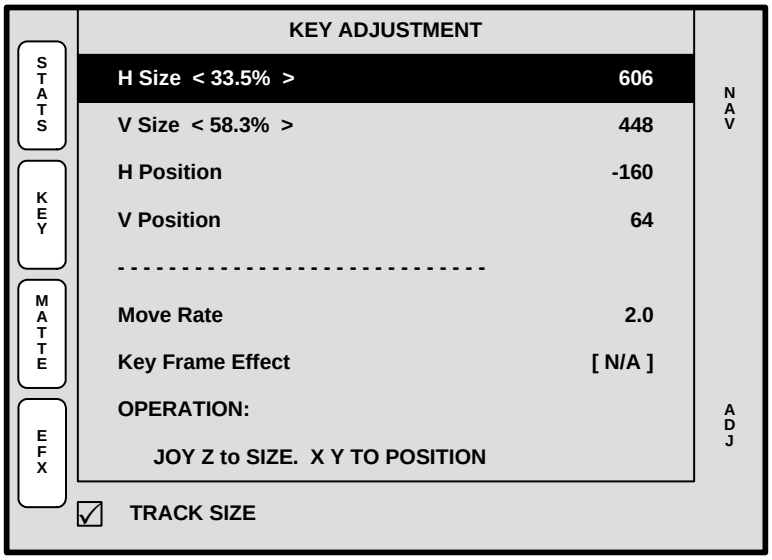


Figure 4-58. Key Adjustment Menu (sample)

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. 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. To adjust, use the **ADJ** knob or the Joystick's Z-Axis knob.
- **V Size** — adjusts the Key's vertical size in pixels. 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. To adjust, use the **ADJ** knob or the Joystick's Z-Axis knob.
- **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. To adjust, use the **ADJ** knob or move the Joystick left and right.
- **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. To adjust, use the **ADJ** knob or move the Joystick up and down.
- **Move Rate** — adjusts the rate (in 0.1 second increments) for programmed Key movement, from key frame to key frame. To adjust, use the **ADJ** knob or twist the Joystick Z-Axis knob.
- **Key Frame Effect** — indicates the "motion type" that is used to move the Key from point to point.

Note

Only the **Linear** motion type is supported. All other key frame effects are ignored by ScreenPRO-II destinations.

- Press {**STATS**} to display the **Status Menu**. Refer to the "**Status Menu**" section on page 147 for details.
- Press {**KEY**} to display the **Key Menu**. Refer to the "**Key Menu Description**" section on page 156 for details.
- Press {**MATTE**} to display the **Matte Menu**. Refer to the "**Matte Menu**" section on page 159 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 153 for details.
- At the bottom of the **Key Adjustment Menu**, the {**TRACK SIZE**} check box has the following functions:
  - ~ Check the {**TRACK SIZE**} check box to lock **H Size** and **V Size** together. Regardless of the Key's current aspect ratio, its size will adjust proportionally when the Joystick's Z-Axis knob or the **ADJ** rotary knob is used to change size.
  - ~ Uncheck the {**TRACK SIZE**} check box to adjust **H Size** or **V Size** individually, without affecting the other parameter. In this way, you can stretch the Key horizontally or vertically.

Please note the following related functions:

- To return the Key to its default size and aspect ratio, press the **RESET** button in the **Joystick Section**.
- To adjust the Key with fine resolution, press the **FINE ADJUST** button in the **Joystick Section**.

Clone Setup Menu

Press **CLONE** to display the **Clone Setup Menu**.

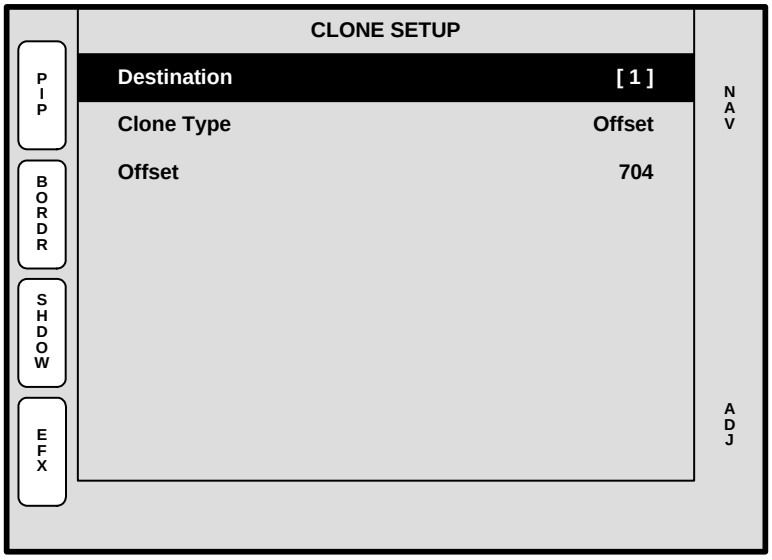


Figure 4-59. Clone Setup Menu (sample)

The **Clone Menu** enables you to set up parameters for a cloned layer. Please note:

- The mode can only be enabled when a widescreen destination is selected.
- The mode cannot be enabled if the PIP or Key straddles any part of the center of the overall widescreen.
- Both PIPs and Keys can be cloned.
- You can perform a **Move** in conjunction with a cloned layer.

The following functions are provided:

- **Destination** — displays the currently selected destination.
- **Clone Type** — sets the type of clone "motion."
  - ~ **Offset** — both images move together with a fixed pixel offset between the two. For example, if you adjust **H Position**, both images move left and right. If you adjust **V Position**, both images move up and down.

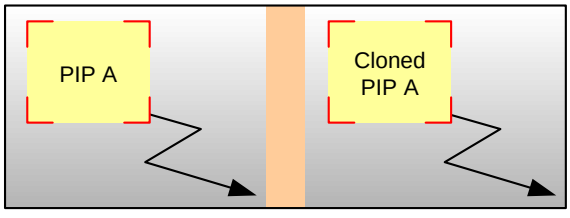


Figure 4-60. Clone Offset Mode

~ **Mirror** — both images move together as if a mirror is positioned in the middle of the widescreen overlap region. For example, if you adjust **H Position**, both images move towards (and away from) the center of the widescreen.

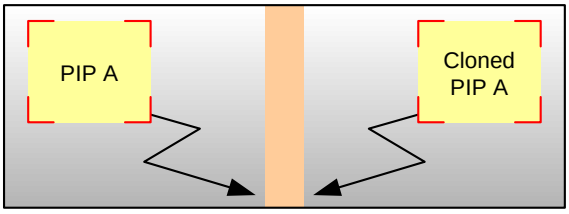


Figure 4-61. Clone Mirror Mode

- **Offset** — if "**Offset**" is selected on the **Clone Type** line, this field enables you to set the offset (in pixels). If "**Mirror**" is selected, the field is hidden.

Crop Menu

With a **PIP** or **Key** selected, press **Crop** (in the **Joystick Section**) to display the **Crop Menu**, as shown in the sample below.

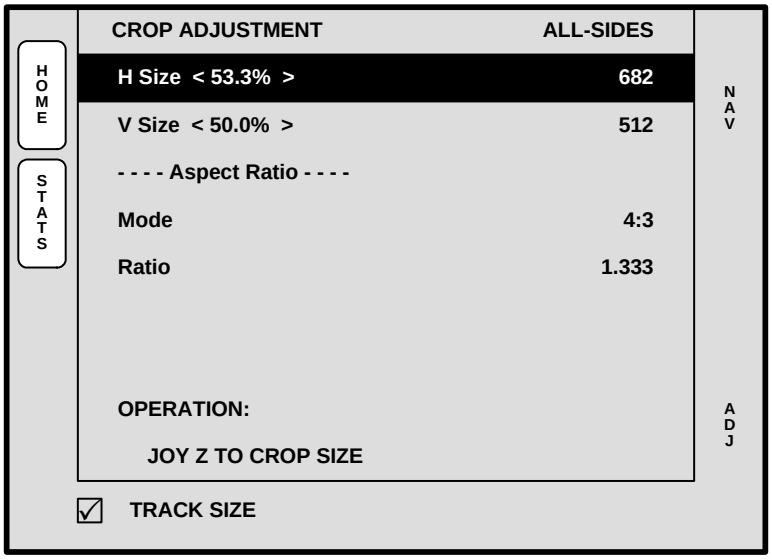


Figure 4-62. Crop Menu (sample)

The **Crop Menu** enables you crop the sides of a PIP or a Key without affecting the size of the source image. The menu works with the **Top Left** and **Bottom Right** buttons:

- When **Top Left** is enabled, the menu adjustments only affect the top and left sides of the PIP or Key. The legend on the menu's top line reads **TOP-LEFT**.
- When **Bottom Right** is enabled, menu adjustments only affect the bottom and right sides of the PIP or Key. The legend on the top line reads **BOTTOM-RIGHT**.
- When the **Top Left** and **Bottom Right** buttons are off, menu adjustments affect all sides of the PIP or Key. The legend on the top line reads **ALL-SIDES**.

The following functions are provided:

- **H Size** — adjusts the PIP or Key's horizontal size. The "**%**" indicates size as a percentage of the screen's horizontal resolution. The value is the width in pixels.
- **V Size** — adjusts the PIP or Key's vertical size. The "**%**" indicates size as a percentage of the screen's vertical resolution. The value is the height in pixels.
- **Mode** — in the **Aspect Ratio** section, this function selects 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 **Mode** (**1.777**, **1.25**, **1.333**, **1.500**, **1.000**) and enables you to select custom aspect ratios.
- Enable the {**TRACK SIZE**} check box to proportionally crop **H Size** and **V Size**. Disable the function for individual parameter adjustments.

Note

To remove any crop effects from the PIP or Key, press the **RESET** button in the **Joystick Section** — while the **Crop Menu** is active. No other parameters will be affected.

Source Adjustment Menus

The following topics are discussed in this section:

Source Adjustment Menu Trees

The figure below illustrates the two **Source Adjustment Menu Trees**.

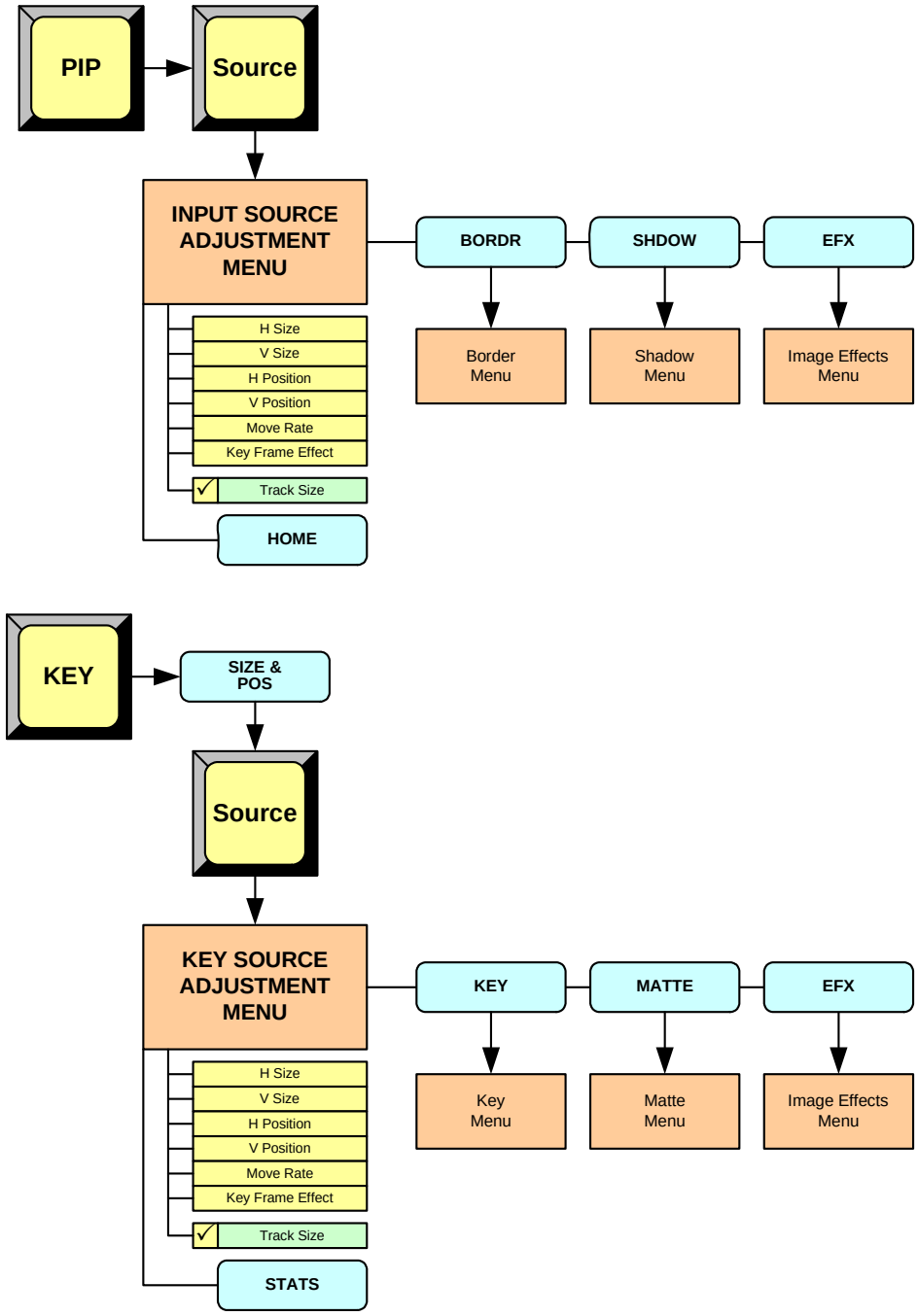


Figure 4-63. Source Adjustment Menu Trees

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

Source Adjustment Menu Description

Two similar **Source Adjustment Menus** are available:

- If a **PIP** is selected, press **Source** (in the **Joystick Section**) to display the **Input Source Adjustment Menu**.
- If a **Key** is selected, press {**SIZE & POS**} on the **Key Menu** to access the **Key Adjustment** menu, then press **Source** (in the **Joystick Section**) to display the **Key Source Adjustment Menu**.

Both menus are virtually identical in their functionality, with the exception of the available branches. The figure below illustrates a sample **Input Source Adjustment Menu**:

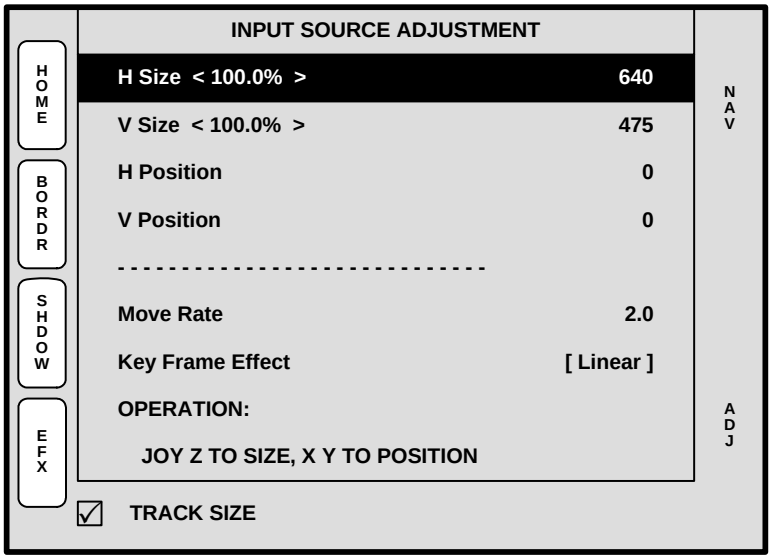


Figure 4-64. Input Source Adjustment Menu (sample)

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

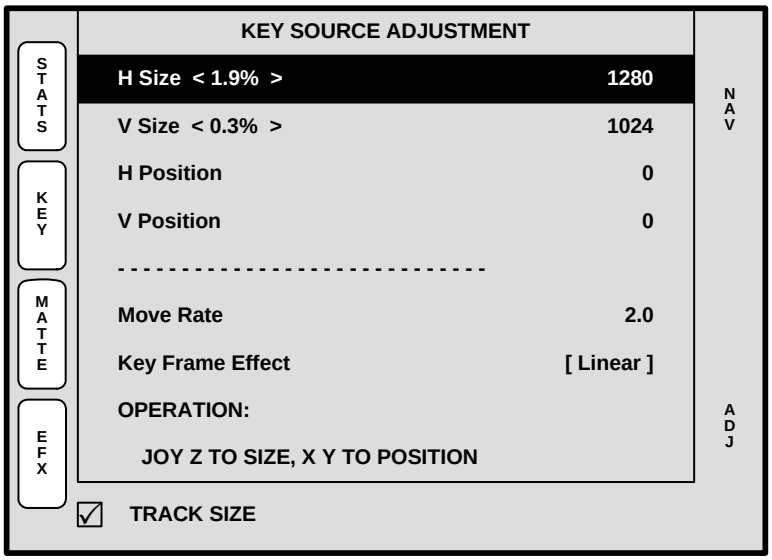


Figure 4-65. Key Source Adjustment Menu (sample)

As shown in the samples above, the two menus are virtually identical — and also virtually identical to the **PIP** and **Key Adjustment** menus. The exception is that the two **Source** adjustment menus pertain 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.

Source Adjustment Menu Functions

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

- **H Size** — adjusts the source's horizontal size in pixels. 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. To adjust, use the **ADJ** knob or the Joystick's Z-Axis knob.
- **V Size** — adjusts the source's vertical size in pixels. 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. To adjust, use the **ADJ** knob or the Joystick's Z-Axis knob.
- **H Position** — indicates the 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. To adjust, use the **ADJ** knob or move the Joystick left and right.
- **V Position** — indicates the 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. To adjust, use the **ADJ** knob or move the Joystick up and down.
- **Move Rate** — adjusts the rate (in 0.1 second increments) for programmed Key or PIP movement, from key frame to key frame. To adjust, use the **ADJ** knob or twist the Joystick Z-Axis knob.
- **Key Frame Effect** — indicates the "motion type" that is used to move the PIP or Key from point to point.

Note

Only the **Linear** motion type is supported. All other key frame effects are ignored by ScreenPRO-II destinations.

- At the bottom of each menu, the {**TRACK SIZE**} check box has the following functions:
  - ~ Check the {**TRACK SIZE**} check box to lock **H Size** and **V Size** together. Regardless of the PIP or Key's current aspect ratio, its size will adjust proportionally when the Joystick's Z-Axis knob or the **ADJ** rotary knob is used to change size.
  - ~ Uncheck the {**TRACK SIZE**} check box to adjust **H Size** or **V Size** individually, without affecting the other parameter. In this way, you can stretch the PIP horizontally or vertically.

For **Input Source Adjustments**:

- Press {**BORDR**} to display the **Border Menu**. Refer to the "**Border Menu**" section on page 151 for details.
- Press {**SHDOW**} to display the **Shadow Menu**. Refer to the "**Shadow Menu**" section on page 152 for details.

- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 153 for details.

For **Key Source Adjustments**:

- Press {**STATS**} to display the **Status Menu**. Refer to the "**Status Menu**" section on page 147 for details.
- Press {**KEY**} to display the **Key Menu**. Refer to the "**Key Menu Description**" section on page 156 for details.
- Press {**MATTE**} to display the **Matte Menu**. Refer to the "**Matte Menu**" section on page 159 for details.
- Press {**EFX**} to display the **Image Effects Menu**. Refer to the "**Image Effects Menu**" section on page 153 for details.

Please note the following related functions:

- To return the source to its default size and aspect ratio, press the **RESET** button in the **Joystick Section**.
- To adjust the source with fine resolution, press the **FINE ADJUST** button in the **Joystick Section**.

Background Input Setup Menu

The **BG** (Background) **Input Setup Menu** enables you to set up and define background sources **A** and **B**. For each background source, you can choose between a solid matte color, a DVI input or a captured frame grab (**FG**). The menus *change* depending on the selected background "type."

To access the menu:

- Press **BG A** or **BG B** in the Controller's **Layer Control Section**.
  - ~ If the selected background is already on Program, the **BG Input Setup Menu** will not appear.
  - ~ If the selected background is not on Program, the menu appears.

The following topics are discussed in this section:

Background Input Setup Menu Tree

The figure below illustrates the **Background Input Setup Menu Tree**.

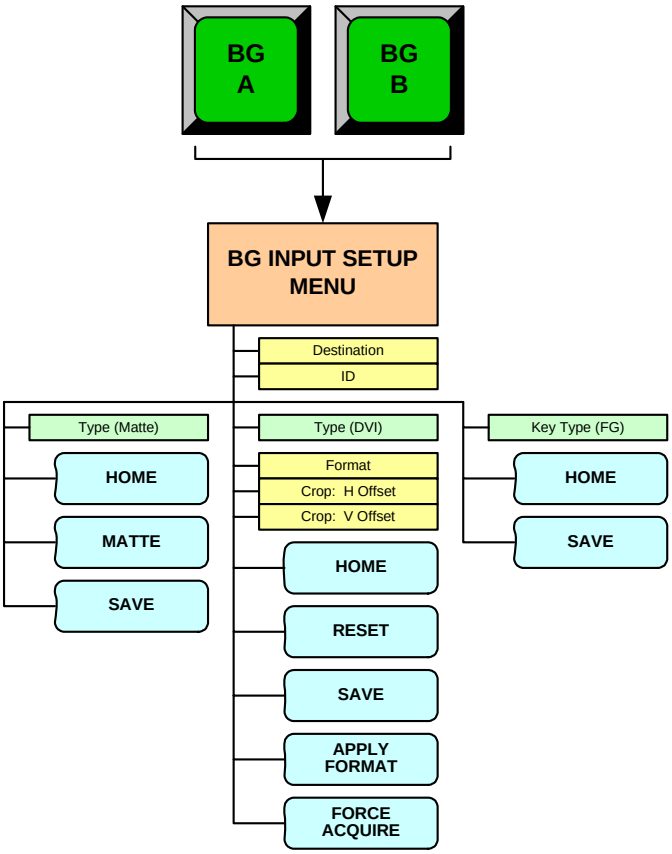


Figure 4-66. Background Input Setup Menu Tree

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

Shared Background Menu Functions

The figure below illustrates a sample **BG Input Setup Menu**, showing shared functions:

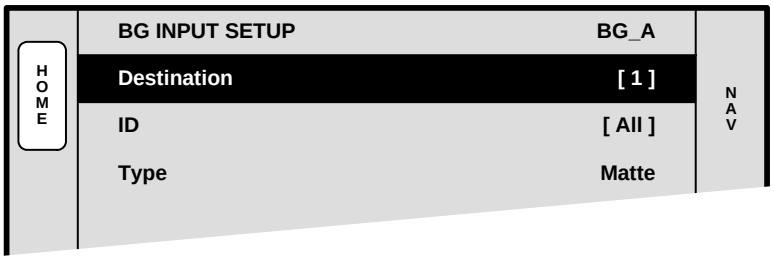


Figure 4-67. BG Input Setup Menu (sample)

The following functions are shared — regardless of the selected background type:

- **Top Line** — indicates the selected background: **BG_A** or **BG_B**.
- **Destination** — displays the currently selected destination. Note that different backgrounds can be assigned to different destinations.
- **ID** — displays the ID of the selected destination's associated ScreenPRO-II. Note that with wide screen destinations, the background for each ScreenPRO-II can be individually adjusted.

Important

In a widescreen configuration, because the electronics on individual ScreenPRO-II units may not match from unit to unit, you may be required to adjust a ScreenPRO-II background individually — by first selecting a specific destination ID.

- **Type** — selects the desired background type:
  - When **MATTE** is selected, a solid color can be used as the background. Refer to the "**Background Menu Functions — Matte Type**" section on page 173 for menu details.
  - When **DVI** is selected, a digital graphic from a computer or other DVI source can be used as the background. Refer to the "**Background Menu Functions — DVI Type**" section on page 175 for menu details.
  - When **FG_1**, **FG_2** or **FG_3** is selected, a captured still frame can be used as the background source. Refer to the "**Background Menu Functions — FG Type**" section on page 176 for menu details.

Background Menu Functions — Matte Type

The figure below illustrates a sample **BG Input Setup Menu** when "**Matte**" is selected as the background type.

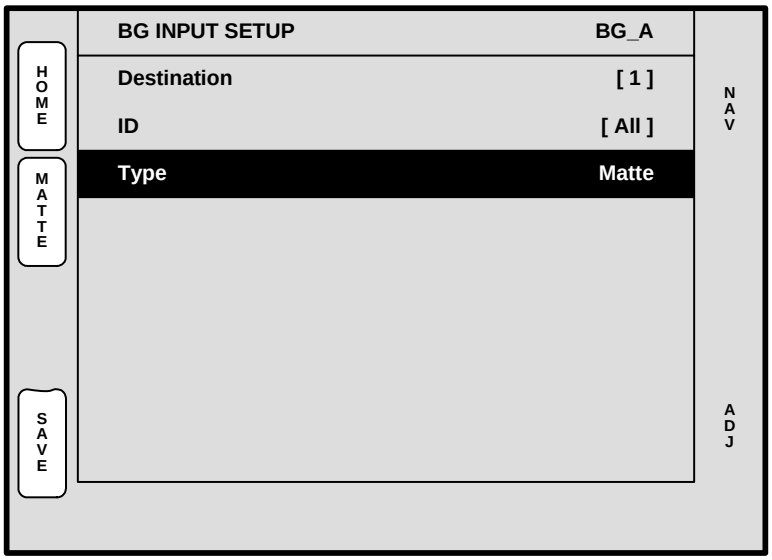


Figure 4-68. BG Input Setup Menu — Matte Type (sample)

The following functions are provided for a **Matte** background:

- Press {**MATTE**} to display the **BG Matte Menu**. Refer to the "**BG Matte Menu**" section on page 174 for details.
- Press {**SAVE**} to store all selected background settings.

In Chapter 6, refer to the "**Background Transitions**" section on page 227 for operating instructions.

BG Matte Menu

From the **BG Input Setup Menu**, press {**MATTE**} to access the **BG Matte Menu**.

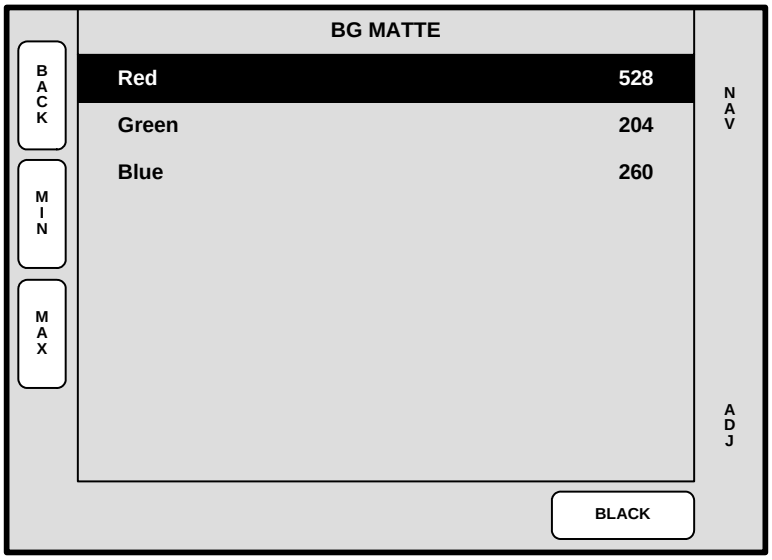


Figure 4-69. BG Matte Menu (sample)

The **Background Matte Menu** enables you to create a solid background matte color to use behind your PIPs and Keys. Each ScreenPRO-II supports two separate matte colors — one for **BG_A** and one for **BG_B**.

- **Red** — adjusts the red component of the background matte color, from 0 to 1023.
- **Green** — adjusts the green component of the background matte, from 0 to 1023.
- **Blue** — adjusts the blue component of the background matte, 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.

In Chapter 6, refer to the "**Background Transitions**" section on page 227 for operating instructions.

Background Menu Functions — DVI Type

The figure below illustrates a sample **BG Input Setup Menu** when "**DVI**" is selected as the background type.

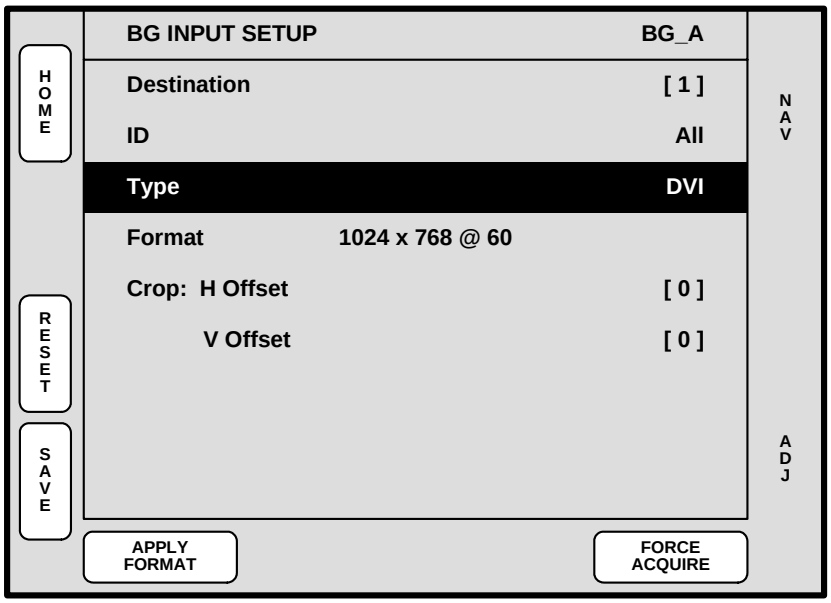


Figure 4-70. BG Input Setup Menu — DVI Type (sample)

The following functions are provided for a **DVI** background:

- **Format** — this line performs two functions:
  - ~ Displays the resolution that is automatically determined by the **FORCE ACQUIRE** function.
  - ~ Enables you to manually set the resolution of the incoming source, if desired. Once the format is selected manually with the **ADJ** knob, press {**APPLY FORMAT**} to "accept" and activate the format.
- For the two **Crop** settings:
  - ~ If the source's 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 data is smaller than the output resolution, the area around the active data is set to black.
  - ~ If the 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 background you want to display.
  - ~ Press {**RESET**} to reset the **H** and **V** offsets to **0**.
- Press {**SAVE**} to store all selected settings.
- Press {**APPLY FORMAT**} to "activate" the selected format.
- Press {**FORCE ACQUIRE**} to automatically detect the input signal resolution and update the display **Format** field accordingly.

Background Menu Functions — FG Type

The figure below illustrates a sample **BG Input Setup Menu** when a captured frame grab (**FG_1**, **FG_2** or **FG_3**) is selected as the background type.

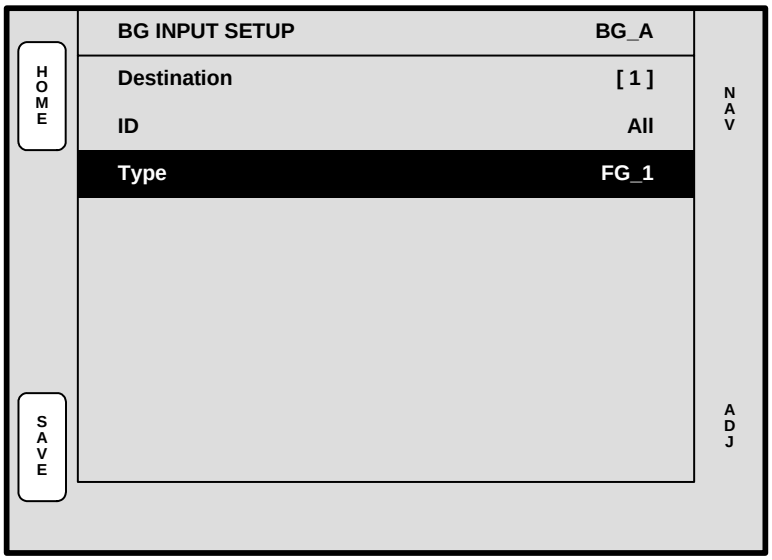


Figure 4-71. BG Input Setup Menu — Frame Grab Type (sample)

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

- Press {**SAVE**} to store all selected settings.

Refer to the "**Frame Grab Menu**" section on page 142 for details on the **Frame Grab Menu**. In Chapter 6, refer to the "**Working with Still Frames**" section on page 246 for frame grab instructions.

DSK Menus

The following topics are discussed in this section:

DSK Menu Tree

The figure below illustrates the **DSK Menu Tree**.

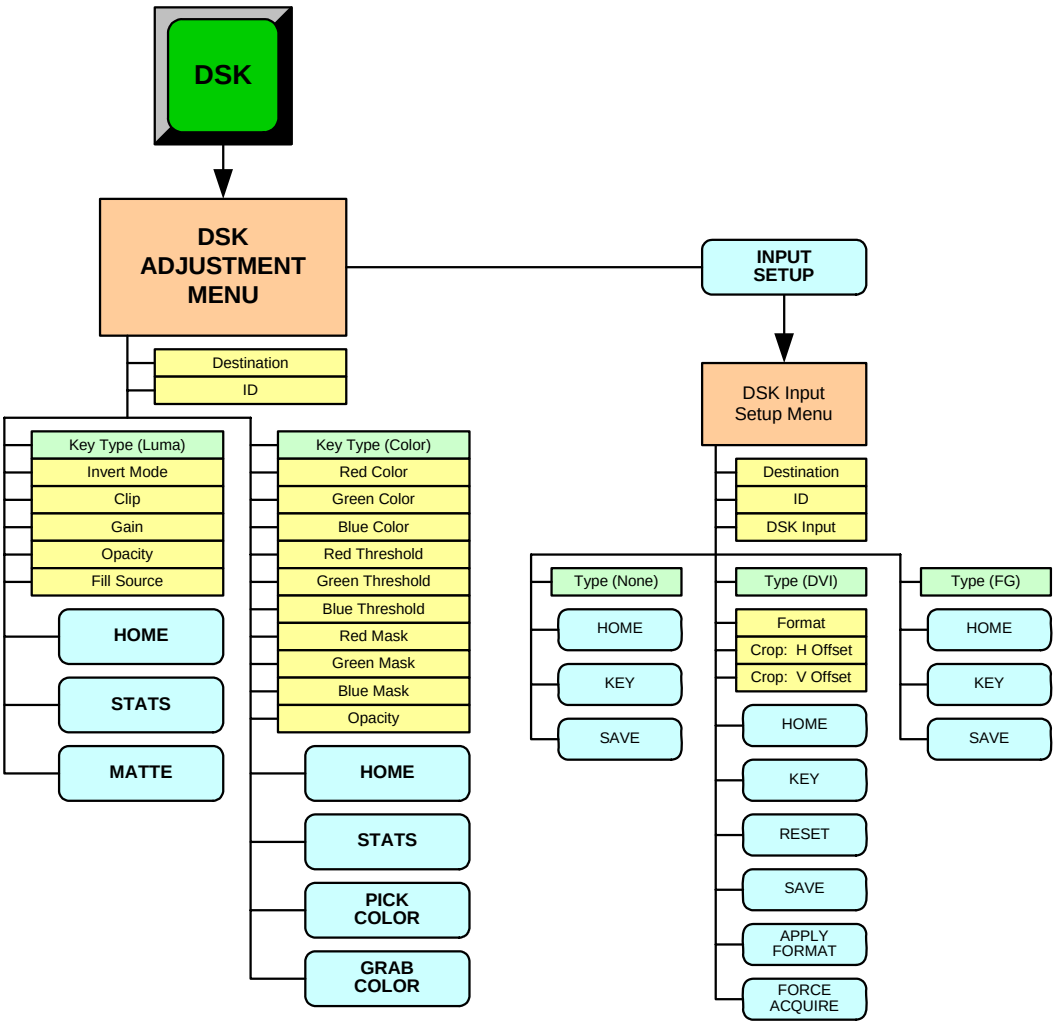


Figure 4-72. DSK Menu Tree

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

DSK Adjustment Menu

The **DSK Adjustment Menu** provides the tools necessary to adjust the **DSK** (Downstream Key. To access the menu:

- Press {**DSK**} in the **Layer Control Section**.

The available **DSK Adjustment Menu** functions *change*, depending upon the selected "Key Type."

- When **Luma** is selected, you can perform a luminance DSK. Refer to the "**DSK Luma Key Functions**" section on page 178 for details.
- When **Color** is selected, you can perform a color DSK. Refer to the "**DSK Color Key Functions**" section on page 179 for details.

DSK Luma Key Functions

A **Luma** (luminance) key is one in which the hole-cutting information is derived from the luminance (brightness) level of the key source. The figure below illustrates a sample **DSK Adjustment Menu** when **Luma** key is selected:

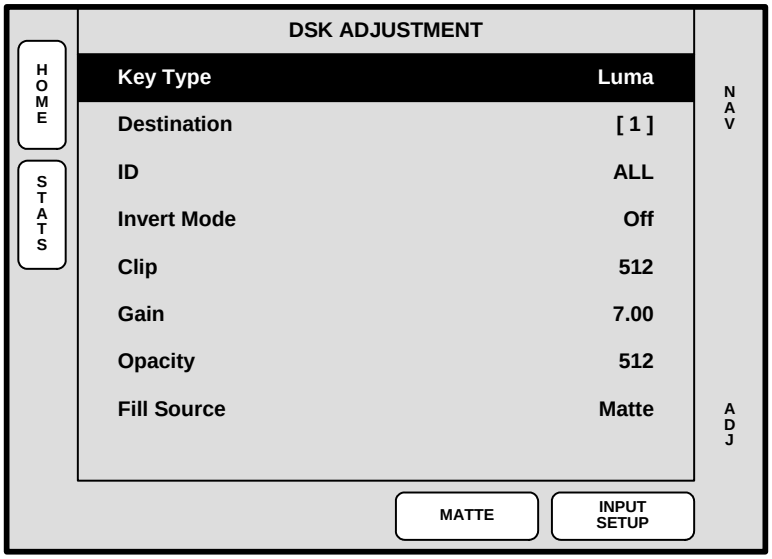


Figure 4-73. DSK Adjustment Menu — Luma (sample)

The following **DSK Adjustment Menu** functions are provided when **Luma** is selected as the DSK type:

- **Destination** — displays the currently selected destination.
- **ID** — displays the ID of the selected destination's associated ScreenPRO-II.
- **Invert Mode** — enables you to invert the DSK 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 DSK hole:
  - ~ **Self** — fills the hole with the DSK source video itself, such as the video from a character generator.
  - ~ **Matte** — fills the hole with a matte color, which can be adjusted with the **DSK Matte Adjustment Menu**. Refer to the "**Matte Menu**" section on page 159 for details.
- Press {**STATS**} to display the **Status Menu**. Refer to the "**Status Menu**" section on page 147 for details.
- Press {**INPUT SETUP**} to display the **DSK Input Setup Menu**. Refer to the "**DSK Input Setup Menu**" section on page 180 for details.

DSK Color Key Functions

A **Color** key is one in which the hole-cutting information is derived from a specific RGB value — including luminance. The figure below illustrates a sample **DSK Adjustment Menu** when **Color** key is selected:

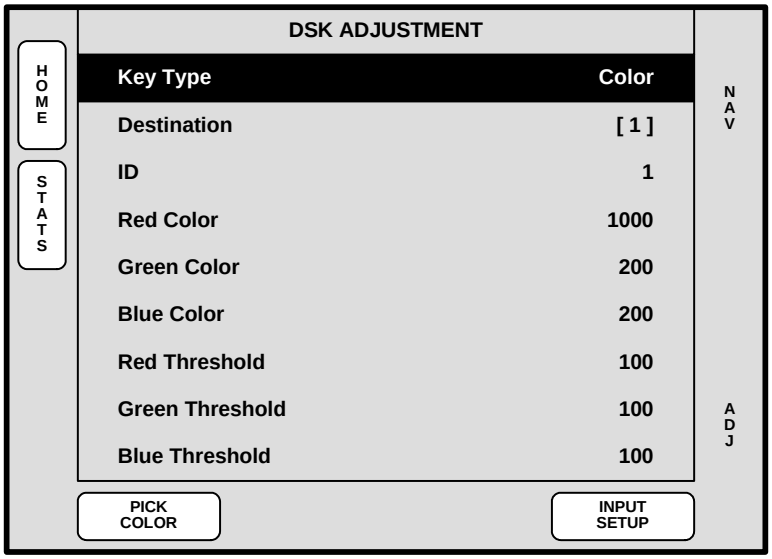


Figure 4-74. DSK Adjustment Menu — Color (sample)

The following **DSK Adjustment Menu** functions are provided when **Color** is selected as the DSK type:

- **Destination** — displays the currently selected destination.
- **ID** — displays the ID of the selected destination's associated ScreenPRO-II.
- **Red Color** — adjusts the red component of the DSK color, from 0 to 1024.
- **Green Color** — adjusts the green component of the DSK color, from 0 to 1024.
- **Blue Color** — adjusts the blue component of the DSK color, from 0 to 1024.
- **Red Threshold** — adjusts the DSK's clip along the Cyan vector (as demonstrated using a CIE color chip chart).
- **Green Threshold** — adjusts the DSK's clip along the Magenta vector.

- **Blue Threshold** — adjusts the DSK's clip along the Yellow vector
- **Red Mask** — adjusts the background mask to/from black along the Cyan vector.
- **Green Mask** — adjusts background mask to/from black along the Magenta vector.
- **Blue Mask** — adjusts background mask to/from black along the Yellow vector.
- **Opacity** — adjusts the opacity of the keyed image, from fully opaque to fully transparent. Adjustment range is 0 to 1024.
- Press {**STATS**} to display the **Status Menu**. Refer to the "**Status Menu**" section on page 147 for details.
- Press {**PICK COLOR**} to choose the keying color visually. Once pressed, the {**GRAB COLOR**} label appears, and a crosshair appears on Preview. Use the Joystick to move the crosshair around the Preview monitor as desired.
- Press {**GRAB COLOR**} to select the color directly under the crosshair. These values are immediately mapped into the **Red**, **Green** and **Blue** color fields on the menu, and can be adjusted with the knobs in the normal manner.
- Press {**INPUT SETUP**} to display the **DSK Input Setup Menu**. Refer to the "**DSK Input Setup Menu**" section on page 180 for details.

DSK Input Setup Menu

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

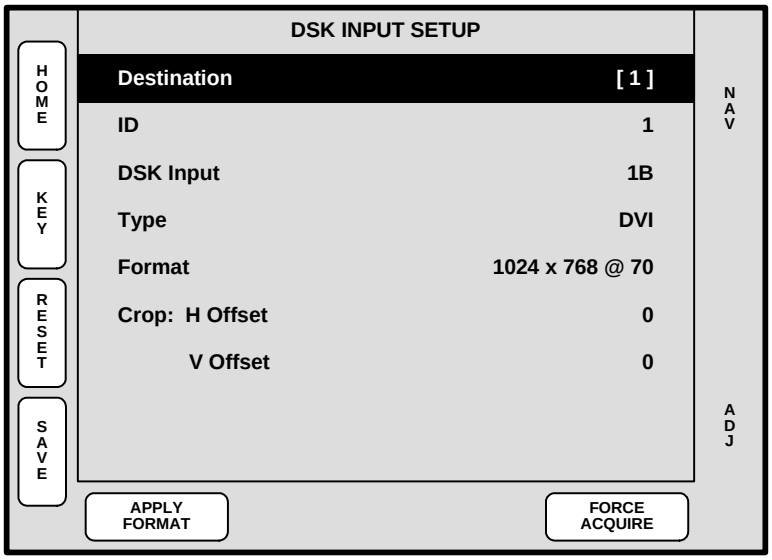


Figure 4-75. DSK Input Setup Menu (sample)

The following menu functions are provided:

- **Destination** — displays the currently selected destination.
- **ID** — displays the ID of the selected destination's associated ScreenPRO-II.
- **DSK Input** — displays the input connector from which the DSK source is pulled.

- **Type** — selects the desired DSK type:
  - ~ When **None** is selected, the DSK circuitry for a selected ScreenPRO-II (as chosen with the **ID** field), can be turned off. This selection is recommended, for example, when a DSK is only required on one of three screens (in a wide screen configuration), and when only a single head graphics card would be required for the “active” DSK source.
  - ~ When **DVI** is selected, a digital graphic from a computer or other DVI source can be used as the DSK Source.

    Refer to the “**Background Menu Functions — DVI Type**” section on page 175 for menu details. Note that the functions on the **Background Input Setup Menu** are identical to those on the **DSK Input Setup Menu** when DVI is selected.
  - ~ When **FG_1**, **FG_2** or **FG_3** is selected, a captured still image can be used as the DSK source.

    Refer to the “**Background Menu Functions — FG Type**” section on page 176 for menu details. Note that the functions on the **Background Input Setup Menu** are identical to those on the **DSK Input Setup Menu** when **FG_1**, **FG_2** or **FG_3** is selected.

LOGO Menu

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

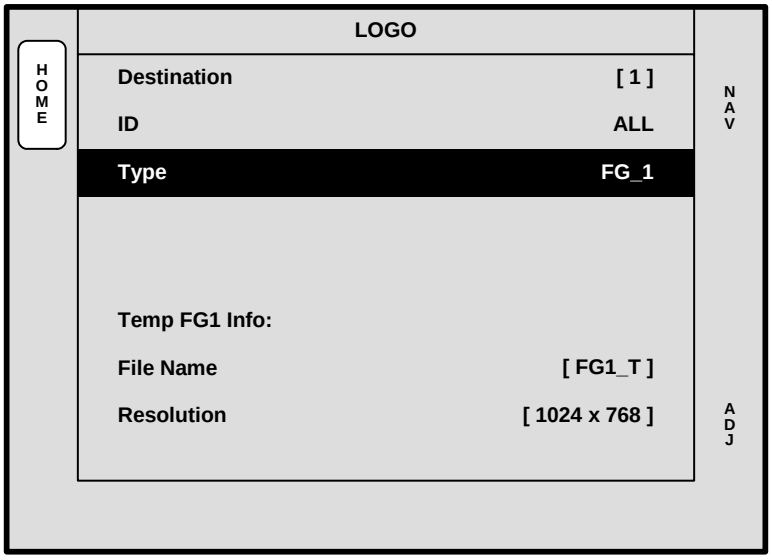


Figure 4-76. LOGO Menu (sample)

The **LOGO Menu** enables you to select the full screen source for the panel's **LOGO** button. You can choose between the three internal frame stores (**FG_1**, **FG_2** or **FG_3**), 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 Menu** functions are provided:

- **Type** — enables you to select still frames FG_1, FG_2, FG_3 or Black as the LOGO source. Use the **Frame Grab Menu** to capture frames. Refer to the "**Frame Grab Menu**" section on page 142 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.

Once you have reviewed all of the sections in this chapter, please continue with Chapter 5, "**System Setup**" on page 183.

5. System Setup

In This Chapter

This chapter provides comprehensive instructions for setting up the ScreenPRO-II Controller system. The following topics are discussed:

Note

Once you have reviewed all of the sections in this chapter, please continue with Chapter 6, "Operations" on page 215.

Setup Prerequisites

Before starting to set up your ScreenPRO-II Controller system, please review the following important prerequisites:

- Ensure that you are familiar with all ScreenPRO-II Controller system hardware, including all Controller sections, and the functions of all buttons within the sections. Refer to Chapter 2, "**Hardware Orientation**" on page 31 for details.
- Ensure that hardware is properly installed, and that all sources, routers and peripherals are properly connected. Refer to Chapter 3, "**Hardware Installation**" on page 53 for details.
- If you will be using a widescreen configuration, ensure that all "**Widescreen Lock**" connections to/from BlendPRO-II are properly installed. In Chapter 3, refer to the "**BlendPRO-II Widescreen Lock Connections**" section on page 77 for details.
- Ensure that you are familiar will all ScreenPRO-II Controller menus and sub-menus. Refer to Chapter 4, "**Menu Orientation**" on page 85 for details.
- Ensure that your connection charts are complete, and readily available for reference throughout this chapter. In Chapter 3, refer to the "**Connection Charts**" section on page 56 for details.

Please note:

- In this chapter, when a procedure tells you to "**scroll to**" a certain line, use the rotary knob labelled **NAV** to move the highlight.
- When a procedure tells you to "**adjust**" or "**select**" a certain parameter, use the **ADJ** rotary knob.

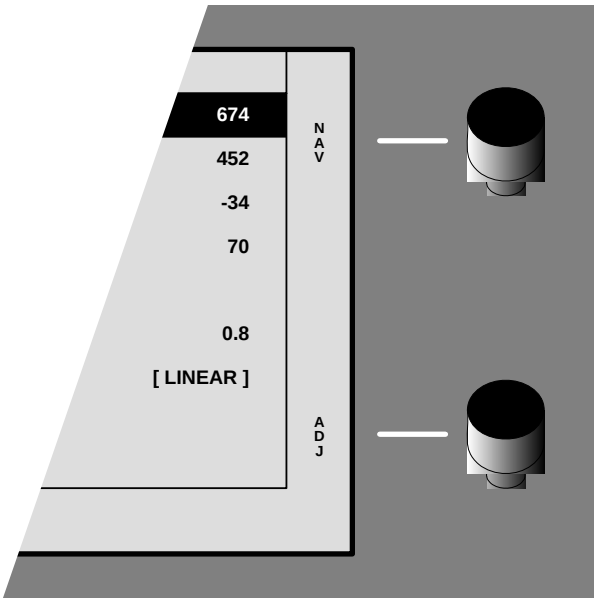


Figure 5-1. Menu Navigation

System Setup Sequence

This section provides a top level view of the entire ScreenPRO-II Controller setup procedure, plus links to each individual procedure.

Important

For the optimum ScreenPRO-II Controller system setup, it is recommended that you follow all procedures in the order outlined below.

- Preliminary steps:
  1. "ID Setup and Remote Enable," page 186.
  2. "System Power Up," page 187.
  3. "Return to Factory Default," page 189.
- Next, set up all menus under the **MISC** heading:
  4. "Touch Screen Calibration," page 189.
  5. "Programming EDID," page 190.
  6. "Restore from Flash Memory Card," page 191.
- Next, set up all menus under the **System** heading:
  7. "Standard Destination Setup," page 192.
  8. "Router Setup," page 193.
  9. "AUX Destination Setup," page 195.
  10. "Input Patching," page 198.
- Next, set up all menus under the **Output** heading:
  11. "Output Format Setup," page 199.
  12. "Sync Setup," page 200.
  13. "Genlock Setup," page 201.
  14. "Projector Setup," page 202.
- Set up all background inputs and primary sources:
  15. "Background Setup," page 205.
  16. "Input Setup," page 206.
  17. "DSK Setup Procedure," page 211.
  18. "LOGO Setup Procedure," page 212.
- To complete your setup:
  19. "Saving the Setup," page 213.
  20. "Backup to Flash Memory Card," page 213.

All of the above procedures are covered in the following sections.

ID Setup and Remote Enable

ScreenPRO-II Controller system setup: **Step 1**.

In this procedure, you will set up individual ScreenPRO-II IDs and enable remote control. Each ScreenPRO-II in your system must have a unique ID.

- Use the following steps to set up ScreenPRO-II IDs and remote control:

  1. On an individual ScreenPRO-II system, press {**REMOTE CONTROL**} on the **Home Menu** to access the **Remote Control Menu**.
  2. Scroll to the **Unit ID** line, and select a unique ID for the ScreenPRO-II chassis. The ID range is **1** to **32**.
  3. Scroll to the **Remote Control/DHCP** line, and enable remote control and DHCP.

Note

When remote control is on, the {**HOME**} buttons disappears, the ScreenPRO-II's front panel is disabled, and the unit's IP address is dynamically assigned. All control now originates from the ScreenPRO-II Controller's console.

  4. Repeat steps **1** through **3** for all other ScreenPRO-II units in your system.

System Power Up

2

ScreenPRO-II Controller system setup: **Step 2**.

In this procedure, you will power up the entire system, and download code (if required).

- Use the following steps to power up your ScreenPRO-II Controller system:

1. Ensure that all individual ScreenPRO-II units are powered up.
2. Power up all routers in your system, and allows them to fully boot up. These are your devices with static IP addresses.
3. Power up the ScreenPRO-II Controller, and allow it to fully boot up. This is the system's DHCP server.
4. If you will be using a widescreen configuration, power up the BlendPRO-II.
5. Power up all PresentationPRO-II units and ImagePRO units in your system. This sequence enables the ScreenPRO-II Controller to "serve" IP addresses to the other peripherals.
6. Power up all additional peripherals, such as monitors and projectors.
7. Check the ScreenPRO-II Controller's **Status Menu**, and ensure that all devices have been recognized. By default, this menu should appear at power up. If it is not shown, press **STATUS** on the **Home Menu**.
8. **Check code compatibility** — when the ScreenPRO-II Controller connects to the individual devices, it automatically checks the compatibility of the code versions.
   - ~ If the Controller's code version matches that of the ScreenPRO-II units, PresentationPRO-II units and BlendPRO-II, the **Status Menu** is shown — and you do not need to download code.
   - ~ If the message "**Checksum Mismatch**" appears on the **Status Menu**, you must download code. Please continue with the "**Downloading Code**" procedure on page 188.
   - ~ If the Controller's code version is *incompatible* with the code version of a ScreenPRO-II, PresentationPRO-II or BlendPRO-II (or a combination of units), all buttons will flash on the Controller console. The **Status Menu** is shown with the message "**Please Upgrade**." Please continue with the "**Downloading Code**" procedure on page 188.

Downloading Code

When an incompatibility exists between software code versions, all buttons will flash on the Controller console. In this situation, the **Status Menu** automatically appears with the message "**Please Upgrade**."

- Use the following steps to download code from the Controller to the target device(s), including ScreenPRO-II, PresentationPRO-II and BlendPRO-II:

  1. From the Controller's **Home Menu**, press **SYSTEM** > {**SW VER**} to display the **Software Version Menu**. Any incompatibilities will be listed.

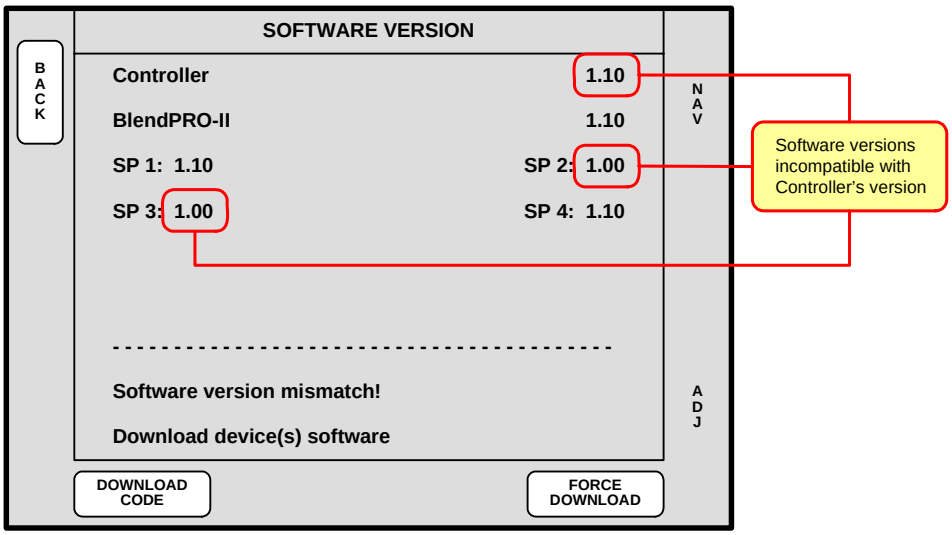


Figure 5-2. Software Version Menu (sample)

  2. Press {**DOWNLOAD CODE**} to begin the download process, which takes several minutes to complete.

During the procedure, several "progress" messages will be shown. When the entire procedure is complete, the **Download Code Results Menu** will display a summary of the download. Please note:

- Results may appear on multiple pages.
- If required, press {**PG DN**} and {**PG UP**} to move between pages.
- Press {**DETAILS**} to view additional information for a specific download.

At the conclusion of the procedure, each ScreenPRO-II, PresentationPRO-II and BlendPRO-II is running the same version of code as the Controller.

Return to Factory Default

ScreenPRO-II Controller system setup: **Step 3**.

In this procedure, you will perform a factory reset — in order to reset all router tables and source mappings. The procedure guarantees that any previous setups and presets (e.g., those that may have been programmed by other users), do not remain in system memory.

▲ **Prerequisite** — Ensure that you are familiar with the **System Reset Menu**. In Chapter 4, refer to the "**System Reset Menu**" section on page 111.

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

1. On the **Home Menu**, press **SYSTEM** to access the **System Menu**.
2. Press {**RESET**} to display the **System Reset Menu**.
3. On the **Device** line and select **ALL**.
4. Scroll to the **Reset Type** line and select **FACTORY**.
5. Press {**RESET**}. When the confirmation screen appears, press {**YES**} to delete all user configurations and reset the system to factory default values.

Touch Screen Calibration

ScreenPRO-II Controller system setup: **Step 4**.

In this procedure, you will calibrate the Touch Screen.

▲ **Prerequisite** — Ensure that you are familiar with the **LCD Settings Menu**. In Chapter 4, refer to the "**LCD Settings Menu**" section on page 139.

■ Use the following steps to calibrate the Touch Screen:

1. On the **Home Menu**, press **MISC** to access the **Miscellaneous Menu**.
2. Press {**LCD SETTINGS**} to show the **LCD Settings Menu**.
3. Press {**LCD Cal**} to display the first **Touch Screen Calibration Menu**.
4. Follow the directions on the menu to complete the calibration procedure.

Programming EDID

ScreenPRO-II Controller system setup: **Step 5**

In this procedure, you will program EDID (Extended Display Identification Data), as a prerequisite for background and DSK setup. The procedure guarantees proper communications at the preferred resolution between each ScreenPRO-II's DVI inputs and your system's PCs.

- **Prerequisite** — Ensure that you are familiar with the **EDID DVI Input Format Menu**. In Chapter 4, refer to the "**EDID DVI Input Format Menu**" section on page 137.

- Use the following steps to program each ScreenPRO-II's EDID:

1. Ensure that ScreenPRO-II output format matches your projector's native resolution. In Chapter 4, refer to the "**Output Menu Functions**" section on page 102 for output format information.
2. Ensure that the computer(s) or external equipment that you wish to use as background and DSK source(s) are capable of supporting the selected output resolution.
3. Ensure that all DVI inputs to each ScreenPRO-II are disconnected.
4. On the **Home Menu**, press **MISC** to access the **Miscellaneous Menu**.
5. Press {**EDID**} to display the **EDID DVI Input Format Menu**.
6. On the **Destination** line, select the individual destination who's EDID you wish to program, or select **ALL** if all destinations will be using the same resolution.
7. Note the **Current** line, which displays the current EDID video format that resides in memory. If this format is *already* set to the desired resolution, no programming is required. You can exit this procedure, and continue with other setup steps.
8. If a new resolution is required, scroll to the **Format** line and use the **ADJ** knob to select the preferred EDID format.
9. Press {**PROGRAM EDID**}. A warning message will be shown. Press {**CONTINUE**} to continue with the procedure.
10. Once EDID programming is complete, reconnect each external computer and power it back on.
11. On each PC's desktop, right-click to display the **Display Properties Window**.
12. Select the **Settings Tab**, and verify that the PC's resolution matches that which you just programmed into EDID. If not, set the resolution as required.
13. If you selected an individual destination in step **6**, repeat steps **6** through **12** for each remaining destination.

Restore from Flash Memory Card

6

ScreenPRO-II Controller system setup: **Step 6** (optional)

In this procedure, you will restore your system configuration from flash memory — provided that you previously backed up your system to the flash memory card.

▲ **Prerequisite** — Ensure that you are familiar with the **Backup/Restore Menu**. In Chapter 4, refer to the "**Backup/Restore Menu**" section on page 141.

■ Use the following steps to restore your system from the flash memory card:

1. Ensure that your flash memory card is properly inserted in the Controller's **MEMORY CARD** slot on the rear panel.
2. On the **Home Menu**, press **MISC** to access the **Miscellaneous Menu**.
3. Press {**BACKUP RESTORE**} to display the **Backup/Restore Menu**.
4. Press {**CHECK CARD**} to ensure that the Controller recognizes the card.
5. On the **Device** line, select **Ctrlr+SP** to perform a complete "restore."
6. On the **Controller Options** line, select **All**.
7. On the **SP to Restore** line, select **All**.
8. Press {**RESTORE**} to restore the selected system configuration.

At the conclusion of this procedure, your system is completely set up — exactly the way that you left it when you performed a complete system "backup." No further setup operations are required. Please continue with system operations. Refer to Chapter 6, "**Operations**" on page 215 for details.

Standard Destination Setup

7

ScreenPRO-II Controller system setup: **Step 7**

In this procedure, you will set up the system's "standard" destinations (single screen and widescreen) on the Controller's **Destination Bus**.

▲ **Prerequisites** — Ensure that you are familiar with the **Destination Setup Menu**. In Chapter 4, refer to the "**Destination Setup Menu**" section on page 117.

Note

Up to 4 "standard" destinations can be assigned (single screen and widescreen), but only 1 widescreen destination is allowed.

■ Use the following steps to set up a single screen or a widescreen destination:

1. From the **Home Menu**, press **SYSTEM** to access the **System Menu**.
2. Press {**DEST SETUP**} to display the **Destination Setup Menu**.
3. Scroll to the **Destination** line and select the destination that you want to define — either **1**, **2**, **3** or **4**.
4. Scroll to the **SP to Add** line and select the **ID** of an available ScreenPRO-II. If a ScreenPRO-II is already assigned to a destination, it will not appear in the list.

Note

When there are no more ScreenPRO-IIs available to assign, the right-hand column displays **N/A**.

5. Press {**ADD**} to add the highlighted ScreenPRO-II to the destination. Once added, the **ID** will appear in the bottom portion of the menu. Please note:
   - ~ For a **Single Screen** configuration, add only one ScreenPRO-II. Repeat from step **3** to define all remaining single screen destinations.
   - ~ For a **Wide Screen** configuration, add as many ScreenPRO-IIs as required — up to the maximum of 4.
6. If required, scroll to the **SP to Remove** line and select the ID of a ScreenPRO-II that you want to remove from the current configuration. Press {**REMOVE**} to clear the ScreenPRO-II from the destination.
7. Press {**BACK**} to return to the **System Menu**.

Important

If the **ScreenPRO-II Genlock Termination Menu** appears after you press {**BACK**}, there is a termination switch problem. In Chapter 4, refer to the "**ScreenPRO-II Genlock Termination Menu**" section on page 119 for details.

8. Press {**HOME**} to return to the **Home Menu**.
9. Press {**SAVE**} to save the new system configuration in memory.

This completes the procedure for defining single and widescreen destinations. The selected buttons on the **Destination Bus** are now active.

Router Setup

8

ScreenPRO-II Controller system setup: **Step 8**

In this procedure, you will set up the system's routing switchers.

▲ **Prerequisites** — Ensure that you are familiar with the following menus:

~ **Router Specification Menu**. In Chapter 4, refer to the "**Router Specification Menu**" section on page 127.

~ **Comm Setup Menu**. In Chapter 4, refer to the "**Comm Setup Menus**" section on page 129.

~ **Output Patch Menu**. In Chapter 4, refer to the "**Output Patch Menu**" section on page 132.

■ Use the following steps to set up your system's routers:

1. Ensure that your router(s) are properly connected to the ScreenPRO-II Controller system. In Chapter 3, refer to the "**System Installation**" section on page 73.
2. For Ethernet controlled routers, ensure that your router's protocol is supported. The list of supported manufacturers currently includes the Folsom MatrixPro series, and routers from Sierra, Extron, Leitch, Isis, DVILink and DPI.
3. For Ethernet controlled routers, ensure that you know each router's IP address. If required, preset IP addresses at the routers themselves. Refer to each router's **User's Guide** for instructions.

   Please note that **MatrixPRO** routers default to the following IP addresses:

   ~ MatrixPRO Analog Router: **192.168.0.241**

   ~ MatrixPRO SDI Router: **192.168.0.242**
4. From the **Home Menu**, press **SYSTEM** to access the **System Menu**.
5. Press {**ROUTER SETUP**} to display the **Router Specification Menu**.
6. On the **Number** line, select the number of the router that you wish to configure.
7. On the **Manufacturer** line, select the router manufacturer.
8. On the **Router Type** line, select the type of router being used.
9. On the **Number of Inputs** line, select the router's input count.
10. On the **Number of Outputs** line, select the routers' output count.
11. On the **Communication Type** line, select the type of communication that you are using to connect to the router.
12. Press {**COMM SETUP**} to display the appropriate **Comm Setup Menu** for the selected device.
13. For Ethernet controlled routers, verify that the **IP Address** field matches the router's IP address. If not, use the **ADJ** knob in conjunction with the {**NEXT IP QUAD**} button to change the address as required.
14. Test communications:

    ~ For serial and Ethernet controlled routers, press {**TEST COMM**}.

    ~ For Lantronix devices, press {**DISCOVER LTRX**}.

    If the message "**Communication Failed**" appears, take the necessary actions to rectify the error and repeat this step as required.

15. Press {**BACK**} to return to the **Router Specification Menu**.

16. Press {**OUTPUT PATCH**} to display the **Output Patch Menu** for the selected router. On the top line, note the router name and confirm that this is the router that you wish to patch.

    The table below illustrates the default output patch table (as configured after a factory reset). The table is valid for both analog and digital routers.

Table 5-1. Default Output Patch Table

Router Output	ScreenPRO-II ID	ScreenPRO-II Input (Analog or SDI)
1	1	1
2	1	2
3	2	1
4	2	2
5	3	1
6	3	2
7	4	1
8	4	2

    If you have a **Folsom MatrixPRO Router** and you have connected the router outputs per the table above, *no setup is necessary* on the **Output Patch Menu** — unless you specifically want to patch the outputs in a different manner. This "default" configuration is ideal for most single and widescreen applications.

17. To "custom" patch router outputs, use the following steps:

    a. On the **Router Output** line, select the output that you want to patch.

    b. If you are uncertain about the current patch, or if you want to remove the current (existing) patch and start clean, press {**DELETE PATCH**}.

    c. On the **Device ID** line, select the ScreenPRO-II ID to which you want to patch the selected router output.

    d. On the **SP Input** line, select the specific ScreenPRO-II input to which you want to patch the selected router output.

    e. Press {**ADD PATCH**} to confirm your changes. The new "mapping" appears on the menu.

    f. Repeat step **17** to patch additional outputs.

18. To designate a router output as an "Aux" output:

    a. On the **Router Output** line, select the specific router output that you want to designate as an Aux output.

    b. If you are uncertain about the current patch, or if you want to remove the current (existing) patch and start clean, press {**DELETE PATCH**}.

    c. On the **Device ID** line, select **None**.

    d. Press {**ADD PATCH**} to confirm the change.

    e. Repeat step **18** to designate additional Aux outputs.

19. Press {**BACK**} to return to the **Router Specification Menu**.

20. Repeat from step **6** for the next router that you wish to assign.
21. When you have configured all of your system's routers, on the **Router Specification Menu**, scroll to the **Number** line, and scan through the remaining router numbers. Other than the ones which you just assigned, if there are *any* router numbers that do not say **<EMPTY>** on the **Number** line, press {**DELETE ROUTER**} to remove the specification from the system.
22. Press {**BACK**} to return to the **System Menu**.
23. Press {**HOME**} to return to the **Home Menu**.
24. Press **SAVE** to save the current configuration.

AUX Destination Setup

ScreenPRO-II Controller system setup: **Step 9**

In this procedure, you will set up the system's Aux (Auxiliary) destinations.

- **Prerequisites** — Ensure that you are familiar with the following menus:
  - **Destination Setup Menu**. In Chapter 4, refer to the "**Destination Setup Menu**" section on page 117.
  - **Aux Destination Setup Menu**. In Chapter 4, refer to the "**Aux Destination Setup**" section on page 120.

Note

Up to 4 "Aux" destinations can be assigned. These are accessible by pressing the red **DEST AUX** button.

The following topics are discussed:

Aux Destination Overview

The ScreenPRO-II Controller system provides three types of Aux destinations — **Aux**, **ImagePRO Aux** and **PrePRO-II Aux**. Each type of destination can be switched from the ScreenPRO-II Controller by selecting it on the **Destination Bus**, then selecting the desired source on the **Source Selection Bus**.

- An **Aux** destination is the output of a router, which is typically connected directly to a monitor — rather than to the ScreenPRO-II. This type of destination is single format (e.g., an analog monitor can only accept signals from an analog router).
- An **ImagePRO Aux** destination is an external ImagePRO, a multi-format processor with three inputs (one analog, one SDI and one DVI) and the ability to scale these inputs to one common output format. Typically, the ImagePRO output is connected to another display device such as a monitor or projector.
- A **PrePRO-II Aux** destination is an external PresentationPRO-II, a multi-format processor with nine inputs (eight analog and one SDI), and the ability to scale these inputs to one common output format. Similar to ImagePRO, the PrePRO-II output is connected to another display device such as a monitor or projector.

Aux Destination Setup

This section provides instructions for setting up an **Aux** destination.

- Use the following steps to set up an Aux destination:

1. Ensure that your have properly configured one (or more) router outputs as “Aux” outputs. If not, refer to the “**Router Setup**” section on page 193 for instructions.
2. From the **Home Menu**, press **SYSTEM** to access the **System Menu**.
3. Press {**DEST SETUP**} to display the **Destination Setup Menu**.
4. On the **Destination** line, select the Aux destination that you want to define — either **Aux 1**, **Aux 2**, **Aux 3** or **Aux 4**.
5. Scroll to the **Type** line and select **Aux**.
6. Press {**AUX SETUP**} to display the **Aux Setup Menu**.
7. On the **Source Mapping** line, two choices are available:
   - ~ Select **Input Patch** if you want to map Aux sources according to how inputs are patched to buttons on the **Source Selection** bus. Note that this is the typical choice.
   - ~ Select **Direct Map** if you want the **Source Selection** bus to be a 1:1 mapping of your router inputs — for *this* Aux destination only.
8. On the **Router Name** line, select the router on which you configured the Aux output(s).
9. On the **Router Output** line, select the specific router output that you wish to designate as the Aux destination. Note that only outputs configured as “**Aux**” will appear in the list.
10. Press {**BACK**} to return to the **Destination Setup Menu**.
11. Repeat from step **4** to configure additional Aux outputs.
12. Press {**BACK**} to return to the **System Menu**.
13. Press {**HOME**} to return to the **Home Menu**.
14. Press {**SAVE**} to save the new system configuration in memory.

This completes the procedure for defining Aux destinations. The selected button(s) on the **Destination Bus** are now active.

ImagePRO or PrePRO-II Aux Destination Setup

This section provides instructions for setting up an **ImagePRO Aux** or **PrePRO-II Aux** destination.

- Use the following steps to set up an ImagePRO or PrePRO-II Aux destination:

1. Ensure that your have properly configured one (or more) router outputs as “Aux” outputs. If not, refer to the “**Router Setup**” section on page 193 for instructions.
2. From the **Home Menu**, press **SYSTEM** to access the **System Menu**.
3. Press {**DEST SETUP**} to display the **Destination Setup Menu**.
4. On the **Destination** line, select the Aux destination that you want to define — either **Aux 1**, **Aux 2**, **Aux 3** or **Aux 4**.
5. Scroll to the **Type** line and select **ImagePRO Aux** or **PrePRO-II Aux**.
6. Press {**AUX SETUP**} to display the **Aux Setup Menu**.

7. On the **Source Mapping** line, two choices are available:
   - ~ Select **Input Patch** if you want to map Aux sources according to how inputs are patched to buttons on the **Source Selection** bus. Note that this is the typical choice.
   - ~ Select **Direct Map** if you want the **Source Selection** bus to be a 1:1 mapping of your router inputs — for *this* Aux destination only.
8. On the **ID** line, select the ID of the **ImagePRO** or **PrePRO**-II to which you want to route Aux sources.
9. In the **Analog** section:
   a. On the **Analog Router Name** line, select the router from which analog sources will be routed to the ImagePRO (or PrePRO-II).
   b. On the **Analog Router Output** line, select the specific router output that you designated as an **Aux** output.
   c. On the **ImagePRO Input** (or **PrePRO-II Input**) line, select the ImagePRO or PrePRO-II input to which the analog router output is connected.
10. In the **SDI** section:
    a. On the **SDI Router Name** line, select the router from which SDI sources will be routed to the ImagePRO (or PrePRO-II).
    b. On the **SDI Router Output** line, select the specific router output that you designated as an **Aux** output.
    c. On the **ImagePRO Input** (or **PrePRO-II Input**) line, select the ImagePRO or PrePRO-II input to which the SDI router output is connected.
11. In the **DVI** section (applies to **ImagePRO** Aux destinations only):
    a. On the **DVI Router Name** line, select the router from which DVI sources will be routed to the ImagePRO.
    b. On the **DVI Router Output** line, select the specific router output that you designated as an **Aux** output.
    c. On the **ImagePRO Input** line, select the ImagePRO input to which the DVI router output is connected.
12. Press {**BACK**} to return to the **Destination Setup Menu**.
13. Repeat from step **4** to configure another **ImagePRO** or **PrePRO**-II Aux destination.
14. Press {**BACK**} to return to the **System Menu**.
15. Press {**HOME**} to return to the **Home Menu**.
16. Press {**SAVE**} to save the new system configuration in memory.

This completes the procedure for defining **ImagePRO** or **PrePRO**-II Aux destinations. The selected button(s) on the **Destination Bus** are now active. Please note:

- For proper operation, ImagePRO and PrePRO-II devices must be connected to the ScreenPRO-II Controller via Ethernet.
- ImagePRO and PrePRO-II output setups must be performed locally on the units themselves.
- Only one router of each type (Analog, DVI and SDI) can be connected to an ImagePRO unit.

Input Patching

10

ScreenPRO-II Controller system setup: **Step 10**

▲ **Prerequisites** — Ensure that you are familiar with the **Input Source Patch Menu**. In Chapter 4, refer to the "Input Source Patch Menu" section on page 125.

In this procedure, you will associate (patch) specific router inputs to specific source buttons on the ScreenPRO-II Controller, and assign tally connections as desired.

Important

You may *not* need to change the input patches if you want to use those already contained in the default **Input Patch Table**.

The ScreenPRO-II Controller creates a unique "**Input Patch Table**" for each default router. After a factory reset, the table defaults to the following settings:

Table 5-2. Default input patch table after factory reset

Router Number	Router Name	Router Type	Router Input Sources:	Map to Controller Sources:	Tally
1	MatrixPRO1	Analog	1 - 16	1 - 16	1 - 8 defined only
2	MatrixPRO2	SDI	Undefined	Undefined	Undefined

You may elect to use the "automatic" patches as shown above, or you can create custom patches as required for specific input configurations.

Tip

The same router input can be patched to one (or more) source numbers. For example, if you want to use a DVD player in both 16:9 and 4:3 formats, patch it to inputs **8** and **16** (the shifted source 8). Using the input setup procedure, set up each input for the desired aspect ratio.

■ Use the following steps to patch router inputs:

1. From the **Home Menu**, press **SYSTEM** to display the **System Menu**.
2. Press {**INPUT PATCH**} to display the **Input Source Patch Menu**.
3. On the **Source Number** line, select the source button on the Controller that you want to patch.
4. On the **Connection Type** line, select the method by which the source is connected:
   - ~ Select a router by name (e.g., **MatrixPRO**), or ...
   - ~ Select an individual ScreenPRO-II **ID**, or ...
   - ~ Select "**ALL SP**" to assume connections from D/As to similar inputs on all ScreenPRO-IIs in your configuration.
5. If you selected a router, on the **Router Input** line, select the physical router input that you wish to associate with the Controller's source number.

6. If you selected an individual ScreenPRO-II ID or **ALL SP**, on the **ScreenPRO-II Input** line, select the specific input connector on the ScreenPRO-II.
7. On the **Tally Number** line, select the tally that you want to associate with the source button.
8. Press {**ADD PATCH**} to confirm your changes.
9. Repeat the procedure from step **3** to patch additional Controller buttons.
10. (Optional) If required, press {**DELETE PATCH**} to clear all registers for a selected Controller input. This enables you to start again with an "undefined" patch.
11. Press {**BACK**} to return to the **System Menu**.
12. Press {**HOME**} to return to the **Home Menu**.
13. Press {**SAVE**} to save the new system configuration in memory.

Important

If you elect to use tallies, the optional **Tally** board must be installed, and relay connections must be run to the devices that you wish to tally. In Appendix A, refer to the "**Tally Connector**" section on page 262 for connector pinouts.

Output Format Setup

ScreenPRO-II Controller system setup: **Step 11**

▲ **Prerequisites** — Ensure that you are familiar with the **Output Menu**. In Chapter 4, refer to the "**Output Menu Functions**" section on page 102.

In this procedure, you will configure the output format for each ScreenPRO-II that is used in your ScreenPRO-II Controller system.

Important

Be sure to select your projector's native resolution and a frame rate that is consistent with your inputs — for example, if you are using 59.94 NTSC video inputs, run the output at the same rate in order to be synchronous.

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

1. From the **Home Menu**, press **OUTPUT** to display the **Output Menu**.
2. On the **Destination Bus**, select the destination that you want to configure.
3. On the **Format** line, select the resolution and frame rate at which you want to drive the destination's projector(s). To minimize synchronization problems, select a frame rate that is consistent with your input sources.
4. Press {**APPLY FORMAT**} to accept the selection.
5. Repeat from step **2** to set additional destination output formats.
6. Press {**HOME**} to return to the **Home Menu**.
7. Press {**SAVE**} to save the new system configuration in memory.

Sync Setup

12

ScreenPRO-II Controller system setup: **Step 12**

▲ **Prerequisites** — Ensure that you are familiar with the **Settings Menu**. In Chapter 4, refer to the "**Settings Menu**" section on page 104.

In this procedure, you will set up sync parameters for the monitors and projectors connected to the system — for the destination selected on the **Output Menu**.

Note

It is recommended that you leave the sync parameters at their default (factory reset) values. However, should you need to adjust individual settings for a particular monitor and projector configuration, use the following procedure.

■ Use the following steps to set up sync parameters:

1. From the **Home Menu**, press **OUTPUT** to display the **Output Menu**.
2. On the **Destination Bus**, select the destination that you want to configure.
3. Press {**SETTINGS**} to display the **Settings Menu**.
4. On the **Output Monitor** line, select the device(s) that are affected by the sync settings — **All**, **Preview**, **SPII Program** or **BPII Program**.
5. On the **Sync Out** line, set the desired sync value — **+H+V**, **-H-V**, **+H-V**, **-H+V** or **CSync**.
6. On the **SOG** line, select a specific "sync on green" signal — **Off**, **Standard** or **Tri-Level** (for certain HD devices).
7. On the **Gamma** line, set the output gamma for the selected destination.

Important

It is recommended that you leave **Gamma** at the unity setting (**1.0**). Change the value only if you need to compensate for a gamma problem in your projector or monitor.

8. On the **Raster Box Size** line, set the size of the raster box that appears around PIPs and Keys.

Note

As required, you can change the **Raster Box** value during operations without affecting sync settings.

9. Press {**BACK**} to return to the **Output Menu**.
10. Repeat from step **2** to set sync parameters for additional destinations.
11. Press {**HOME**} to return to the **Home Menu**.
12. Press {**SAVE**} to save the new system configuration in memory.

Genlock Setup

13

ScreenPRO-II Controller system setup: **Step 13**

▲ **Prerequisites** — Ensure that you are familiar with the **Genlock Menu**. In Chapter 4, refer to the "**Genlock Menu**" section on page 103.

In this procedure, you will set up **Genlock** for each destination selected on the **Output Menu**. Please note:

- **For Single Screen Destinations** — if you elect to connect an external genlock signal to ScreenPRO-II (and loop that signal from chassis to chassis), use this procedure to select the genlock "type" and verify the current setting of each ScreenPRO-II's **Termination Switch**.
- **For Widescreen Destinations** — if you elect to connect an external genlock signal to BlendPRO-II, use this procedure to select the genlock "type."

Important

For Widescreen destinations, the **Widescreen Lock** and **External Genlock** signals *must* be set according to the procedures outlined in Chapter 3, in the "**BlendPRO-II Widescreen Lock Connections**" section on page 77.

■ Use the following steps to set up Genlock:

1. From the **Home Menu**, press **OUTPUT** to display the **Output Menu**.
2. On the **Destination Bus**, select the destination that you want to configure.
3. Press {**GLCK**} to display the **Genlock Menu**.
4. For all types of destinations, on the **Source** line, set the genlock source, either **Black Burst**, **CSync** or **None**.
5. For single screen destinations only, on the **Termination** line, verify the setting of the ScreenPRO-II's **Termination Switch**.
6. Press {**BACK**} to return to the **Output Menu**.
7. Repeat from step **2** to set additional destination genlock types.
8. Press {**HOME**} to return to the **Home Menu**.
9. Press {**SAVE**} to save the new system configuration in memory.

Projector Setup

14

ScreenPRO-II Controller system setup: **Step 14**

▲ **Prerequisites** — Ensure that you are familiar with the following menus and applications:

~ **Test Pattern Menu**. In Chapter 4, refer to the "**Test Pattern Menu**" section on page 105.

~ **Wide Screen Menu**. In Chapter 4, refer to the "**Wide Screen Settings Menu**" section on page 106.

~ **Configurator Application**. You can use the **Configurator** application to assist with wide screen setup. The software is available via download from the website, or contact Barco **Technical Support**. In Appendix B, refer to the "**Contact Information**" section on page 268 for information.

In this section, you will set up your projectors for both single screen and widescreen destinations. The following procedures are provided:

- **Single Screen Projector Setup**
- **Wide Screen Projector Setup**

Single Screen Projector Setup

■ Use the following steps to set up a projector for a single screen destination:

1. From the **Home Menu**, press **OUTPUT** to display the **Output Menu**.
2. On the **Destination Bus**, select the destination whose projector you want to configure.
3. Press {**TEST PATTERN**} to display the **Test Pattern Menu**.
4. On the **Output Monitor** line, select the output(s) on which you want a test pattern to appear — **All**, **Preview**, **SPII Program** or **BPII Program**.
5. On the **Mode** line, select **On**.
6. On the **Type** line, select the **Burst** test pattern.
7. On the **Raster Box** line, select **On**.
8. At the projector itself, perform the following adjustments to ensure that the output data from the selected device is properly displayed:
   ~ Adjust the image for a minimum amount of noise.
   ~ Adjust the pixel clock for proper image position, such that the entire Raster Box is visible.
9. On the **Type** line, select one of the many **Gray Scale** test patterns, as desired.
10. At the projector itself, adjust color balance, brightness and contrast.

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

11. Once the projector is properly set, turn **Off** both the **Raster Box** and the **Mode**.
12. Press {**BACK**} to return to the **Output Menu**.

13. Repeat from step **2** for additional single screen destination projector setups.
14. Press {**HOME**} to return to the **Home Menu**.
15. Press {**SAVE**} to save the new system configuration in memory.

Wide Screen Projector Setup

- Use the following steps to set up projectors for a wide screen application.

Note

This procedure affects *all* projectors assigned to the selected wide screen configuration.

1. If you elected to use the **Configurator** application to assist with your widescreen setup parameters, ensure that you have completed the following steps:
    a. On the Configurator's **Show Layout Tab**, click the radio buttons for the ScreenPRO-II Controller and your desired show layout.
    b. On the Configurator's **Screen Details Tab**, click the large "**W**" to display the **Wide Screen Parameters Window**.
    c. In the **Wide Screen Parameters Window**, enter your screen's **H** and **V** dimensions and the number of projectors.
    d. Click **Calculate** to determine the required overlap.
    e. Make a note of these values. You will transfer them to the Controller's **Wide Screen Settings Menu** in the following steps.
2. From the **Home Menu**, press **OUTPUT** to display the **Output Menu**.
3. On the **Destination Bus**, select your system's wide screen destination.
4. Press {**TEST PATTERN**} to display the **Test Pattern Menu**.
5. On the **Output Monitor** line, select the output(s) on which you want a test pattern to appear — **All**, **Preview**, **SPII Program** or **BPII Program**.
6. On the **Mode** line, select **On**.
7. On the **Type** line, select the **Burst** test pattern.
8. On the **Raster Box** line, select **On**.
9. Press {**BACK**} to return to the **Output Menu**.
10. Press {**WIDE SCREEN**} to display the **Wide Screen Settings Menu**. Note that the **Total Projectors** line shows the total number of ScreenPRO-II units that you defined in the wide screen configuration (on the **Destination Setup Menu**).
11. Scroll to the **Total H Res** line and enter the total number of horizontal pixels in the overall wide screen display.
12. Scroll to the **Background Format** line and select the method by which your background graphics were originally produced: **Edge-butted** or **Overlapped**.
13. Scroll to the **Marker Mode** line and enable (or disable) the system's wide screen markers, to show the boundaries of active data.

Note

As required, you can change the **Marker Mode** value during operations without affecting other wide screen settings.

14. Scroll to the **Overlap Width** line and enter the desired overlap (in pixels) between projectors.
15. Scroll to the **Data Doubling** line and enable or disable data doubling as required for your configuration.
16. Scroll to the **Justification** line and set the desired wide screen justification, either **Center** or **Left**.
17. In the **Feathering** section, scroll to the **Mode** line and enable or disable edge feathering as required for your configuration.
18. Scroll to the **Gamma** line and set the gamma for the feathered regions as desired. The default value is **2.2**.
19. At each projector, perform the following adjustments to ensure that the output data is properly displayed:
    - ~ Adjust the images for a minimum amount of noise.
    - ~ Adjust the pixel clocks for proper image position, such that the entire Raster Box is visible.
20. Press {**BACK**} to return to the **Output Menu**.
21. Press {**TEST PATTERN**} to display the **Test Pattern Menu**.
22. On the **Type** line, select one of the many **Gray Scale** test patterns, as desired.
23. At each projector, adjust color balance, brightness and contrast.

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

24. Once each projector is properly set, scroll to the **Alignment Test Pattern** line and enable the function. This special test pattern allows you to perform projector lens shift and registration adjustments.
    a. At each projector, perform lens shift and registration adjustments.
    b. If required, adjust the horizontal and vertical "totals" to match those entered on the **Wide Screen Settings Menu**.

Note — Refer to your projector's technical manual for information on all lens shift and registration procedures.

    c. When adjustments are complete, turn off the **Alignment Test Pattern**.
25. Press {**BACK**} to return to the Output Menu.
26. Press {**HOME**} to return to the **Home Menu**.
27. Press {**SAVE**} to save the new system configuration in memory.

Background Setup

15

ScreenPRO-II Controller system setup: **Step 15**

- **Prerequisites** — Ensure that you are familiar with the following menus:
  - **Background Input Setup Menu**. In Chapter 4, refer to the "**Background Input Setup Menu**" section on page 170.
  - **BG Matte Menu**. In Chapter 4, refer to the "**BG Matte Menu**" section on page 174.

In this procedure, you will set up the Controller's two "background" sources (for the **BG A** and **BG B** buttons). Remember that each button can be configured as a live DVI input, as a matte color, or as a frame grab.

Note

In both single and widescreen modes, remember 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** on all individual ScreenPRO-II units.

- Use the following steps to set up your background sources:

1. Determine how you would like to configure your background and DSK sources. As a recommendation, the following configuration is typically used:
   - The **BG A** input is configured as a live DVI source.
   - The **BG/DSK Input B** is used primarily as the **DSK** source, and secondarily as a background frame grab source.
2. On the **Destination Bus**, select the destination whose background sources you want to configure.
3. On the ScreenPRO-II Controller console, press **BG A** to display the **Background Input Setup Menu**.
4. To configure a matte background:
   a. Scroll to the **Type** line and select **Matte**.
   b. Press {**MATTE**} to display the **BG Matte Menu**.
   c. Adjust the matte color as desired.
   d. Press {**BACK**} to return to the **Background Input Setup Menu**.
   e. Press {**SAVE**}.
5. To configure a live DVI background:
   a. Ensure that your DVI source (PC) is properly connected to the ScreenPRO-II chassis, and that the PC is turned on.
   b. Ensure that EDID is properly set. If not, refer to the "**Programming EDID**" section on page 190 for details.
   c. Scroll to the **Type** line and select **DVI**.
   d. Press {**FORCE ACQUIRE**}.
   e. Press {**SAVE**}.

6. To configure a frame grab background:
    a. Ensure that you have captured a still frame, either from a live DVI background or from one of the two layers (**LAYER A** or **LAYER B**). In Chapter 6, refer to the "**Working with Still Frames**" section on page 246 for instructions.
    b. Scroll to the **Type** line and select **FG_1**, **FG_2** or **FG_3**.
    c. Press {**SAVE**}.
7. Repeat from step **3** for **BG B**.
8. Repeat from step **2** for the next destination's background sources that you want to configure.
9. When all background sources have been configured for all destinations, press {**HOME**} to return to the **Home Menu**.
10. Press {**SAVE**} to save the new system configuration in memory.

Input Setup

ScreenPRO-II Controller system setup: **Step 16**

▲ **Prerequisites** — Ensure that you are familiar with the **Input Menu**. In Chapter 4, refer to the "**Input Menu**" section on page 88.

In these procedures, you will set up the system's inputs, and adjust phase and color balance for wide screen configurations only. The following procedures are provided:

- **Standard Input Setup**
- **Widescreen Phase and Color Balance Setup**

Standard Input Setup

■ Use the following steps to set up inputs. This procedure applies to both single screen and widescreen destinations.

1. On the **Destination Bus**, select the destination whose inputs you want to configure.
2. On the ScreenPRO-II Controller console, select a layer (**LAYER A** or **LAYER B**).
3. Press {**HOME**} to display the **Home Menu**.
4. Press **INPUT** to display the **Input Menu**.
5. On the **Source Selection Bus**, select the first source that you want to set up.
6. Press {**FORCE ACQUIRE**} to perform the optimum image setup.
7. Perform additional setups on the **Input Menu** — *if required*:
    a. If you need to manually set the resolution, scroll to the **Format** line and select the desired format. Press {**APPLY FORMAT**} to accept.
    b. Scroll to the **Sampling Mode** line and set the sampling mode.
    c. Scroll to the **Contrast** line and set the input's contrast.
    d. Scroll to the **Brightness** line and set the input's brightness.

e. Scroll to the **Gamma** line and set the input gamma.

f. Scroll to the **Input Sync Type** line and set the type of sync used by the selected source.

g. Scroll to the **Pulldown Compensation** line and enable (or disable) the mode.

h. Scroll to the **Sync Slice <mv>** line and adjust as required.

i. Scroll to the **Sharpness** line and set the input's sharpness.

j. Press {**SAVE**} to save the input configuration.

8. Perform additional setups on the **Aspect Ratio Menu** — *if required*:

a. Press {**AR**} to display the **Aspect Ration Menu**.

b. Adjust the **Mode** and **Ratio** as required.

c. Press {**SAVE**} to save the input configuration.

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

9. Perform additional setups on the **Sizing Menu** — *if required*:

a. Press {**SIZING**} to display the **Sizing Menu**.

b. If **1:1 Sampling** was selected:

- Scroll to the **Clock Phase** line and set the system's A/D converter.
- Scroll to the **H Total** line and set the total pixel count per line.
- Scroll to the **H Active** line and set the width of the active area.
- Scroll to the **H Position** line and set the start of the active area's horizontal offset from H sync.
- Scroll to the **V Active** line and set the number of vertical lines in the image.
- Scroll to the **V Position** line and set the start of the active area's vertical offset from V sync.
- Press {**SAVE**} to save the input configuration.
- Press {**BACK**} to return to the **Input Menu**.

c. If **Oversample** was selected:

- Scroll to the **Right Edge** line and adjust as required.
- Scroll to the **Left Edge** line and adjust as required.
- Scroll to the **Top Edge** line and adjust as required.
- Scroll to the **Bottom Edge** line and adjust as required.
- Press {**SAVE**} to save the input configuration.
- Press {**BACK**} to return to the **Input Menu**.

10. Perform additional setups on the **Color Balance Menu** — *if required*:

a. Press {**COLOR BALANCE**} to display the **Color Balance Menu**.

b. If an **RGB** source was selected:

- Scroll to the **Red Contrast** line and adjust as required.
- Scroll to the **Red Brightness** line and adjust as required.
- Scroll to the **Green Contrast** line and adjust as required.
- Scroll to the **Green Brightness** line and adjust as required.
- Scroll to the **Blue Contrast** line and adjust as required.
- Scroll to the **Blue Brightness** line and adjust as required.
- Press {**SAVE**} to save the input configuration.

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

c. If a **Composite**, **S-Video** or **YP_bP_r** source was selected:

- Scroll to the **Saturation** line and adjust as required.
- Scroll to the **Hue** line and adjust as required.
- Press {**SAVE**} to save the input configuration.
- Press {**BACK**} to return to the **Input Menu**.

11. Repeat from step **5** for the next source that you want to set up.

12. When all sources have been set up for this destination, press {**HOME**} to return to the **Home Menu**.

13. Press {**SAVE**} to save the new system configuration in memory.

Important

You ***do not*** have to repeat the input setup procedure for your other destinations if either of the following criteria are met:

- Your other destinations use sources that are patched to the same router.
- Your other destinations are configured using the "**ALL SP**" function on the **Input Source Patch Menu**.

In this case, all other system destinations will automatically receive input configuration files via the system's "copy down" functionality.

You ***do*** have to repeat the input setup procedure if either of the following criteria are met:

- Your other destinations use a different router.
- Your other destinations use unique input patching.

14. If required, repeat the entire procedure from step **1** for other destinations.

Widescreen Phase and Color Balance Setup

This section provides instructions for phase and color balance setup for wide widescreen destinations utilizing BlendPRO-II. Please note the following important points:

- For the optimum setup, it is *highly recommended* that you can output a test pattern from each source — however, you can make adjustments using a live image if necessary. For example, if the source is a PC, the best results can be achieved when a full screen test pattern can be generated on the desktop.
- A test pattern application is available on the website (**http://video.folsom.com**). Click **Downloads**, select **BlendPRO** from the drop-down list, then download the **Alignment Patterns** application.
- The following "phase adjustment" steps apply to **RGB** and **YUV** analog sources.
- The following "color balance" steps apply to all types of analog sources — **RGB**, **YUV**, **Composite** and **S-Video**.
- The following adjustment steps are *not required* for digital sources.

Note

These adjustments are primarily visual, rather than precisely numerical. Here, for each destination, you are *visually* matching sources across your system's scalers.

Phase Adjustments

- Use the following steps to set up phase for widescreen destinations — for **RGB** and **YUV** sources only.

1. Ensure that you have performed the "standard" setups for your sources. If not, refer to the "**Standard Input Setup**" section on page 206 for details.
2. From the **Home Menu**, press **SYSTEM** to display the **System Menu**.
3. Turn the **Modify Layers on Program** function to **On**.
4. On the **Destination Bus**, select your widescreen destination.
5. On the ScreenPRO-II Controller console, select **LAYER A**.
6. On the **Source Selection Bus**, select the *first* source that you want to set up.
7. Press **PIP** to display the **PIP Adjustment Menu**.
8. Ensure that the image's border and shadow are turned off. Use the **Border Menu** and **Shadow Menu** as required.
9. (**Recommended**) Output a **Burst** test pattern from the selected source.
10. On the **PIP Adjustment Menu**, use **H Size** and **V Size** to size the PIP such that that it matches the input's resolution. In this way, there will be *no scaling*.
11. Press **AUTO TRANS** to transition the PIP to program. This will ensure that you can make your adjustments with data doubling and edge feathering visible.
12. Using the **H Position** function, move the PIP into the screen 1 region.
13. Press **HOME** > **INPUT** > {**SIZING**} to display the **Sizing Menu** for the source.
14. On the **Destination** line, select the "screen 1" destination.
15. Adjust **Clock Phase** for the cleanest and brightest image.
16. If required, adjust **H Position** so that all of the image's pixels are visible.
17. Press **PIP** to display the **PIP Adjustment Menu**.

18. Press {**SAVE**} to save the input configuration.
19. Move the PIP into the next screen's region.
20. Repeat steps **13** through **19** for all remaining widescreen destinations.
21. When complete, clear the layer and transition it off program.
22. On the ScreenPRO-II Controller console, select **LAYER B**.
23. Repeat the *entire procedure* from step **6** — for the same source.
24. When you have completed setting up the first source for both layers, repeat the *entire procedure* from step **5** — for all remaining **RGB** and **YUV** sources that you want to set up. Ensure that you set up both layers for each source.

Color Balance Adjustments

The following steps are a continuation of the complete widescreen source setup procedure.

- Use the following steps to set up color balance for widescreen destinations — for all types of analog sources — **RGB**, **YUV**, **Composite** and **S-Video**.

25. (**Recommended**) Output a **Gray Steps** test pattern from the selected source.
26. On the ScreenPRO-II Controller console, select **LAYER A**.
27. On the **Source Selection Bus**, select the *first* source that you want to set up.
28. Press **PIP** to display the **PIP Adjustment Menu**.
29. Scale the source such that it spans all screens in your widescreen configuration.
30. Press **AUTO TRANS** to transition the PIP to program. This will ensure that you can make your adjustments with data doubling and edge feathering visible.
31. Press **HOME** > **INPUT** to display the **Input Menu** for the source.
32. Visually, find the pair of adjacent destinations that most closely match each other across your widescreen blend regions. Select one of these as your "reference" destination and the other as your first "adjustment" destination.
33. On the **Destination** line, select the first "adjustment" destination.
34. Adjust the source as follows:
    a. On the **Input Menu**, adjust **Brightness** and **Contrast** to visually match the "reference" destination.
    b. On the **Color Balance Menu**, adjust **Red**, **Green**, and **Blue** values to visually match the "reference" destination. If a Composite or S-Video source was selected, adjust **Saturation** and **Hue**.
    c. Press {**SAVE**} to save the input configuration.
35. On the **Destination** line, select the next adjacent destination and repeat step **34** — matching **Brightness**, **Contrast** and **Color Balance** across the blend region.
36. Repeat step **35** for all remaining destinations.
37. When complete, clear the layer and transition it off program.
38. On the ScreenPRO-II Controller console, select **LAYER B**.
39. Repeat the *entire procedure* from step **27** — for the same source.
40. When you have completed adjusting color balance for the first source for both layers, repeat the *entire procedure* from step **26** — for all remaining **RGB**, **YUV**, **Composite** and **S-Video** sources that you want to set up. Ensure that you set up both layers for each source.

DSK Setup Procedure

17

ScreenPRO-II Controller system setup: **Step 17**

- **Prerequisites** — Ensure that you are familiar with the following menus:
  - **DSK Adjustment Menu**. In Chapter 4, refer to the "DSK Adjustment Menu" section on page 178.
  - **DSK Input Setup Menu**. In Chapter 4, refer to the "DSK Input Setup Menu" section on page 180.

In this procedure, you will set up the system's DSK. Remember that the DSK can be configured as a live DVI input or as a frame grab.

Note

In both single and widescreen modes, remember 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** on all individual ScreenPRO-II units.

- Use the following steps to set up your DSK source:

1. Determine how you would like to configure your background and DSK sources. As a recommendation, the following configuration is typically used:
   - The **BG A** input is configured as a live DVI source.
   - The **BG/DSK Input B** is used primarily as the **DSK** source, and secondarily as a background frame grab source.
2. On the **Destination Bus**, select the destination whose DSK source you want to configure.
3. On the ScreenPRO-II Controller console, press **DSK** to display the **DSK Adjustment Menu**.
4. Press {**INPUT SETUP**} to display the **DSK Input Setup Menu**.
5. To configure a live DVI input as the DSK:
   a. Ensure that your DVI source (PC) is properly connected to the ScreenPRO-II chassis, and that the PC is turned on.
   b. Ensure that EDID is properly set. If not, refer to the "Programming EDID" section on page 190 for details.
   c. Scroll to the **Type** line and select **DVI**.
   d. Press {**FORCE ACQUIRE**}.
   e. Press {**SAVE**}.
6. To configure a frame grab DSK:
   a. Ensure that you have captured a still frame, either from a live DVI background or from one of the two layers (**LAYER A** or **LAYER B**). In Chapter 6, refer to the "Working with Still Frames" section on page 246 for instructions.
   b. Scroll to the **Type** line and select **FG_1**, **FG_2** or **FG_3**.
   c. Press {**SAVE**}.
7. Press {**KEY**} to return to the **DSK Adjustment Menu**.

8. On the **Key Type** line, select the type of key desired (**Luma** or **Color**).
9. Adjust key parameters as required:
   - For a **Luma Key**, adjust **Invert Mode**, **Clip**, **Gain**, **Opacity** and **Fill Source** for the optimum visual key.
   - For a color key, pick the desired color, then adjust **Red**, **Green** and **Blue Color**, **Threshold**, **Mask** and **Opacity**.
10. When your DSK is fully adjusted, press {**HOME**} to return to the **Home Menu**.
11. Press {**SAVE**} to save the new system configuration in memory.

LOGO Setup Procedure

ScreenPRO-II Controller system setup: **Step 18**

▲ **Prerequisites** — Ensure that you are familiar with the **LOGO Menu**. In Chapter 4, refer to the "**LOGO Menu**" section on page 182.

In this procedures, you will set up the system's LOGO. Remember that the LOGO can be configured as black or as a frame grab.

■ Use the following steps to set up the LOGO:

1. On the **Destination Bus**, select the destination whose LOGO you want to configure.
2. On the ScreenPRO-II Controller console, press **LOGO** to display the **LOGO Menu**.
3. To configure a black LOGO:
   a. Scroll to the **Type** line and select **Black**.
4. To configure a frame grab LOGO:
   a. Ensure that you have captured a still frame, either from a live DVI background or from one of the two layers (**LAYER A** or **LAYER B**). In Chapter 6, refer to the "**Working with Still Frames**" section on page 246 for instructions.
   b. Scroll to the **Type** line and select **FG_1**, **FG_2** or **FG_3**.

Saving the Setup

19

ScreenPRO-II Controller system setup: **Step 19**

When all system setup procedures have been complete, press {**HOME**} to display the **Home Menu**, then press {**SAVE**}. This action saves the state of the Controller in non-volatile memory.

Once pressed, the Touch Screen menu reads "**Saving System Configuration**." If you cycle power, the Controller will return to its state at the time of the "save."

Backup to Flash Memory Card

20

ScreenPRO-II Controller system setup: **Step 20**

▲ **Prerequisites** — Ensure that you are familiar with the **Backup/Restore Menu**. In Chapter 4, refer to the "**Backup/Restore Menu**" section on page 141.

In this procedure, you will back up your system configuration to a **Flash Memory Card**.

Note	You can only store one system configuration on a Flash Memory Card.

■ Use the following steps to back up your system:

1. Ensure that you have a (customer supplied) **Flash Memory Card** available.
2. Insert the **Flash Memory Card** into the Controller's rear panel **Memory Card** slot.
3. From the **Home Menu**, press **MISC** to display the **Miscellaneous Menu**.
4. Press {**BACKUP RESTORE**} to display the **Backup/Restore Menu**.
5. On the **Device** line, select **Ctrlr+SP** to perform a complete "backup."
6. On the **Controller Options** line, select **All**.
7. Press {**CHECK CARD**} to check for the presence of a Flash Memory Card.
8. Press {**BACKUP**} to perform a backup operation to the Flash Memory Card using the selected device(s) and options.

6. Operations

In This Chapter

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

Prerequisites

Prior to using the ScreenPRO-II Controller 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:
  - ~ "**Input Setup**" on page 206.
  - ~ "**Background Setup**" on page 205.
  - ~ "**DSK Setup Procedure**" on page 211.
  - ~ "**LOGO Setup Procedure**" on page 212.
- Ensure that you are familiar with all front panel controls. In Chapter 2, refer to the "**ScreenPRO-II Controller Front Panel**" section on page 34 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 148 for details on all PIP adjustment menu items.
  - ~ Refer to the "**Key Menu**" section on page 155 for details on all Key adjustment menu items.
  - ~ Refer to the "**Source Adjustment Menus**" section on page 165 for details on all input source adjustment parameters.

Tip

As you review each function, it is recommended that you try out (and practice) each feature at the ScreenPRO-II Controller itself — using a fully configured system consisting of Program and Preview monitors, projectors, and all the necessary sources and backgrounds.

Note

In this chapter, 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**}.

Operational Configuration

The following topics are discussed in this section:

Monitor Layout

Use the following diagram as a recommended layout for your monitors. A sample dual-screen widescreen configuration is shown.

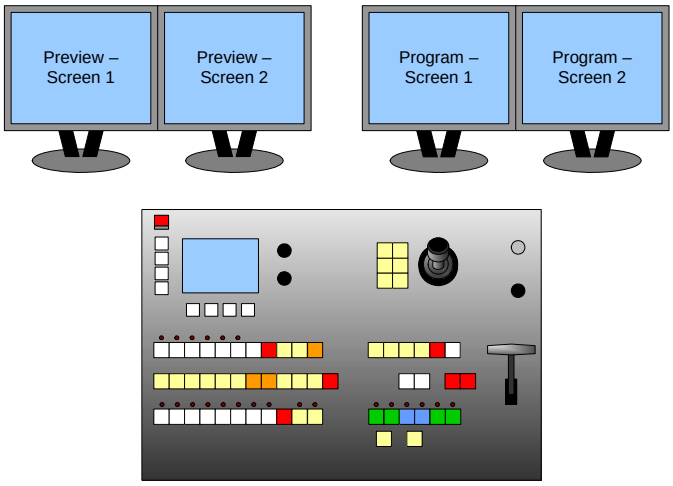


Figure 6-1. Recommended Monitor Layout

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

Touch Screen Calibration

Touch Screen calibration is an excellent prerequisite to all operating procedures.

Use the following steps to calibrate your Touch Screen display:

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

Wide Screen Markers

- If you are using a wide screen configuration, ensure that your **Wide Screen Markers** are enabled:

  1. From the **Home Menu**, press **OUTPUT** to display the **Output Menu**.
  2. On the **Destination Bus**, select your system's wide screen destination.
  3. Press {**WIDE SCREEN**} to display the **Wide Screen Settings Menu**.
  4. Scroll to the **Marker Mode** line and enable the system's wide screen markers, to show the boundaries of active data.

In wide screen applications, Wide Screen Markers are thin vertical **green lines** at the edges of the screens that are used to denote the *actual* projected image area.

Using edge feathering and data doubling, the BlendPRO-II provides perfect and seamless wide screen images. Because of the required overlap, a *portion* of the original image is unused, and does not get projected. The location of the unused portion depends on your selected justification — left or center.

With each type of justification, the Wide Screen Markers accurately denote the unused portion, thus enabling you to properly compose your screens.

- **Left Justified Markers**

  The figure below illustrates the Wide Screen Marker in a left justified configuration. Images to the left of the green vertical line are projected. Images to the right are not.

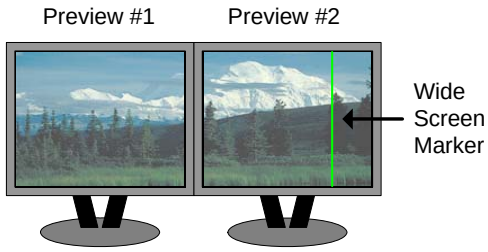


Figure 6-2. Wide Screen Marker, Left Justification

- **Center Justified Markers**

  The figure below illustrates the two Wide Screen Markers in a center justified configuration. Images between the two vertical green lines are projected. Images outside of the lines are not.

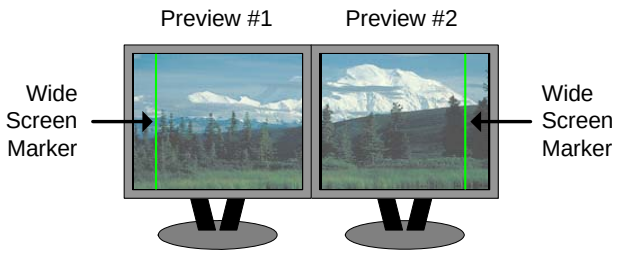


Figure 6-3. Wide Screen Marker, Center Justification

Lookahead Preview

The ScreenPRO-II Controller uses a “lookahead” preview system that ensures the accuracy of all your transitions. The “look” or appearance that you create on Preview represents the *exact* appearance of Program — after you transition the images to Program.

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

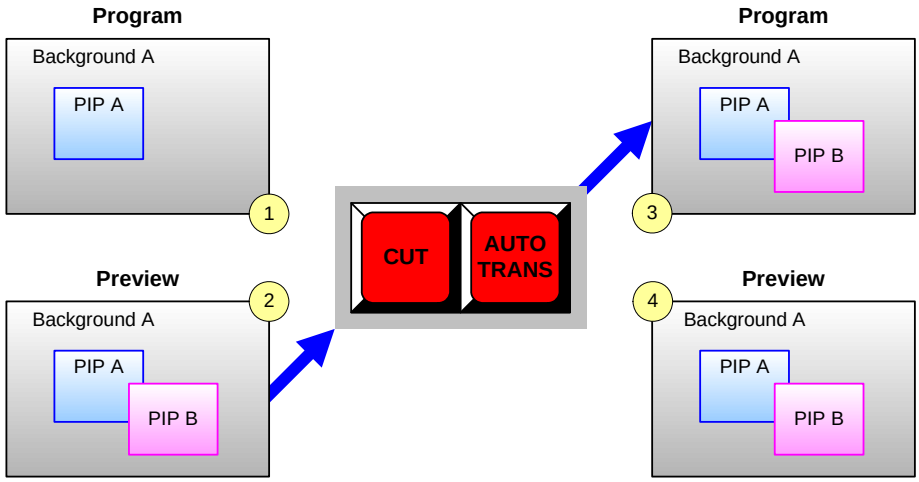


Figure 6-4. Program-to-Preview Transition with Lookahead

- In frame **1**, Program consists of a background and a single PIP.
- In frame **2**, a second PIP is selected and positioned on Preview.
- When **CUT** or **AUTO TRANS** is pressed, the PIP transitions to 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 Controller, **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**.

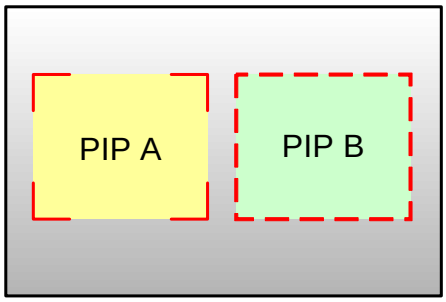


Figure 6-5. Raster Box Styles (sample)

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

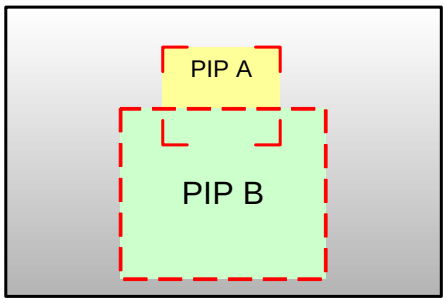


Figure 6-6. Raster Box Visibility (sample)

- Remember that Raster Box size can be adjusted:

1. From the **Home Menu**, press **OUTPUT** to display the **Output Menu**.
2. On the **Destination Bus**, select the destination that you want to configure.
3. Press {**SETTINGS**} to display the **Settings Menu**.
4. On the **Raster Box Size** line, set the size of the raster box that appears around PIPs and Keys.

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, the ScreenPRO-II Controller 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.

Setting User Preferences

- Prior to operations, be sure to set user preferences as desired:

  1. From the **Miscellaneous Menu**, press {**USER PREF**} to display the **User Preference Menu**.
  2. On the **Black Invalid Video** line, select the method by which the scaler "loading" procedure is shown on Preview, when you change inputs:
     - ~ Select **ON** to show black when scalers are loaded. In addition, Black will be shown when a background channel (**BG**) becomes invalid, and the DSK will be turned off when source video becomes invalid.
     - ~ Select **OFF** to show the full scaler loading procedure, which can temporarily include non-sync and non-stable video.

Understanding Input File Mapping

This section provides information on how the ScreenPRO-II Controller system stores the characteristics of each input in files, and how those files are used during operations.

During the input setup procedure, after adjusting each input parameter, pressing the {**SAVE**} button saves those characteristics in a file. The file stores all definitions for that source alone, along with the associated destination.

From that point forward, each time you press that source button and assign it to a PIP or a Key, the stored file is recalled and the image appears on Preview (typically after a brief delay). The delay occurs as each input is instantly re-scaled per the file's instructions, and the scaler is instantly re-programmed with the file's data.

With regards to router connections, an input file is independent of the physical connector. Even though only certain sources can be connected to specific connectors (e.g., Analog or SDI), once a connector is selected (on the **Input Menu**) and an input file is created for the source, that file can be recalled on *any* of the same type of connectors in the system, provided that a router is properly connected and assigned. This in no way forces all of the other connectors to only accept that particular kind of source signal.

Working with Destinations

Destinations can be configured as single screens, multiple screens (in wide screen applications), auxiliary router outputs, ImagePRO Aux destinations and PresentationPRO-II Aux destinations.

- When single and wide screen (**Projector**) destinations are activated, Program output is routed to the selected projectors.
- When Aux destinations are activated, selected inputs (sources) can be routed to the selected router outputs, or to external devices (such as ImagePRO and PresentationPRO-II).

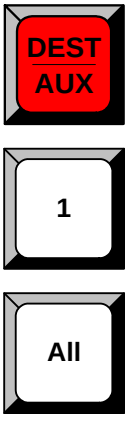
For destination setup instructions, refer to the following sections in Chapter 5:

- "**Standard Destination Setup**," page 192.
- "**Router Setup**," page 193.
- "**AUX Destination Setup**," page 195.

The following topics are discussed in this section:

- **Activating Destinations**
- **Clearing Destinations**
- **Routing Sources to Destinations**

Activating Destinations



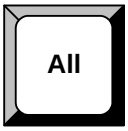
- Use the following steps to activate and deactivate destinations:

1. To activate a single **Standard Destination**, turn **DEST AUX** off, then press the desired button on the **Destination Bus**. All other destinations will turn off.
2. To activate multiple **Standard Destinations**, turn **DEST AUX** off, then simultaneously press the desired buttons on the **Destination Bus**. Any other active destinations will turn off.
3. To activate a single **Aux Destination**, turn **DEST AUX** on, then press the desired button on the **Destination Bus**. All other Aux destinations will turn off.
4. To activate multiple **Aux Destinations**, turn **DEST AUX** off, then simultaneously press the desired buttons on the **Destination Bus**. Any other active Aux destinations will turn off.

In each case, please note:

- Remember that destination buttons are *not* toggles.
- The selected buttons light when activated. Any combination of active destination buttons can be selected.
- When you press a single button or a group of buttons, your selection is mutually exclusive with all other active destinations.
- Press the **All** button to turn all destinations on.

Clearing Destinations



- Use the following steps to clear destinations:
  1. To clear all destinations, double-punch the **All** button.
  2. To clear a single destination (or multiple destinations) from an active group, turn **DEST AUX** on or off as desired, then simultaneously press the destinations that you want *to remain on*.
     - Destinations **1**, **2** and **3** are active. To clear destination **2**, simultaneously press destinations **1** and **3**.

Routing Sources to Destinations

When routing sources to both standard and Aux destinations, please note:

- Remember that the **Destination/Aux Bus** is one bus — it is *not* two separate and independent buses.
- Any source that you select will apply to all enabled buses — even if that bus is not currently visible (due to the state of the **DEST AUX** button).
- Any transition that you perform will apply to all enabled buses — even if that bus is not currently visible (due to the state of the **DEST AUX** button).

- Use the following steps to route a source to a destination (or multiple destinations):
  1. On the **Destination/Aux Bus**, enable or disable the **DEST AUX** button as desired.
  2. Enable only the destination button(s) on which you want to pend a route.
  3. For "standard" destinations, select the desired layer (**LAYER A** or **LAYER B**). This step is not required for an Aux bus route.
  4. On the **Source Selection Bus**, select the source that you want to route to the selected destination(s).

Note

At this point, the route is pending on Preview. You are free to manipulate the source (e.g., PIP and Key), but the route will not occur until the destination is enabled, and the next transition is performed.

  5. Repeat steps **1** through **3** for additional source-to-destination combinations.
  6. Enable all destinations that you want to transition.
  7. Perform the desired transition in the normal manner. Once performed, the pending route is completed.

Note

If you want to clear the pending route prior to performing it, simply clear the lit Aux destination(s).

Following are several simple examples of source-to-destination routing:

▲ **Single source to single destination**

Route **Source 1** to **Destination 1**:

a. Turn **DEST AUX** off.

b. Press **Destination 1**.

c. Press **LAYER A**.

d. Select **Source 1**.

e. Press **AUTO TRANS**.

▲ **Single source to single Aux destination**

Route **Source 2** to **Aux Destination 2**:

a. Turn **DEST AUX** on.

b. Press **Destination 2**.

c. Select **Source 1**.

d. Press **AUTO TRANS**.

▲ **Single source to multiple destinations**

Route **Source 8** to **Destinations 1**, **2** and **3**:

a. Turn **DEST AUX** off.

b. Press **Destinations 1**, **2** and **3** simultaneously.

c. Press **LAYER A**.

d. Select **Source 8**.

e. Press **AUTO TRANS**.

▲ **Multiple sources to multiple standard destinations**

Route **Source 2** to **Destination 1**, and **Source 3** to **Destination 2**:

a. Turn **DEST AUX** off.

b. Press **Destination 1**.

c. Press **LAYER A**.

d. Select **Source 2**.

e. Press **Destination 2**.

f. Press **LAYER A**.

g. Select **Source 3**.

h. Press **Destinations 1** and **2** simultaneously.

i. Press **AUTO TRANS**.

▲ **Single source to multiple Aux and standard destinations**

Route **Source 3** to **Destinations 1** and **2**, and **Aux Destinations 1** and **2**:

a. Turn **DEST AUX** off.

b. Press **Destinations 1** and **2** simultaneously.

c. Press **LAYER A**.

d. Turn **DEST AUX** on.

e. Press **Destinations 1** and **2** simultaneously.

f. Select **Source 3**.

g. Press **AUTO TRANS**.

▲ Multiple sources to multiple Aux and standard destinations

Route **Source 5** to **Destinations 1** and **2**, and **Source 7** to **Aux Destinations 3** and **4**:

a. Turn **DEST AUX** off.

b. Press **Destinations 1** and **2** simultaneously.

c. Press **LAYER A**.

d. Select **Source 5**.

e. Double-punch the **ALL** button to clear all destinations.

f. Turn **DEST AUX** on.

g. Press **Destinations 3** and **4** simultaneously.

h. Select **Source 7**.

i. Turn **DEST AUX** off.

j. Press **Destinations 1** and **2** simultaneously.

k. Press **AUTO TRANS**.

Working with Layers

The following topics are discussed in this section:

Switching Sources

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

- Use the **SHIFT** button to access sources **9** through **16**.
- The **SDI 1** and **SDI 2** buttons are only active when a ScreenPRO-II is configured to use **internal routing**. The buttons are disabled when external routing is used.

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

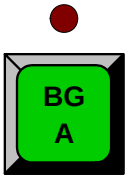
1. Press **LAYER A** or **LAYER B** in the **Layer Control Section**. Note:
   - ~ The button blinks to indicate that it is available for modification.
   - ~ The associated layer's raster box blinks on Preview.
   - ~ If a PIP or Key is assigned to the layer, its source can now be changed.
2. Press the desired button on the **Source Selection Bus** to assign that source to the PIP or Key. The button blinks to indicate that it is 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 — provided that its associated Destination button is active.
- 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.
- When the **Red LED** above a source button is *blinking*, the mixer is set to **Mix Mode** (the **Split** button is off). The blinking **Red LED** indicates the layer that is on Program, and the *alternate layer* is enabled 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 blinks — and the corresponding “assigned” source on the **Source Selection Bus** blinks. This method also allows you to quickly verify layer/source selections.

Background Transitions



- Use the following steps to perform a transition from one background to another:

1. Press and light the background button to which you want to transition. The button blinks to indicate it is 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. Ensure that the DVI source is properly set up.
   - ~ Select **MATTE** to use a solid color. Press {**MATTE**} to display the **Background Matte Menu**, and adjust the color as required. In Chapter 4, refer to the "**BG Matte Menu**" section on page 174 for details.
   - ~ Select **FG_1**, **FG_2** or **FG_3** to use a captured still frame as the background source. Refer to the "**Working with Still Frames**" section on page 246 for details.
3. Set the background toggle mode. In the **Layer Functions Section**:
   - ~ Enable the **Toggle** button to toggle between the last two selected backgrounds on each transition.
   - ~ Disable the **Toggle** button to retain the last selected background on the next transition.
4. Perform the desired transition.

Please note the following important points regarding background transitions:

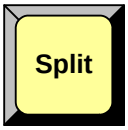
- If **BG A** is on Program and **BG A** is selected in Preview, there will be no change of backgrounds on the next transition. The similar situation is true for **BG B**.
- If **BG A** is on Program and **BG B** is selected in Preview, **BG A** will transition to **BG B** on the next transition.

Understanding Split and Mix Modes

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

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

Split Mode



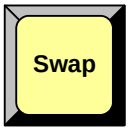
With the **Split** button lit, the mixer's two layers operate *independently*. You can size, position, manipulate and transition the following combinations of effects:

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

Mix Mode

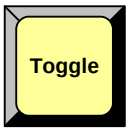
With the **Split** button off, the mixer's layers are ganged together, and two *mutually-exclusive* sub-modes now determine the mixer's function: **Mix Source** and **Swap**.

- 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 mode is ideal for transitioning images inside a static PIP. Even though *two* identical PIPs are used, they visually appear as one.



- 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.

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



- 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 must change Preview sources manually.

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

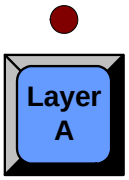
- In **Mix Mode**, there is always a layer available In Preview for a new source to be selected and taken to Program.
- Four transition combinations are possible:
  - ~ **Mix Source** with **Toggle On**
  - ~ **Mix Source** with **Toggle Off**
  - ~ **Swap** with **Toggle On**
  - ~ **Swap** with **Toggle 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 **Layer Control Section**, ensure that the **Split** 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 assigned to the layer blinks.
   - ~ On Preview, the raster box for the selected layer blinks (even if it is hidden under another layer).
3. In the **Layer 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. Refer to the "**Modifying PIPs**" section on page 230 for details.
6. Prior to the transition, you can set up an additional layer 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 231.
7. Press **CUT** or **AUTO TRANS** to transition the look to program. Refer to the "**Working with Transitions**" section on page 241 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 Program at a time.

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

1. In the **Layer Control Section**, ensure that the **Split** 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 assigned to the layer blinks.

~ On Preview, the raster box for the selected layer blinks (even if it is hidden under the DSK).

3. In the **Layer 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. Set the desired **Mix Mode**:
   ~ To co-locate the mixer's PIPs, enable the **Mix Source** button.
   ~ To locate the mixer's PIPs independently, enable the **Swap** button.
   ~ To toggle sources, enable the **Toggle** button.
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. Refer to the "**Modifying PIPs**" section on page 230 for details.
7. Press **CUT** or **AUTO TRANS** to transition the new look to program. Refer to the "**Working with Transitions**" section on page 241 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**.
3. **Size and Position** — Use the **Size** and **Position** controls in the **PIP Adjustment Menu** to manipulate the PIP on Preview. In Chapter 4, refer to the "**PIP Adjustment Menu Description**" section on page 149 for details.
4. **Source Size** — Press **Source** (in the **Joystick Section**) to display the **Input Source Adjustment Menu**. Use the **Size** and **Position** controls to manipulate the source image within the PIP. In Chapter 4, refer to the "**Source Adjustment Menu Description**" section on page 167 for details.
5. **Crop** — Press **Crop** (in the **Joystick Section**) to display the **Crop Adjustment Menu**. 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 164 for details.
6. **Border** — From the **PIP**, **Shadow** or **Effects** menus, press {**BORDR**} to display the **Border Menu**. Select the border's style, color and size. In Chapter 4, refer to the "**Border Menu**" section on page 151 for menu details.
7. **Shadow** — From the **PIP**, **Border** or **Effects** menus, press {**SHDOW**} to display the **Shadow Menu**. Choose the shadow's size, position and transparency. In Chapter 4, refer to the "**Shadow Menu**" section on page 152 for details.
8. **Special Effects** — From the **PIP**, **Shadow** or **Border** menus, press {**EFX**} to display the **Image Effects Menu**. Select the desired effect such as monochrome, invert, hue and strobe. In Chapter 4, refer to the "**Image Effects Menu**" section on page 153 for details.
9. **Global Functions** — Remember that the following global functions are always available:
   ~ Press **Reset** (in the **Joystick Section**) 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 **CUT** or **AUTO TRANS**. Refer to the "**Working with Transitions**" section on page 241 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 **Layer Control Section**, ensure that the **Split** 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 assigned to the layer blinks.
   - ~ On Preview, the raster box for the selected layer blinks (even if it is hidden under another layer).
3. In the **Layer 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**, select 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 type, clip, gain, opacity, fill, size, position, source image and cropping. Refer to the "**Modifying Keys**" section on page 233 for details.
6. Prior to the transition, you can set up an additional effect 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 229.
7. Press **CUT** or **AUTO TRANS** to transition the look to Program. Refer to the "**Working with Transitions**" section on page 241 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 Program at a time.

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

1. In the **Layer Control Section**, ensure that the **Split** 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 assigned to the layer blinks.
   - ~ On Preview, the raster box for the selected layer blinks (even if it is hidden under the DSK).
3. In the **Layer Functions Section**, ensure that the **KEY** button is lit and the **Key Menu** is visible. If the menu is not visible, press **KEY**.
4. Set the desired **Mix Mode**:
   - ~ To co-locate the mixer's Keys, enable the **Mix Source** button.
   - ~ To locate the mixer's Keys independently, enable the **SWAP** button.
   - ~ To toggle sources, enable **Toggle**.
5. On the **Source Selection Bus**, select 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, size, position, source image and cropping. Refer to the "**Modifying Keys**" section on page 233 for details.
7. Transition the new look to Program with a **CUT** or **AUTO TRANS**. Refer to the "**Working with Transitions**" section on page 241 for details.
8. Repeat the procedure from step **1** for the next transition.

Using Cut & Fill

A **Cut + Fill** key is one in which the hole-cutting information is provided by a Key on **Layer B**, while the fill information is provided by an effect on **Layer A** (either a PIP or a Key).

Note	**Cut + Fill** keys can only be selected on Layer B when the **Split Mode** is enabled.

- Use the following steps to create a **Cut & Fill** Key:

1. In the **Layer Control Section**, ensure that the **Split** button is **On**.
2. Press the **Layer A** button, and configure your "fill" video as either a PIP or a Key in the normal manner. This is the video that will appear "inside" the key. (Typically, the fill video is a PIP.)
3. Press the **Layer B** button and select **Key**.
4. On the **Key Type** line, select **Cut + Fill**.
5. Use the **Clip**, **Gain** and **Opacity** controls to set the appearance of the fill video as desired.
6. Alternate between selecting **Layer A** and **Layer B**, and use each layer's **Size** and **Position** controls to position the fill within the key as desired.

7. Many creative options are available with **Cut + Fill** keys. You can ...
   - ~ Use the "**Join**" mode to link the cut and fill layers together, such that they move together as one. Refer to the "**Using Join Mode**" section on page 237 for details.
   - ~ Program a "**Move**" with the combined **Cut + Fill** effect. Refer to the "**Using Move**" section on page 238 for details.
   - ~ Program a "**Move**" with only the key signal — such that the moving key travels over a static fill, revealing portions of the fill as the move progresses from point to point.
8. Transition the new look to Program with a **CUT** or **AUTO TRANS**. Refer to the "**Working with Transitions**" section on page 241 for details.

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 **Layer Functions Section**.
3. **Key Type** — Use the controls in the **Key Menu** to select the desired key type — **Luma**, **Color**, or **Cut + Fill**. In Chapter 4, refer to the "**Key Menu Functions**" section on page 156 for menu details.

Note

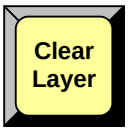
Remember that **Cut + Fill** keys can only be selected on **Layer B** when the **Split Mode** is enabled.

4. **Clip, Gain, Mode, Opacity** — Use the controls in the **Key Menu** to adjust the Key's clip, gain, invert mode and opacity on Preview. In Chapter 4, refer to the "**Key Menu Functions**" section on page 156 for menu details.
5. **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 159 for menu details.
6. **Size and Position** — From the **Key Menu**, press {**SIZE & POS**} to display the **Key Adjustment Menu**. Use the controls to manipulate the Key on Preview. In Chapter 4, refer to the "**Key Adjustment Menu**" section on page 160 for details.
7. **Crop** — Press **Crop** (in the **Joystick Section**) to display the **Crop Adjustment Menu**. 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 164 for details.
8. **Source Size** — Press **Source** (in the **Joystick Section**) to display the **Key Source Adjustment Menu**. Adjust the source image's size and position within the Key. In Chapter 4, refer to the "**Source Adjustment Menu Description**" section on page 167 for menu details.
9. **Special Effects** — From the **Key**, **Key Adjustment**, **Key Source Adjustment** or **Matte Menu**, press {**EFX**} to display the **Image Effects Menu**. Select the desired effect, including monochrome, chroma and hue, invert and strobe. In Chapter 4, refer to the "**Image Effects Menu**" section on page 153 for details.

10. **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.
11. **Transition** — Transition the new look to program with a **CUT** or **AUTO TRANS**. Refer to the "**Working with Transitions**" section on page 241 for details.

Clearing Layers from Program

The clear layer procedure enables you to remove layers from Program — including backgrounds, layers, the DSK and the LOGO. In this mode, always remember to take advantage of the system's **Lookahead Preview** function. Refer to the "**Lookahead Preview**" section on page 219 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 the buttons indicate the 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 **Layer Control Section**, press **Clear Layer**. This action turns off the selected layer button and visually clears the layer from Preview. This step is valid for all buttons in the **Layer Control Section**.
  4. Prior to transition, if you want to clear additional layers, repeat steps **2** and **3**.
  5. Transition the new "look" to program with a **CUT** or **AUTO TRANS**. The selected layer(s) will transition off of Program.

Modifying Layers On Program

The ScreenPRO-II Controller 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. From the **Home Menu**, press **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.

Please note:

- When you switch sources directly on Program, you may notice a glitch in the image as the scalers recall the source's file.
- If you use camera inputs in this mode, it is recommended that you use an external **Genlock** signal. Refer to the "**Understanding Input File Mapping**" section on page 221 for details on source files.

Working with Layer Functions

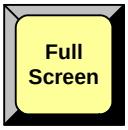
The following topics are discussed in this section:

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 **Layer Functions Section**:
   - ~ Press **PIP** to change a Key to a PIP, or ...
   - ~ Press **Key** to change a PIP to a Key.

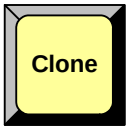
Using Full Screen



- 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 **Layer 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. Shadows will not be taken into account for the full screen size.

Using Clone



The Clone mode is designed for widescreen configurations only. It enables you to make an exact copy of a layer onto the opposite screen. All parameters of the PIP or Key are cloned, including the shadow, key effects, border and size. Once cloned, you can select between a "mirror" or an "offset" clone.

- Use the following steps to clone a layer:

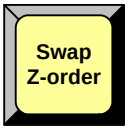
1. Ensure that a PIP or Key is selected in the **Layer Control Section**, and active for modification in Preview.
2. Ensure that the PIP or Key is positioned fully within the boundaries of an outside destination's screen. If the PIP or Key straddles the widescreen overlap region, the mode cannot be enabled.
3. Press **Clone** to display the **Clone Setup Menu**.

4. Select the desired clone type — **Mirror** or **Offset**.
5. If **Offset** is selected, adjust the offset (in pixels) as desired.
6. If desired, clone the other layer by repeating the procedure from step **1**.
7. Press **CUT** or **AUTO TRANS** to transition the effect to Program.

Note

You can set up and perform a **Move** in conjunction with a cloned image.

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 visible on Preview, with one layer visually overlapping the other.
2. In the **Layer 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 **CUT** or **AUTO TRANS**.

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 **Layer 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

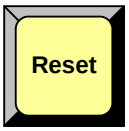
The lit **Freeze** button indicates the association between the selected layer and the "freeze." If you select a different layer that does not have an associated freeze, the button turns off. If you return to the associated layer, the button lights again.

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

Please 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 or Key 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 parameter:

1. In the **Layer Control Section**, activate the layer that you wish to reset. The layer button blinks to indicate that it is active.
2. Ensure that the layer is on Preview. Typically, you cannot reset functions on Program.

Note

In some situations (such as size and position), a parameter on Program can be reset — provided that **Modify Layers on Program** is enabled.

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 **Joystick Section**, press **Reset** to reset the current effect.

Using Join Mode

The "**Join**" mode enables you to lock **Layer A** and **Layer B** together, such that they move as one. You can program "moves" when the two layers are joined, and the mode is particularly effective when using **Cut + Fill** keys. The following rules apply:

- The **Split** mode must be enabled in order to enter the **Join** mode.
- Any **Layer A** and **Layer B** effect can be joined, including PIPs and all types of Keys. You can join two PIPs, two Keys, or one PIP and one Key.
- When the two layers are joined, the **Size** and **Position** controls on either layer enable you to move both layers as one. The relationship of the two layers (at the time of the joining) is maintained proportionally.
- When the two layers are joined, the effects (e.g., border, shadow, clip) on each layer are locked — and cannot be changed until the "join" is cancelled.
- You can only enter and exit the mode when the "join" is on Preview.

- Use the following steps to join **Layer A** and **Layer B**:

1. In the **Layer Control Section**, ensure that **Split** mode is enabled.
2. On Preview, create a Key or PIP on **Layer A** in the normal manner.
3. Create a Key or PIP on **Layer B** in the normal manner.
4. Press and hold the **Split** button, then press either of the two layer buttons. This action enables the "**Join**" mode, and causes both layer buttons to blink.
5. Use either layer's **Size** and **Position** controls to modify the joined layers, or to program a "move." Note that the two layers move and size as one.
6. Transition the new "look" to program with a **CUT** or **AUTO TRANS**.
7. To exit the mode, transition the effect off Program and back to Preview.
8. Press and hold the **Split** button, then press either of the two layer buttons.

Using Move

The following topics are discussed in this section:

- **Programming Moves**
- **Pending and Triggering Moves**
- **Move Notes**

Programming Moves

The ScreenPRO-II Controller enables you to move a PIP or a Key (or both) smoothly from one screen location to another at a predefined rate, while the layer(s) are 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 a Move on Preview**
- **Program a Move on Program**

Program a Move on Preview

This mode enables you to program a move with the layer on Preview only — before it has transitioned to Program.

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

1. In the **Layer Control Section**, select the layer that you want to move (**LAYER A** or **LAYER B**). The button blinks to indicate that it is active for modification.
2. In the **Layer 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 way.
4. In the **Layer Functions Section**, press **Move Setup**. The button blinks to indicate that you are now actively defining the properties of the move.
5. Move the PIP or Key to its “ending” size and location (on or off screen).
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, 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 turns off. If you return to the “associated” layer, the button lights again.

8. To set up an additional move on the other layer (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 on page 239.

Program a Move on Program

This mode enables you to program a move with the layer on both Program and Preview — after the layer has transitioned to Program.

- 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 (**LAYER A** or **LAYER 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 **Layer Functions Section**, press **Move Setup**. The button blinks to indicate that you are now actively defining the properties of the move.
  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, and the raster box returns to its starting location on Preview.
  5. To set up an additional move on the other layer (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**
- **Pend on Program**

Pend on Preview

This "pend" 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 **Layer Functions Section**. The button lights to indicate the pending move. On Preview, the raster box blinks at the "destination" location — *not* the PIP or Key's current location.
  3. Perform a **CUT** or **AUTO TRANS**. 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 **CUT** or **AUTO TRANS**. In this "ping-pong" manner, you can continue to transit back and forth between keyframes 1 and 2.

Pend on Program

This "pend" method enables you to trigger the move *manually,* once 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 **CUT** or **AUTO TRANS**. The transition takes the Preview layer(s) to Program.
3. To pend the move, press **Move** in the **Layer 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 **CUT** or **AUTO TRANS**. 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 **CUT** or **AUTO TRANS**. 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** — The ScreenPRO-II Controller enables you to move a PIP or Key from an off-screen location to an on-screen location, and vice-versa.

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

- In **Split** 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.

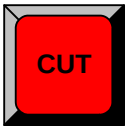
Working with Transitions

This section provides instructions for perform a variety of transitions. The following topics are discussed:

Cut

Cuts can be performed on both single screen and widescreen destinations.

- 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.

Mix

A Mix (or Dissolve) can be performed on both single screen and widescreen destinations.

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

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**.
4. Press **AUTO TRANS** to dissolve the setup to Program.

Wipe

All types of wipes can be performed on single screen destinations. On widescreen destinations, you can perform a **Wipe Up** or **Wipe Down**.

- 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.

Note — Key Frame effects are fixed as **LINEAR**, and cannot be changed.

3. In the **Transition Section**, press **WIPE**.
4. Press **AUTO TRANS** to wipe the setup to Program.

Manual Transitions

Any of the transitions outlined above can be performed manually with the **T-Bar**.

- Use the following steps to perform a manual transition:

1. Set up the desired “look” in Preview.
2. Select **WIPE** or **MIX** as desired. Remember that wipes can only be performed on single screen destinations
3. In the **Transition Section**, move the **T-Bar** to manually dissolve (or wipe) the images on Preview to Program.

Transition Notes

Using the **Effects Menu**, transitions performed on the ScreenPRO-II Controller are destination-based. Two examples are provided below.

- Select destinations 1 and 3, then press **WIPE**. Next, select destination 2 only and press **MIX**. Finally, select all three destinations and press **AUTO TRANS** to simultaneously perform a wipe on destinations 1 and 3, and a dissolve on destination 2.

Note — In the above example, both the **WIPE** and **MIX** buttons would be lit when all three destinations are selected.

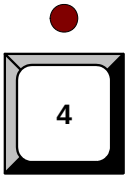
- If destinations 1, 2 and 3 are lit, and both the **WIPE** and **MIX** buttons are lit, pressing **MIX** changes all three destinations to **MIX**.

Working with Presets

This section provides detailed instructions for working with Presets. The ScreenPRO-II Controller's **Preset Section** enables you to store and recall entire Controller setups. Each preset button represents one "look" of the overall projected image. The Controller has 6 Preset buttons and 6 "page" LEDs, providing a total of 36 Presets that you can store and recall — 6 pages of 6 Presets each.

The following topics are discussed:

A Word About Resources



Resources, as they apply to Presets, are the assigned layers that comprise the Controller's current "look."

- When you store a Preset, you are not only recording the Controller's entire look, but you are also recording the priorities (e.g., the layers of PIPs and Keys) that were selected in the **Layer Control Section**.
- When you recall a Preset, you are recalling the entire setup, and all previously stored priorities — PIPs, Keys, Colors, Sources, Moves, etc.

Two "resource" examples are provided below:

- ▲ If you store a Preset that contains **LAYER A** with **SPLIT** mode on, you can recall it to Preview *only* if **LAYER A** is not already in use — in the current Program setup.
- ▲ If you store a Preset that contains **LAYER A** with **SPLIT** mode off, because there is always an available layer in **Mix Mode**, you can recall the Preset to Preview at any time. However, note that the system will pick the available layer based on resources (e.g., if you stored the Preset in **LAYER A**, the system may recall it to **LAYER B** if **LAYER A** is in use).

With these facts in mind, you may wish to store (and organize) your Presets according to the use of resources:

- For example, you could store Presets on **Page 1** that only use one PIP, and presets on **Page 2** that use two PIPs.
- As an alternate method, you may want to plan your presentations such that Presets are always recalled to an "empty" Program setup (with only a background visible). This method avoids all resource issues entirely.

Storing Presets

- Use the following steps to store a preset:

1. Set up the desired “look” on Preview. Remember that one preset equals a single “look” of the Controller, including the current state of all mixers, layers, sources, and the DSK.
2. Select the “page” on which you want to store the preset. In the **Preset Section**, hold down **Page**, then press the desired Preset button. The **Red LED** above the button lights to indicate the current page.
3. To store the preset, press **Learn +** the desired Preset button. The Touch Screen displays a confirmation message, and the overall look of the Controller is now saved into that register.

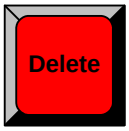
Recalling Presets

- Use the following steps to recall a preset:

1. Check the available resources on Program. If the resources (layers) that you wish to recall are already in use on Program, they must first be cleared before the “recall” is permitted.
2. Select the “page” from which you want to recall the preset. In the **Preset Section**, hold down **Page**, then press the desired Preset button. The **Red LED** above the button lights to indicate the current page.
3. To recall a Preset, simply press the desired **Preset** button to recall the stored “look” to Preview.

Deleting Presets

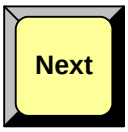
- Use the following steps to delete a preset:



1. Select the “page” from which you want to delete a preset. In the **Preset Section**, hold down **Page**, then press the desired Preset button.
2. In the **Preset Section**, hold down **Delete**, then press the desired Preset button to delete that register from memory. The Touch Screen displays a confirmation message.

Using Next and Previous

- Use the following steps to utilize the **Next** function:

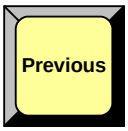


1. Check the available resources on Program. If the resources (layers) that you wish to recall are already in use on Program, they must first be cleared before the “recall” is permitted.
2. In the **Preset Section**, press **Next** to recall the next valid Preset in sequential order. Please note:
   - ~ If Preset **2** is lit, pressing **Next** recalls Preset **3**.
   - ~ If Preset **6** is active on page **2**, pressing **Next** advances to Preset **1** on page **3**.

~ If a Preset is undefined, it will be skipped when **Next** is pressed.

- Use the following steps to utilize the **Previous** function:

Note	The **Previous** feature is currently not implemented.



1. Information to be provided.

Preset Notes

Please note the following important points regarding Presets:

- Active destinations (both standard and Aux) are stored as part of a Preset.
- Aux source selections are saved and recalled in Presets.
- If different Presets have different **Move** definitions stored for the same Layer, when you recall a Preset to a Layer that *already* has a PIP on Program, the starting location of the recalled Move is ignored. Instead, the PIP's "current" location will be used as the move's starting point, and the ending point from the recalled Preset will be used. In this manner, you can effectively recall a series of "end" points — all of which use the end point from the previous Preset as their new starting point.

  If you recall a Preset with a defined **Move** to an empty layer, both the starting and ending points of the recalled Move will be used.

Working with Still Frames

The following topics are discussed in this section:

Still Frame Capture Overview

The ScreenPRO-II Controller enables you to capture still frames into each ScreenPRO-II's three internal frame stores. The "sources" of the still frames are each ScreenPRO-II's **BG A** and **BG B** inputs, or the scaled inputs (**Layer A** or **B**).

Please note:

- For widescreen destinations, even though you are using the frame stores of *multiple* ScreenPRO-II units, you are conceptually working with only three frame stores — each of which captures's its "slice" of the complete widescreen image.
- For single screen destinations, you are working with the individual destination's three frame stores in the normal manner.

Regarding captures:

- All captures of the background (**BG A** or **BG B**) must occur on **Preview** — the desired full screen source to capture must be visible on Preview. You will get an error message if you attempt to capture while the source is on Program.
- All captures of the layers (**LAYER A** or **LAYER B**) can occur on either **Preview** or **Program**. 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 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 170.
- Ensure that you are familiar with the **Frame Grab Menu**. In Chapter 4, refer to the "**Frame Grab Menu**" section on page 142 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 "**Background Setup**" section on page 205 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 these layers 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 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 {**HOME**} **>** {**FRAME GRAB**} to display the **Frame Grab Menu**.
6. On the **Frame Number** line, select the temporary frame store into which the still will be captured (**FG_1**, **FG_2** or **FG_3**).
7. Press {**CAPTURE**}. 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 following sections for instructions:
  - ~ "**Background Setup**," page 205.
  - ~ "**DSK Setup Procedure**," page 211.
  - ~ "**LOGO Setup Procedure**," page 212.
- 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 248.

Note	Only "saved" still frames can be named.

Capturing Still Frames from a Layer

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

1. Ensure that **BG A**, **BG B** or the **DSK** are not on Program. If they are, you will get a pop-up prompt. Transition these layers off Program in the normal manner.
2. In the **Layer Control Section**, select the layer from which you want to capture a still. The button blinks indicating that it is "selected."

Note	The layer can be on Program or Preview.

3. Select **PIP** or **Key** in the normal manner. The selected **PIP** or **Key Adjustment Menu** appears.
4. Adjust the PIP or Key’s size and position. Remember that:

- ~ The system will capture the "selected" 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 (selected) layer will be captured, regardless of image priority.

5. Press {**HOME**} **>** {**FRAME GRAB**} to display the **Frame Grab Menu**.
6. On the **Frame Number** line, select the temporary frame store into which the still will be captured (**FG_1**, **FG_2** or **FG_3**).
7. Press {**CAPTURE**}. 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 **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 following sections for instructions:
  - ~ "**Background Setup**," page 205.
  - ~ "**DSK Setup Procedure**," page 211.
  - ~ "**LOGO Setup Procedure**," page 212.
- 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 248.

Note — Only "saved" still frames can be named.

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 247.
   - ~ "**Capturing Still Frames from a Layer**" on page 247.

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 your stills during pre-production as a "setup" procedure.

2. On the **Frame Grab Menu**, use the **Frame Number** line to select the frame that you wish to save.
3. Press {**SAVE**} to save the captured frame into the selected storage register (**FG_1**, **FG_2** or **FG_3**). Once pressed, the screen displays an important 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.
4. If required, press {**DELETE**} to delete the selected frame from permanent storage. This button only appears when frames are stored in permanent memory.

Naming a Saved Still Frame

- Use the following steps to name a saved still frame.

1. Ensure that the still you wish to name has been saved in permanent memory. If not, refer to the "**Saving Still Frames in Permanent Memory**" section on page 248.
2. Ensure that the **Tally** option is physically installed, and that a PS-2 keyboard is connected to the rear-panel **Keyboard** connector.
3. On the **Frame Grab Menu**, press {**NAME**} to display the **Frame Grab Name Menu**.
4. On the **Saved Location** line, select the frame that you wish to name.
5. Using the keyboard, enter the desired name. As you type, characters will appear in the menu's **New Name** field.
6. Press **Enter** (on the PS-2 keyboard) to save the name. Once saved, the system "attaches" the name to the still in permanent memory.
7. Press {**BACK**} to return to the **Frame Grab Menu**.

Using the DSK

- Use the following steps to perform a downstream key:

1. Ensure that the DSK is properly set up. In Chapter 5, refer to the "**DSK Setup Procedure**" section on page 211 for instructions.
2. Ensure that **BG B** is not in use.

Note

In both single and widescreen modes, remember 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** on all individual ScreenPRO-II units.

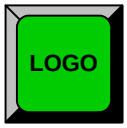
3. In the **Layer Control Section**, press **DSK** to display the **DSK Adjustment Menu**.
4. Press {**INPUT SETUP**} to display the **DSK Input Setup Menu**.
5. On the **ID** line, select the ID of the ScreenPRO-II with which you want to perform the DSK.
6. On the **Type** line, selects the desired DSK source — **None**, **DVI** or a captured still frame (**FG_1**, **FG_2** or **FG_3**).
7. Press {**KEY**} to return to the **DSK Adjustment Menu**.
8. Adjust DSK parameters as desired, including key type, invert, clip, gain, opacity and fill source. Refer to the "**Modifying Keys**" section on page 233 for details.

Note

Not all parameters listed in the "**Modifying Keys**" section apply to a DSK.

9. Perform a **CUT** or **AUTO TRANS**.
10. Clear the **DSK** from Program in the normal manner — by clearing its layer from Preview and then transitioning.

Using the LOGO



- Use the following steps to transition the **LOGO** to Program:

  1. Ensure that the LOGO is properly set up. In Chapter 5, refer to the "**LOGO Setup Procedure**" section on page 212 for instructions.
  2. In the **Layer Control Section**, press **LOGO** to display the **LOGO Menu**.
  3. On the **Type** line, selects the desired LOGO source — **Black**, or a captured still frame (**FG_1**, **FG_2** or **FG_3**).
  4. Perform a **CUT** or **AUTO TRANS**.
  5. Clear the **LOGO** from Program in the normal manner — by clearing its layer from Preview and then transitioning.

Please note:

- 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."
- 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.

Locking and Unlocking the Controller

This section provides instructions for locking and unlocking the Controller.

▲ **Prerequisite**:

~ Ensure that you are familiar with the **Lockout Code Menu** and its associated submenu. In Chapter 4, refer to the "**Lockout Code Menu**" section on page 136.

■ Use the following steps to lock the Controller:

1. On the **Lockout Code Menu**, select the type of lockout code you wish to use — once the panel is unlocked: **Default** or **Custom**.
2. If **Custom** is selected, use the **Change Lockout Code Menu** to enter the desired code. Make a note of the selected code.
3. To lock the Controller, press and hold the **PAGE** button (in the **Presets Section**), then press the **ALL** button (in the **Destination/Aux Bus**). The message "**KEYBOARD LOCKED**" appears on the menu.

■ Use the following steps to unlock the Controller:

1. Press and hold the **PAGE** button, then press the **ALL** button. The **Enter Lockout Code** menu appears.
2. Use the eight numbered buttons on the **Source Selection Bus** to enter the code.
   ~ If the correct code has been entered, the message "**Unlocking Controller**" appears on the display, and the Controller is ready for use.
   ~ If the incorrect code has been entered, the Controller remains locked.

Important

If you have selected a **Custom** lockout code, but you have forgotten the code, a **Master Code** is available. Refer to the ScreenPRO-II Controller system's most current "**Whatsnew_ScreenPRO-II Controller.txt**" document for details. This document is bundled with every software download. Note that the **Master Code** changes with each software version.

Working with Tallies

The "Tally" function can be enabled or disabled as required.

- Use the following steps to enable or disable tallies:

1. Ensure that your tallies are properly set up. In Chapter 5, refer to the "**Input Patching**" section on page 198 for instructions.
2. Press {**HOME**} **> SYSTEM** to display the **System Menu**.
3. On the **Tally Mode** line:
   - ~ Select **On** to enable all assigned tally relay closures.
   - ~ Select **Off** to disable all assigned tally relay closures.

Please note:

- Remember that tallies are mapped to inputs. When **Tally Mode** is **On**, if a "mapped" tally goes to Program, one of the associated eight tally circuits will be turned on.
- When the "mapped" input is removed from Program, the associated tally will turn Off.
- Tally functionality can be tested. Press {**HOME**} **> SYSTEM** > {**DIAG**} > {**TALLY**} to initiate the test.

Using Backup and Restore

The ScreenPRO-II Controller system enables you to backup and restore the complete system setup including all Presets, using a customer supplied flash memory card. The following topics are discussed:

- **System Backup**
- **System Restore**

System Backup

This procedure enables you to back up your entire system configuration. Please note the following important points:

- You can only store one system configuration on a Flash Memory Card.
- Customer supplied Flash Memory Cards must be equal to or greater than 512MB.

- Use the following steps to back up your system:

1. Ensure that you have a (customer supplied) **Flash Memory Card** available.
2. Insert the **Flash Memory Card** into the Controller's rear panel **Memory Card** slot.
3. From the **Home Menu**, press **MISC** to display the **Miscellaneous Menu**.
4. Press {**BACKUP RESTORE**} to display the **Backup/Restore Menu**.
5. On the **Device** line, select **Ctrlr+SP** to perform a complete backup, or select a subset as desired.
6. On the **Controller Options** line, select **All**, or select a subset as desired.

7. Press {**CHECK CARD**} to check for the presence of a Flash Memory Card.
8. Press {**BACKUP**} to perform a backup operation to the Flash Memory Card using the selected device(s) and options.

System Restore

Please note the following important points regarding the "restore" function:

- When restoring, you must have the same version of software installed in the Controller as was used to perform the backup.
- Conversion between versions can only be done with the **Barco Backup and Restore** utility.

Note

The **Barco Backup and Restore** utility can be found in the ScreenPRO-II Controller software bundle — available via download from the website.

- Use the following steps to restore from the flash memory card: Please note the following important points:

1. Ensure that your flash memory card is properly inserted in the Controller's **MEMORY CARD** slot on the rear panel.
2. On the **Home Menu**, press **MISC** to access the **Miscellaneous Menu**.
3. Press {**BACKUP RESTORE**} to display the **Backup/Restore Menu**.
4. Press {**CHECK CARD**} to ensure that the Controller recognizes the card.
5. On the **Device** line, select **Ctrlr+SP** to perform a complete restore, or select a subset as desired.
6. On the **Controller Options** line, select **All**, or select a subset as desired.
7. On the **SP to Restore** line, select **All**, or select a subset as desired.
8. Press {**RESTORE**} to restore the selected system configuration.

At the conclusion of this procedure, your system is completely set up — exactly the way that you left it when you performed a complete system "backup."

A. Specifications

In This Appendix

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

ScreenPRO-II Input Specifications

The table below lists input specifications for individual ScreenPRO-II units.

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

ScreenPRO-II Output Specifications

The table below lists output specifications for individual ScreenPRO-II units.

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 Controller user control specifications.

Table A-3. ScreenPRO-II Controller User Control Specifications

Parameter	Specification
LCD Touchscreen	3.8”, 320 x 240 pixel resolution
Soft keys	8
Rotary Encoders	2
LED Pushbuttons	58, color coded

Widescreen Functions

The table below lists ScreenPRO-II Controller widescreen functions.

Table A-4. ScreenPRO-II Controller Widescreen Functions

Parameter	Specification
Maximum widescreen width	4 screens
Maximum widescreen destinations	1 (1 BlendPRO-II) *
Widescreen operation	Same as Encore 1 x ME system
Transitions	Transitioning background plus 1 transitioning widescreen PIP (same as Encore 1 x ME system)
Clone Mode	Same as Encore

Note

* Additional BlendPRO-II units connected to the ScreenPRO-II Controller system will not be recognized.

Physical and Electrical Specifications

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

Table A-5. ScreenPRO-II Controller Physical and Electrical Specifications

Parameter	Specification
Power	120-240 VAC - 50/60 Hz., Auto-selecting 1.0A maximum
Console Light	XLR connector
Mechanical	H: 5.95 inches (15.13 cm)
	W: 17.00 inches (43.18 cm)
	D: 10.00 inches (25.40 cm)
	See below for additional dimensions
Weight	17 lbs (13.11 kg) Estimated
Temperature	0-40 degrees C
Humidity	0-95% non-condensing

Please note the following additional mechanical specifications:

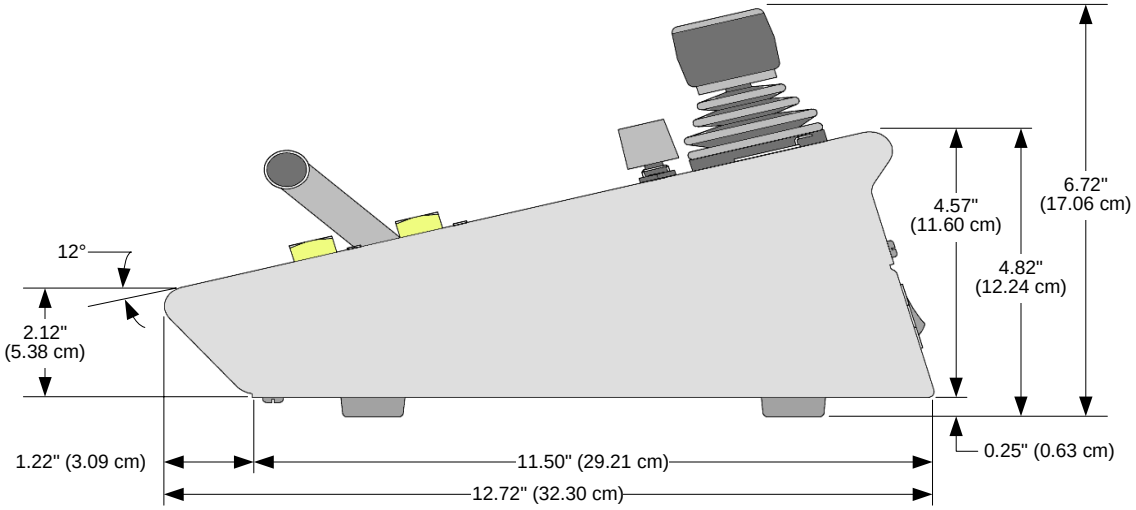


Figure A-1. ScreenPRO-II Controller Side View

Communications Specifications

The table below lists ScreenPRO-II Controller communications specifications.

Table A-6. ScreenPRO-II Controller Communications Specifications

Parameter	Specification
Ethernet	RJ-45, 10/100 Mbps Autosense
RS-232	Console: DB-9 Female, DCE, 115k Baud
	EXT Comm: DB-9 Female, DCE, 115k Baud
Flash Memory Card	Type 1 compliant
Tally (Optional)	DB-25 male, Dry-contact relay closures
	1 Amp at 30 VDC
	0.5 Amps at 125 VDC

Pinouts

The following topics are discussed in this section:

- **Ethernet Connector**
- **Serial Connector**
- **Tally Connector**

Ethernet Connector

The figure below illustrates the ScreenPRO-II Controller Ethernet connector:

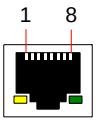


Figure A-2. Ethernet Connector

The table below lists Ethernet connector pinouts.

Table A-7. 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 ScreenPRO-II Controller serial connector, which is used for both the **Ext Comm** and **Console Port** connections.

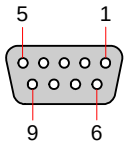


Figure A-3. Serial Connector

The table below lists Serial connector pinouts.

Table A-8. 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

Please note:

- The port is configured as a DCE, 115K Baud, 8 data bits, 1 stop bit, no parity bits.
- The serial port can be connected to a standard PC serial port with a straight through DB-9 to DB-9 cable.

Tally Connector

One 25-pin D connector is provided for issuing tally “relay closure” commands to external devices. Eight tally circuits are provided. Please note:

- Tally outputs provide dry-contact relay closures between signal pairs or contact closures to ground, whenever the corresponding input source is selected for display on a Program output.
- Tally outputs may be used to signal when input devices (cameras) are “live.”
- Each contact has a rating of 1 Amp at 30 VDC, and 0.5 Amps at 125 VDC.
- A mating connector is required — see the diagrams below.

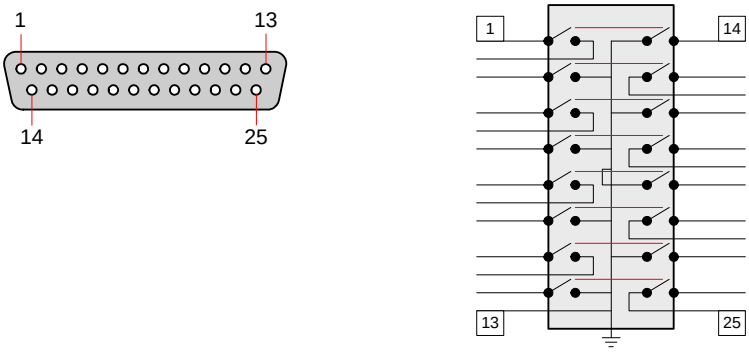


Figure A-4. Tally Connector and Circuit

The table below lists Tally Connector pinouts:

Table A-9. Tally Connector Pinouts

Pin	Signal	Pin	Signal
1	Tally 1 contact closure	14	Tally 8 contact closure
2	Tally 1 contact closure	15	Tally 2 contact closure
3	Tally 2 grounding closure	16	Tally 2 contact closure
4	Tally 3 contact closure	17	Tally 3 grounding closure
5	Tally 3 contact closure	18	Tally 4 contact closure
6	Tally 4 grounding closure	19	Tally 4 contact closure
7	Tally 5 contact closure	20	Tally 5 grounding closure
8	Tally 5 contact closure	21	Tally 6 contact closure
9	Tally 6 grounding closure	22	Tally 6 contact closure
10	Tally 7 contact closure	23	Tally 7 grounding closure
11	Tally 7 contact closure	24	Tally 8 contact closure
12	Tally 8 grounding closure	25	Tally 8 contact closure
13	Signal ground		

ScreenPRO-II Input and Output Resolutions

This section provides a comprehensive list of available input and output resolutions on the individual ScreenPRO-II units. These resolutions can be assigned 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 Controller 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 Media and Entertainment
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 Controller system are loaded into the hardware at power-up. These files are stored in the unit's onboard flash memory, which can be upgraded using a serial or Ethernet connection to a PC (or laptop).

The desired connection is made through the **Console** or **Ethernet** port on the ScreenPRO-II Controller's rear panel, in conjunction with the "Flash Loader" utility supplied with each upgrade. The Flash Loader enables you to update the Flash memory with the latest software revision. The utility should be run from a PC's hard drive (recommended).

Hardware Requirements

The following hardware items are required to upgrade the ScreenPRO-II Controller:

- IBM compatible computer with an available COM port or Ethernet port.

If you elect to connect serially, a serial cable conforming to EIA RS-232 specifications (e.g., standard modem cable) is required. The cable should have a DB-9 male connector on one end (for connection to the ScreenPRO-II Controller's **Console** port), and the appropriate connector on the other end for connection to your PC (typically, a DB-9).

Software Requirements

The following list outlines software requirements for upgrading the ScreenPRO-II Controller:

- Ensure that your PC (or laptop) uses the Windows® 2000 or XP operating systems.
- Software files:
  - ~ Flash File Loader. (This software enables the PC to send commands to the ScreenPRO-II Controller.)
  - ~ ScreenPRO-II Controller software
  - ~ What's New File

Note

All software files listed above (and more) are contained in the file that you will download.

Software files can be downloaded from either the Folsom FTP site or the Barco Folsom website, as described in the following "**Downloading Software**" section on page 271.

Downloading Software

Two different methods can be used to download ScreenPRO-II Controller software and the Flash File Loader utility:

- **Via FTP Site**
- **Via Web Site**

Via FTP Site

Barco Folsom's FTP site address is: **ftp.folsom.com**

- To download from the FTP site:

1. Create a target folder on your PC (e.g., ScreenPRO-II Controller).
2. If you are using an FTP client, logon to our site as follows:
   - ~ **User name**: anonymous
   - ~ **Password**: your email address
   - ▲ **Example**: johndoe@somecompany.com

   If you are using a web browser to access our FTP site, point the browser to:

   ftp://ftp.folsom.com
3. Once logged on, navigate to the following directory:

   ftp://ftp.folsom.com/Products/Video/ScreenPROII_Controller/
4. Transfer the following file to the target folder on your PC:

   ScreenProController_Rev#.##.EXE
5. As required, please continue with the "**Serial Upgrade Method**" section on page 272, or the "**Ethernet Upgrade Method**" section on page 274.

Via Web Site

Barco Folsom's web site address is: **http://www.folsom.com**

- To download from the web site:

1. Create a target folder on your PC (e.g., ScreenPRO-II Controller).
2. On the web, navigate to **http://video.folsom.com**.
3. Click "**Downloads**" to access the **Downloads Page**.
4. Using the "**Select Video Product**" pull-down menu, click ScreenPRO-II Controller.
5. In the "**Software**" section, click the **Download** button for the latest version of system software.
6. When the **File Download Dialog** appears, click **Save** to save the file to your computer.
7. When the **Save As Dialog** appears, navigate to the target folder and click **Save**.
8. As required, please continue with the "**Serial Upgrade Method**" section on page 272, or the "**Ethernet Upgrade Method**" section on page 274.

Serial Upgrade Method

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

  1. With the download complete, navigate to the target folder and double-click the **EXE** to launch the installation shield.
  2. Follow the prompts to install the upgrade package. At the conclusion of the procedure, a new path will be created under **Start > Programs > Barco Folsom**.
  3. Connect the **Console** port on the back of the ScreenPRO-II Controller to the **COM 1** port on your PC.
  4. Power-up the ScreenPRO-II Controller.
  5. On the PC, click **Start > Programs > Barco Folsom > ScreenPRO-II Controller Software #.## > Flash Loader** to launch the Flash Loader utility.

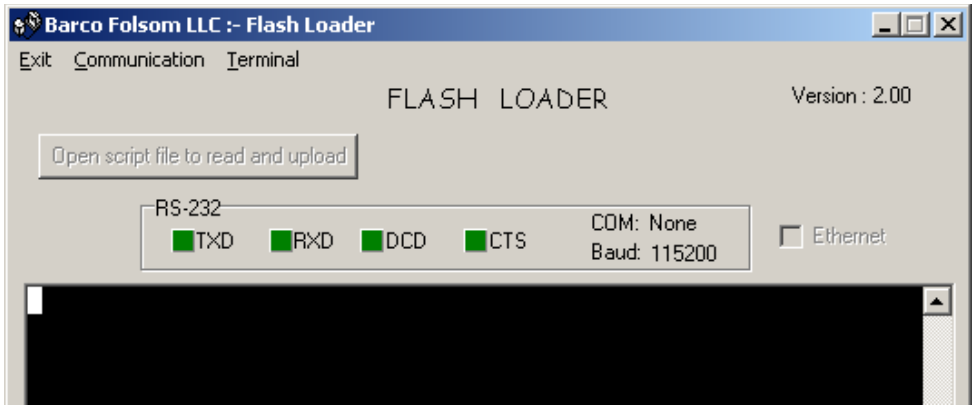


Figure C-1. Flash Loader Utility

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.

  6. Click **Communication > RS232 Config > Baud**, and select 115200.
  7. Click **Communication > RS232 Config > COM Port**, and select the COM port on your PC to which ScreenPRO-II Controller is connected. If no other programs are using the port, the "**Established communications**" message appears at the bottom of the Flash Loader.
  8. To verify communications between the PC and ScreenPRO-II Controller:
     - **a.** In the Flash Loader, 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.
     - **c.** Press **Enter** a few times to display the system prompt "#" on screen.
     - **d.** If the prompt does not appear, continue with step **9** (troubleshooting).
     - **e.** If the prompt appears, continue with step **10** (uploading files).

9. 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 Controller communication settings, press {**HOME**} > **MISC** > {**CONSL**} to display the **Console Port Setup Menu**.
    c. Verify the following settings:
        - 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 **10**.
10. To upload files to ScreenPRO-II Controller, click "**Open script file to read and upload**."
11. In the dialog, select "**Complete_Load.sld**" and click **Open**. The ScreenPRO-II Controller menu should immediately display the "**System in LOADER MODE**" message.
12. It takes several minutes to load the flash memory. When complete, the Flash Loader utility displays the "**Upload Complete**" message. Click **OK** to continue.
13. Cycle power on the ScreenPRO-II Controller, and exit the Flash Loader utility.
14. On ScreenPRO-II Controller, perform a factory reset. In Chapter 5, refer to the "**Return to Factory Default**" section on page 189 for instructions.
15. On the ScreenPRO-II Controller, verify that the new software has been loaded correctly. Press {**HOME**} > **SYSTEM** > {**SW VER**} to display the **Software Version Menu**.

This completes the software upgrade procedure via serial communications.

Ethernet Upgrade Method

- Use the following steps to upgrade ScreenPRO-II Controller software using an Ethernet connection to your PC:

Note	The default IP address is **192.168.0.2**.

1. Ensure that your PC (or laptop) uses the Windows® 2000 or XP operating systems.
2. Connect the ScreenPRO-II Controller's Ethernet port to a Hub or Switch.
3. Connect the Ethernet Hub or Switch to your PC. Remember that a totally "local" network is recommended, without IP connections to the outside world.
4. Power-up the ScreenPRO-II Controller.
5. On the PC, click **Start > Programs > Barco Folsom > ScreenPRO-II Controller Software #.## > Flash Loader** to launch the Flash Loader utility.

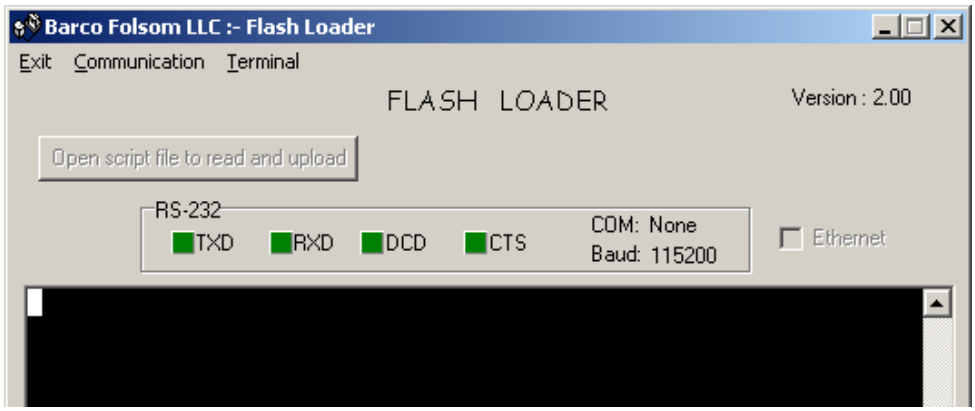


Figure C-2. Flash Loader Utility

6. Click **Communication > Ethernet > Connect** to display the **Ethernet Connection Dialog**.

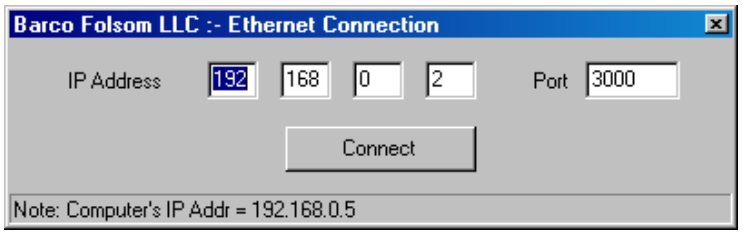


Figure C-3. Ethernet Connection Dialog (sample)

Note	If the **Ethernet** menu pick is grayed out, set the COM port to **None**.

7. In the dialog, enter ScreenPRO-II Controller's IP address (**192.168.0.2**), and enter the default port number: **3000**.

8. Click the **Connect** button. If the connection is successfully, the message "**Connect via Ethernet successful**" appears in the Flash Loader's **Status Bar**. If you cannot connect, refer to the "**Troubleshooting Ethernet Communication**" section on page 275.
9. To upload files to the ScreenPRO-II Controller, click "**Open script file to read and upload**."
10. In the dialog, select "**Complete_Load.sld**" and click **Open**. The ScreenPRO-II Controller menu should immediately display the "**System in LOADER MODE**" message.
11. It takes several minutes to load the flash memory. When complete, the Flash Loader utility displays the "**Upload Complete**" message. Click **OK** to continue.
12. Cycle power on the ScreenPRO-II Controller, and exit the Flash Loader utility.
13. On ScreenPRO-II Controller, perform a factory reset. In Chapter 5, refer to the "**Return to Factory Default**" section on page 189 for instructions.
14. On the ScreenPRO-II Controller, verify that the new software has been loaded correctly. Press {**HOME**} > **SYSTEM** > {**SW VER**} to display the **Software Version Menu**.

Troubleshooting Ethernet Communication

- Use the following steps to determine the IP address of ScreenPRO-II Controller, and establish proper communications:

> **Note** The default IP address is **192.168.0.2**.

1. Turn on the ScreenPRO-II Controller. Press {**HOME**} > **SYSTEM** > {**NETWORK SETUP**} to display the **Network Setup Menu**.
2. Make a note of the IP address.
3. Attempt to ping the ScreenPRO-II Controller as follows:
   a. Connect ScreenPRO-II Controller's Ethernet port to a Hub or Switch.
   b. Connect the Ethernet Hub or Switch to your PC. A totally "local" network is recommended, without IP connections to the outside world.
   c. Turn on the PC or laptop.
   d. Open a command prompt window on the PC. Click **Start > Programs > Accessories > Command Prompt**.
   e. On the command prompt line, type:

      ```
      ping 192.168.0.2
      ```

      ... followed by **Enter**.

> **Note** Use the unit's actual IP address, as determined in step **2** above.

   f. If the computer is able to successfully communicate with the ScreenPRO-II Controller, you will see a series of "**replies**" from the target IP address. Repeat the upgrade procedure as outlined in the "**Ethernet Upgrade Method**" section on page 274.

g. If you see a "**Request timed out**" message, the PC is unable to locate and communicate with the ScreenPRO-II Controller. If this is the case:

- Check your network connections and settings as described above, or ...
- Contact your network administrator, or ...
- Contact **Technical Support**. In Appendix B, refer to the "**Contact Information**" section on page 268 for details.

Index

{ Menu Buttons }

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