

iMC-Panel-300

Master Control Panel

Operator's Guide (for Imagestore 750s)

UG0055-01

7 Nov 2012



A **BELDEN** BRAND

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- To avoid fire hazard, use only the specified fuse(s) with the correct type number, voltage and current ratings as referenced in the appropriate locations in the service instructions or on the equipment. Always refer fuse replacements to qualified service personnel.
- To avoid explosion, do not operate this equipment in an explosive atmosphere.
- Have qualified service personnel perform safety checks after any service.

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A caution indicates a possible hazard to equipment that could result in equipment damage. Observe the following cautions when operating or working on this equipment:

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- To prevent damage to equipment when replacing fuses, locate and correct the problem that caused the fuse to blow before re-applying power.
- Use only the specified replacement parts.
- Follow static precautions at all times when handling this equipment.
- This product should only be powered as described in the manual. To prevent equipment damage, select the proper line voltage on the power supply(ies) as described in the installation documentation.
- To prevent damage to the equipment, read the instructions in the equipment manual for proper input voltage range selection.
- Some products include a backup battery. There is a risk of explosion if the battery is replaced by a battery of an incorrect type. Dispose of batteries according to instructions.
- Products that have (1) no on/off switch and (2) use an external power supply must be installed in proximity to a main power output that is easily accessible.

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Table of Contents

1 Preface

This is an *operator's* guide that is intended for panel operators using the iMC-Panel-300 to control Imagestore 750s. Operators who control MCEs (or MCPMs) may refer to the *iMC-Panel-300 Operator's Guide for MCEs and MCPMs*.

Chapter 1 provides an introduction to this guide.

Topics

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Chapter Structure

The following chapters provide information regarding the iMC-Panel-300 in the master control system:

- Chapter 1, [Preface](#), (this chapter) presents easy ways to use this guide and provides a list of terms and conventions.
- Chapter 2, [Introduction](#), describes how the panel relates to the master control system.
- Chapter 3, [Control Panel](#), discusses the features and functions of the panel.
- Chapter 4, [Menus](#), provides a detailed discussion of the panel menus.
- Chapter 5, [Operation](#), provides operating instructions.
- Chapter 6, [Misc. Topics](#), presents a glossary, specifications, and miscellaneous instructions and information.

An [Index](#) and [glossary](#) are also available for your reference.

The PDF Document

This guide is provided in PDF format, allowing you to use Acrobat's "bookmarks" to navigate to any desired location. You can also easily print a hardcopy. Please note:

- Use the Table of Contents or the bookmarks page to jump to any desired section.
- Many hyperlinks are provided within the chapters.
- Use the Index to jump to specific topics within a chapter. Each page number in the index is a hyperlink.
- Use Acrobat's 'Go to Previous View' and 'Go to Next View' buttons to retrace your complete navigational path.

Use the 'First Page', 'Previous Page', and 'Next Page', and 'Last Page' buttons to go to the first, previous, next, or last page within a PDF file.

Note

To display the navigation buttons, right-click the Tool Bar area, and check 'Navigation'.

- Use Acrobat's extensive search capabilities, such as the 'Find' tool and 'Search' tool to perform comprehensive searches as required.

Terms, Conventions and Abbreviations

The following conventions are used throughout this guide:

- The symbol ▲ denotes either an example or a special message.
- Entries enclosed in single quotes denote the names of control panel buttons and knobs, or menu items.

Choose 'Aux' to ...

Press 'Keyer 2' button ...

The following terms and abbreviations are used throughout this guide:

- The term "MCPM" refers to any of several older models of master control processing modules.
- "MCE" stands for Master Control Engine. An MCE is a type of MCPM and provides one master control channel.
- "High tally" means that a button is brightly illuminated — at full intensity. "Low tally" means that a button is illuminated at low intensity. Most buttons assume a low tally state until selected. Some buttons are not illuminated.

Other terms, used occasionally, include the following:

- Intuition XG is a single- or dual-channel graphics processor. The term "Intuition XG" can encompass all the hardware and software involved in the Intuition XG component of master control.
- XMedia is a term that includes different software applications that create and manage images, keyers, logos, etc. used by Intuition XG.
- Xplay and the XG Dashboard are software applications under XMedia. Both of these are used to configure the Intuition XG processor.
- Xbuilder and Xstudio are creative software applications under XMedia.
- Oxtel is a division of Miranda. Its name is used to identify certain ports of the Intuition XG hardware. The Oxtel protocol is used by the Imagestore 750 in the master control system.
- The terms "XG media clip" and "XG clip" refer to one of the video and audio sequences stored in and played by the Intuition XG processor. The term "XG media" refers to the body of clips available. An XG clip is a composition of video, static and animated graphics, audio, and text (which can be obtained from live data).

Prerequisites

Please observe the following important prerequisites:

- Equipment and software properly installed.

- Video monitors properly set.
Ensure that your control room's program and preview monitors are properly set, according to the requirements of your facility.
- NV9000 requirements met.
You are using a master control system in conjunction with an NV9000 router control system. Ensure that your master control system and NV9000 are communicating with each other and configured as required.
- Channels properly configured.
Ensure that each Imagestore 750 has been configured (using the Imagestore 750 Configurator or by using the Imagestore 750's front panel). Refer also to the *Imagestore 750 Reference Manual* for more information.
- All control panels properly configured.
All control panels (and GUIs) should be configured and operational. Refer to the *MCS Panel Configuration Editor User's Guide* for details.
- User accounts for PCs used for master control set to 'Standard User' or better.
Master control software does not function properly when user accounts are set to 'Restricted User' or its equivalent.

Options

The Master Control Tally Processor is an option. It provides 32 GPI inputs and 32 GPI outputs. It can monitor master control events and trigger master control events.

Intuition XG is an option that adds rich branding to master control because it includes sophisticated design tools, a powerful graphics processor, and storage for video clips, and access to "live" data.

2 Introduction

Chapter 2 is an introduction to the iMC-Panel-300 as it applies to controlling Imagestore 750s, LGK-3901s, DSK-3901s, and ISM-3901s.

Note that this document uses the term *Imagestore 750* to represent all four of these transition processors, which have similar behavior with respect to control panel functions.

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Purpose

The iMC-Panel-300 is one of the hardware control panels available in the Miranda master control system. These are its distinguishing characteristics:

- Moderate size. The panel is 28.25" wide × 6.96" high × 20.14" deep. Rear connectors extend the depth 0.82". The panel requires at least 2–3" clearance at the rear for cables. The panel sits on a console or desktop.
- Moderate price.
- A large LCD touchscreen that provides a menu system and allows an operator to change settings.
- A set of buttons that can be configured as main sources, video effects, or voice-overs as required by your facility. Operators can switch between several groups of main sources.
- A set of customer-definable function buttons.
- Audio control knobs.

The iMC-Panel-300 can control Imagestore 750s, MCEs, and MCPMs and therefore has silkscreen markings that refer to either Imagestore 750s or MCEs and MCPMs. One portion of the markings applies to control of an Imagestore 750. The other portion of the markings applies to MCEs and MCPMs.

Master Control System Overview

Miranda's combined master control system — a multi-channel switcher — might include one or more Imagestore 750s, MCEs, and MCPMs. Imagestore 750s are independent transition processors (a.k.a. channel branding processors).

MCEs and MCPMs reside in NV5100MC frames. The frames are 8RU assemblies with 16 I/O card slots that can operate in conjunction with other switchers, routers, an NV9000 router control system, and other products. Each frame holds one or more MCPMs, MCEs, and optionally a multi-format router.

Each Imagestore 750, MCE, or MCPM is considered a *channel*.

Imagestore 750s, MCPMs, MCEs, and control panels communicate on an Ethernet LAN. When an operator presses control panel buttons (the 'Transition' button, for example), the control panel issues commands to the attached channel (Imagestore 750, MCPM, or MCE). The channel responds with status and (unless a problem exists) executes the command. When a command is successfully executed, the channel notifies the panel, which updates its displays and indicators accordingly.

Figure 2-1 shows the basic relationships in a master control system:

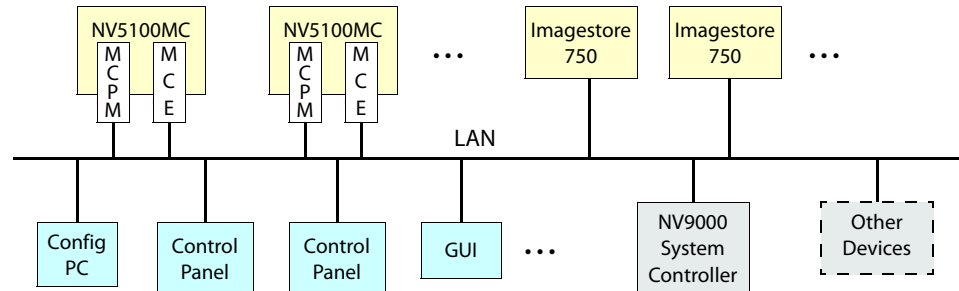


Fig. 2-1: Master Control Network

Master control can work in conjunction with an NV9000 router control system. In such a configuration, a channel has access to the *entire* router input space, with the ability to select any router source.

Most control panels can control one or more channels at any time — but usually one at a time. Operators can select which channel(s) to control. When you change channels, control panel updates take about a second. We say that the panel *attaches* the newly selected channel, and the channel's own source layout, transition rates, and layer presets are available for use.

Each channel can also be operated under automation. A channel can be controlled by multiple control panels.

The panel's features when it is controlling an Imagestore 750 are quite different from the same panel's features when it is controlling an MCE or MCPM. (This guide discusses only the features that support Imagestore 750s.)

NV9000 Router Control System

A master control system can be viewed as a part of an NV9000 system. Alternatively, the NV9000 can be regarded as a provider of inputs to the master control system.

In either case, master control allows router outputs as master control inputs and allows an operator (or automation) to take router sources to the master control output.

The NV9000 system is a requirement for master control systems that use Imagestore 750s.

An NV5100MC frame used in conjunction with an NV9000 system must be connected to the NV9000 (in the control section of the master control frame).

Control Panels

Presently there are 3 hardware control panels and 1 software control panel (GUI) that support Imagestore 750s:

iMC-Panel-GUI	A software control panel, also called the "GUI." This panel runs on a PC and has a graphical user interface. The GUI is a software emulation of the <i>iMC-Panel-200</i> . The GUI is designed to operate with (or without) a touch-sensitive screen.
iMC-Panel-100	A 3RU rack-mounted panel with a separate rack-mountable display. This panel has reduced size (less than 4" in depth) and reduced cost.
iMC-Panel-200	A compact hardware control panel that has a large LCD touchscreen, many function buttons, and a joystick. The iMC-Panel-200 mounts on a desktop or work surface. All buttons have LCD legends and color-coding.
iMC-Panel-300	A "full-size" control panel that has a large LCD touchscreen, many function buttons, and a joystick. The iMC-Panel-300 mounts on a desktop or work surface. All but 2 buttons have LCD legends and color-coding.

Other Miranda Products

Listed here are products that relate to master control.

Tally Processor

Miranda offers a third-party "tally processor"—a 1RU device that provides 32 optically isolated inputs and 32 relay outputs, also optically isolated. The tally processor can sense master control events such as main source selections and transitions, trigger master control events, and control various devices in your system. A master control network can include multiple tally processors.

Intuition XG

As a master control subsystem, Intuition XG is a combination of the following:

- Intuition XG—a single- or dual-channel HD/SD graphics processor. This processor stores XG media clips and transmits the clips (fill and key) when directed by an MCE.
- XMedia software for configuration and for composing, rendering, and previewing graphics. Panel operators will generally not need to understand or use this software.

Imagestore 750 Overview

The Imagestore 750 is an independent transition processor (also called a "channel branding processor") that can operate as a stand-alone unit with or without automation, or as part of Miranda's iMC master control system. In the context of the combined master control system, it operates in conjunction with an NV9000 router control system, that provides video and audio sources, and one or more master control panels, such as the iMC-Panel-300, that provide commands. The Imagestore 750 issues switching instructions to the NV9000 when it receives commands from a master control panel.

The Imagestore 750 is essentially an A/B transition processor that inserts video effects (DVEs and DSKs) and voice-overs into its output. It has many configuration options.

This is a system block diagram of the Imagestore 750:

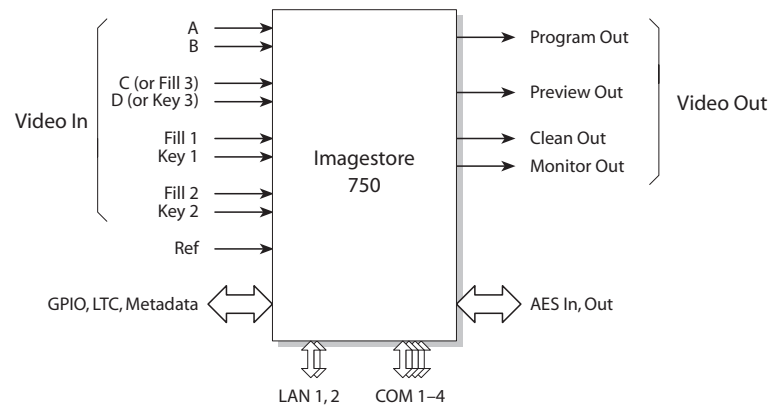


Fig. 2-2: Imagestore 750 System Diagram

Inputs and outputs of the Imagestore 750 include:

- Four SDI inputs, A–D. These accept HD or SD input.
- Two external keyer pairs (fill and key). Inputs C and D can be used for a third keyer pair.
- A GPIO connector that supports 16 GPIO ports (each configurable as an input or an output), LTC, and Dolby metadata.
- 16 AES inputs and 16 AES outputs.
- Four SDI outputs (program, preview, clean-feed, and monitor).

There are also 4 COM ports and 2 Ethernet ports.

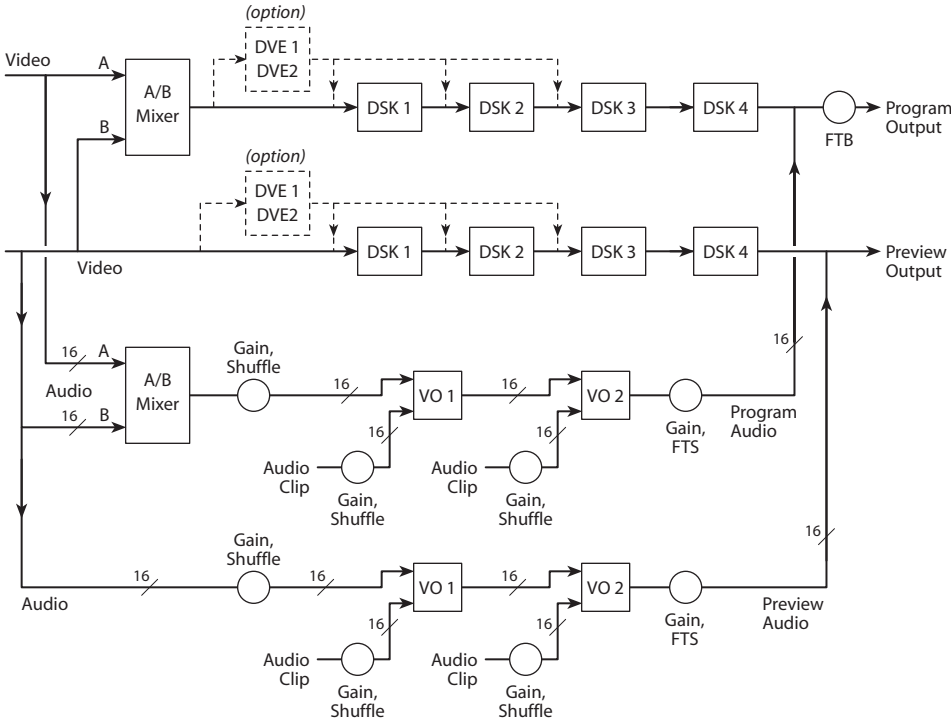
Other Transition Processors like the Imagestore 750

For the sake of discussion in this document, the term “Imagestore 750” includes the LGK-3901, DSK-3901, and the ISM-3901, as well as the Imagestore 750 itself. These are transition processors that fit in a 3RU Densité frame. These units provide a subset of the functions of an Imagestore 750. *The master control system treats these units as if they were Imagestore 750s.* They are configurable using the Imagestore 750 Configurator and each has a browser application (for remote management) that is similar to the browser application for the Imagestore 750.

See [LGK-3901, DSK-3901, and ISM-3901](#) on page 11 for more information.

Imagestore 750 Conceptual Model

This diagram shows the Imagestore 750's native conceptual model:



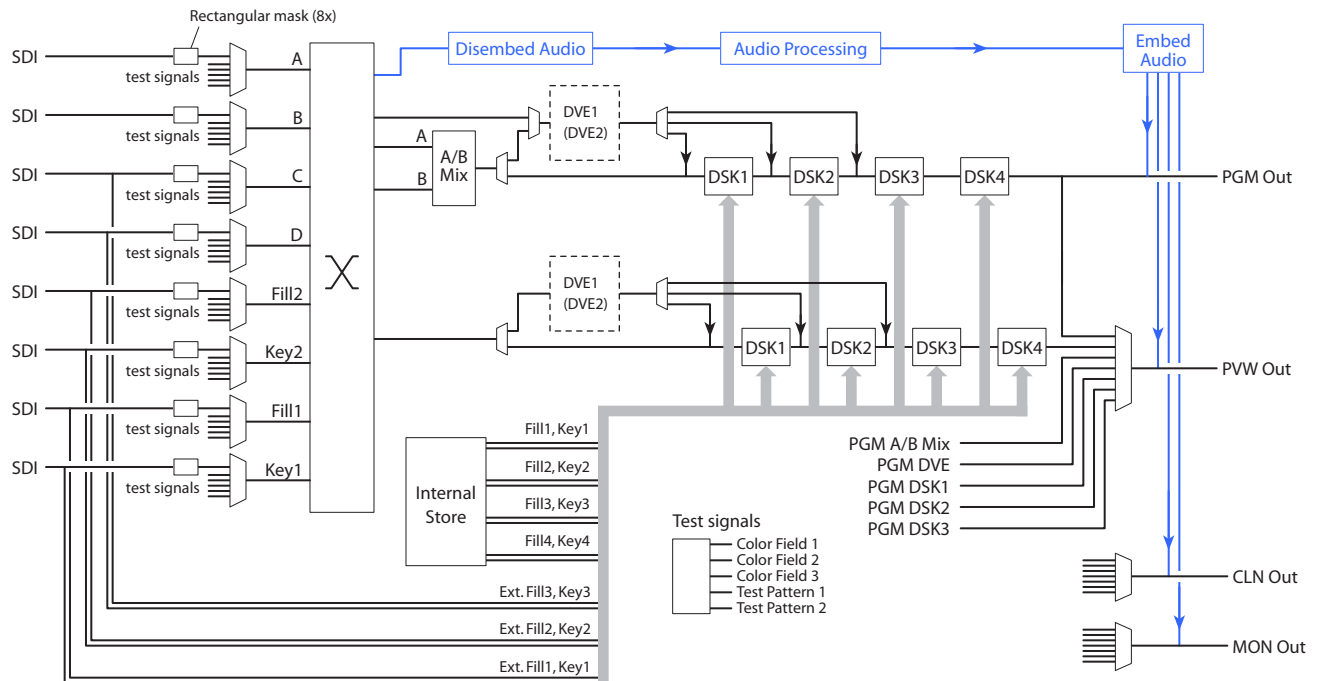
There are two video processing paths, program and preview. Each includes 4 downstream keyers (DSKs) and an optional DVE processor.

After audio is disembedded, the audio processing path includes an A/B mixer for 16 audio channels and two voice-over processors, also for the 16 channels. Audio is re-embedded in program and preview audio after processing.

The model also includes a clean-feed (video) output and a (video) monitor output. There are many selectable tap locations for these outputs.

Imagestore 750 Detailed Model

This diagram shows a more detailed view of the Imagestore 750's video processing:



Each input (A, B, C, D, Fill1, Key1, Fill2, and Key2) can be individually selected as an SDI input or one of 5 test signals. (Each SDI input can be subject to a rectangular clipping mask.)

Inputs C and D can be used as a (fill3, key3) pair. The Imagestore 750 can use any of its fill/key inputs to receive clips from an Intuition XG processor. The Intuition XG processor produces up to 8 "XG keyer layers." The Imagestore 750 sends commands to the Intuition XG processor that control the layout of the clips.

Both the A and B side of the A/B mixers can connect to any of the inputs (A, B, C, D, Fill1, Key1, Fill2, and Key2). Similarly, any of the DVEs can connect to any of those inputs.

The DVEs can also accept the output of the A/B mixer. The DVE output (either DVE1 or DVE2) can be inserted in the processing path in one of 3 places: before DSK1, before DSK2, or before DSK3. The DVE processing section is a purchase option. The DVE processor can be bypassed if it is installed.

The Imagestore 750 has storage supporting internal keyers (logos, etc.). Inputs C and D can be used as external keyer (fill3, key3).

The preview output can present video from one of several different tap points. Similarly, the clean-feed (CLN) output and the monitor (MON) outputs can present video from several different tap points.

Audio is disembedded from SDI sources, sent to the audio processing section, and re-embedded on output. The audio is re-embedded in the PGM, PVW, CLN, and MON outputs.

LGK-3901, DSK-3901, and ISM-3901

The LGK-3901 and the DSK-3901 are card modules that fit in a 3RU Densité frame. Each of these units comprises an I/O card set and a backplane connector module. The Densité frame can accommodate up to 10 of these modules.

Each of these modules can be regarded, from the standpoint of the iMC Master Control system, as a reduced version of the Imagestore 750. Configuration of the modules uses the same software: the Imagestore 750 Configurator. The browser application for these modules is nearly identical to the browser application for the Imagestore 750.

LGK-3901

The LGK-3901 is an independent transition processor (also called a “3G/HD/SD Logo Inserter and Downstream Keyer”) that can operate as a stand-alone unit with or without automation, or as part of Miranda’s iMC master control system. Like the Imagestore 750, it operates in conjunction with an NV9000 router control system, that provides video and audio sources, and one or more master control panels, such as the iMC-Panel-200, that provide commands. The LGK-3901 issues switching instructions to the NV9000 when it receives commands from a master control panel.

The LGK-3901 is essentially an A/B transition processor that inserts video effects (stills and animation) and voice-overs into its output. It has several configuration options. The principal software used is the “Imagestore 750 Configurator.” Note that a particular version of this software is required for operation in the context of an iMC master control system: at present, it is v1.5. Other configuration tools exist.

Version 3.0 of the LGK-3901 software and firmware is required for use in the master control system. The LGK-3901 must be equipped with the master control option.

This is a “black box” diagram of the LGK-3901:

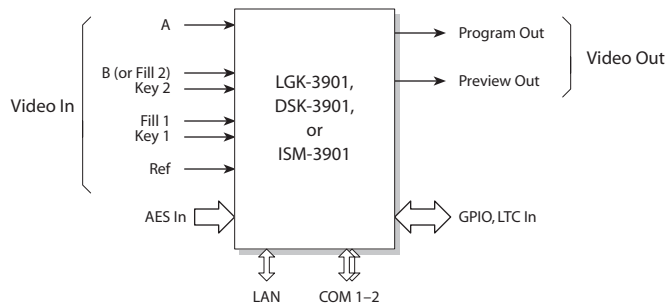


Fig. 2-3: LGK-3901 System Diagram

If you compare this diagram to Figure 2-2, you can see that the LGK-3901 has fewer connectors. It also has some enhancements.

Inputs and outputs of the Imagestore 750 include:

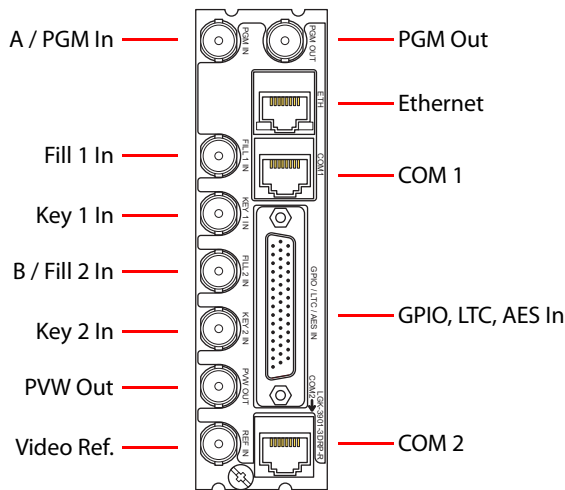
- Two SDI inputs, A and B. These accept 3Gig, HD, and SD input.
- Two external keyer pairs (fill and key). Input B can alternately be used as the fill of the second keyer pair.
- A GPIO connector that supports 16 GPIO ports (8 inputs and 8 outputs), LTC input, and 4 AES input (pairs).
- Two SDI outputs (program and preview).

Introduction

LGK-3901, DSK-3901, and ISM-3901

There are also 2 COM ports and 1 Ethernet port.

This drawing shows the general location of the LGK-3901's connectors:



Conceptual Model

Figure 2-4 shows the LGK-3901's conceptual model in the iMC master control system:

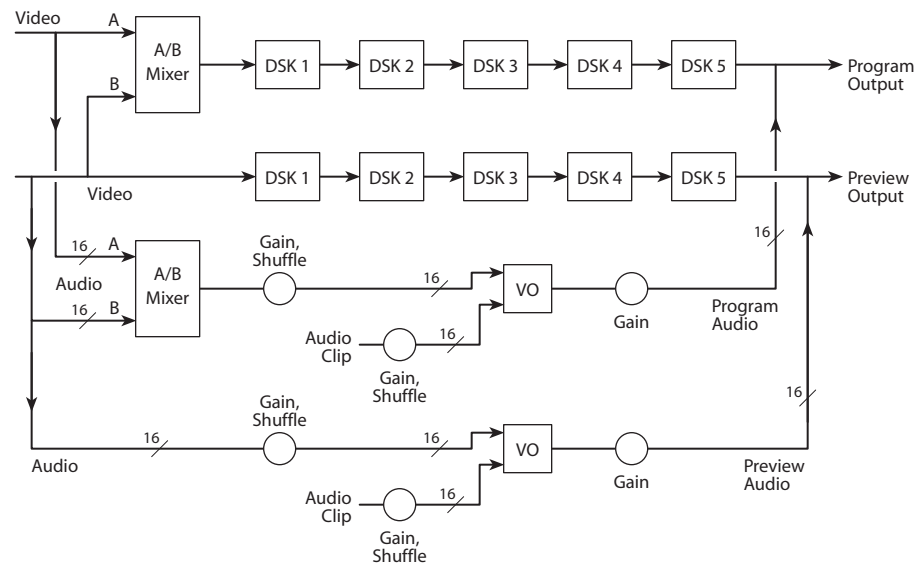


Fig. 2-4: Conceptual Model of the LGK-3901

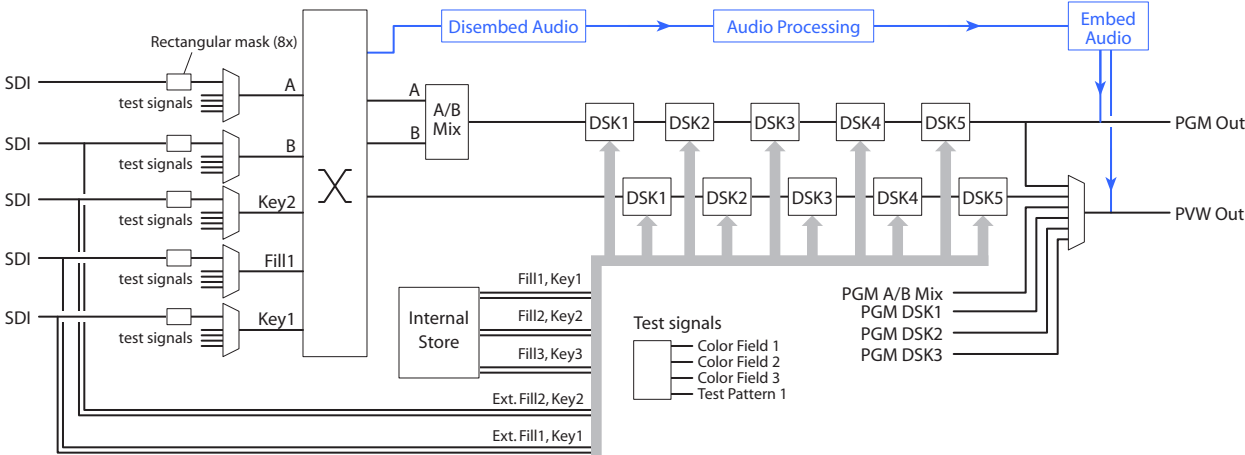
There are two video processing paths, program and preview. Each includes 5 downstream keyers (DSKs). The *preview output and inputs*, as they are called in Imagestore 750 terminology, are called the *preset output and inputs* at the control panels. An A/B mixer combines preset video and program video according to the selected transition type and rate, and according to configured transition modes.

The configuration tool allows you a nearly infinite number of ways to connect audio components. Only a few of those ways (similar to what is shown in Figure 2-4) are useful in the master control system.

After audio is disembedded, the audio processing path includes an A/B mixer and two voice-over processors. Audio is re-embedded in program and preview audio after processing. (See the detailed model, following.) Voice-overs are either stored EasyPlay clips or from external AES input.

Detailed Model

This diagram shows a more detailed view of the LGK-3901's video processing:



Each input (A, B, Key2, Fill1, and Key1) can be individually selected as an SDI input or one of 4 test signals. (Each SDI input can be subject to a rectangular clipping mask.)

Both the A and B side of the A/B mixers can connect to any of the inputs.

The LGK-3901 has storage (up to 8GB) supporting internal keyers. Input B can be used, alternatively, as the fill of an external key (fill2, key2). Either of the 2 external (fill, key) inputs can be used to receive Intuition XG clips.

The preview output can present video from one of several different tap points.

Audio is disembedded from SDI sources, sent to the audio processing pipeline, and re-embedded on output. The audio is re-embedded in the PGM and PVW outputs.

DSK-3901

The DSK-3901 (called a "3G/HD/SD Downstream Keyer") can be considered a reduced version of the LGK-3901. (If you order the right upgrade options, it will have the same features as an LGK-3901.)

The DSK-3901 has the same "black box" diagram as the LGK-3901:

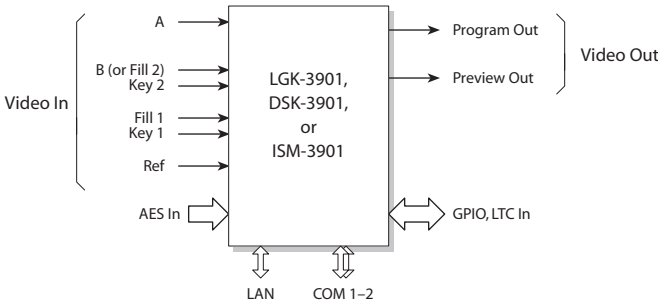


Fig. 2-5: DSK-3901 System Diagram

The DSK uses the same backplane connector module as the LGK-3901 (although the part number of the backplane module might be different.)

Internally, however, it is different.

Conceptual Model

Figure 2-6 shows the DSK-3901's conceptual model in the iMC master control system:

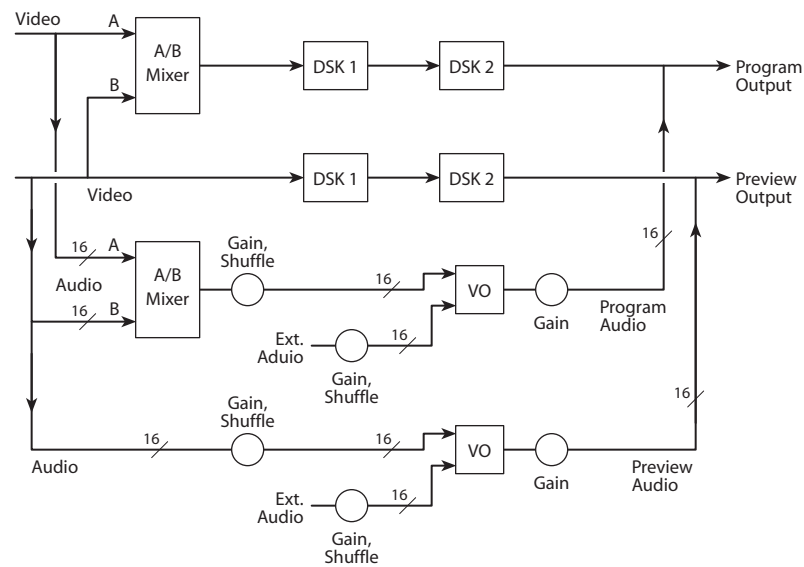


Fig. 2-6: Conceptual Model of the DSK-3901

Each video processing path includes 2 downstream keys (DSKs). The *preview output and inputs*, as they are called in Imagestore 750 terminology, are called the *preset output and inputs* at the control panels. An A/B mixer combines preset video and program video according to the selected transition type and rate, and according to configured transition modes.

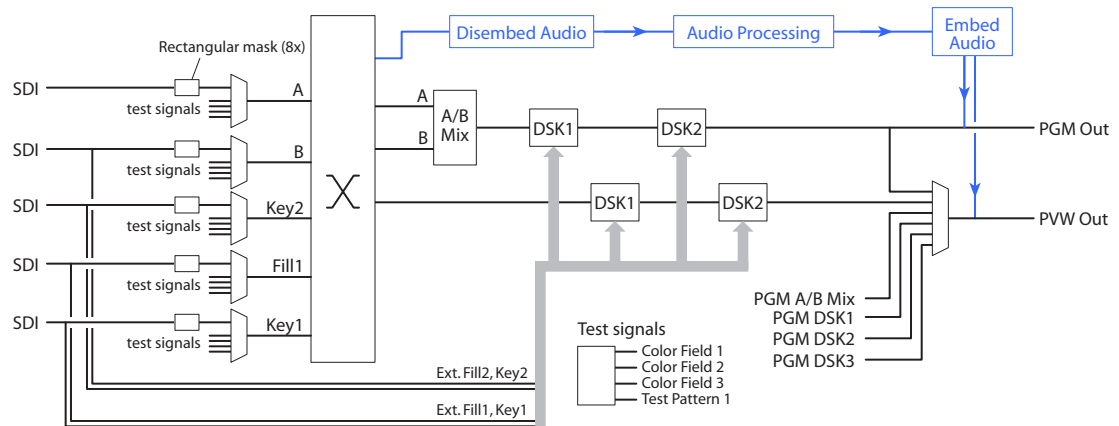
The configuration tool allows you a nearly infinite number of ways to connect audio components. Only a few of those ways (similar to what is shown in Figure 2-6) are useful in the master control system.

After audio is disembedded, the audio processing path includes an A/B mixer and two voice-over processors. Audio is re-embedded in program and preview audio after processing. (See the detailed model, next page.) Voice-overs are either stored EasyPlay clips or from external AES input.

The DSK-3901 does not have internal storage. It cannot store keys of any kind and it cannot store audio clips.

Detailed Model

This diagram shows a more detailed view of the DSK-3901's video processing:



Each input (A, B, Key2, Fill1, and Key1) can be individually selected as an SDI input or one of 4 test signals. (Each SDI input can be subject to a rectangular clipping mask.)

Both the A and B side of the A/B mixers can connect to any of the inputs.

The DSK-3901 has *no storage* supporting internal keyers or audio clips. Input B can be used, alternatively, as the fill of an external key (fill2, key2). Either of the 2 external (fill, key) inputs can be used to receive Intuition XG clips.

The preview output can present video from one of several different tap points.

Audio is disembedded from SDI sources, sent to the audio processing pipeline, and re-embedded on output. The audio is re-embedded in the PGM and PVW outputs.

ISM-3901

The product code for the Imagestore Modular is ISM-3901.

The ISM-3901 is a “product bundle” that comprises the following items:

- An LGK-3901 module with 8 GB of storage and version 3.0 software or later.
- An ISM-3901 backplane connector module (identical to the LGK-3901 backplane module).
- The AB-mixing option for the LGK-3901.
- An LGK-3901 installation and operations guide.

Configurers should use tools that reference the LGK-3901.

Control Panel Features

The iMC-Panel-300 offers the following features. (In many cases, the features are those of the Imagestore 750 under control.)

- Configurable function buttons.

All master control panels have a set of buttons whose functions can vary according to the needs of the facility and the operator. When it is controlling an Imagestore 750, the iMC-Panel-300 has 5 sets of customer-definable buttons.

- Channel selection, including 'no channel' mode, and ganged channels.

Your panel will usually have a default channel which is the channel selected when the panel powers up. It might be the only channel.

- Salvos.

The iMC-Panel-300 can trigger a NV9000 control system salvo each time a channel change occurs. For example, a salvo can be programmed to change your entire audio/video monitor configuration instantly. Refer to the NV9000-SE Utilities User's Guide for instructions on programming system salvos.

Salvos can also be assigned to panel buttons.

▲ Salvos are inhibited when a channel gang is in effect.

- Independent downstream keyers (DSKs). When it is controlling an Imagestore 750, the panel can control 4 independent (linear) DSKs, each with separate key and fill inputs. Keyer parameters (e.g., clip, gain, and transparency) are configured independently in each Imagestore 750.

The DSKs handle internal keys (stills and animations) as well as (up to 3) external keys.

- DVEs.

A DVE (digital video effect) is a sequence of operations that can dynamically scale and position a video image on the screen, overlaying the main source. A DVE might perform other effects too. DVEs are created in the DVE Editor.¹ DVEs are stored within the Imagestore 750.

The panel supports up to 4 independent DVEs. Not all Imagestore 750s have DVE processors. If your panel is controlling such an Imagestore 750, its DVE buttons, if any, are disabled.

- XG layers.

An XG layer (or clip) is one of up to 8 outputs of an Intuition XG processor. When it is controlling an Imagestore 750, the panel can control up to 8 XG layers. XG layers are processed by one of the DSKs. Usually there is a default DSK assigned to XG layers.

- Fade to black. Master control provides a fade-to-black and a fade-to-silence function.
- General-purpose I/O (GPIO). Control panels have two optically isolated inputs that can sense external events and two relay outputs that can trigger external events.
- Audio metering and monitoring.

A section of the iMC-Panel-300 is labeled "Audio Monitoring." When the iMC-Panel-300 is controlling an Imagestore 750, the buttons in this section are customer-configurable buttons. The knobs control the overall audio gain of the Imagestore 750's CLN output and MON output.

1. The DVE Editor and other applications are included on a CD that ships with the Imagestore 750.

- Audio channel control.
The Imagestore 750 processes 16 audio channels.
The Imagestore 750 has 5 audio sections: program input audio, program output audio, pre-set input audio, and voice-over 1 audio and voice-over 2 audio. The Imagestore 750 has gain control, inversion, and 16-channel shuffles for each of these 5 sections.
- Panel lock. You can use a 'Panel Lock' button to prevent accidental changes to the panel settings.
- Automation control. You can enable or inhibit automation with a button press. There are 4 automation assist functions, such as 'Cue Next' and 'Skip Next'.
- Source groups. The iMC-Panel-300 can have up to 24 main source buttons. The Imagestore 750 allows the definition of multiple source groups. Each of those source groups can be mapped to the main source buttons of the iMC-Panel-300. The sources in a group are selected from the sources defined in the NV9000 system. Thus, all NV9000 sources are potentially accessible.
- Configurable source button color. The panel's source buttons can be assigned two colors, one color for the selected state of the button and another color for the unselected state. All source buttons of the panel use the same coloring. The choice of colors is green, white, yellow, or red.

3 Control Panel

Chapter 3 describes the structure and functioning of the iMC-Panel-300 as it applies to the Imagestore 750.

Topics

Panel Summary	19
Functional Sections of the Panel	22
Definable Button Functions	35
Connectors	42

Panel Summary

The iMC-Panel-300 is a configurable master control panel, 28.25" wide × 6.96" high × 20.14" deep. It has only one mounting option: it sits on a console or desk top.

The front of the panel features an LCD touchscreen for menu selections and several clusters of function buttons and knobs. Associated with the menu are 8 knobs for parameter adjustment.



Fig. 3-1: iMC-Panel-300 (front view)

At the top left are 16 customer-definable function buttons. At the top right is a group of audio monitor and meter controls. When the panel is controlling an Imagestore 750, the buttons are customer-configurable buttons and the knobs control the Imagestore 750's CLN (clean-feed) audio output and MON (monitor) audio output.

Below those controls are 2 (red) audio level knobs. The audio level knobs are red because they control on-air signals.

In the top center is a 3-axis joystick.

On the lower front surface are 4 rows of 24 buttons, labelled preset, program, preview/user, and aux/user. The buttons in these rows are configurable.

The preset and program button rows contain up to 24 main sources and up to 8 video effects, and up to 2 voice-overs. The video effects and voice-over buttons may be configured in any order, but those effects are executed in a configurable order in the Imagestore 750.

The preset and program buttons are identical. They represent the same sources, video effects, and voice-overs. The preset and program buttons are paired (and identical) and support content and transitions going “on air.”

The preview/user buttons, when the panel is controlling an Imagestore 750, are a set of 24 customer-definable buttons among which are menu buttons. (Menu buttons select menus on the touchscreen.)

The aux/user buttons include the same main sources as program and preset, but provides up to 6 customer-definable buttons (at the right) instead of video effects and voice-overs. The aux buttons provide a means by which you can direct a selected router source to an auxiliary device such as a monitor.

At the very front of the panel are two groups of function buttons. The group of 12 buttons are transition control buttons by convention. The group of 3 buttons are system control buttons by convention. All are configurable. At the front right is the (orange) transition button which is not configurable.

At the rear of the panel are two power connectors, a GPI/Alarms connector, an Ethernet port, a USB port, an aux port, and an SD/HD input (BNC).

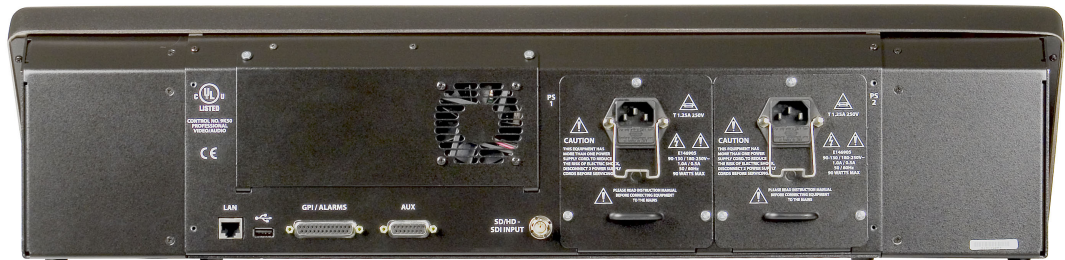


Fig. 3-2: iMC-Panel-300 (rear view, connectors)

The aux port is *reserved for future development*. It has nothing to do with the aux buttons.

The USB port is *reserved for use by Miranda technicians*.

The ‘SD/HD Input’ connector (BNC) is the panel’s audio metering input. The metering input is not used for the Imagestore 750.

Panel Buttons

All buttons except the two white ‘Dim’ buttons have LCDs in their top surface displaying 3 rows of 8 characters or occasionally some graphics. Program and preset buttons are dynamically “relegendable.” Configurable buttons are defined in the panel configuration and their functions do not change¹ although their legends might change. The button LCDs change color to provide additional information about the button function. The buttons can appear green, amber, red, yellow, blue, white, violet, or aqua. The colors can be bright (high-tally) or less bright (low-tally) or off (disabled). Red indicates an error condition such as LOS. Amber indicates a potential error

1. They do change if you switch control from an Imagestore 750 to an MCE or vice versa.

condition. Blue is associated with video effects and violet with voice-overs and audio breakaway.

Source selection buttons can be assigned specific colors (green, red, yellow, or white).

High-tally indicates the button function is selected or active; low-tally indicates that the button function is not selected or is inactive.

Some buttons are *toggles*. Pressing a deselected toggle button will cause it to become selected. Pressing a selected toggle button will make it deselected.

Some groups of buttons operate as a mutually exclusive set. Pressing a deselected button will cause it to become selected and all other buttons in the set to become deselected.

There are two types of mutually exclusive buttons:

- 1 Pressing a selected button makes it deselected. (One or none is selected.)
- 2 Pressing a selected button has no effect. (Exactly one is selected.)

Panel Knobs

Turning a knob clockwise increases the associated value until the maximum value is reached. After that, turning the knob clockwise has no effect.

Turning the knob counter-clockwise decreases the associated value until the minimum value is reached. After that, turning the knob counter-clockwise has no effect.

The 8 menu knobs are enabled or disabled as required by the menu being displayed. The knobs that are enabled are indicated by a nearby green "asterisk" on the touchscreen. Turning a disabled knob has no effect.

LCD Touchscreen

The touchscreen and its 8 associated knobs provides a set of menus in which you can do the following:

- Select a channel (i.e., Imagestore 750, MCE, or MCPM).
- Select an Intuition XG clip or a DVE.
- Control the size and position of DSKs.
- Manipulate audio.
- Perform panel maintenance and updates.

The menu system has a scrollbar with which to select items. You can use the menu knobs to "dial in" a parameter value or you can enter a value using a touchscreen keypad.

The LCD is a *touchscreen*: you "press" buttons on the screen itself to perform menu selections.

▲ Avoid using pencils, pens, erasers, or anything abrasive on the touchscreen.

Joystick

The joystick helps you make certain parameter adjustments. For instance, you can adjust the size and position of DSKs using the joystick.

The joystick has 2 buttons and a knurled cylinder that the operator turns to control a third axis.

See [Joystick](#) on page 28.

Functional Sections of the Panel

Figure 3-3 shows the location of the iMC-Panel-300's touchscreen, function buttons, and controls.



Fig. 3-3: Sections of the iMC-Panel-300

1	Program buttons	2	Preset buttons	3	Preview/user buttons
4	Aux/user buttons	5	Configurable buttons	6	LCD touchscreen
7	Joystick	8	Audio monitor/meter section	9	Touchscreen knobs
10	Audio level knobs	11	Transition control buttons	12	System control buttons
13	Transition button				

Following are brief descriptions of each section:

1 Program buttons

The 24 program buttons include main source buttons and “layer” buttons. The layer buttons can be configured as video effects or voice-overs. The number of main sources, video effects, and voice-overs varies according to the panel configuration.

Whatever main source, video effects, and voice-overs are selected on the program buttons form the *program* output of the Imagestore 750 that is currently controlled by the panel.

Source buttons of the program and preset buses (and aux bus) can be configured with specific colors (green, yellow, red, or white).

See [Preset and Program Buttons](#) on page 29 for detail.

▲ The preset and program buses behave differently under different transition options. See [Transition Options](#) on page 110.

2 Preset buttons

The preset buttons allow you to set up the state of the program output that will exist after the next transition.

The preset buttons also includes main source buttons and layer buttons. The function assigned to a program button is also assigned to the preset button directly in front of it.

Whatever main source, video effects, and voice-overs are selected on the preset bus form the *preset* output of the Imagestore 750 that is currently controlled by the panel.

(In some Imagestore 750 literature, the preset output is called the *preview* output.)

Source buttons of the program and preset buses (and aux bus) can be configured with specific colors (green, yellow, red, or white).

See [Preset and Program Buttons](#) on page 29 for detail.

- ▲ The preset and program buses behave differently under different transition options. See [Transition Options](#) on page 110.

3 Preview/user buttons

Although this row of buttons is a set of “preview” buttons when the panel is controlling an MCE or MCPM, it is a set of customer-definable buttons when the panel is controlling an Imagestore 750. (Among the customer-definable buttons can be menu buttons.)

4 Aux/user buttons

When the panel is controlling an Imagestore 750, this button row contains aux buttons and customer-definable buttons. (Among the customer-definable buttons can be “menu” buttons.)

The aux buttons are main source buttons. The main sources are the same sources as on the preset and program button rows. These buttons allow you to direct a main source to an auxiliary device such as a monitor.

The number of main sources is configurable. Consequently, the number of customer-definable buttons is also configurable.

- ▲ Imagestore 750s have an “aux bus follow” option. Depending on how this option is set, your aux buttons might follow the program or preset bus or might remain independent. When they follow the program bus, whatever source becomes selected on the program bus is also selected on the aux bus. When they follow the preset bus, whatever source becomes selected on the preset bus is also selected on the aux bus.

In any case, you can always use the aux buttons, normally, regardless of what was selected on the preset or program bus.

- ▲ If the Imagestore 750 is not configured for controlling an auxiliary device, the aux button row's source buttons are disabled (dark).

5 Configurable buttons

The configurable button section includes 16 buttons with LCD legends, each of which may be programmed to perform functions such as channel selection, menu selection, or source group selection. Some of these buttons can function as status indicators. See [Configurable Button Section](#) on page 26 for detail.

Buttons in other sections of the panel are also configurable.

6 LCD touchscreen

Using the color LCD touchscreen, you can adjust parameters and control system functions. Associated with the touchscreen are 8 rotary knobs for adjustment of parameters. See [Touchscreen](#) on page 25 for detail.

Control Panel

Functional Sections of the Panel

7 Joystick

The joystick helps you make certain parameter adjustments such as changes to the size or position of DSKs. See [Joystick](#) on page 28 for detail.

8 Audio monitor/meter section

The panel has two rotary knobs in the 'Audio Monitoring' section labeled "Gain." These are associated with the rows labeled:

- Mon A / CLN
- Mon B / MON

The terms 'Mon A' and 'Mon B' apply when the panel is controlling an MCE or an MCPM. When the panel is controlling an Imagestore 750, the 'CLN' gain knob controls the audio level of the Imagestore 750's CLN output and the 'MON' gain knob controls the audio level of the Imagestore 750's MON output.

When the panel is controlling an Imagestore 750, the "Dim" buttons (small and white) under the gain knobs do nothing.

The array of 12 buttons in this section is a set of customer-configurable buttons.

See [Monitor and Meter Control](#) on page 28 for detail.

When the panel is controlling an Imagestore 750, this section has no metering controls.

9 Touchscreen knobs

The 8 knobs under the touchscreen allow the operator to adjust menu parameters. Not all knobs are active all the time. When a knob is active, the touchscreen shows a green indicator near the knob.

10 Audio level knobs

The panel has two rotary knobs in the section labeled "Program Audio." These knobs are labeled:

- Duck Level

When the panel is controlling an Imagestore 750, this knob controls the level at which main audio is dimmed when a voice-over is mixed with program output.

- Gain / Voice-Over Preset

When the panel is controlling an Imagestore 750, this knob controls the over level when a voice-over is mixed with program output.

These knobs support only program audio.

See [Audio Levels](#) on page 27 for detail.

11 Transition control buttons

The buttons in this section are, by convention, transition buttons, but they are all configurable. (See [Definable Button Functions](#), on page 35.)

See [Transition Control](#) on page 34 for detail.

12 System control buttons

The buttons in this section are, by convention, system control buttons, but they are all configurable. (See [Definable Button Functions](#), on page 35.)

See [System Control](#) on page 34 for detail.

13 Transition button

The transition button displays the transition type (as a graphic) and the transition rate (in text).

'Cut' transitions involve no rate and for cut transitions, the button displays no rate text.

The button is bright orange.

Pressing the transition button initiates a transition in the Imagestore 750 according to the panel setup.

See [Transition Button](#) on page 35 for detail.

Touchscreen

Figure 3-4 shows the touchscreen and its 8 associated knobs:



Fig. 3-4: Touchscreen (Showing a DSK Submenu)

The touchscreen presents a number of different menus that allow you to adjust operating parameters. (You can adjust the brightness of the touchscreen.)

The panel has menu buttons that allow you to select the menu that will appear on the touchscreen. Menu buttons are toggles: pressing the button once displays the menu; pressing the button again displays the main menu.

Some menus allow you to adjust function parameters, such as the 'DSK Rates, CGT, and Keying' menu shown in Figure 3-4. You can adjust function parameters in two ways:

- Using the adjacent rotary knobs.
- Within the touchscreen itself, using an on-screen keypad to adjust numeric values, or by enabling or disabling control functions.

The touchscreen has a line at the top for status and error messages and another line at the top for informative messages.

Refer to Chapter 4, [Menus](#) on page 45 for a comprehensive review of all menus.

Configurable Button Section

Figure 3-5 shows the configurable button section of the panel:

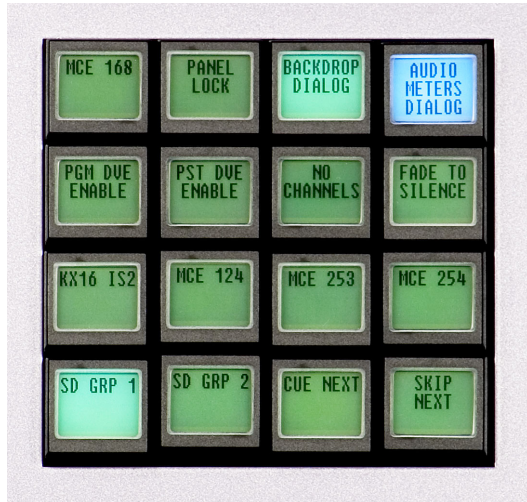


Fig. 3-5: Configurable Button Section

The configurable button section includes 16 buttons, each of which may be programmed to perform various functions such as channel selection, system control, or group selection. The buttons can also be status buttons.

Each button incorporates an LCD that has 3 rows of 8 characters. The button functions and button legends are determined during panel configuration. Each configured button is illuminated. Buttons that are not configured are dark (not illuminated) and have no legend. Buttons that are momentarily disabled are also dark. The illumination can be high or low tally—green, white, amber, or red. Red usually indicates a problem.

There are several dozen different button functions available to the configurator (for panels that control Imagestore 750s). You, the operator, will find a variety of these button types in the configurable button section of the iMC-Panel-300 you are using.

These buttons provide two distinct sets of buttons: one set when the panel is controlling an Imagestore 750 and another set when the panel is controlling an MCE or MCPM.

This table lists the button function classes for controlling Imagestore 750s:

Channel Selection	Transition Type	Salvo	Automation Assist
System Control	Transition Rate	Menu	

See [Definable Button Functions](#) on page 35 for details regarding these button functions.

- ▲ Buttons in the 'Aux/User' row, 'Preview/User' row, and the [Transition Control](#) and [System Control](#) sections are also configurable.

Audio Levels

Figure 3-6 shows the 'Program Audio' section in which there are 2 knobs:



Fig. 3-6: Program Audio Section

▲ The section affects *only* program audio.

The panel has two audio level knobs in this section, labeled:

- Duck Level
- Gain / Voice-Over Preset

Duck Level Knob

When the panel is controlling an Imagestore 750, this knob controls the level at which main audio is dimmed when a voice-over is mixed with program output.

If no over button is selected (on the program bus), turning the knob has no effect.

This knob adjusts the "duck level" in increments of 0.5 dB.

You can change the duck level in the 'Voice-Over 1' menu or the 'Voice-Over 2' menu. There are separate duck levels for each VO.

Gain/Voice-Over Preset Knob

When the panel is controlling an Imagestore 750, this knob controls the over level when a voice-over is mixed with program output.

This knob adjusts the audio level in increments of 0.5 dB.

You can change the over level in the 'Voice-Over 1' menu or the 'Voice-Over 2' menu. There are separate over levels for each VO.

Joystick

Figure 3-7 shows the joystick:

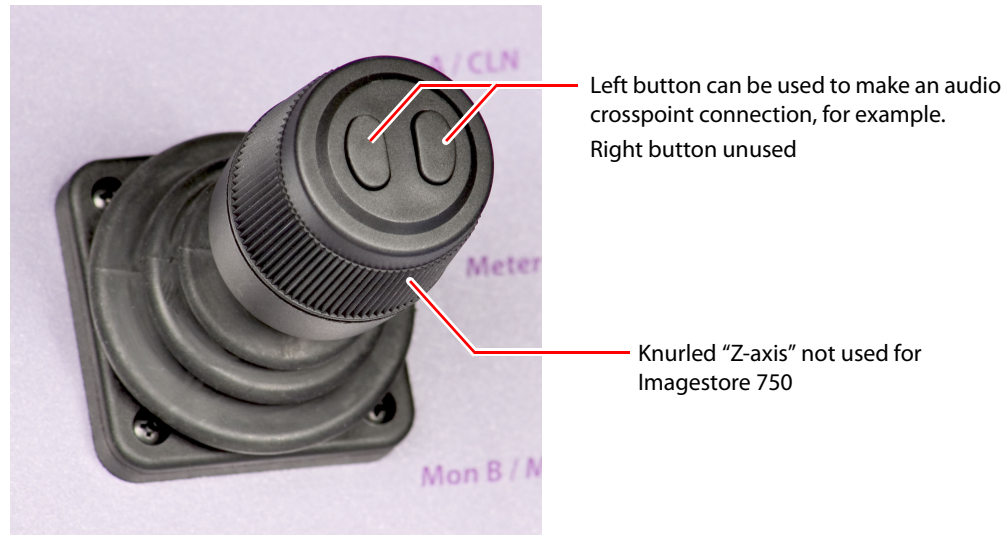


Fig. 3-7: Joystick

The joystick has 3 axes. Movements up, left, down, and right are considered the X- and Y-axes. The third axis is controlled by turning a knurled ring on the joystick. The joystick has two buttons at its top. The right button is not used.

The joystick helps you change certain parameters such as the size or position of DSKs. You also use the joystick to scroll lists of channels, video effects, and other displays. You can also use the joystick to select a crosspoint in the audio channel swap matrix. The buttons and knurled ring have no effect on scrolling.

Monitor and Meter Control

Figure 3-8 shows the monitor/meter section:

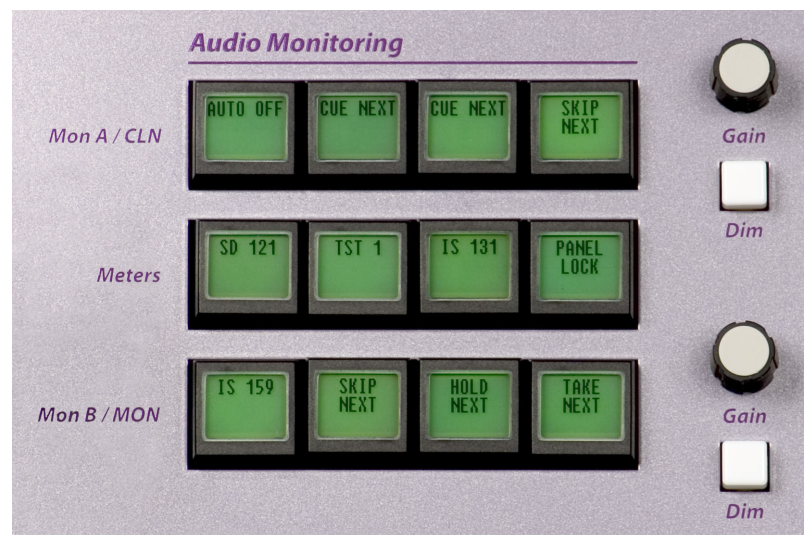


Fig. 3-8: Audio Monitor/Meter Section

The Audio Monitoring section of the panel supports the control of MCEs and MCPMs as well as Imagestore 750s. When the panel is controlling an Imagestore 750, the buttons are customer-configurable buttons (and generally have nothing to do with audio) and the 'Dim' buttons are disabled.

(The terms 'Mon A', 'Mon B', and 'Metering' apply when the panel is controlling an MCE or an MCPM.)

The terms 'CLN' and 'MON' apply to Imagestore 750s. The gain knobs controls the audio level of the Imagestore 750's CLN output and MON output. These knobs adjust the audio level in increments of 0.5 dB, from -99.5 dB to +28.0 dB.

Please note: the monitoring knobs do **not** affect on-air levels.

Preset and Program Buttons

The program and preset buses are divided into two parts:

- Main source buttons.

The leftmost buttons represent main sources *only*.



Main source buttons are usually green, high-tally when selected and low-tally when not. If a main source has a problem (e.g., LOS or non-sync), it is high-tally amber when unselected and red when selected. Unused main sources are dark.

The panel can be configured so that buttons for selected main sources are green, white, yellow, or red. Unselected main source buttons can also be green, white, yellow, or red.

- "Layer" buttons.

The rightmost buttons can be configured as video effects and voice-overs:



For the Imagestore 750, the layer section provides up to 4 DSKs, 4 DVEs, 8 XG layer, and 2 voice-overs (voice-overs).

For the LGK-3901 and ISM-3901, the layer section provides up to 5 DSKs, 8 XG layers, and 2 voice-overs (voice-overs).

For the DSK-3901, the layer section provides up to 2 DSKs, 8 XG layers, and 2 voice-overs (voice-overs). (The DSK-3901 does not support EasyPlay audio.)

Sixteen main sources buttons and 18 “layer” buttons obviously do not fit in a button row. The panel’s configurer will have made trade-offs in this regard.

As stated, the main source buttons and layer buttons together form 2 buses:

Program Selections on the *program* bus compose the *program* output of the currently selected Imagestore 750.

Preset Selections on the *preset* bus preview the content of the program bus roughly as it will appear after the next transition.

- ▲ The preset buttons can be configured to tally according to the “PresStation” model or the traditional model.

The preset bus (and its output) allow you to set up new output for the program bus. When the new output is ready, you press the transition button and the Imagestore 750 transfers the contents of the preset bus to the program bus.

- ▲ The preset and program buses behave differently under different transition options. For example, the preset buttons can be configured to tally according to the “PresStation” model or the traditional model. See [Transition Options](#) on page 110.

Each bus has 24 buttons. The leftmost buttons are main source buttons— up to 24. The rightmost buttons are video effects and voice-overs. The buttons of the 2 buses have the same legends and represent the same sources, video effects, and overs.

- ▲ Twenty-four main sources buttons and 7 “layer” buttons obviously do not fit in a button row. The panel’s configurer will have made trade-offs in this regard.

Your iMC-Panel-300 might be configured with one or more “group select” button. If it has group select button(s), you can switch between several groups of main sources. When you switch groups, the source mnemonics of the selected group appear on the physical buttons.

In any case, up to 24 source buttons are available, using one group or another. Usually a iMC-Panel-300 will have fewer than 24 source buttons.

Main source buttons are mutually exclusive. Pressing one selects that source and deselects an other source. Video effects and Voice-overs are independent and **not** mutually exclusive.

Preview/User Buttons

When the panel is controlling an Imagestore 750, the buttons in the ‘Preview/User’ row are customer-definable. There are several dozen configurable button types among which are ‘Menu’ buttons.

(These buttons control the preview bus of the MCE when the panel is controlling an MCE. The buttons are disabled when the panel is controlling an MCPM.)

Aux/User Buttons

The aux/user buttons (just above or behind the preview bus) are divided into two parts:

1 Main source buttons.

The leftmost buttons represent sources *only*. They are the same sources as on the program and preset buttons.



Source buttons are usually green, high-tally when selected and low-tally when not. If a main source has a problem (e.g., LOS or non-sync), it is high-tally amber when unselected and red when selected. Unused main sources are dark.

The panel can be configured so that buttons for selected main sources are green, white, yellow, or red. Unselected main source buttons can also be green, white, yellow, or red.

- ▲ If the Imagestore 750 under control does not support an auxiliary device, all source buttons of the aux/user row are disabled (dark).
- ▲ Imagestore 750s have an “aux bus follow” option. Depending on how this option is set, your aux buttons might follow the program or preset bus or might remain independent. When they follow the program bus, whatever source becomes selected on the program bus is also selected on the aux bus. When they follow the preset bus, whatever source becomes selected on the preset bus is also selected on the aux bus.

In any case, you can always use the aux buttons, normally, regardless of what was selected on the preset or program bus.

2 “Customer-definable buttons.

The rightmost buttons, if not committed to main sources, are customer-definable buttons:



Your panel can have up to 6 of these in the aux/user row. Some or all of these buttons might be blank.

Button Details

Main Source Button Characteristics

The main source buttons display an 8-character source name on the button:

The main source buttons use the following color scheme:

Dark	Button is not in use.
Low Green	Not selected.
High Green	Selected video.
High Amber	An unselected video source is non-sync or LOS, or an unselected audio source is LOS.
High Red	The selected video source is non-sync or LOS, or audio source is LOS.

However, the panel can be configured so that buttons for selected main sources are green, white, yellow, or red. Unselected main source buttons can also be green, white, yellow, or red. The color of a button that is selected need not be the same color as a button that is unselected.

Status

The touchscreen displays the source status. If status is "OK," there is no message text. These are possible fault conditions:

1 Video LOS	3 Video Non-Sync
2 Audio LOS	4 Audio Problem

The numbers here show the priority of the messages (in case more than one condition arises).

"Hot Cuts"

When you press a button on the *program* bus, whether main source, video effect, or voice-over, the panel will request the Imagestore 750 to perform a "hot cut" on the program bus. The Imagestore 750 performs the hot cut without benefit of a transition.

▲ Hot cuts are not recommended.

Video Effects

Selected video effects overlay the selected main video source. Video effects are cumulative and apply in the order defined by the Imagestore 750.

DSKs are applied in this order: DSK1, DSK2, DSK3, DSK4.

If the Imagestore 750 has a DVE unit, it can insert the DVE in the video stream in one of three places: before DSK1, before DSK2, or before DSK3.

Any one effect is electronically *downstream* and visually *on top of* all the effects preceding it in the order. Any one effect is electronically *upstream* and visually *under* of all the effects following it in the order.

"Downstream" effects modify "upstream" effects and the main source. Upstream effects never modify downstream effects. For example, a DVE might transform the main source and DSK1, but not DSK2 or DSK3.

- ▲ Please note: the order of effects and the number of effects assigned to the *buttons* do not affect the order in which the Imagestore 750 applies the effects. (Also, the main source is always upstream of any effect.)

The video effect buttons use the following color scheme:

Dark	The video effect is not supported by the Imagestore 750.
Low-tally blue	The video effect is not selected.
High-tally blue	The video effect is selected.
High-tally amber	An unselected video effect has a problem (e.g. non-sync or LOS). Amber is a warning flag.
High-tally red	The selected video effect has a problem (e.g. non-sync or LOS). Red is an error flag or a severe warning.

A video effect button has 3 lines of 8 characters.

The first line of text identifies the video effect itself.

The second line of text identifies the effect assigned to the effect processor.

The third line of text displays error status when an error has occurred and nothing at all if no error has occurred.

Downstream Keyers

The 4 keyer buttons are independent toggles. A downstream keyer (DSK) is active when its button is selected (high-tally) and inactive when its button is low-tally. (A DSK cannot actually be used when it is non-sync or LOS.)

An external key is usually a pair of video sources — a key and a fill. The key forms a mask for the fill. An internal key is a stored still frame or an animation. External keys can be provided by an Intuition XG processor.

A key source overlays the upstream source (and upstream effects) with specified clip, gain, and transparency parameters that control the key values.

Any DSK button can be associated with any key source, including Intuition XG clips.

DVE

The 4 DVE buttons are independent toggles. A DVE is active (selected) when its button is high-tally and inactive when its button is low-tally.

A DVE button is pre-configured with a DVE stored in the Imagestore 750.

There are button functions available that enable or disable DVEs on the program button row and the preset button row.

Video Effect Source Status

The touchscreen displays an effect's source status. Possible fault conditions include LOS and non-synchronous video.

You can check panel status to view all error conditions. Use the 'Manage Log' sub-menu under the 'Panel' menu. See page 98.

Voice-Overs

Like video effect buttons, the 2 voice-over button pairs on the program and preset bus are **not** mutually exclusive. When an over is selected on the program button row, its audio contributes to program audio. When an over is selected on the preset button row, it becomes armed and will play at the next transition.

- ▲ An over function mixes the selected audio source to air, but it does *not* trigger audio playback of the source device.

Voice-Over Button Characteristics

The voice-over buttons use the following color scheme:

Low violet	The voice-over is not selected.
High violet	The voice-over is selected.
High amber	An unselected voice-over has a problem (e.g. non-sync or LOS).
High red	The selected voice-over has a problem (e.g. non-audio or LOS).

Voice-Over Source Status

The touchscreen displays an over's source status. These are the fault conditions:

- 1 LOS
- 2 Problem

If status is "OK," there will be no message.

- ▲ A voice-over button is required when you mix the audio of an enhanced squeezeback effect to program output.

Transition Control

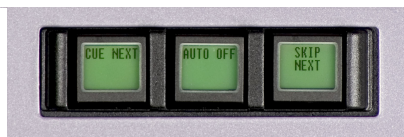
These buttons at the front of the panel are transition control buttons by convention. However, these 12 buttons are configurable.



The configurable button functions for this section are described under [Definable Button Functions](#), on page 35.

System Control

These buttons at the front of the panel are system control buttons by convention. However, these 3 buttons are configurable:



Configurable button functions are described under [Definable Button Functions](#), on page 35.

Transition Button

Pressing the transition button initiates a transition in the Imagestore 750 controlled by the iMC-Panel-300. You can change the transition rate and type.



The transition button is orange under normal circumstances. The transition button is high-tally while the Imagestore 750 is performing a transition. Otherwise it is low-tally.

The maximum transition period is 999 frames. The minimum is 1.

When you press this button, the panel sends a transition request to the Imagestore 750.

Please note the following points regarding transitions:

- You can start a new transition only after the current transition has completed.
- You can always interrupt a transition in progress with a cut on the program bus.
- Cut-fade, V-fade, U-fade, fade-cut involve a fade to black during the transition.

Definable Button Functions

Buttons in the preview/user row, the aux/user row, the configurable button section, the transition control section, and the system control section of the iMC-Panel-300 can be defined during panel configuration and redefined in later panel configurations. These are the button function classes:

Channel Selection	System Control	Automation Assist
Salvo	Transition Type	Take
Menu	Transition Rate	GPI

Following are descriptions of the functions that can be assigned to definable buttons during configuration (using the MCS Panel Configuration Editor).

Remember that the iMC-Panel-300's button legends are at the discretion of the configurer. They might not be exactly what you see listed in this guide.

None

This kind of button has no function. On the panel, the button's legend is blank and the button is dark. (The panel can never enable or disable this kind of button.)

Channel Selection

An Imagestore 750 is equivalent to a *channel*. A typical panel configuration provides a set of channel selection buttons. (You can also select channels in the menus.)

A channel can be configured to invoke an NV9000 salvo when selected. Consult your system's administrator to determine which channels execute salvos.

Your panel will usually have a default channel which is the channel that is selected when the panel powers up. Your panel might be configured so that its default channel is part of a channel gang. If so, your panel is configured in what is called “automatic gang mode.” Whenever the default channel is selected, all the channels in the automatic channel gang are selected—as a channel gang.

There are 3 button types for channels:

- ‘Channel’ selection.
- ‘No Channels.’
- ‘Gang channels.’

Channel Select

A channel is equivalent to an Imagestore 750, an MCE, or an MCPM. Press a ‘Channel Select’ button to select a channel to control.

When you press a ‘Channel Select’ button, all status and configuration data for the newly selected channel are downloaded to the panel. (It takes about one second.)

‘Channel Select’ buttons are mutually exclusive unless gang selection is enabled.

‘Channel Select’ buttons use the following colors:

- Low-tally green. The associated channel is not selected.
- High-tally green. The associated channel is selected and communicating. The channel might or might not be the main channel in a channel gang.
- High-tally amber. The associated channel is selected as a follower in a channel gang and is communicating.
- High-tally red. The associated channel is selected, but the iMC-Panel-300 cannot establish communication with it.

A channel selection button also displays a mnemonic for the associated Imagestore 750, MCE, or MCPM.

An Imagestore 750 can accept up to 4 concurrent connections: any combination of up to 4 control panels may acquire the same channel at the same time. If a fifth control panel attempts to connect to an Imagestore 750 that already has four control panels connected to it, the fifth control panel’s request for connection will be ignored.

▲ Note to configurers: only one channel selection button may be assigned to a channel.

No Channels

A ‘No Channel’ button quickly disconnects the iMC-Panel-300 from all channels. (To restore operation, select any channel.) These are the ‘No Channel’ button colors:

- Green. The iMC-Panel-300 is connected to a channel.
- Red. The iMC-Panel-300 is not connected to any channel.

▲ Note that a iMC-Panel-300 configuration can have only one ‘No Channel’ button.

▲ A “no channel” button is typically used in diagnostic situations.

Gang Channels

A 'Gang Channels' button lets you couple from 2 to 4 channels together for "ganged" channel operation. When channels are ganged, any action performed on the "main" channel is also performed on all selected "follower" channels. (Follower channel buttons tally amber; the main channel button tallies green.)

A 'Gang Channels' button is a toggle: press the "gang" button once to *enable* gang selection and press the gang button again to *disable* gang selection, i.e., to return to single-channel operation.

While gang selection is enabled, you can add or remove *follower* channels, by pressing additional channel buttons, subject to the limit of 4 channels in the gang.

- ▲ When gang selection is enabled, salvos are inhibited.
- ▲ You cannot use the channel menu to add or remove follower channels.

Salvo

An iMC-Panel-300 might have one or more salvo buttons. Pressing a salvo button causes an NV9000 salvo to execute. (This button requires a connected NV9000 router control system.)

- ▲ A channel change can also execute a salvo.
- ▲ When channel gang selection is enabled, salvos are inhibited.

System Control

There are 11 system control button *types* that can be present on your iMC-Panel-300:

Panel Lock	Auto Off	Fade-to-Black	Macro Arm	PGM DVE Enable
Group Select	Audio Lock	Fade-to-Silence	Fire Macro	PST DVE Enable
Kaleido-X Layout				

Panel Lock

The panel lock button prevents you (or someone else) from accidentally making changes to the Imagestore 750 while allowing you see the status of the Imagestore 750.

A panel lock button is a toggle. Press it once to lock the panel. Press it again to unlock the panel.

When the panel is locked:

- The panel lock button is high-tally red.
- All other buttons on the panel are disabled (locked) but their colors and legends remain unchanged.

When the panel is locked and you press the panel lock button, the panel will become unlocked and the panel will function normally.

Automation Off

The 'Automation Off' button is a toggle that enables or disables control of the currently selected Imagestore 750 by an automation system. When this button is high-tally red, the currently selected Imagestore 750 ignores commands from the automation system (if there is one). When this button is low-tally green, the Imagestore 750 communicates with the automation system normally.

If the currently selected Imagestore 750 does not allow you to turn automation off and on, the button is disabled (dark).

Fade to Black

A 'Fade To Black' (FTB) button is a toggle. Press it once to fade the program output of the currently selected Imagestore 750 to both black and silence. Press it again to fade the program output up from black and silence.

When the program output is in black/silence, fading to it, or fading up from it, the FTB and FTS buttons of the main menu are red.

Fades occur at the FTB (and FTS) rate defined in the Imagestore 750 configuration. The FTB rate is fixed in the Imagestore 750 configuration.

These are the button colors:

- High-tally green. The program output is fading or has faded to black.
- Low-tally green. The program output is fading or has faded back to normal.

Fade to Silence

A 'Fade To Silence' (FTS) button is a toggle. Press it once to fade the program output of the currently selected Imagestore 750 to silence. Press it again to fade the program output up from silence.

When the program output is silent, fading to it, or fading up from it, the FTS button of the main menu is red.

Fades occur at the FTS rate defined in the Imagestore 750 configuration. The FTS rate is fixed in the Imagestore 750 configuration.

These are the button colors:

- High-tally green. The program output is fading or has faded.
- Low-tally green. The program output is normal.

Group Select

The Imagestore 750 allows different source groups to be defined, where the sources in a group can be mapped to the main source buttons of the panel.

A 'Group Select' button selects a source group. When the group is selected, its source mnemonics appear on the main source buttons and (if your system is so configured) the sources in the group appear on monitors in a monitor wall.

Audio Lock

An 'Audio Lock' button is a toggle that enables or disables the two program audio level knobs on the iMC-Panel-300. (This feature helps prevent accidental changes to the audio levels)

The button is amber when the audio level knobs are locked.

Macro Arm

A 'Macro Arm' button selects an Imagestore 750 macro that will execute at the next transition.

- ▲ Certain macros can contain functions that must not execute during a transition. Such macros will execute immediately after the transition completes.

Fire Macro

A 'Fire Macro' button executes an Imagestore 750 macro immediately.

PGM DVE Enable

A 'PGM DVE Enable' button enables the use of DVE buttons on the program button row.

PST DVE Enable

A 'PST DVE Enable' button enables the use of DVE buttons on the preset button row.

Kaleido-X Layout

A 'Kaleido-X Layout' button triggers a *re-layout* of a Kaleido-X multi-viewer. (The panel will probably not have any 'Kaleido-X Layout' buttons if your master control system is not associated with a Kaleido-X multi-viewer. The Kaleido-X multi-viewer supports multiple layouts.)

Menu

A 'Menu' button is a toggle. Press it once to place the indicated menu on the touchscreen. Press the button again to place the main menu on the touchscreen.

There are 23 different menus that you can control:

- Main
- Macro
- XG Keyer Layers
- Audio Monitor²
- Audio Meters¹
- Audio Preview¹
- A/B Mixer
- Channel Select
- Program Output Audio
- Program Input Audio
- Preset Input Audio
- Meters Source Select
- Automation
- DSK 1–5
- Source
- Voice-Over 1 and 2
- EasyPlay 1 and 2

Each menu button controls one menu. To control all 23 menus, you need 23 menu buttons.

Details on the different menus can be found in Chapter 4, [Menus](#) on page 45.

Automation Assist

There are 4 'Automation Assist' button functions:

- 1 Cue next.
- 2 Drop next.
- 3 Hold next.
- 4 Take next.

These buttons allow you to manipulate the automation playout to a limited extent.

2. The functioning of these audio menus depends on the construction of the audio processing section of the Imagestore 750. If the audio section lacks a component, the menus will be empty (except for a missing component message).

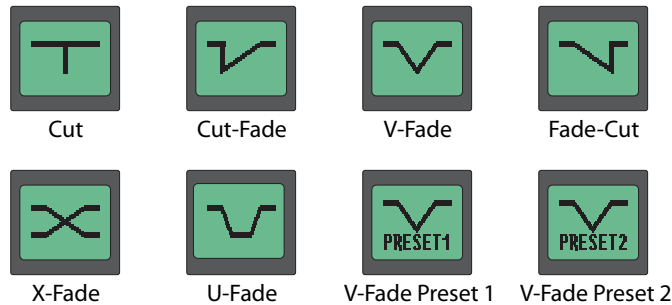
Transition Type

There are 8 'Transition Type' button functions:

Cut	V-fade (or fade-fade)	V-fade preset 1
Fade/cut	Cross fade (or X-fade)	V-fade preset 2
Cut/fade	U-fade	

Transition type buttons are mutually exclusive. Press one to select the transition type the Imagestore 750 will use subsequently to execute transitions. All other transition type buttons become deselected.

Transition type buttons appear green and show graphics instead of text:



(A U-type transition is like a V-fade, but with a pre-configured dwell period. The exact length of the dwell period is defined by the person configuring the Imagestore 750. The characteristics of the V-fade preset 1 and preset 2 types are also defined by the person configuring the Imagestore 750.)

Transition Rate

There are 4 'Transition Rate' button types:

- 1 Slow.
- 2 Medium.
- 3 Fast.
- 4 Automation Rate.

The actual rates (i.e., the number of frames in the transitions) that correspond to slow, medium, and fast are defined in the Imagestore 750 configuration.

The 'Automation Rate' button selects whatever rate is in effect in your automation system (if there is one).

The transition rate buttons are mutually exclusive. Press one to select the transition rate the Imagestore 750 will use subsequently to execute transitions. Other rate buttons become deselected.

Transition rate buttons are green.

- ▲ Keep in mind that each DSK has its own slow, fast, and medium rate settings. If you press the 'Medium' button, for instance, all DSKs will play out at their own medium rate (unless they are set to cut to the program output).

Take

There are two kinds of 'Take' buttons that can appear on buttons of the panel (other than the large fixed 'Take' button at the lower right).

- Take Primary
- Take Secondary

Each of these buttons takes a subset of what is armed to program output. An example of a primary function is the A/B mixer. An example of a secondary function is a DSK.

For more information about the primary and secondary subsets, refer to the *Imagestore 750 User's Guide*.

Take Primary

A 'Take Primary' button transitions the *primary* subset of the panel's armed functions to program output.

Take Secondary

A 'Take Secondary' button transitions the *secondary* subset of the panel's armed functions to program output.

GPI

GPI means "general purpose interface." A GPI output port lets you control an external device. A GPI input port receives a signal from an external device.

The iMC-Panel-300 has a GPI/Alarm connector at the rear that provides 2 relay outputs (with NO, NC, and COM terminals) and 2 optically isolated TTL-level inputs. The 2 relays can control external devices. The inputs can sense external events in your system.

There are 3 GPI button *types* that can be present on your iMC-Panel-300:

GPI input	Displays status of one of the 2 inputs on the iMC-Panel-300.
GPI output	Controls one of the 2 relays on the iMC-Panel-300.
Combined GPI input and output	Displays status of one input (iMC-Panel-300 or MCPM/MCE) and controls one output (iMC-Panel-300 or MCPM/MCE).

Any GPI button will have a legend assigned by the configurer. All GPI buttons are green.

- ▲ A iMC-Panel-300 configuration does not allow any GPI port to be represented by more than one button.

GPI Output

A GPI output button is a toggle: when it is deselected, the associated relay's "normally open" circuit is open. When it is selected, the relay's "normally open" circuit is closed. (When a GPI output button is selected, it is high-tally.)

GPI Input

A GPI input button displays the state of a GPI input (panel or MCPM/MCE). There are 2 options:

- The button is *low*-tally when the associated GPI input is active (current flowing).
- The button is *high*-tally when the associated GPI input is active (current flowing).

Consult with your system administrator to determine which options apply to the GPI input buttons in your iMC-Panel-300 configuration.

GPI Input and Output

A combined GPI input and output button performs 2 functions.

- The illumination of the button represents the state of a GPI input as for the GPI input buttons.
- Pressing the button toggles the state of a relay, as for the GPI output buttons.

Note that the button displays the state of the designated input, not the designated output.

If necessary, consult with your system administrator to determine which input and output applies to a button of this type and which display option applies.

Notes

Remember that most of the panel's button legends are at the discretion of the configurer. They might not be exactly what you see listed in this guide.

Connectors

At the rear of the panel are 2 power connectors, an Ethernet connector, a GPI/alarm connector, and a BNC connector labeled "SD/HD - SDI Input."

A USB connector and an "AUX" connector are also present but unused.

Power

There are 2 power connectors, PS1 and PS2, for the sake of redundancy:



Only one is required, but with both, the panel will continue uninterrupted operation if one fails.

Connect your power supplies to AC power. (The panel has no on/off switch.)

We recommend you use the wire retainers to prevent an accidental disconnection.

Ethernet

The iMC-Panel-300 has one RJ-45 Ethernet connector. Connect the panel to the switch on the master control network using Cat5 cable or better.

It is on this network that the panel communicates with Imagestore 750s and with your configuration software. You (or your system administrator) must provide a unique IP address for the panel.

Operators generally need not be concerned with the panel's network address. System administrators will use the 'Panel' menu of the panel to set its network address. The default IP address is 192.168.7.100, and the subnet mask must always be 255.255.255.0.

GPI/Alarm

The iMC-Panel-300 has a DB25 connector that supports GPI inputs, GPI outputs, and alarms:

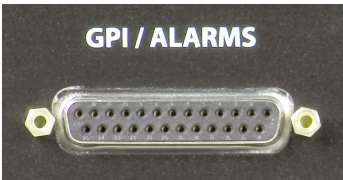
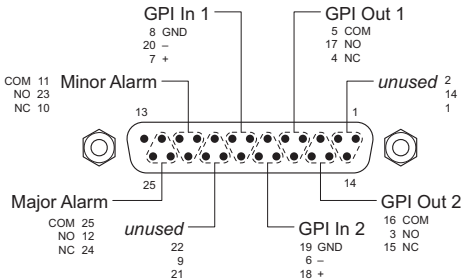
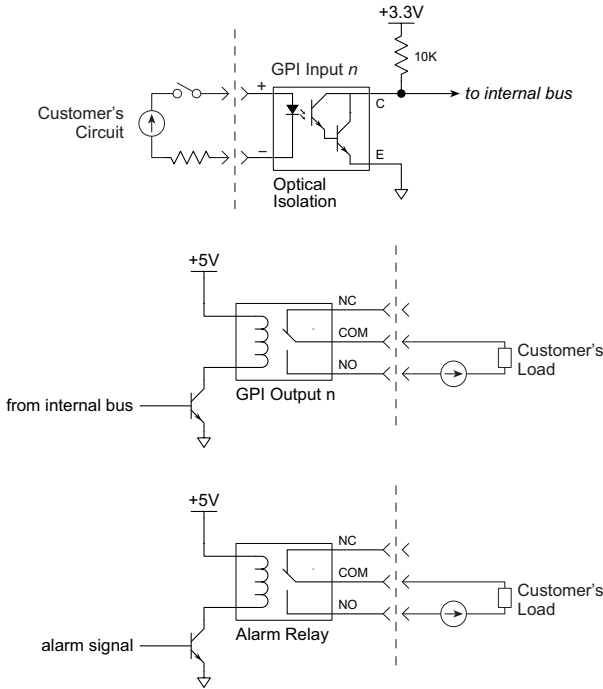


Fig. 3-9: GPI/Alarm Connector

If you intend to use any of these connections, make the connections according to the following diagrams.



If your GPI input cable has a ground wire or shielding, you can connect the ground (or shielding) to the associated ground pin on the DB25 connector. (See Figure 3-9.) The ground pin is not shown here.

The GPI relay and alarm relay circuits are identical. Note: it is the NO circuit that closes when the GPI output or alarm is turned on. You can use the NC circuit as well.

Fig. 3-10: GPI and Alarm Circuit Connections

Control Panel

Connectors

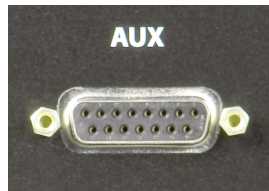
Power applied to the inputs can be from 5 to 24VDC, and less than 30mA. Typically, 5V at 1 mA.

Loads for the outputs can be larger:

Max current:	1 A
Max voltage:	125 VAC, 110VDC.
Max capacity:	62.5VA, 33 W.
Rated loads:	1 A at 30VDC; 0.3A at 110VDC; 0.5A at 125VAC.

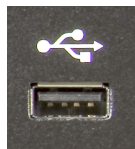
Aux

The 'Aux' connector is *reserved for future development*:



USB

The USB port is *reserved for future development*:



SD/HD Input

The iMC-Panel-300 has an SD/HD input port:



The input drives the panel's "live levels" display when the panel is controlling an MCE or an MCPM. The input can be either SD or HD video with up to 16 channels of audio embedded.

The input is not used when a panel is controlling an Imagestore 750.

4 Menus

Chapter 4 describes the menus of the iMC-Panel-300 and their buttons.

Topics

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<i>Main Menu</i>	52
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<i>DSK Menu</i>	62
<i>“EasyPlay” Menu</i>	68
<i>Macro Menu</i>	69
<i>Program Input Audio Menu</i>	70
<i>Program Output Audio Menu</i>	74
<i>Preset Input Audio Menu</i>	78
<i>Voice-Over Menu</i>	82
<i>Shuffle Presets and Gain Presets</i>	86
<i>XG Keyer Layers Menu</i>	88
<i>A/B Mixer Menu</i>	90
<i>Sources Menu</i>	92
<i>Panel Menu</i>	96

About Menus

The panel’s color LCD touchscreen presents a number of selectable menus. Using the menu(s), you can make source selections and parameter adjustments in several ways:

- Pressing the menu’s on-screen buttons or selecting an item in a list.
- Entering numeric values on the menu’s keypad by pressing the numeric menu buttons.
- Turning any of the 8 rotary knobs below the menu to set a parameter value.
- Using the joystick.

It is possible to navigate from one menu to another menu. The ‘Panel Settings’ button in Figure 4-2 is a navigation button that takes you to the ‘Panel’ menu.

Menu Components

Figure 4-1 illustrates the basic menu components:

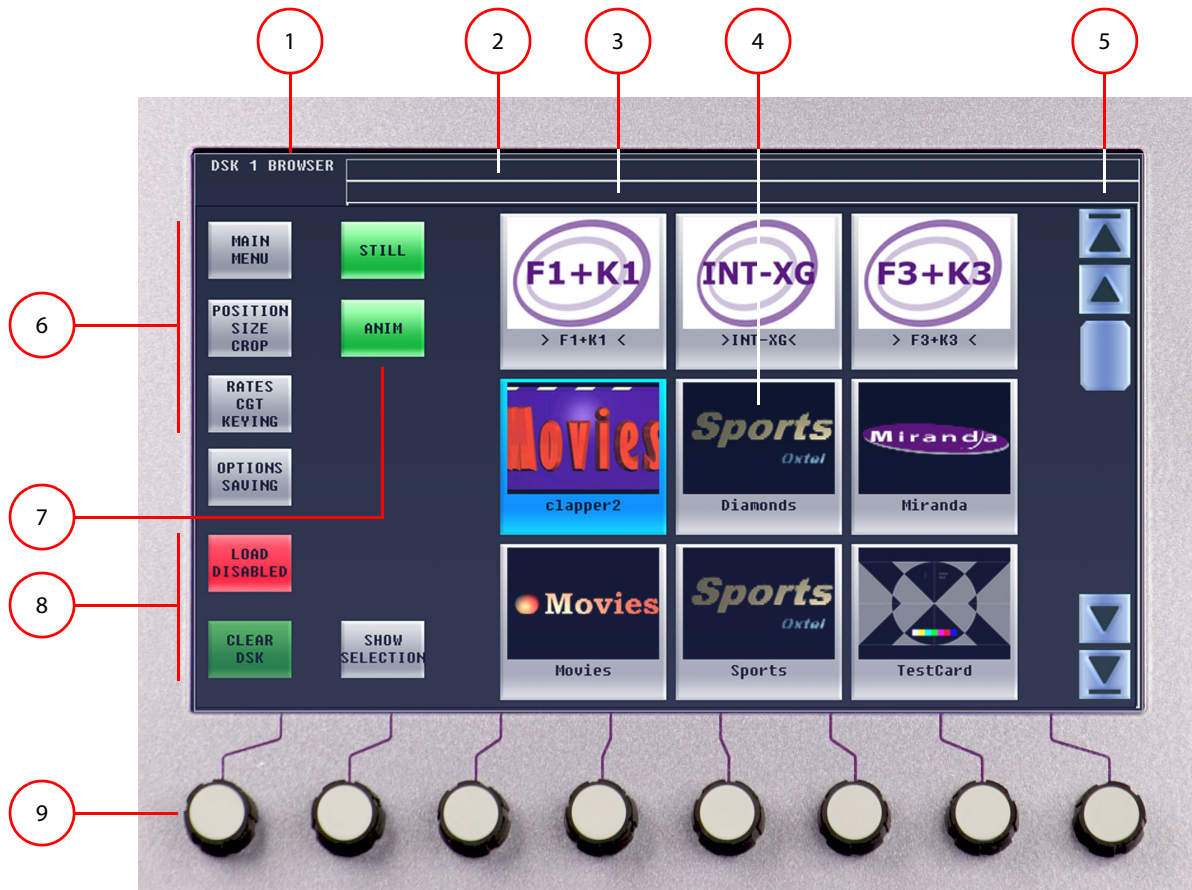


Fig. 4-1: Menu Parts

1	Menu name	4	Selection buttons	7	Toggle buttons
2	Error bar	5	Scroll bar	8	Momentary buttons
3	Message bar	6	Navigation buttons	9	Rotary knobs

Following are descriptions of each menu area:

1 Menu name

The current menu name is always present in the top left corner. This label changes dynamically as you use different menus.

The main menu actually shows the channel ID (name) in this area.

2 Error bar

The error bar is a rectangular area at the top of the menu that displays error messages (e.g., "Panel Not Connected") and other important "alerts."

3 Message bar

The message bar is a second rectangular area at the top of the menu that displays confirmation messages when certain actions are in progress (e.g., "Changing Channels") or have completed (e.g., "NV9000 Salvo Successful").

4 Selection buttons

A selection button lets you choose one of several items. In Figure 4-1, the selection buttons select DSK (downstream keyers).

5 Scroll bar

The scroll bar allows operators to move through a long list of items, such as the DSKs in Figure 4-1. (If all the entries in a list can fit on the display, the scroll bar is not required and therefore not displayed.)

6 Navigation buttons

A navigation button takes you to another menu.

7 Toggle buttons

A toggle button lets you (1) choose one of several items or (2) switch the state of some parameter.

In Figure 4-1, for example, the 'Still' and 'Anim' buttons each enables (or disables) a subset of the available DSKs for selection.

8 Momentary buttons

Momentary buttons perform a single task, usually of short duration.

In Figure 4-1, for example, the 'Clear DSK' button unselects the currently selected DSK. The 'Show Selection' button changes the display so the currently selected DSK is in the window. That is useful for very long lists of DSKs.

9 Rotary knobs

You can adjust menu parameters (such as keyer opacity) by rotating the parameter's associated knob. (Figure 4-1 does not show any parameters that can be controlled by knobs.)

For disabled parameters, turning a knob has no effect. Enabled parameters show a green "asterisk" near by the knob to show that it is usable. (There are 8 menu knobs.)

Figure 4-2 illustrates other menu components:



Fig. 4-2: Menu Parts

- 1 [Functional area](#) 2 [Toggle button](#) 3 [Navigation buttons](#) 4 [Keypad Buttons](#)

Following are descriptions of each menu area:

1 Functional area

The function area is the menu's working area for all selections, adjustments, and modifications. The content of the area changes according to the selected menu. Content can include messages, lists of settings, a scroll bar, graphics, buttons, and a keypad.

2 Toggle button

A toggle button lets you switch a function or an option on and off or switch between two options.

3 Navigation buttons

Some buttons are "navigation buttons." These buttons either change the display, introducing new controls, or take you to another menu altogether.

These are typical navigation buttons:



Press 'Main Menu' to return to the main menu.



Press 'Back' to jump one level up in the menu structure, from your current location. This button is also present on many menus.



Press 'Edit/More' to jump one level down the menu structure, for purposes of adjusting a selected item (e.g., an item in a list).

4 Keypad Buttons

The keypad buttons appear when a menu has a parameter that you can set with a numeric value. When you touch a keypad button, the iMC-Panel-300 displays the keypad.

Menu Button Conventions

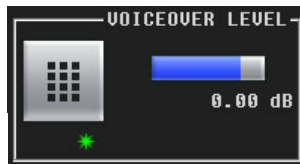
The following concepts apply to menu buttons in the iMC-Panel-300's touchscreen:



A *momentary* button executes the selected function, changes to bright green for an instant, then returns to dark green. The 'Set All Levels to Unity' button is an example.



A few buttons are red, indicating that caution is advised. The 'Take' buttons in the audio channel shuffle menus are also red.



Active keypad buttons appear bright and usually have a green "asterisk" that indicates the knob below it will change the button's parameter value. The parameter's numerical value is present in the enclosing box. Pressing the button itself activates the keypad (menu) so that you can adjust a parameter numerically.

Inactive keypad buttons appear with a dim pattern and any associated graphics are also dimmed. Parameter values are not evident.



A *list* button is blue or green. A selected list entry is a light blue or light green.

See [About Colors](#) on page 103 for additional information on button colors.

Keypads

Figure 4-3 shows the keypad, used in menus for numeric entry and parameter adjustment:



Fig. 4-3: Keypad (Sample)

Please note:

- The box with large numbers is the “entry register” that shows your numeric entry in progress.
 - Press ‘Clear’ to clear the entry register.
 - Press ‘Cancel’ to return to the previous menu — without entering a number.
 - Press ‘Done’ to accept the new entry, and return to the previous menu. The ‘Done’ button remains disabled until you make an entry.
- If the number is out of range, an error message appears. (Press ‘OK’ to return to the keypad.)

Lists

The menus present channels in lists. Lists are arrays of “buttons,” up to 3 buttons wide and indefinitely long. When a list has more than 4 rows of buttons, a scroll bar appears on the right side of the menu.

Figure 4-4 shows a sample:

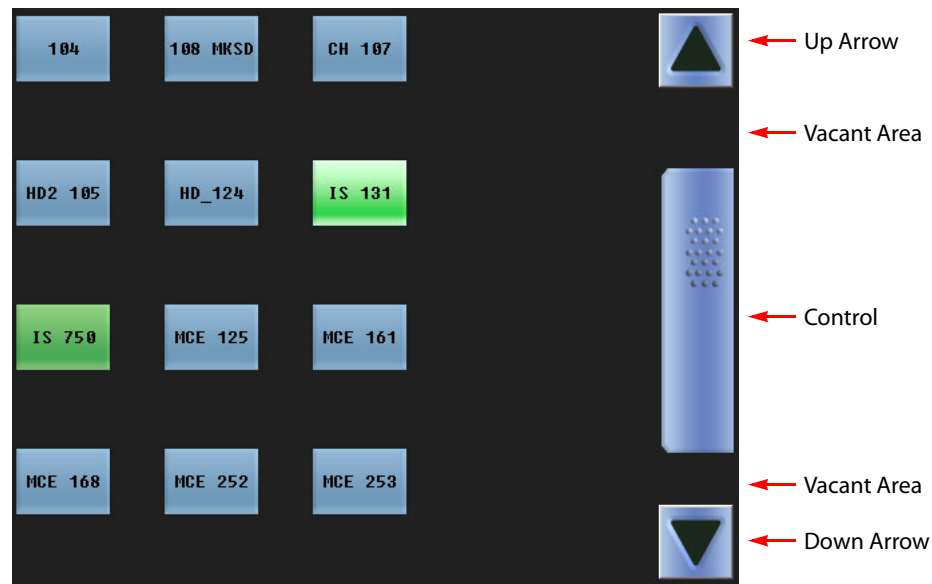


Fig. 4-4: Example of a Settings List with Scrollbar

Touch any item in the list to select the item. Use the scroll bar when the item you want is off-screen.

You can scroll through a list in several ways:

- A page at a time.
 - A. Touch an up or down arrow.
 - B. Touch either of the vacant areas in the scrollbar.
 - C. Turn any of the left 4 menu knobs. (The right 4 knobs have no effect on some displays and produce left or right scrolling on some displays.)
- A row at a time.

Touch the scroll bar control and move it up or down.

Move the joystick up or down.

When you press a setting button, the setting takes effect *immediately*. The panel does not wait for any confirmation.

- ▲ When a video effect is on the program bus (and presumably on air) you can neither select nor change its settings. For example, if logo B is on program, logo B cannot be changed. However, what is on program for logo B does not affect logo A in any way. What is on program for any of the keyers does not affect the other keyers in any way.

Main Menu

Figure 4-5 shows the iMC-Panel-300's main menu:

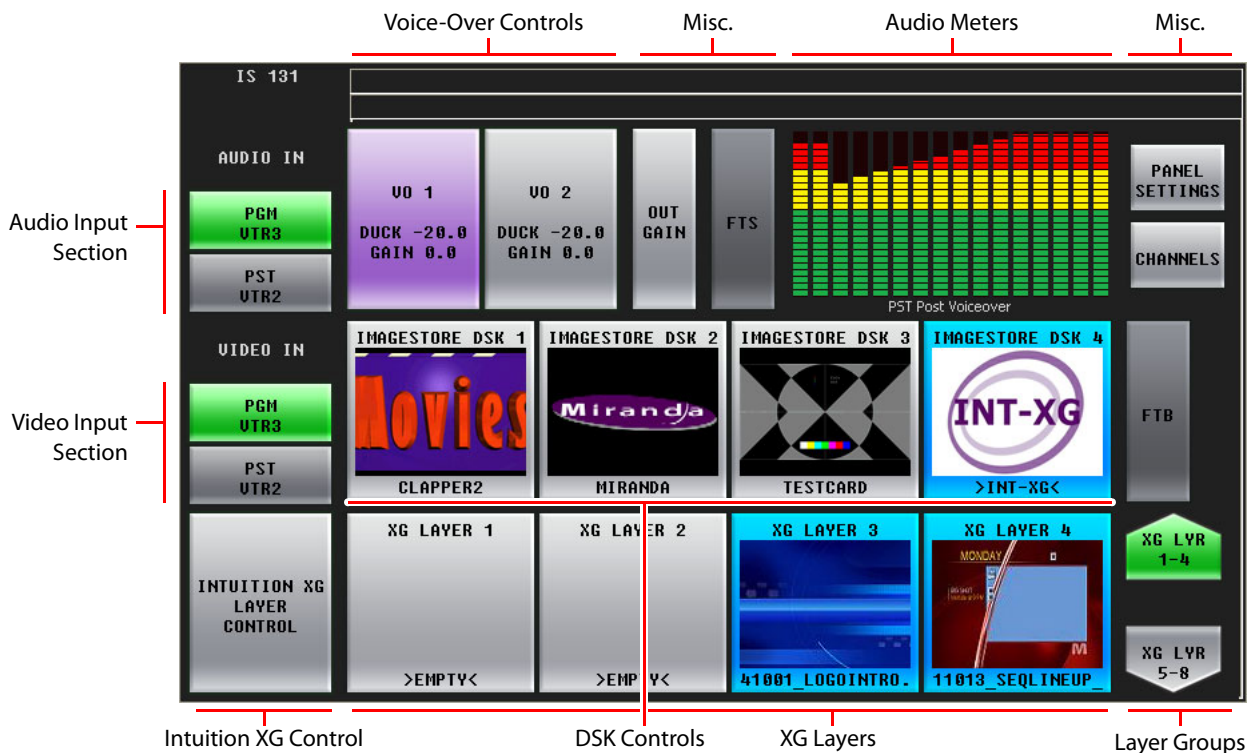


Fig. 4-5: Main Menu

Following are brief descriptions regarding the main menu elements:

- Audio input section

The buttons in this section are status buttons, showing the main sources selected on the program and preset button rows. (This can be important if the source selected is not among the sources currently on the program and preset buttons.)

The buttons are labeled 'PGM' and 'PST'. The 'PGM' button is always green and shows the source currently selected on the program bus. The 'PST' button is always grey and shows the source selected on the preset bus.

If you press 'PGM', the panel shows the 'Program Input Audio' menu. If you press 'PST', the panel shows the 'Preset Input Audio' menu.

- Video input section

The buttons in this section are status buttons, showing the main sources selected on the program and preset button rows. (This can be important if the source selected is not among the sources currently on the program and preset buttons.)

Here too, the buttons are labeled 'PGM' and 'PST'. The 'PGM' button is always green and shows the source currently selected on the program bus. The 'PST' button is always grey and shows the source selected on the preset bus.

If you press either of these buttons, the panel shows the 'Sources' menu.

- Voice over control
The two buttons in this section access the voice-over 1 and voice-over 2 menus. See [Voice-Over Menu](#) on page 82.
- Audio Meters
The meters in this portion of the screen show the audio levels of the designated audio source which can be selected in the audio meters menu. See [Audio Meters Menu](#) on page 55.
Touch the meters section to access the audio meters menu.
- Intuition XG, XG layers and Layer groups.
The button on the left, labeled 'Intuition XG Layer Control', accesses the [XG Keyer Layers Menu](#) (page 88).
The two buttons on the right, labeled 'XG Lyr 1–4' and 'XG Lyr 5–8' cause the 4 middle buttons at the bottom of the screen to represent XG layers 1–4 or 5–8.
The 4 middle buttons at the bottom represent XG layers.
- DSK controls
Each of the 4 'Imagestore DSK' buttons in the middle of the screen accesses a DSK browser menu. See [DSK Menus](#) on page 62.
- Miscellaneous controls
The 'Output Gain' button accesses the 'Program Output Audio' menu. See [Program Output Audio Menu](#) on page 74.
The 'FTS' button is a status button that turns red when the channel's program output is in silence, fading to silence, or fading up from silence.
The 'FTB' button is a status button that turns red when the channel's program output is in black/silence, fading to black/silence, or fading up from black/silence.
The 'Panel Settings' button accesses the panel menu. See [Panel Menu](#) on page 96.
The 'Channels' button accesses the channel selection menu. See [Channel Select Menu](#) on page 59.

Audio Monitor Menu

Figure 4-7 shows the panel's 'Audio Monitor' menu:

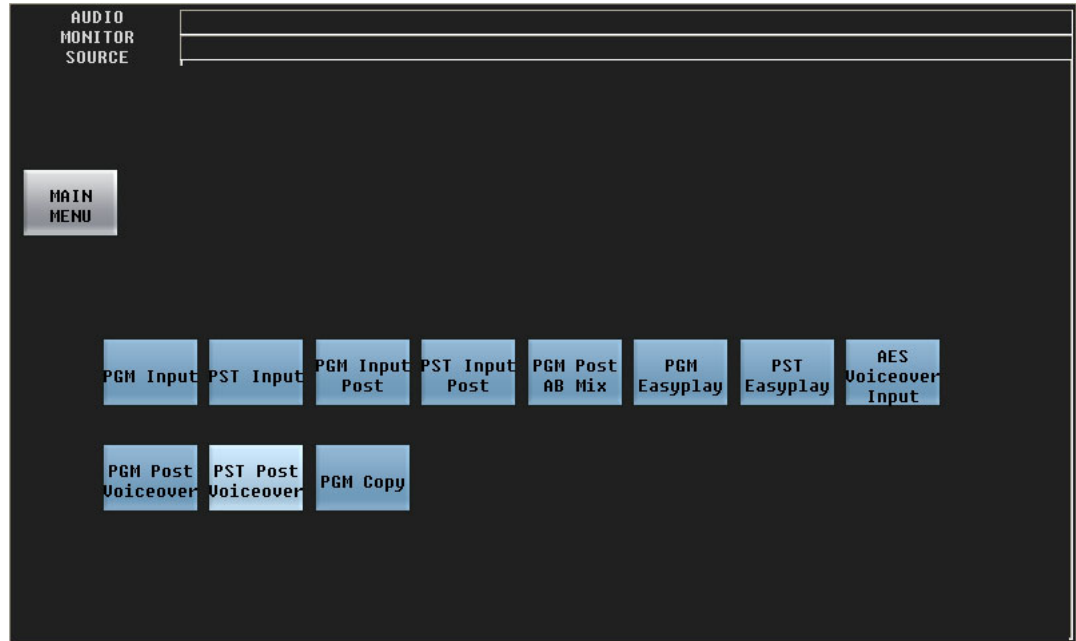


Fig. 4-6: Audio Preview Menu

This menu allows you to select the source for the audio that is directed to the Imagestore 750's preview output.

There are 11 source choices illustrated here:

PGM Input	PGM Input Post	PGM Easyplay	PGM Post Voice-Over
PST Input	PST Input Post	PST Easyplay	PST Post Voice-Over
PGM Copy	PGM Post AB Mix	AES Voice-Over Input	

The number of sources and the names of the sources are determined by the person who configured the Imagestore 750. Please consult your management if you need to know what the sources represent.

Press the 'Main Menu' button to return to the main menu.

The functioning of this menu depends on the presence of components in the configuration of the audio section of the Imagestore 750. If the required audio component is absent, the menu displays a message similar to the following:

Waiting for configuration information, or this audio output multiplexer is not defined in the audio template or Configurator audio graph.

- ▲ Easyplay is a trade name that represents audio segments stored in the Imagestore 750.
- ▲ The DS3901 does not support Easyplay. It has no storage capability.

Audio Meters Menu

Figure 4-7 shows the iMC-Panel-300's audio meters menu:

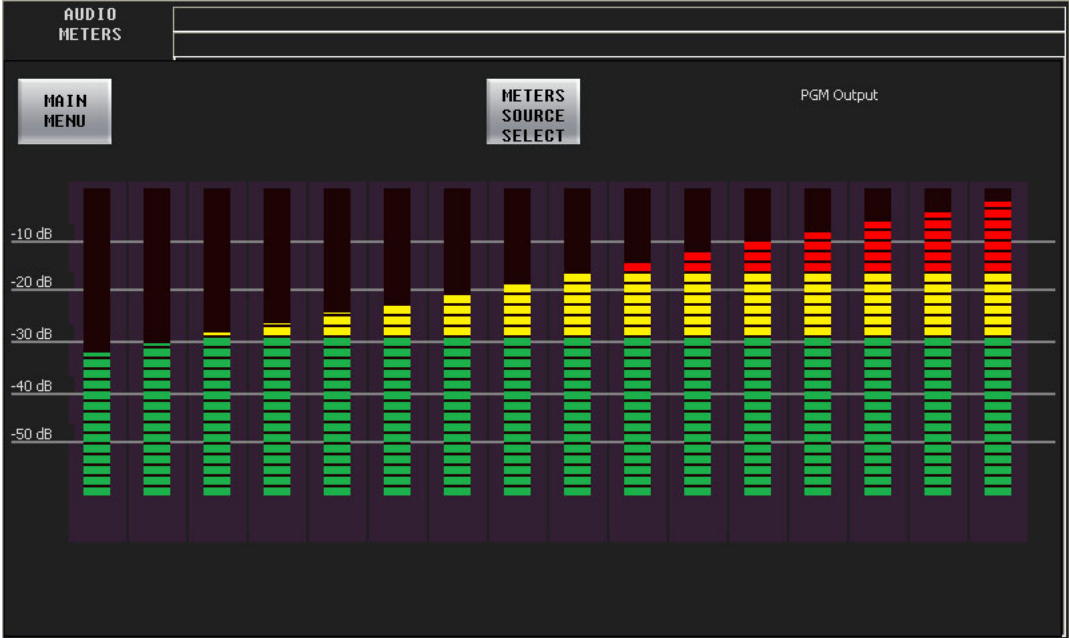
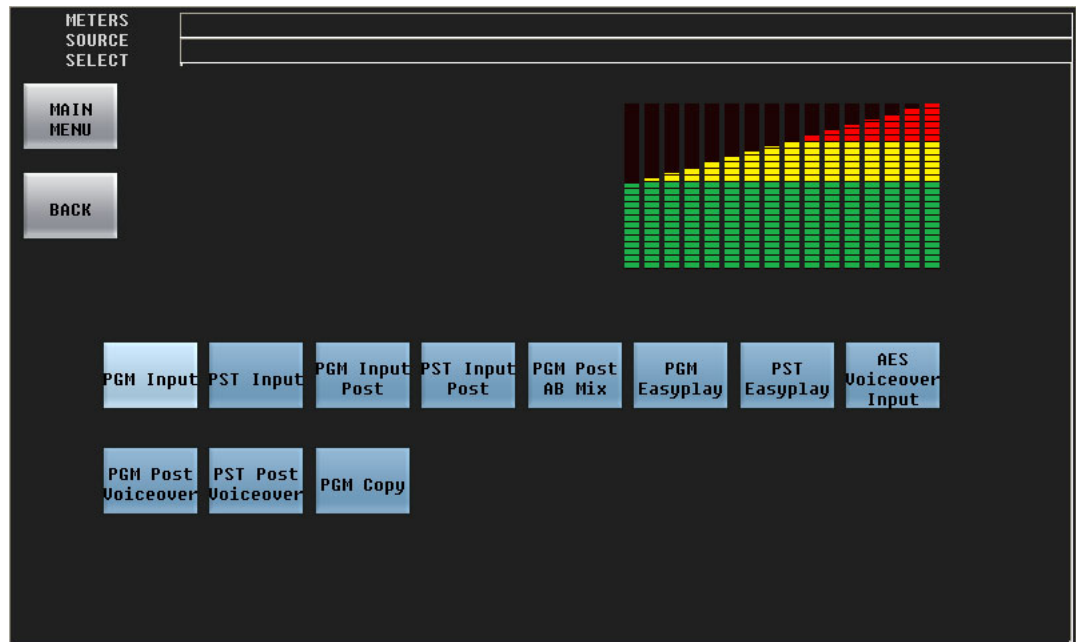


Fig. 4-7: Audio Meters Menu

The audio meters menu displays 16 audio meters. The meters show the audio channels for the selected source. Press 'Meters Source Select' to get the 'Meters Source Select' menu where you can select the source for the meters.

Press 'Main Menu' to return to the main menu.

This is the 'Meters Source Select' menu:



Press any source button to change the metering source.

There are 11 source choices illustrated here:

PGM Input	PGM Input Post	PGM Easyplay ¹	PGM Post Voice-Over
PST Input	PST Input Post	PST Easyplay	PST Post Voice-Over
PGM Copy	PGM Post AB Mix	AES Voice-Over Input	

The number of sources and the names of the sources are determined by the person who configured the Imagestore 750. Please consult your management if you need to know what the sources represent.

Press 'Back' to return to the 'Audio Meters' menu.

Press 'Main Menu' to return to the main menu.

The functioning of this menu depends on the presence of components in the configuration of the audio section of the Imagestore 750. If the required audio component is absent, the menu displays a message similar to the following:

```
Waiting for configuration information, or this audio
output multiplexer is not defined in the audio template or
Configurator audio graph.
```

1. Easyplay is a trade name that represents audio segments stored in the Imagestore 750

Audio Preview Menu

Figure 4-7 shows the panel's 'Audio Preview' menu:

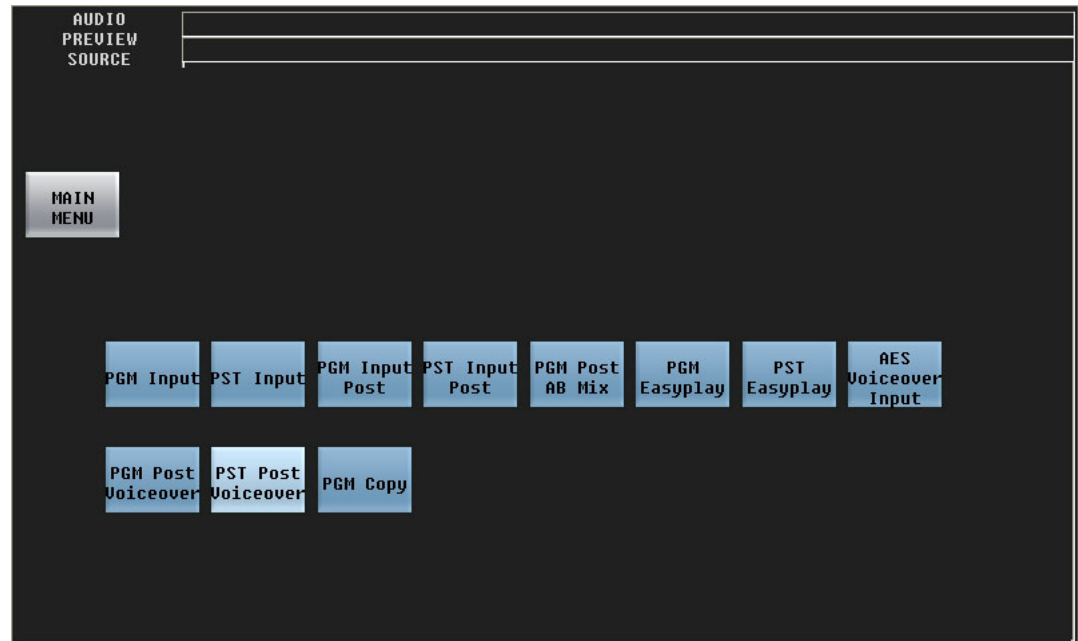


Fig. 4-8: Audio Preview Menu

This menu allows you to select the source for the audio that is directed to the Imagestore 750's preview output.

There are 11 source choices illustrated here:

PGM Input	PGM Input Post	PGM Easyplay	PGM Post Voice-Over
PST Input	PST Input Post	PST Easyplay	PST Post Voice-Over
PGM Copy	PGM Post AB Mix	AES Voice-Over Input	

The number of sources and the names of the sources are determined by the person who configured the Imagestore 750. Please consult your management if you need to know what the sources represent.

Press the 'Main Menu' button to return to the main menu.

The functioning of this menu depends on the presence of components in the configuration of the audio section of the Imagestore 750. If the required audio component is absent, the menu displays a message similar to the following:

Waiting for configuration information, or this audio output multiplexer is not defined in the audio template or Configurator audio graph.

- ▲ Easyplay is a trade name that represents audio segments stored in the Imagestore 750.
- ▲ The DS3901 does not support Easyplay. It has no storage capability.

Automation Menu

Figure 4-9 shows the panel's automation menu:

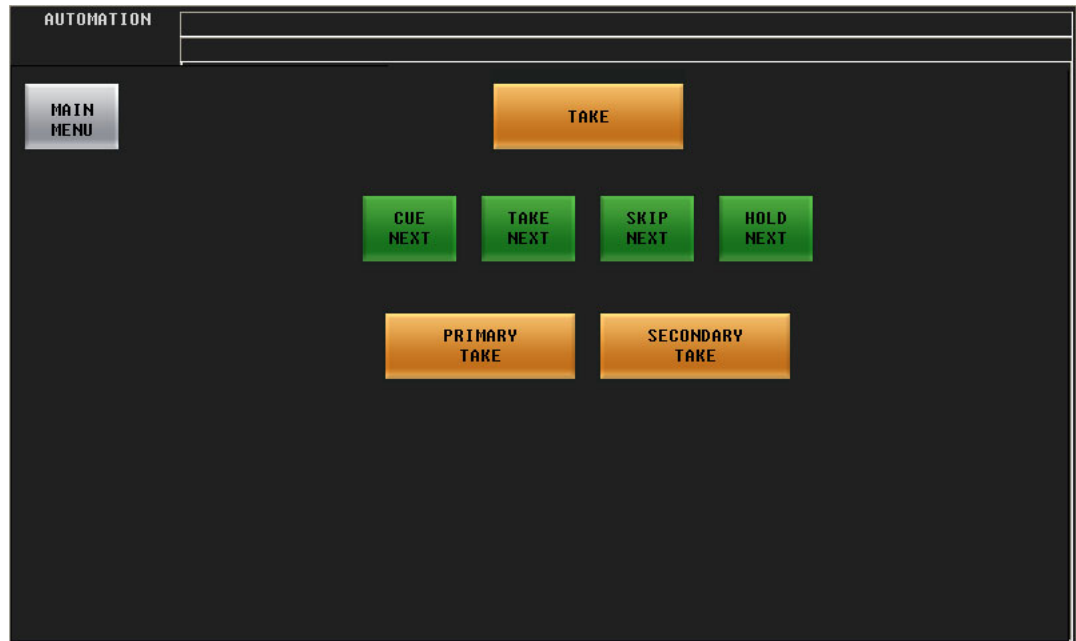


Fig. 4-9: Automation Menu

The automation menu provides an alternative to dedicated function buttons.

Buttons

These buttons allow you to manipulate the automation playout to a limited extent.

The meanings of the terms 'Cue Next', 'Skip Next', 'Hold Next', and 'Take Next' are defined by the automation system. Consult your system's administrator if you need to know what these functions are.

The 'Take' button initiates a transition.

The 'Primary Take' button initiates a transition of the armed primary functions to program output.

The 'Secondary Take' button initiates a transition of the armed secondary functions to program output.

Press the 'Main Menu' button to return to the main menu.

Channel Select Menu

Figure 4-10 shows the panel's channel select menu:

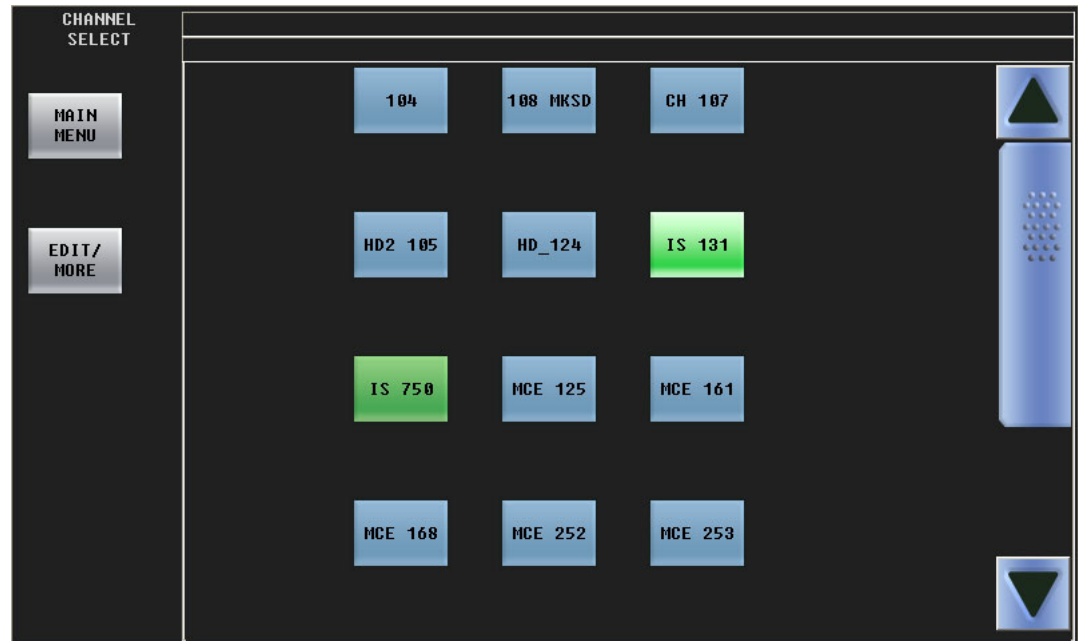


Fig. 4-10: Channel Select Menu

This menu shows a list of channels. The currently selected channel is highlighted. If the list has more than 12 channels, scrolling is enabled.

Press any channel button to select that channel. The channel selection is immediate, although it takes about one second for the channel to be acquired. If your iMC-Panel-300 is under "automatic gang mode" and you choose the default channel, all channels in the automatic channel gang are selected and gang selection is enabled. A multiple channel selection takes slightly longer than one second.

However, the channel selection is not immediate if the channel (or one of the ganged channels) is in use at a panel that does not share. Either you will be given the opportunity to preempt (i.e., "kick") the other panel or you will be denied access to the channel. See [Preemption](#), following.

- ▲ When you and other operators share the same channel, the other panels reflect any change you make, and your control panel reflects changes made on other panels.

If a configurable button is assigned to the channel you select, it becomes high-tally. Under automatic gang mode, any buttons assigned to the channels in the gang become high-tally.

Sharing Channels

Your panel can be configured to share or not to share channels with other panels.

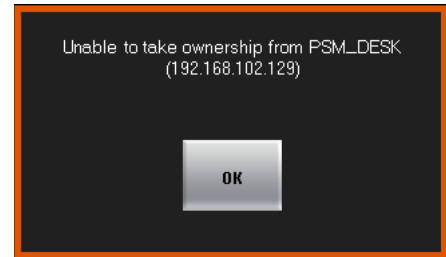
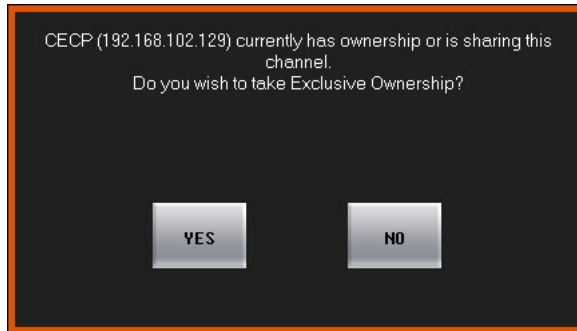
If your panel is not configured to share, an attempt to acquire the channel at another panel can preempt your use of the channel. If the other panel has a higher priority than yours has, it will preempt you and take over the channel, and you will be notified of the fact.

Conversely, if you wish to preempt another panel, and have a higher priority than that panel, you can preempt the other panel.

If your panel is configured for sharing, it is possible for you to share a channel with other panels, unless some other channel that is not configured for sharing controls that channel.

Preemption

When your panel is not configured for sharing, if the channel (or one of the ganged channels) you want to control is in use, you will see either a permission message or a denial of access message:



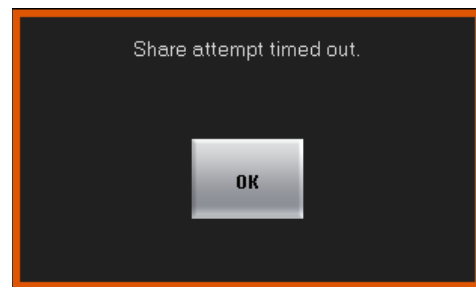
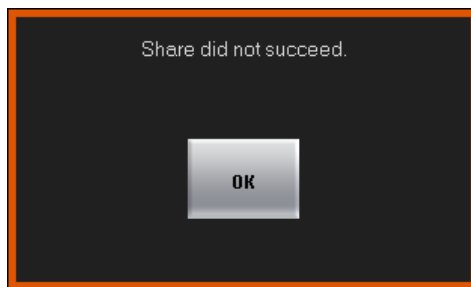
If you see a permission message, and you wish to preempt the other panel, press 'OK'. Otherwise press 'Cancel'.

If you see a denial of access message, press 'OK'. You may not acquire the channel. You can try again later, choose another channel, or negotiate with the other panel operator.

- ▲ If someone preempts you, your panel will immediately appear to "go dead." What actually happens is the same thing that would happen if you pressed a 'No Channel' button. You will have to wait for the channel to become available again or switch to another channel.
- ▲ A panel can preempt another panel if it has been configured with a higher priority or in some cases, with the same or higher priority.

Sharing

When your panel is configured for sharing, if the channel (or one of the ganged channels) you want to control is in *exclusive* use (at a panel that does not share), you will see a failure message:



If the sharing attempt failed, your panel will revert to its previous state, controlling the channel it controlled prior to the sharing attempt.

Edit/More

Press 'Edit/More' to access the [Channel Details Sub-Menu](#), which lets you view a channel's parameters and the channel's log.

Note

You cannot specifically gang channels with the 'Channel Select' menu although you can select the default channel which might be part of a channel gang under automatic gang mode.
In general, ganging or "un-ganging" channels must be performed with a 'Gang Channels' button.

Channel Details Sub-Menu

Press 'Edit/More' in the 'Channel Select' menu to view the 'Channel Details' menu:

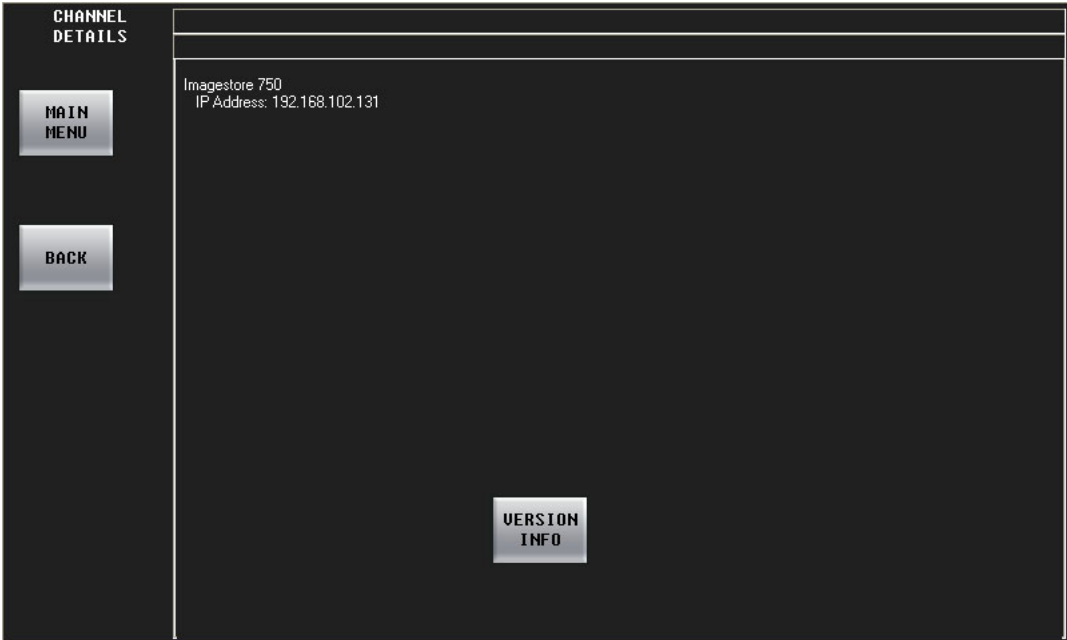


Fig. 4-11: Channel Details Menu (Sample)

The top of the function area displays the name, IP address, and type of the selected Imagestore 750. Press 'Version Info' to display the 'Version Info' sub-menu. Press 'Disable Buttons' to display the 'Button Disabling' sub-menu.

Version Info Sub-Menu

The 'Version Info' sub-menu lists the software and firmware versions of the attached Imagestore 750. Refer to this menu, as required, for channel-related trouble-shooting:

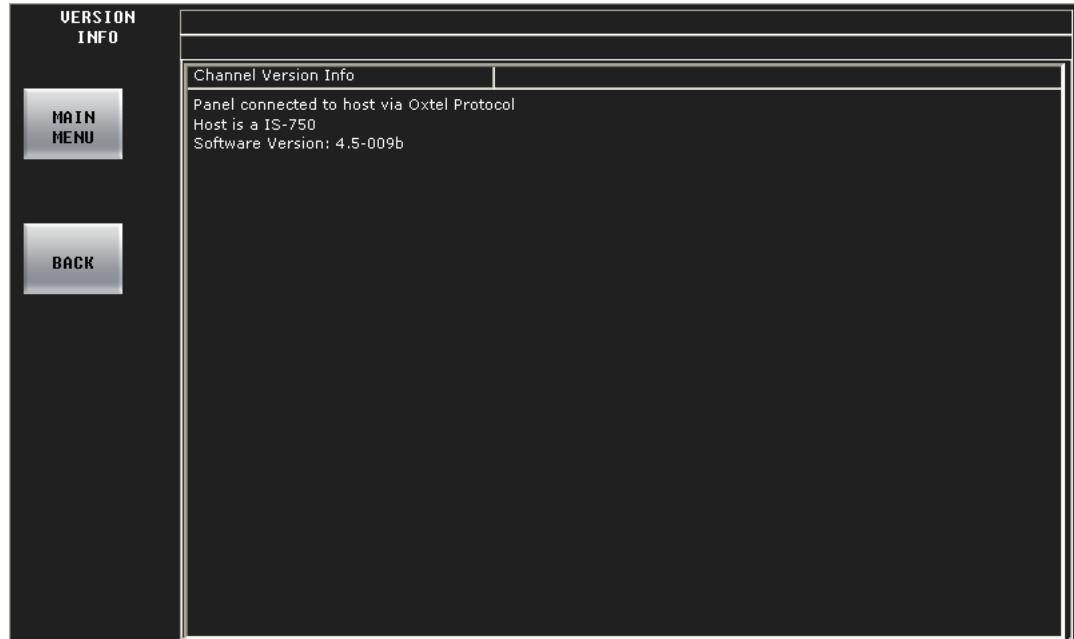


Fig. 4-12: Version Info Menu (Sample)

DSK Menus

Figure 4-13 shows the panel's 'DSK 1 Browser' menu:

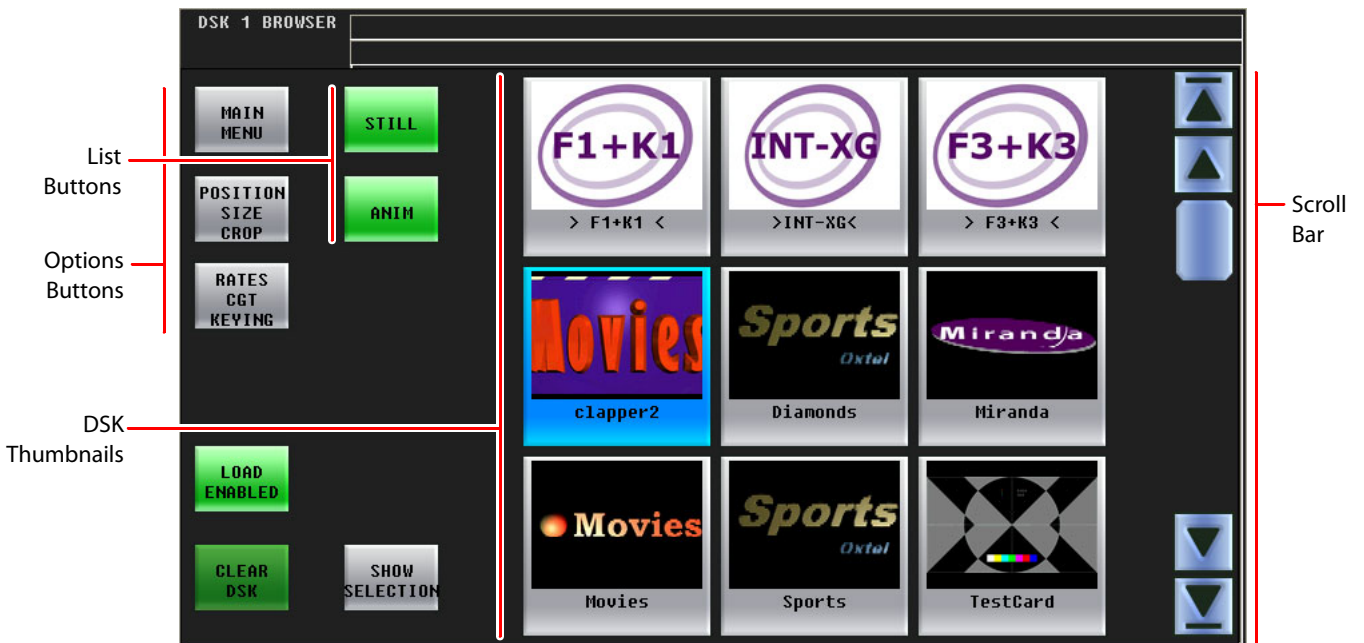


Fig. 4-13: DSK 1 Menu

The DSK 2, DSK 3, and DSK 4 browser menus are just like the DSK 1 browser menu.

- ▲ The LGK-3901 and ISM-3901 support 5 DSKs. For these units, the panel has 5 DSK menus. The DSK-3901 has only 2 DSKs. For this unit, the panel has only 2 DSK menus.

The DSK browser menus let you select a DSK (downstream key) and specify display parameters for it.

Touch a DSK thumbnail to select a key. Use the scroll bar to view additional thumbnails. The outer arrows of the scrollbar scroll the list to its top or bottom. The inner arrows scroll the list of DSKs by one line up or down. The 'Show Selection' button causes the list to scroll so that the currently selected DSK appears in the window. This can be important if you have very many DSKs from which to choose.

The parameters controlled by the options buttons apply to the most recently selected DSK. Touch an option button to go to the sub-menu for those keyer options.

Press the red 'Load Disabled' button to enable selection of clips using thumbnails. The button turns green and reads 'Load Enabled' when clip selection is enabled. Disabling loads prevents accidental select of a clip. Press 'Load Enabled' again to re-disable selection of clips.

Press the 'Clear DSK' button unselect the currently selected DSK. The result is no selection.

Press the 'Main Menu' button to return to the main menu.

XG layers are handled by one of the DSKs. The relationship between XG layers and a DSK is not simple. See [Working with XG Layers](#) on page 119 for information.

Options Buttons

There are 2 options buttons:

- Rates CGT Keying
This button accesses the [Rates, CGT, Keying](#) sub-menu.
- Position Size Crop
This button accesses the [Position, Size, Crop](#) sub-menu.
- 'Options Saving'
This button accesses the ['Options Saving'](#) sub-menu.

List Buttons

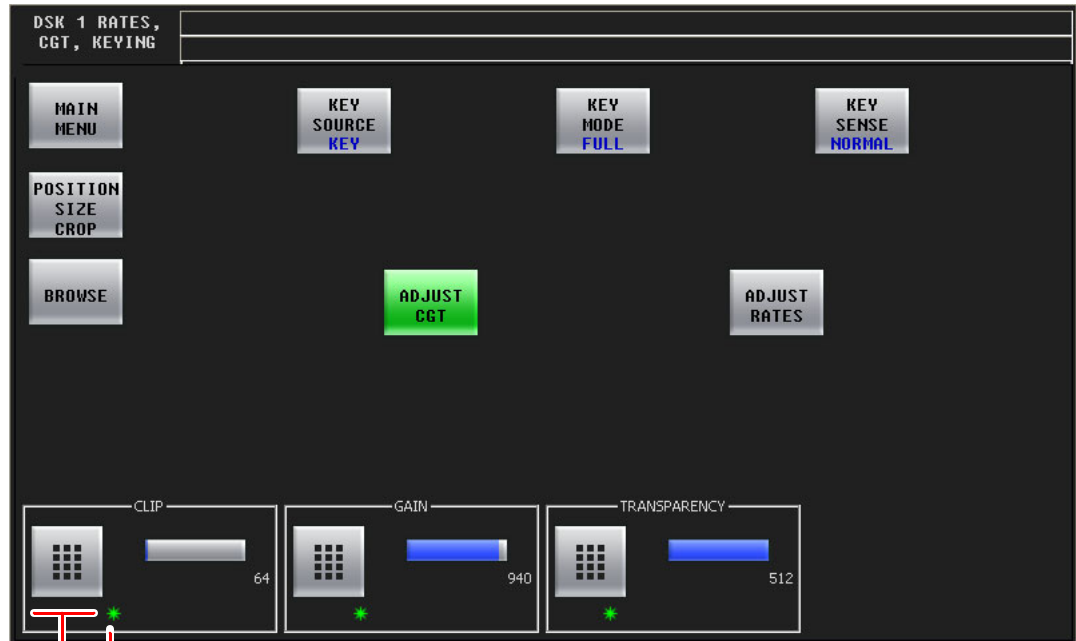
There are 2 list buttons. These buttons filter the list of keys presented in the menu. When the button is green, the list includes items of the type indicated:

Still	Stored still frames.
Anim	Stored animations.

When the button is dark gray, the list of keys does not show items of that type. If all the list buttons are dark gray, the list appears empty.

Rates, CGT, Keying

This is the 'Rates, CGT, Keying' sub-menu:



Keypad Green Asterisk

In this menu, you can make adjustments to the currently selected DSK.

The 'Adjust CGT' button causes the clip, gain, and transparency controls to appear (as shown above).

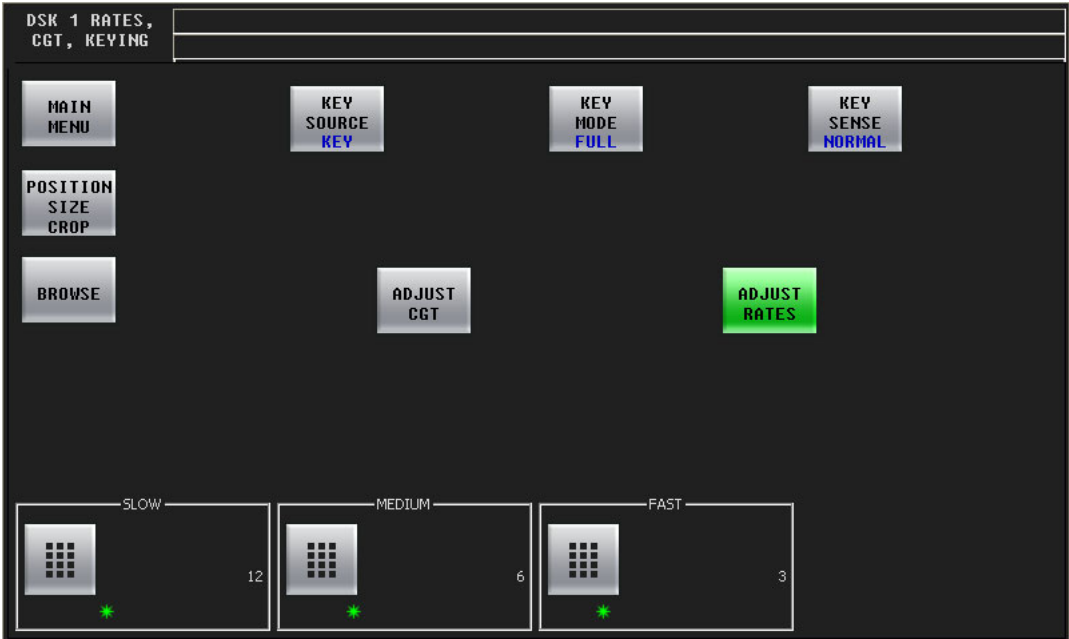
The 'Adjust Rates' button causes the slow, medium, and fast rate controls to appear.

Clip, Gain, Transparency

At the bottom of the screen are 3 numerical controls for the CGT (clip, gain, and transparency) parameters. To adjust any of those parameters, either turn the knob associated with the green asterisk in the control box, or touch the keypad icon to access a large keypad with which to enter a number.

Rate Adjustment

When you touch the 'Adjust Rate' button, the menu presents rate controls at the bottom:



There are 3 numerical controls for the 3 rates (slow, medium, and fast). To adjust any of those parameters, either turn the knob associated with the green asterisk in the control box, or touch the keypad icon to access a large keypad with which to enter a number.

Keying Parameters

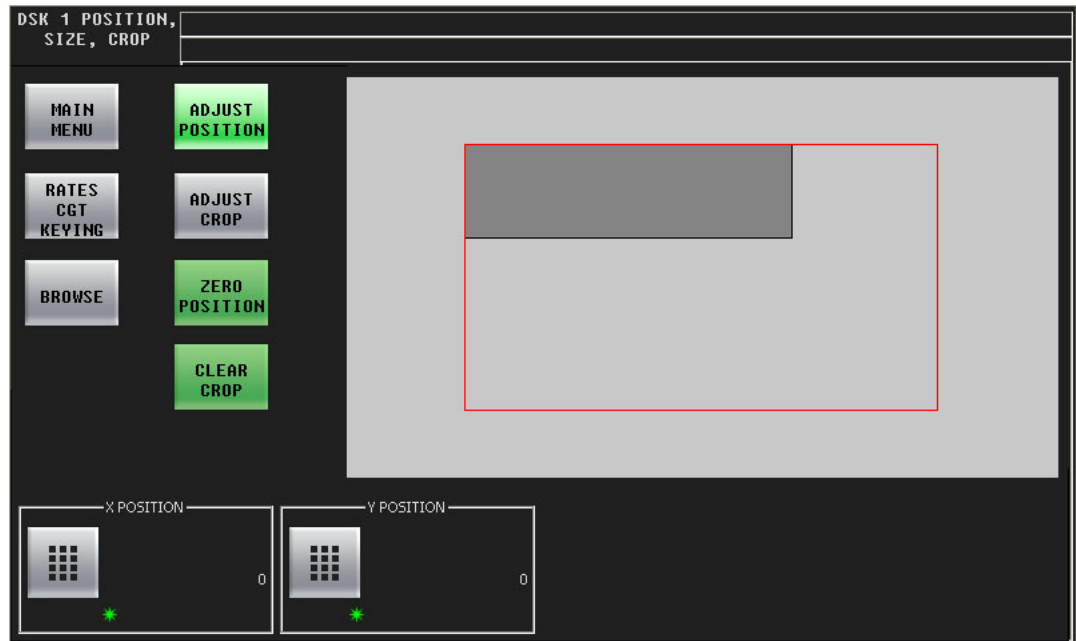
The 'Key Source' button is a toggle that switches between 'Key' and 'Self'. 'Key' means that the key includes a key signal. 'Self' means that the key is a self-key and does not include a separate key signal.

The 'Key Mode' button is a toggle that switches between 'Full' and 'Linear'.

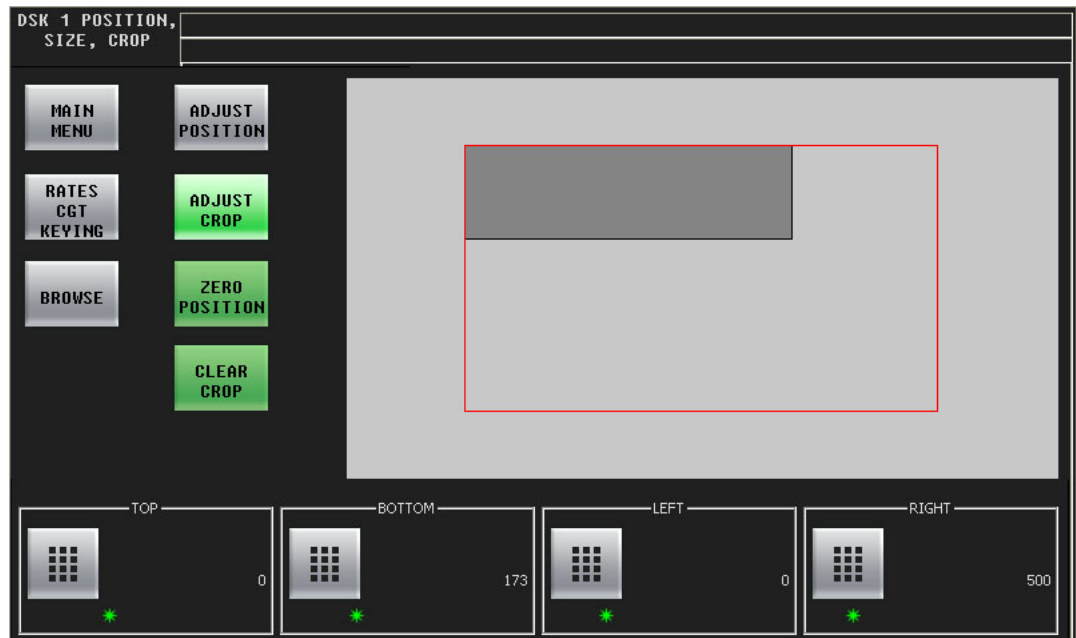
The 'Key Sense' button toggles between 'Normal' and 'Invert'.

Position, Size, Crop

This is the 'Position, Size, Crop' sub-menu. When you touch 'Adjust Position', two position controls appear at the bottom:



When you touch 'Adjust Crop', four boundary controls appear at the bottom:



To adjust any of those parameters, either turn the knob associated with the green asterisk in the control box, or touch the keypad icon to access a large keypad with which to enter a number.

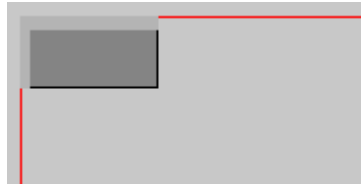
The numerical values are in units of pixels.

You can use the joystick to adjust the position of the key.

The 'Zero Position' button sets the 'X Position' and 'Y Position' parameters to 0.

The 'Clear Crop' button sets the 'Top', 'Bottom', 'Left', and 'Right' parameters to 0.

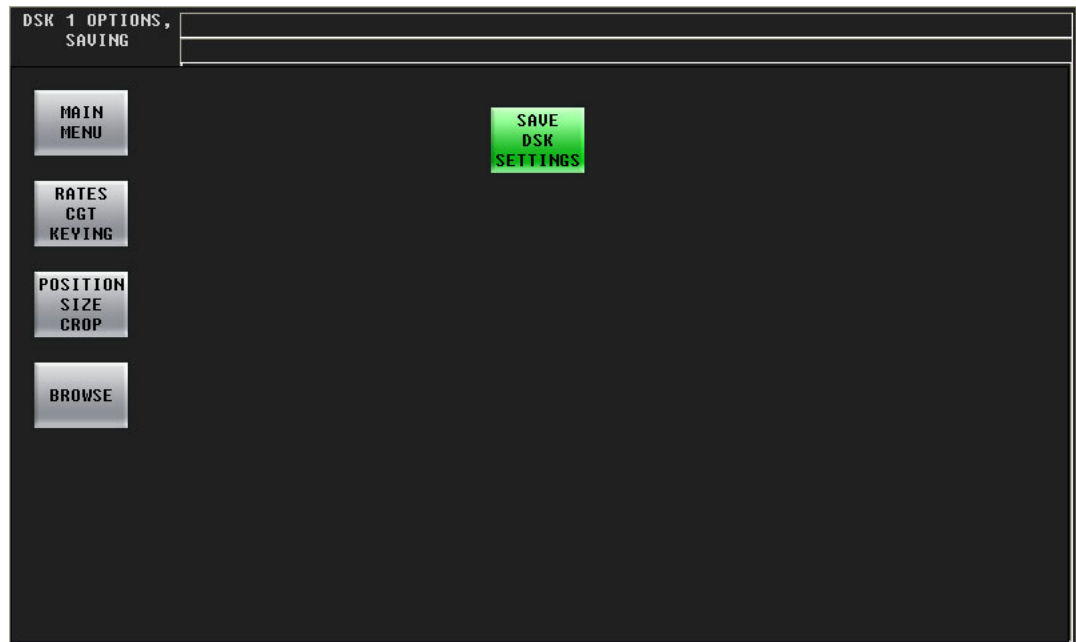
Position and crop values are independent. Changing one does not change the other. However, the position controls affect the placement of the *uncropped* boundary of the DSK. For example, with position (0,0) and crop values (left = 30 and top = 40), the DSK will appear to be inset from the edge of the frame by 30 and 40 pixels.



The amount of crop is indicated by a light grey field.

'Options Saving'

This is the 'Options Saving' sub-menu:



In this menu, you can save the settings of the currently selected DSK. Press 'Save DSK Settings' to do so.

▲ If you have cleared the DSK, the 'Save DSK Settings' button is absent.

The 'Main Menu' button returns you to the main menu.

The 'Rates, CGT, Keying' button takes you to the 'Rates, CGT, Keying' sub-menu.

The 'Position Size Crop' button takes you to the 'Position, Size, Crop' sub-menu.

The 'Browse' button takes you back to the DSK browser.

"EasyPlay" Menus

Figure 4-13 shows the panel's EasyPlay 1 browser menu:

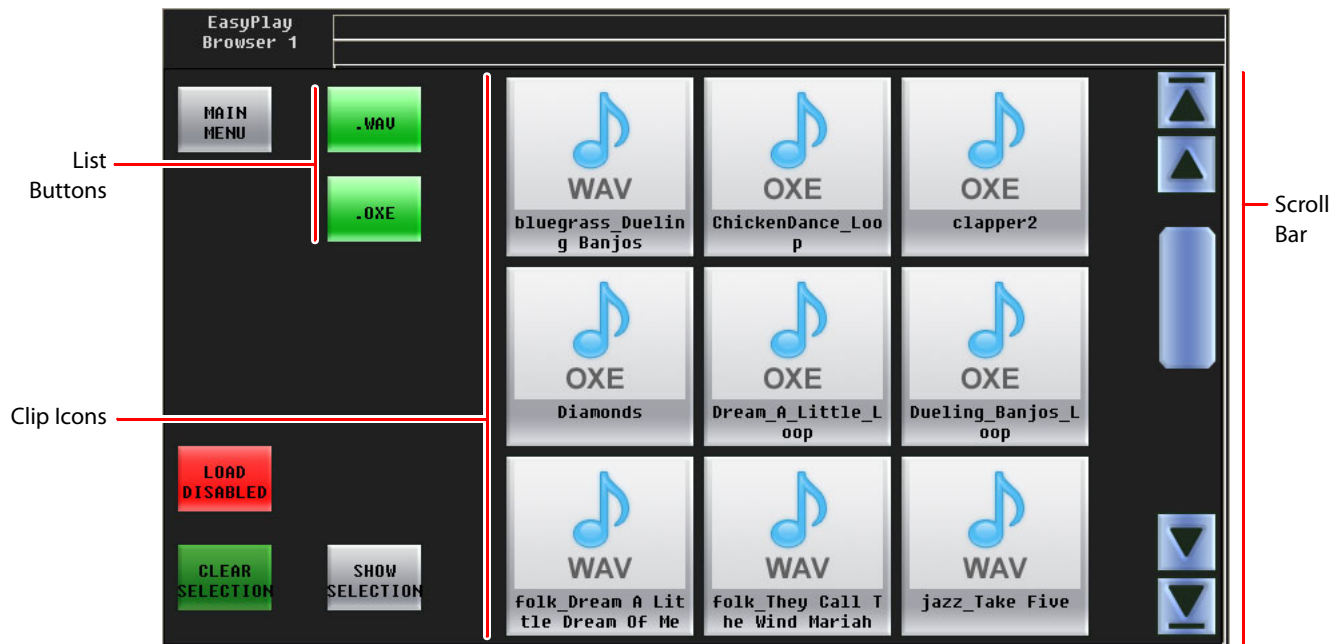


Fig. 4-14: DSK 1 Menu

The EasyPlay 1 browser menu corresponds to voice-over 1. The EasyPlay 2 browser menu corresponds to voice-over 2. These menus are functionally identical.

- ▲ "Easyplay" is a trademark that represents an (optional) audio clip playout component in the Imagestore 750. If your Imagestore 750 does not have Easyplay, these two menus are empty.
- ▲ The DSK-3901 does not support Easyplay. It has no storage capability. The Imagestore 750 and other processors might not have the Easyplay option. In that case, the menu is empty.

An Easyplay browser menu lets you select an audio clip.

Touch a clip icon to select the clip. Use the scroll bar to show additional clips. The outer arrows of the scrollbar scroll the list to its top or bottom. The inner arrows scroll the list of clips by one line up or down.

The 'Show Selection' button causes the list to scroll so that the currently selected clip appears in the window. This can be important if you have very many clips from which to choose.

The 'Load Disabled' button — when it is red — prevents you from accidentally selecting a clip. To be able to select a clip, first click the 'Load Disabled' button. It will turn green and you can proceed to make a selection.

The 'Clear Selection' button removes the currently selected clip from the EasyPlay component.

Macro Menu

Figure 4-15 shows the panel's macro menu:

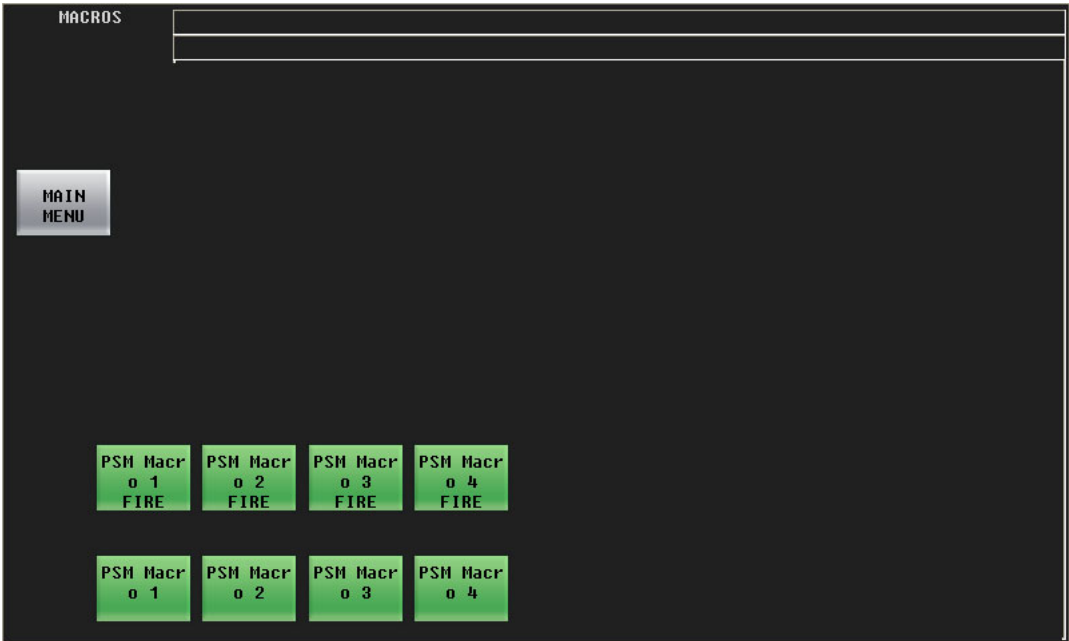


Fig. 4-15: Macro Menu

This menu can arm macros or execute Imagestore 750 macros immediately. The upper row of buttons are "fire" buttons and execute the macros immediately. The lower row of buttons are "arming" buttons. An armed macro will execute at the next transition (or at the end of the next transition if it contains commands that interfere with the transition itself).

Buttons for armed macro appear high-tally and show the word 'ARMED'.

The "fire" buttons go high-tally briefly when the macro is executing.

Press the 'Main Menu' button to return to the main menu.

The number of macros and the names of the macros depend on the Imagestore 750 configuration.

Consult your system's administrator to determine what the Imagestore 750's macros do.

Program Input Audio Menu

Figure 4-16 shows the panel's 'Program Input Audio' menu:

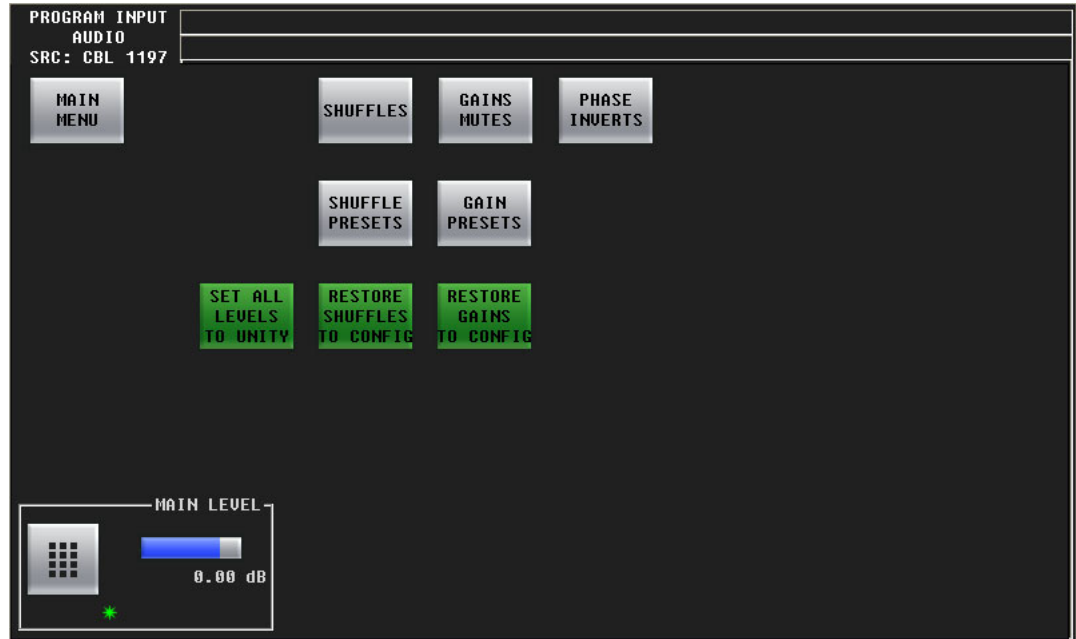


Fig. 4-16: Program Input Audio Menu

The 'Program Input Audio' menu and the 'Preset Input Audio' menu control the Imagestore 750's audio *input*.

The control at the bottom of the menu adjusts the master audio level of program input. (The levels of all individual channels are affected by the master level.) To adjust this parameter, either click the knob associated with the green asterisk in the control box, and use the slider that appears, or click the keypad icon to access a keypad with which to enter a number.

Buttons

The 'Main Menu' button returns you to the main menu.

The 'Shuffles' button accesses the 'Audio Channel Shuffle' sub-menu (for program input audio).

The 'Gains Mutes' button accesses the 'Gains and Mutes' sub-menu (for program input audio).

The 'Phase Inverts' button accesses the 'Phase Inverts' sub-menu (for program input audio).

▲ The term phase is a misnomer. Phase has nothing to do with signal inversion.

The 'Set All Levels to Unity' sets each of the 16 audio channels to unity gain.

The 'Restore Shuffle to Config' button reverts the shuffle to that which was defined in the Imagestore 750 configuration.

The 'Restore Gain to Config' button reverts the audio channels' gains to those that were defined in the Imagestore 750 configuration.

The 'Shuffle Presets' button accesses a 'Shuffle Presets' sub-menu (for program input audio).

The 'Gains Presets' button accesses a 'Gain Presets' sub-menu (for program input audio).

Presets

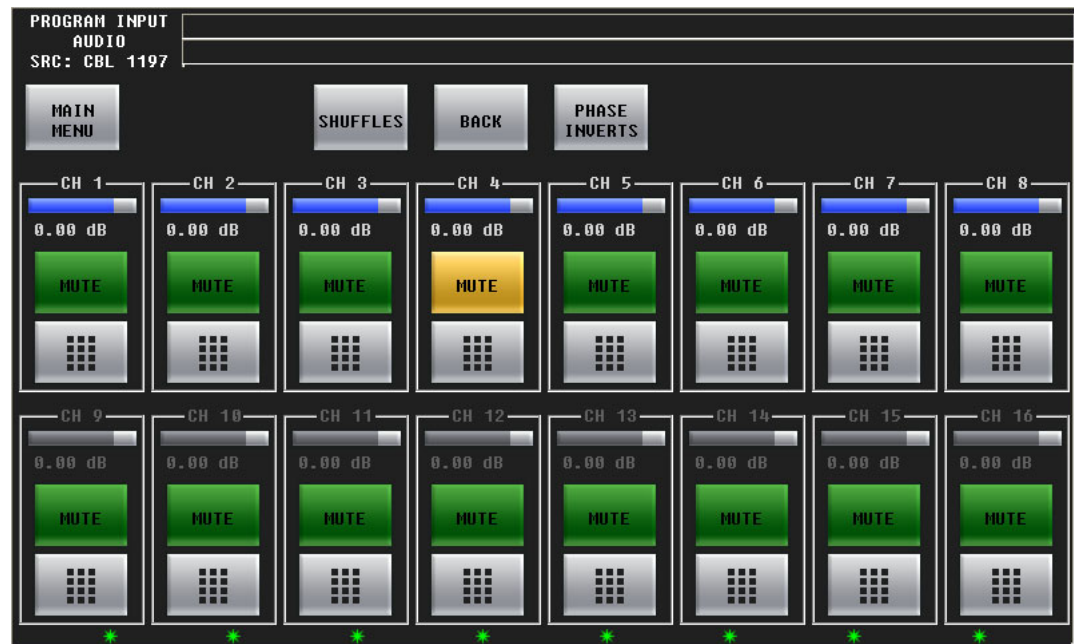
A shuffle preset is a predefined configuration of the shuffle matrix such as you might define using the 'Shuffles' sub-menu. A "gain preset" is a predefined set of 16 gain settings such as you might define using the 'Gains and Mutes' sub-menu.

These presets are defined in the Imagestore 750 Configurator.

See [Shuffle Presets and Gain Presets](#) on page 86.

Gains and Mutes

This is the 'Gains and Mutes' sub-menu:



Each of the 16 audio channels has a mute button. Touch the mute button to mute or un-mute the channel. When the channel is muted, the button is amber.

Each of the 16 audio channels has a keypad icon. Touch the keypad icon to access a keypad in which you can enter a numerical value.

Either the top row of 8 buttons or the bottom row of 8 buttons can be associated with the 8 knobs. To choose the top row, touch the top row. To choose the bottom row, touch the bottom row. You can thus adjust the gain of each channel by turning its knob.

The gain range is -99.5 dB to $+28.0$ dB. The gain of individual channels is affected by the master gain of the program input.

Press the 'Shuffles' button to go to the 'Audio Channel Shuffle' sub-menu.

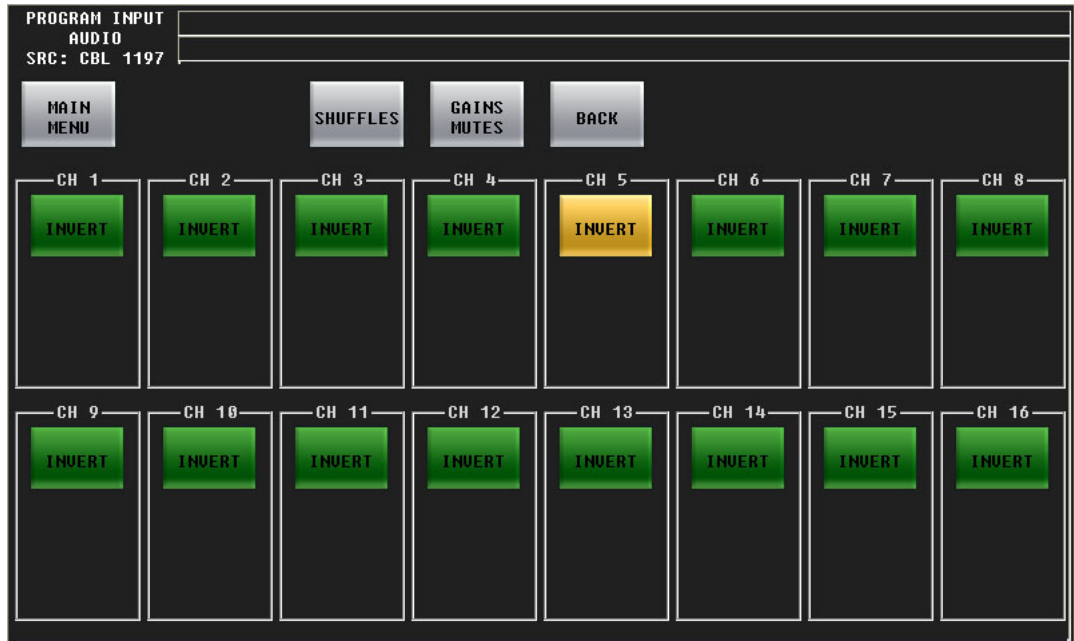
Press the 'Phase Inverts' button to go to the 'Phase Inverts' sub-menu.

Press the 'Back' button to return to the 'Program Input Audio' menu.

Press the 'Main Menu' button to return to the main menu.

“Phase Inverts”

This is the ‘Phase Inverts’ sub-menu:



When the audio channel is inverted, its PCM values are multiplied by -1 .

▲ The term phase is a misnomer. Phase has nothing to do with signal inversion.

Pressing an invert button either inverts or un-inverts the audio samples. When the button is amber, the samples are inverted. When the button is green, the samples are normal.

Press the ‘Shuffles’ button to go to the ‘Audio Channel Shuffle’ sub-menu.

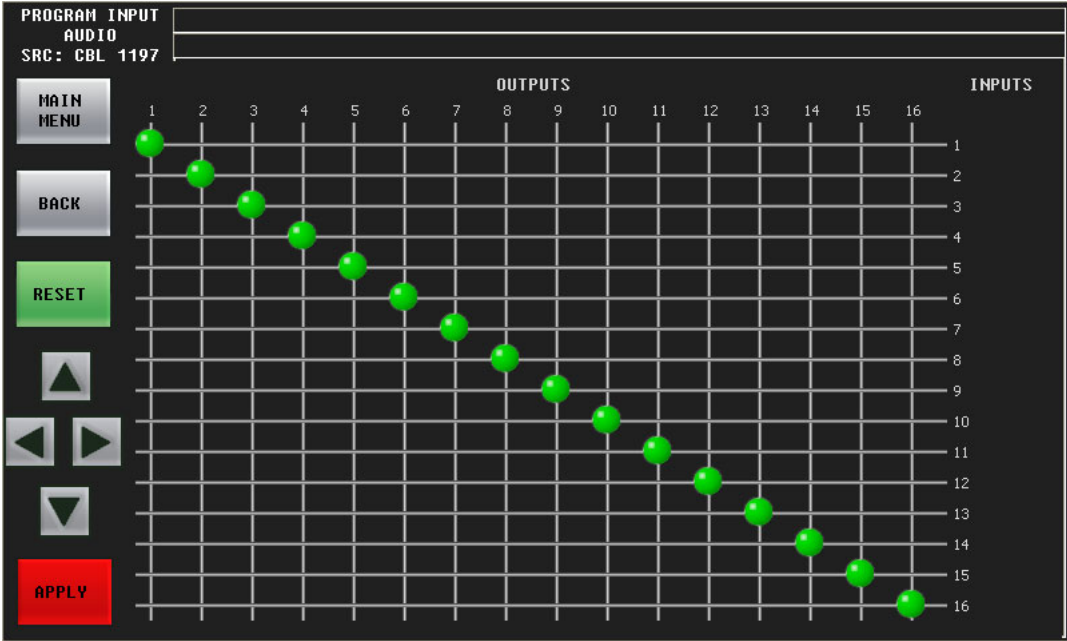
Press the ‘Gains Mutes’ button to go to the ‘Gains and Mutes’ sub-menu.

Press the ‘Back’ button to return to the ‘Program Input Audio’ menu.

Press the ‘Main menu’ button to return to the main menu.

Audio Channel Shuffle

This is the 'Audio Channel Shuffle' sub-menu:



See [Shuffling Audio Channels](#) on page 134.

Press the 'Back' button to return to the 'Program Input Audio' menu.

Press the 'Main menu' button to return to the main menu.

Program Output Audio Menu

Figure 4-17 shows the panel's 'Program Output Audio' menu:



Fig. 4-17: Program Output Audio Menu

The 'Program Output Audio' menu controls the Imagestore 750's audio *output*.

The control at the bottom of the screen adjusts the master audio level of program output. (The levels of all individual channels are affected by the master level.) To adjust this parameter, either click the knob associated with the green asterisk in the control box, and use the slider that appears, or click the keypad icon to access a keypad with which to enter a number.

Buttons

The 'Main Menu' button returns you to the main menu.

The 'Shuffles' button accesses the 'Audio Channel Shuffle' sub-menu (for program output audio).

The 'Gains Mutes' button accesses the 'Gains and Mutes' sub-menu (for program output audio).

The 'Phase Inverts' button accesses the 'Phase Inverts' sub-menu (for program output audio).

▲ The term phase is a misnomer. Phase has nothing to do with signal inversion.

The 'Set All Levels to Unity' sets each of the 16 audio channels to unity gain.

The 'Shuffle Presets' button accesses a 'Shuffle Presets' sub-menu (for program output audio).

The 'Gains Presets' button accesses a 'Gain Presets' sub-menu (for program output audio).

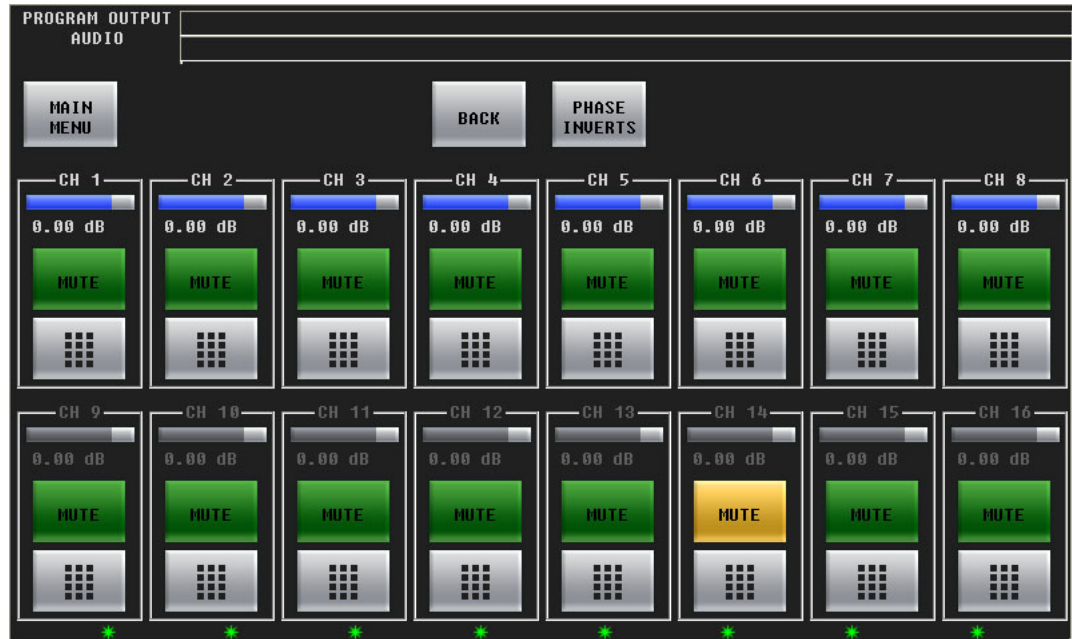
Presets

A shuffle preset is a predefined configuration of the shuffle matrix such as you might define using the 'Shuffles' submenu. A "gain preset" is a predefined set of 16 gain settings such as you might define using the 'Gains and Mutes' submenu.

These presets are defined in the Imagestore 750 Configurator.
See [Shuffle Presets and Gain Presets](#) on page 86.

Gains and Mutes

This is the 'Gains and Mutes' sub-menu:



Each of the 16 audio channels has a mute button. Touch the mute button to mute or un-mute the channel. When the channel is muted, the button is amber.

Each of the 16 audio channels has a keypad icon. Touch the keypad icon to access a keypad in which you can enter a numerical value.

Either the top row of 8 buttons or the bottom row of 8 buttons can be associated with the 8 knobs. To choose the top row, touch the top row. To choose the bottom row, touch the bottom row. You can thus adjust the gain of each channel by turning its knob.

The gain range is -99.5 dB to $+28.0$ dB. The gain of individual channels is affected by the master gain of the program input.

Press the 'Shuffles' button to go to the 'Audio Channel Shuffle' sub-menu.

Press the 'Phase Inverts' button to go to the 'Phase Inverts' sub-menu.

Press the 'Back' button to return to the 'Program Output Audio' menu.

Press the 'Main Menu' button to return to the main menu.

“Phase Inverts”

This is the ‘Phase Inverts’ sub-menu:



When the audio channel is inverted, its PCM values are multiplied by -1 .

▲ The term phase is a misnomer. Phase has nothing to do with signal inversion.

Pressing an invert button either inverts or un-inverts the audio samples. When the button is amber, the samples are inverted. When the button is green, the samples are normal.

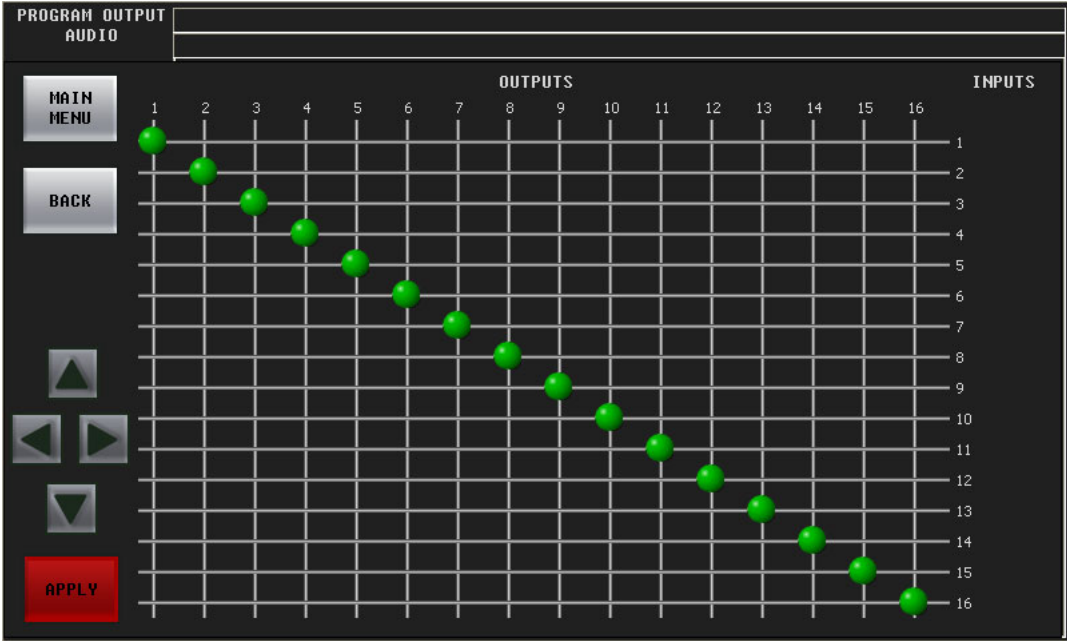
Press the ‘Gains Mutes’ button to go to the ‘Gains and Mutes’ sub-menu.

Press the ‘Back’ button to return to the ‘Program Output Audio’ menu.

Press the ‘Main Menu’ button to return to the main menu.

Audio Channel Shuffle

This is the 'Audio Channel Shuffle' sub-menu:



See [Shuffling Audio Channels](#) on page 124.

Press the 'Back' button to return to the 'Program Input Audio' menu.

Press the 'Main Menu' button to return to the main menu.

Preset Input Audio Menu

Figure 4-18 shows the panel's 'Preset Input Audio' menu:

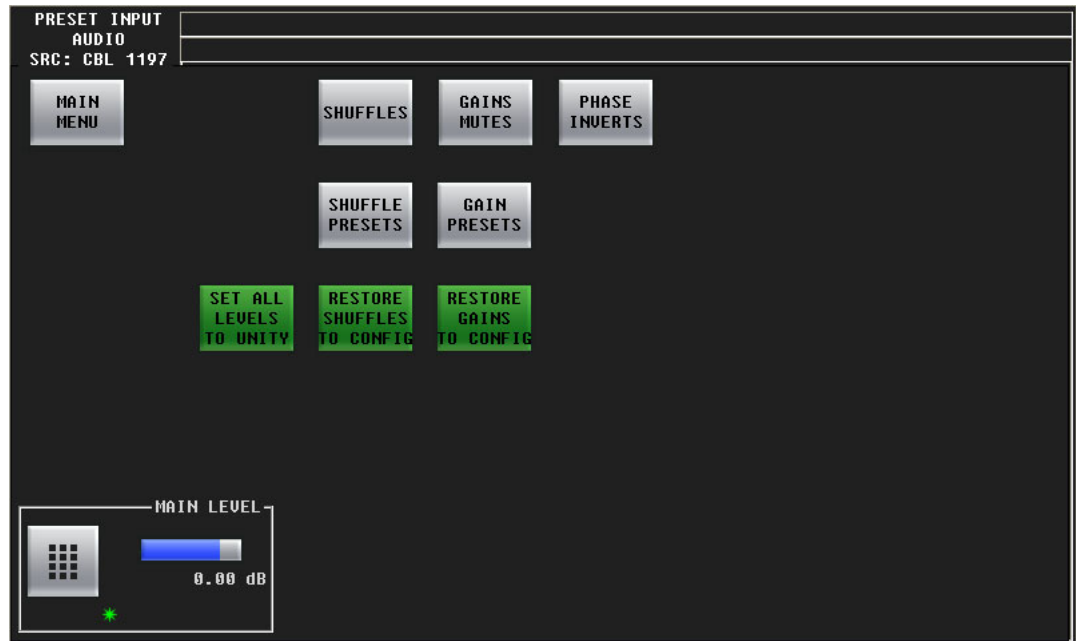


Fig. 4-18: PST Input Audio Menu

The 'Program Input Audio' menu and the 'Preset Input Audio' menu control the Imagestore 750's audio *input*.

The control at the bottom of the screen adjusts the main overall audio level of program output. To adjust this parameter, either turn the knob associated with the green asterisk in the control box, or touch the keypad icon to access a large keypad with which to enter a number.

Buttons

The 'Main Menu' button returns you to the main menu.

The 'Shuffles' button accesses the 'Audio Channel Shuffle' sub-menu (for preset input audio).

The 'Gains Mutes' button accesses the 'Gains and Mutes' sub-menu (for preset input audio).

The 'Phase Inverts' button accesses the 'Phase Inverts' sub-menu (for preset input audio).

The 'Set All Levels to Unity' sets each of the 16 audio channels to unity gain.

The 'Restore Shuffle to Config' button reverts the shuffle to that which was defined in the Imagestore 750 configuration.

The 'Restore Gain to Config' button reverts the audio channels' gains to those that were defined in the Imagestore 750 configuration.

The 'Shuffle Presets' button accesses a 'Shuffle Presets' sub-menu (for preset output audio).

The 'Gains Presets' button accesses a 'Gain Presets' sub-menu (for preset output audio).

Presets

A shuffle preset is a predefined configuration of the shuffle matrix such as you might define using the 'Shuffles' submenu. A "gain preset" is a predefined set of 16 gain settings such as you might define using the 'Gains and Mutes' submenu.

These presets are defined in the Imagestore 750 Configurator.

See [Shuffle Presets and Gain Presets](#) on page 86.

Gains and Mutes

This is the 'Gains and Mutes' sub-menu:



Each of the 16 audio channels has a mute button. Touch the mute button to mute or un-mute the channel. When the channel is muted, the button is amber.

Each of the 16 audio channels has a keypad icon. Touch the keypad icon to access a keypad in which you can enter a numerical value.

Either the top row of 8 buttons or the bottom row of 8 buttons can be associated with the 8 knobs. To choose the top row, touch the top row. To choose the bottom row, touch the bottom row. You can thus adjust the gain of each channel by turning its knob.

The gain range is -99.5 dB to $+28.0$ dB. The gain of individual channels is affected by the master gain of the program input.

Press the 'Shuffles' button to go to the 'Audio Channel Shuffle' sub-menu.

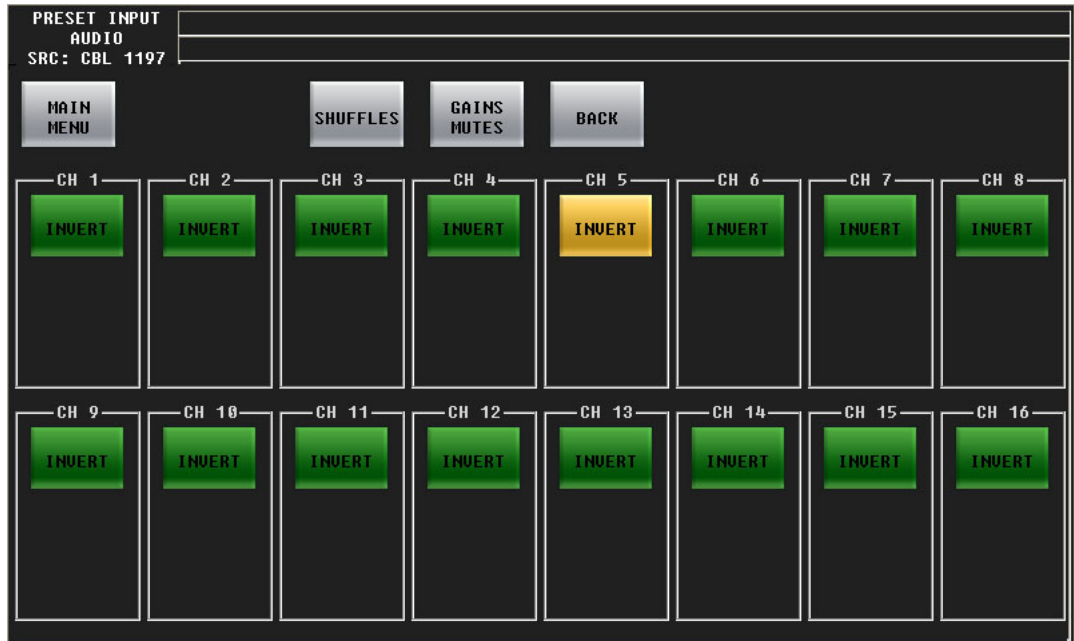
Press the 'Phase Inverts' button to go to the 'Phase Inverts' sub-menu.

Press the 'Back' button to return to the 'Preset Input Audio' menu.

Press the 'Main Menu' button to return to the main menu.

“Phase Inverts”

This is the ‘Phase Inverts’ sub-menu:



When the audio channel is inverted, its PCM values are multiplied by -1.

▲ The term phase is a misnomer. Phase has nothing to do with signal inversion.

Pressing an invert button either inverts or un-inverts the audio samples. When the button is amber, the samples are inverted. When the button is green, the samples are normal.

Press the ‘Shuffles’ button to go to the ‘Audio Channel Shuffle’ sub-menu.

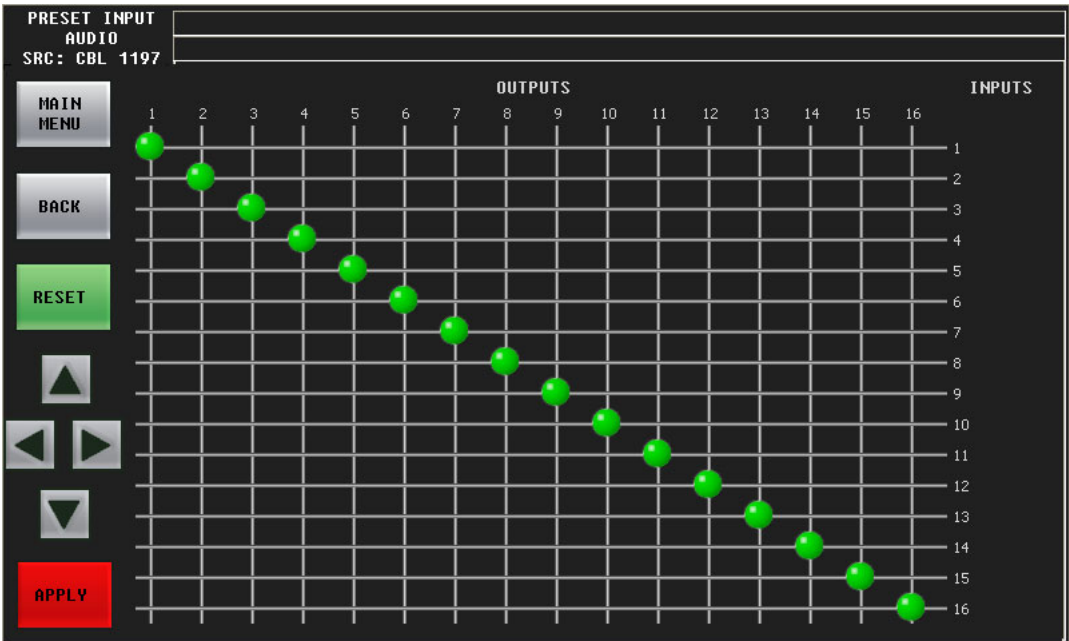
Press the ‘Gains Mutes’ button to go to the ‘Gains and Mutes’ sub-menu.

Press the ‘Back’ button to return to the ‘Preset Input Audio’ menu.

Press the ‘Main menu’ button to return to the main menu.

Audio Channel Shuffle

This is the 'Audio Channel Shuffle' sub-menu:



See [Shuffling Audio Channels](#) on page 134.

Press the 'Back' button to return to the 'Preset Input Audio' menu.

Press the 'Main menu' button to return to the main menu.

Voice-Over Menus

Figure 4-19 shows the panel's 'Voice-Over 1' menu:

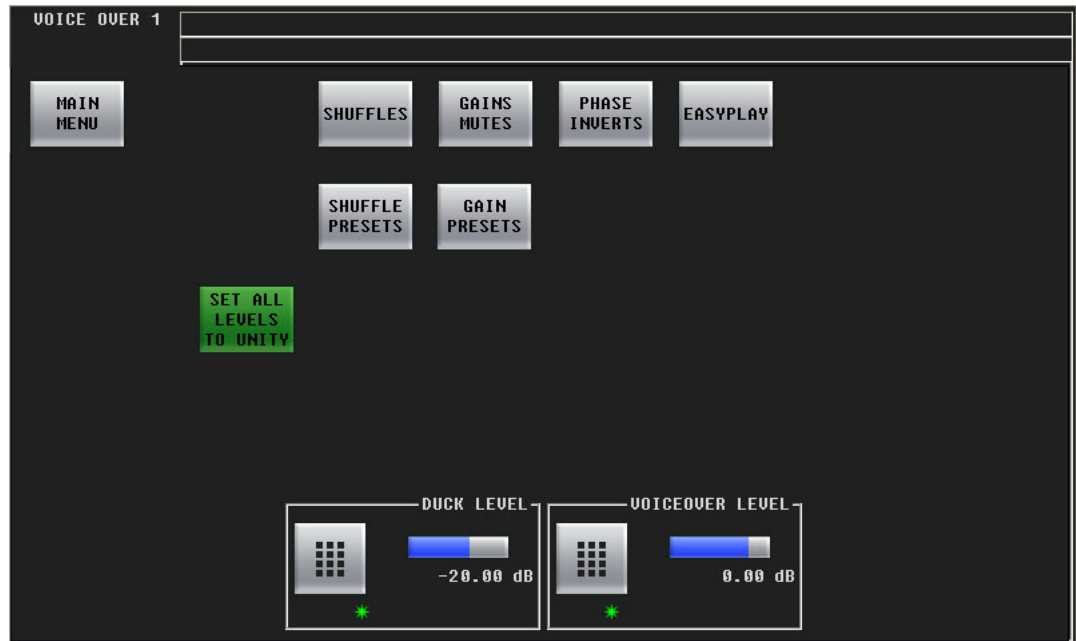


Fig. 4-19: Voice-Over 1 Menu

▲ There are two voice-over menus: 'Voice-Over 2' is just like 'Voice-Over 1'.

The controls at the bottom of the screen adjust the "duck" level and the voice-over level of program output. To adjust these parameters, either turn the knob associated with the green asterisk in the control box, or touch the keypad icon to access a large keypad with which to enter a number.

Buttons

The 'Main Menu' button returns you to the main menu.

The 'Shuffles' button accesses the 'Audio Channel Shuffle' sub-menu (for voice-over audio).

The 'Gains Mutes' button accesses the 'Gains and Mutes' sub-menu (for voice-over audio).

The 'Phase Inverts' button accesses the 'Phase Inverts' sub-menu (for voice-over audio).

▲ The term phase is a misnomer. Phase has nothing to do with signal inversion.

The 'Audio Channel Shuffle' button accesses the 'Audio Channel Shuffle' sub-menu (for voice-over audio).

The 'Set All Levels to Unity' sets each of the 16 audio channels to unity gain.

The 'Shuffle Presets' button accesses the 'Shuffle Presets' sub-menu (for voice-over audio).

The 'Gains Presets' button accesses the 'Gain Presets' sub-menu (for voice-over audio).

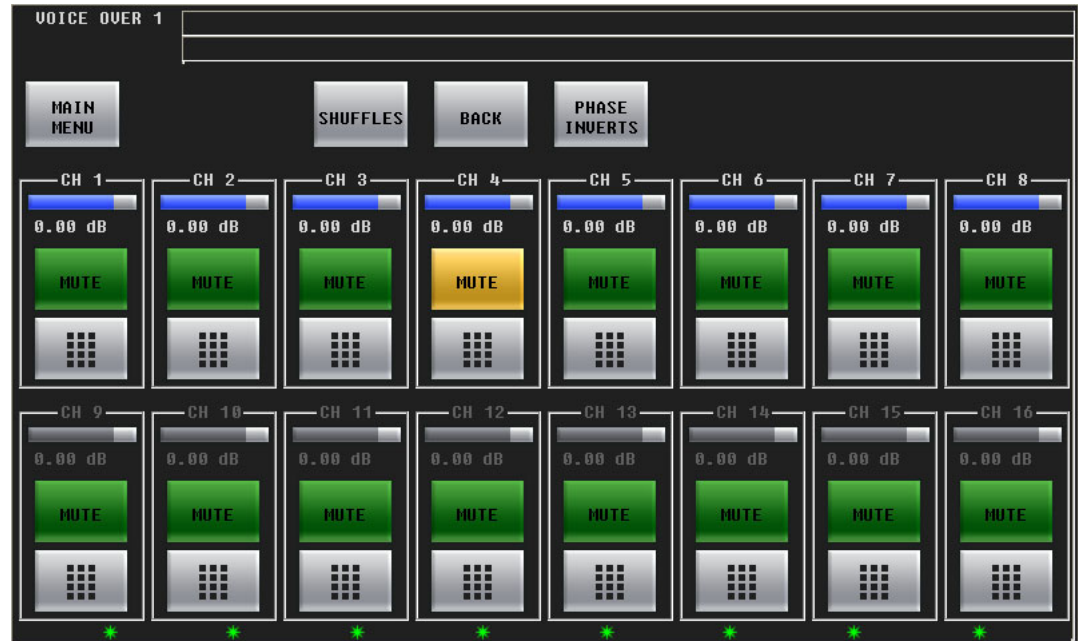
Presets

A shuffle preset is a predefined configuration of the shuffle matrix such as you might define using the 'Shuffles' submenu. A "gain preset" is a predefined set of 16 gain settings such as you might define using the 'Gains Mutes' submenu.

These presets are defined in the Imagestore 750 Configurator.
See [Shuffle Presets and Gain Presets](#) on page 86.

Gains and Mutes

This is the 'Gains and Mutes' sub-menu:



Each of the 16 audio channels has a mute button. Touch the mute button to mute or un-mute the channel. When the channel is muted, the button is amber.

Each of the 16 audio channels has a keypad icon. Touch the keypad icon to access a keypad in which you can enter a numerical value.

Either the top row of 8 buttons or the bottom row of 8 buttons can be associated with the 8 knobs. To choose the top row, touch the top row. To choose the bottom row, touch the bottom row. You can thus adjust the gain of each channel by turning its knob.

The gain range is -99.5 dB to $+28.0$ dB. The gain of individual channels is affected by the master gain of the program input.

Press the 'Shuffles' button to go to the 'Audio Channel Shuffle' sub-menu.

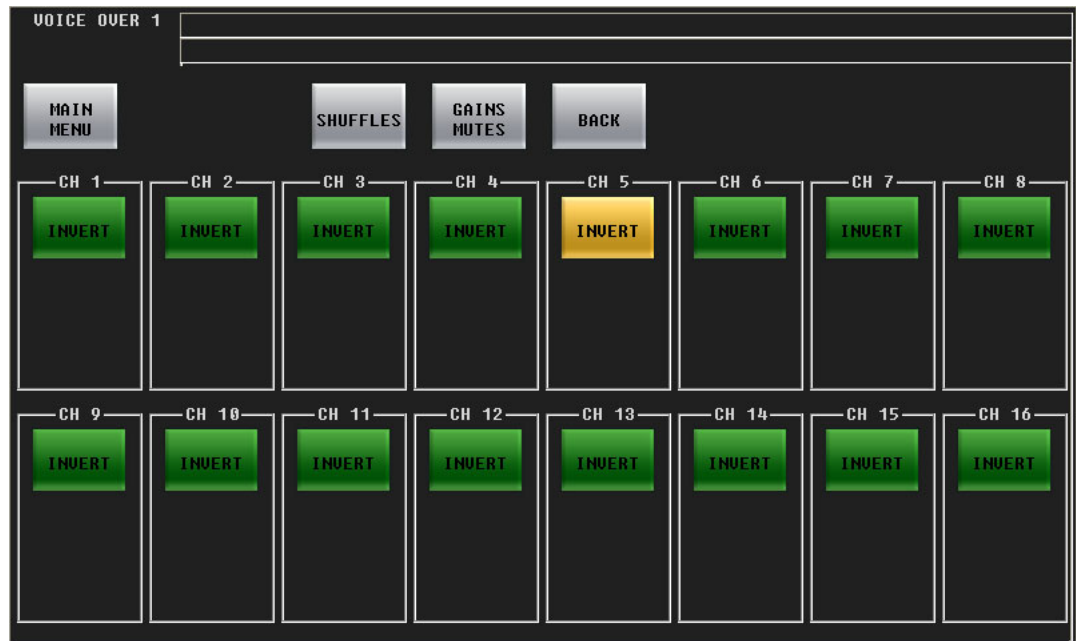
Press the 'Phase Inverts' button to go to the 'Phase Inverts' sub-menu.

Press the 'Back' button to return to the voice-over menu.

Press the 'Main Menu' button to return to the main menu.

“Phase Inverts”

This is the ‘Phase Inverts’ sub-menu:



When the audio channel is inverted, its PCM values are multiplied by -1.

▲ The term phase is a misnomer. Phase has nothing to do with signal inversion.

Pressing an invert button either inverts or un-inverts the audio samples. When the button is amber, the samples are inverted. When the button is green, the samples are normal.

Press the ‘Shuffles’ button to go to the ‘Audio Channel Shuffle’ sub-menu.

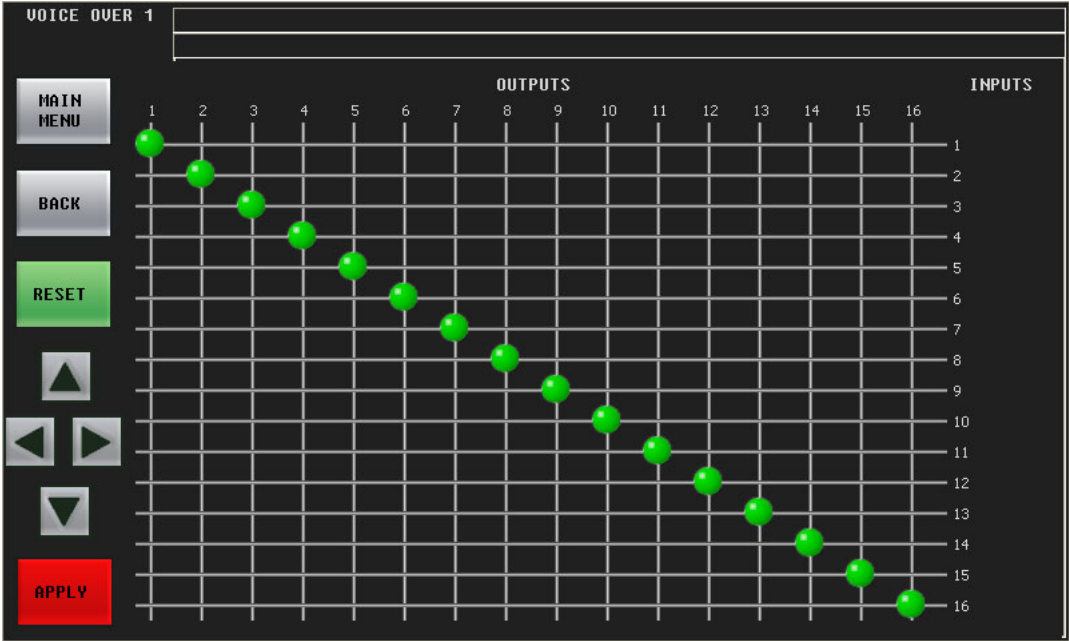
Press the ‘Gains Mutes’ button to go to the ‘Gains and Mutes’ sub-menu.

Press the ‘Back’ button to return to the voice-over menu.

Press the ‘Main menu’ button to return to the main menu.

Audio Channel Shuffle

This is the 'Audio Channel Shuffle' sub-menu:



See [Shuffling Audio Channels](#) on page 134.

Press the 'Back' button to return to the voice-over menu.

Press the 'Main menu' button to return to the main menu.

Shuffle Presets and Gain Presets

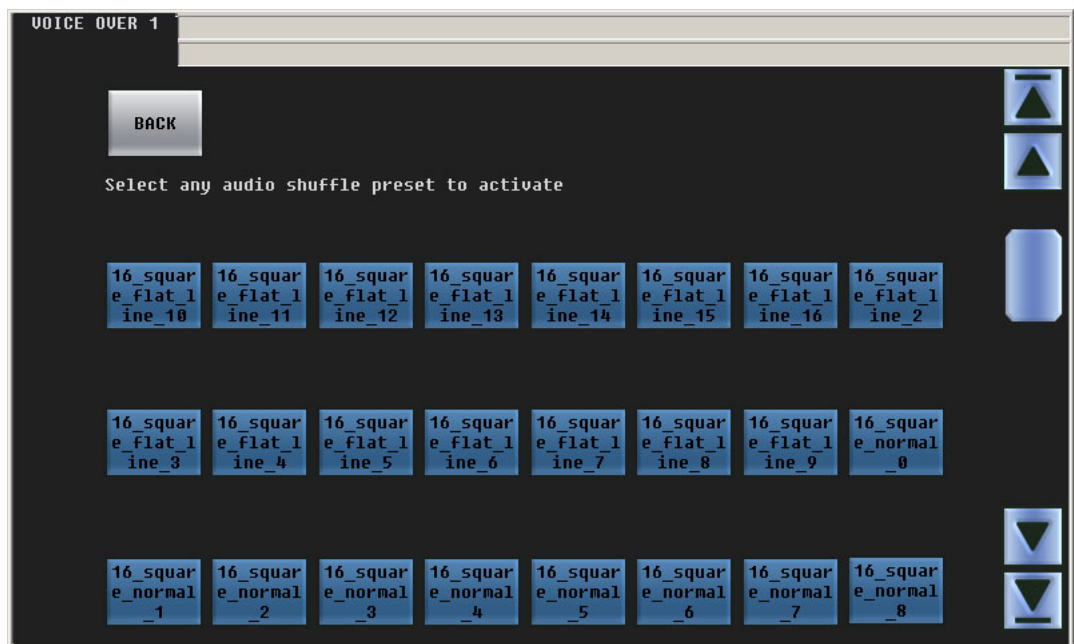
A “shuffle preset” is a predefined configuration of the shuffle matrix such as you might define using one of the ‘Shuffles’ submenus. A “gain preset” is a predefined set of 16 gain settings such as you might define using one of the ‘Gains Mutes’ submenus.

Shuffle presets and gain presets are available for the program input audio menu, the preset input audio menu, the program output audio menu, and for both voice-over menus.

These presets are defined in the Imagestore 750 Configurator.

Shuffle Presets

This is the ‘Shuffle Presets’ sub-menu (as applicable to the voice-over menu):

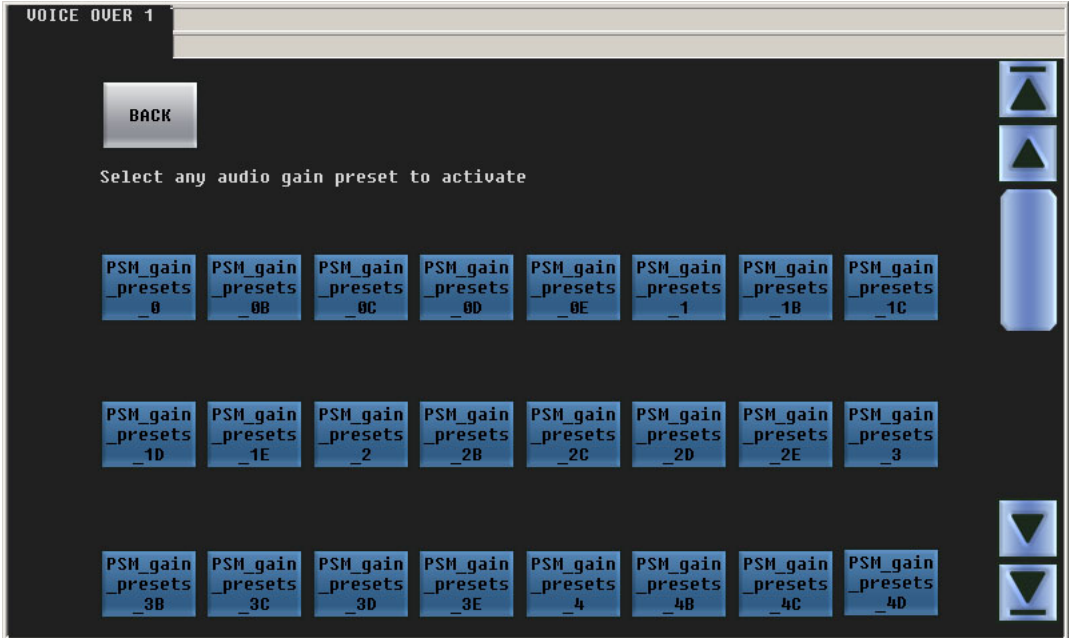


To choose a shuffle preset, click the blue button representing the desired preset. Scroll if necessary to locate the preset you want.

Communicate with your management to determine what the various shuffle presets do.

Gain Presets

This is the 'Gain Presets' sub-menu (as applicable to a voice-over menu):



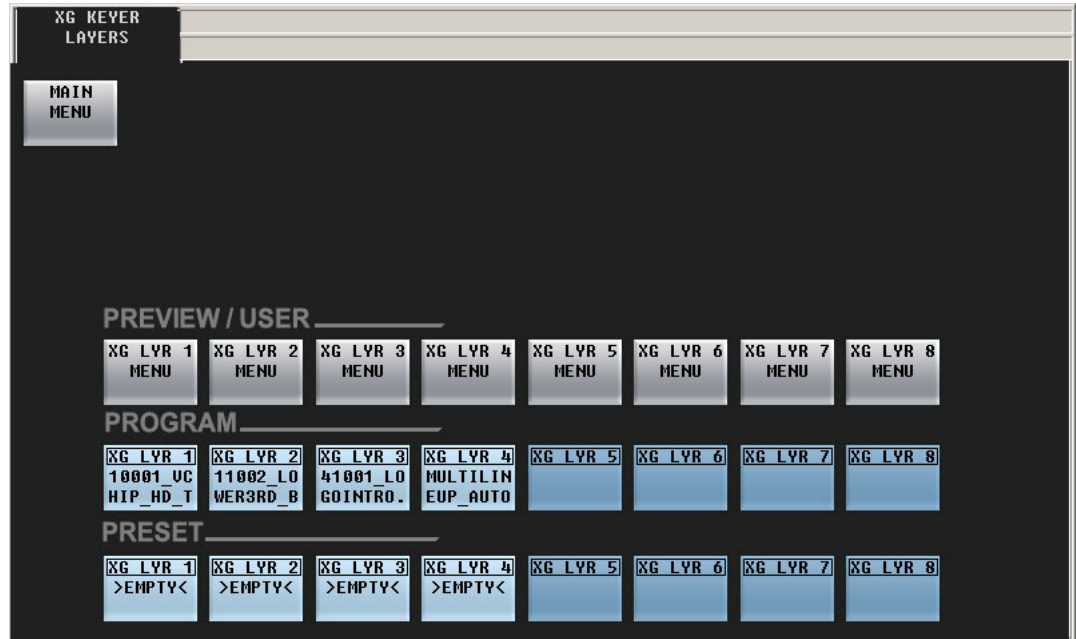
To choose a gain preset, click the blue button representing the desired preset. Scroll if necessary to locate the preset you want.

Communicate with your management to determine what the various gain presets do.

Gain presets are available for the program input audio menu, the preset input audio menu, the program output audio menu, and for both voice-over menus.

XG Keyer Layers Menu

This is the panel's XG keyer layers menu:



The 'Main Menu' button returns you to the main menu.

(The large 'Intuition XG Layer Control' button in the main menu takes you to this menu.)

The buttons in the upper row — labeled 'Menu' — take you to browsers for the named XG layers (1–8). Not all Intuition XG processors provide 8 layers. Also, your panel might be configured for more or fewer layers than provided by the Intuition XG processor.

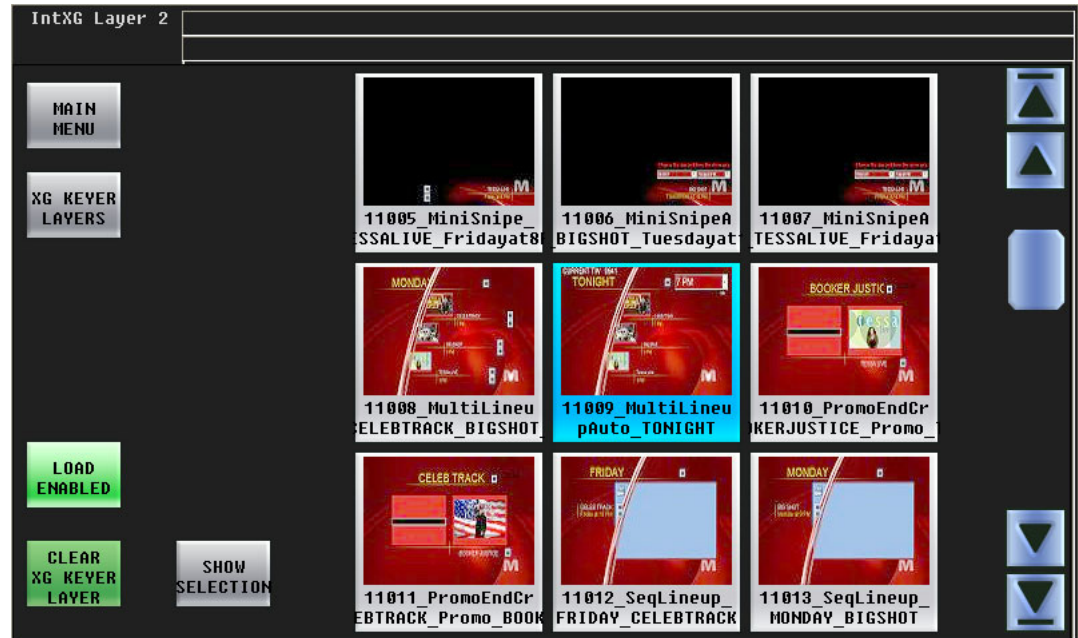
The buttons in the 'Program' row *cut* XG layers to program output (and to the program button row of the panel).

The buttons in the 'Preset' row *arm* XG layers (which become selected on the preset button row of the panel).

XG layers are handled by one of the DSKs. The relationship between XG layers and a DSK is not simple. See [Working with XG Layers](#) on page 119 for information.

XG Layer Menus

Press any of the eight XG layer “menu” buttons (in the ‘XG Keyer Layers’ menu) to get an XG browser for that layer. This is an example for XG layer 1:



The ‘Show Selection’ button will scroll the list to the currently selected clip. This can be important if you have very many clips.

To select an XG clip, press or touch its thumbnail. You might have to scroll to find the clip you want. The clip you select is highlighted in light blue.

The scroll bars at the right have two sets of arrows. The arrows at the very top and bottom take you to the beginning and the end of the list of XG clips.

The ‘Load Disabled’ button disables selection of the clips using thumbnails. This prevents accidental selection of a clip. Press ‘Load Disabled’ again to re-enable selection of clips using thumbnails.

The ‘Clear XG Keyer Layer’ button unload the currently selected clip from the XG layer.

Press ‘XG Keyer Layers’ to return to the ‘XG Keyer Layers’ menu.

Press ‘Main Menu’ to return to the main menu.

A/B Mixer Menu

Figure 4-20 shows the panel's 'A/B Mixer' menu:

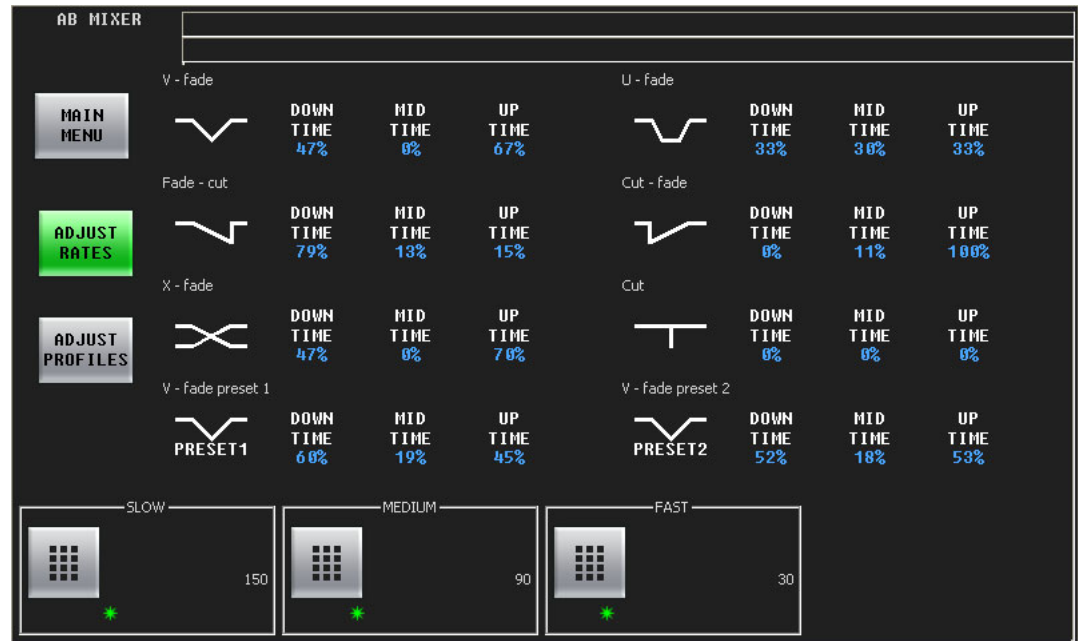


Fig. 4-20: A/B Mixer (Rates Sub-Menu Shown)

This menu displays the characteristics of the transition types defined in the Imagestore 750 under control.

The 'Adjust Rates' button selects a sub-menu that lets you adjust the slow, medium, and fast rates of the A/B mixer. That sub-menu is shown in Figure 4-20.)

The controls at the bottom of the screen adjust the slow, medium, and fast transition rates. To adjust these parameter, either click the knob proxy associated with the green asterisk, and use the slider, or touch the keypad icon to access a large keypad with which to enter a number.

▲ Note that each DVE and DSK has its own slow, medium, and fast rates, independent of the A/B Mixer.

▲ The LGK-3901, DSK-3901, and ISM-3901 do not provide DVEs.

The 'Adjust Profiles' button selects a sub-menu (shown in Figure 4-21, following) that lets you adjust the down time, mid time, and up time (or rise time) of individual transition types.

The 'Main Menu' button returns you to the main menu.

Adjust Profiles

Figure 4-21 shows the A/B mixer's 'Profiles' sub-menu:

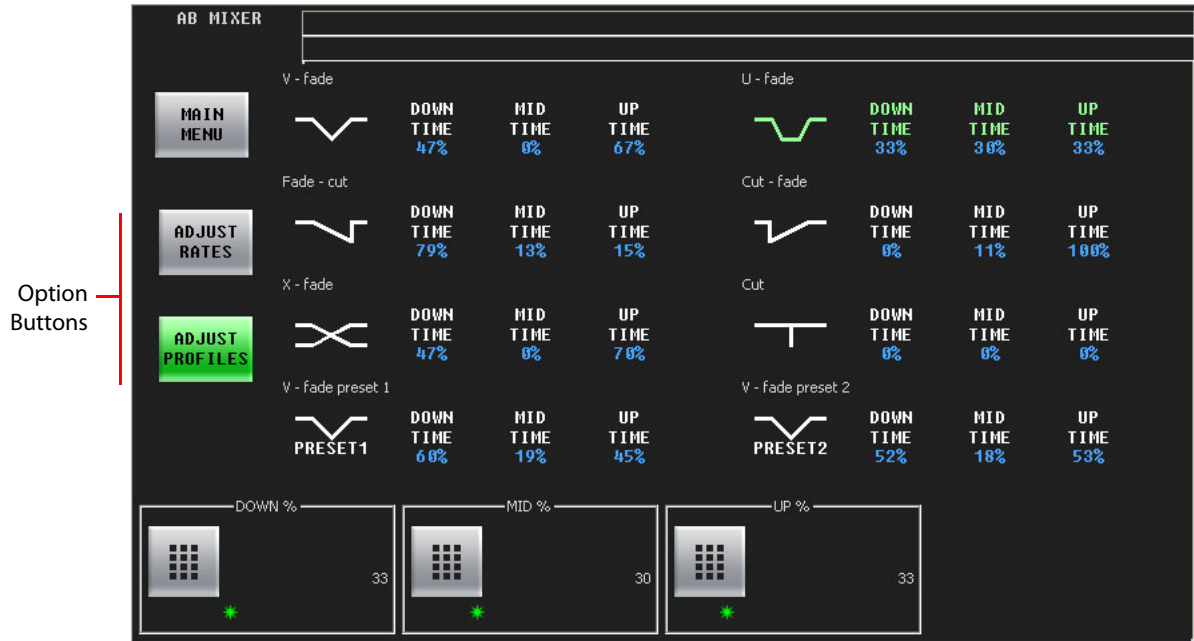


Fig. 4-21: A/B Mixer (Profiles Sub-Menu Shown)

In this menu, you can adjust the down time, mid time, and up time (or rise time) of individual transition types.

Select the transition type that you want to modify. In Figure 4-21, the U-fade transition is selected and highlighted in green.

At the bottom of the menu, are 3 controls with which you can adjust the transition parameters (down time, mid time, and up time). Touch a knob proxy next to the control and use the slider that appears to change the setting. You can also touch the keypad button of the control to access a keypad in which to change the parameter numerically.

- ▲ You cannot change the parameters of the 'cut' transition type and you cannot change the mid time of the X-fade.
- ▲ A non-zero mid time for a transition type results in a dwell period in the middle of the transition (as for a U-fade).

The values for down time, mid time, and up time range from 0 to 100. They appear here as percentages, but in actuality they are integer values representing a fraction of the transition period according to the following formulas:

$$D = \text{down time} / \text{sum} \quad \text{where } \text{sum} = \text{down time} + \text{mid time} + \text{up time}$$

$$M = \text{mid time} / \text{sum}$$

$$U = \text{up time} / \text{sum}$$

and

$$D' (\text{frames}) = F \times D \quad \text{where } F \text{ is the total number of frames in the transition}$$

$$M' (\text{frames}) = F \times M$$

$$U' (\text{frames}) = F \times U$$

all rounded to the nearest integer.

For example, the values for a fade-cut (79, 13, 15) for a slow transition (150 frames) are:

$$\begin{aligned} \text{Sum} &= 79 + 13 + 15 = 107 \\ D &= 79 / 107 & D' &= 150 \times 79 / 107 = 110.747 = 111 \text{ frames} \\ M &= 13 / 107 & M' &= 150 \times 13 / 107 = 18.224 = 18 \text{ frames} \\ U &= 15 / 107 & U' &= 150 \times 15 / 107 = 21.028 = 21 \text{ frames} \end{aligned}$$

- ▲ Up time in frames is adjusted so that total number of frames for the transition is exactly as specified.

The 'Adjust Rates' button switches to the sub-menu that lets you adjust the slow, medium, and fast rates of the A/B mixer.

The 'Main Menu' button returns you to the main menu.

Sources Menu

Figure 4-20 shows the panel's 'Sources' menu:

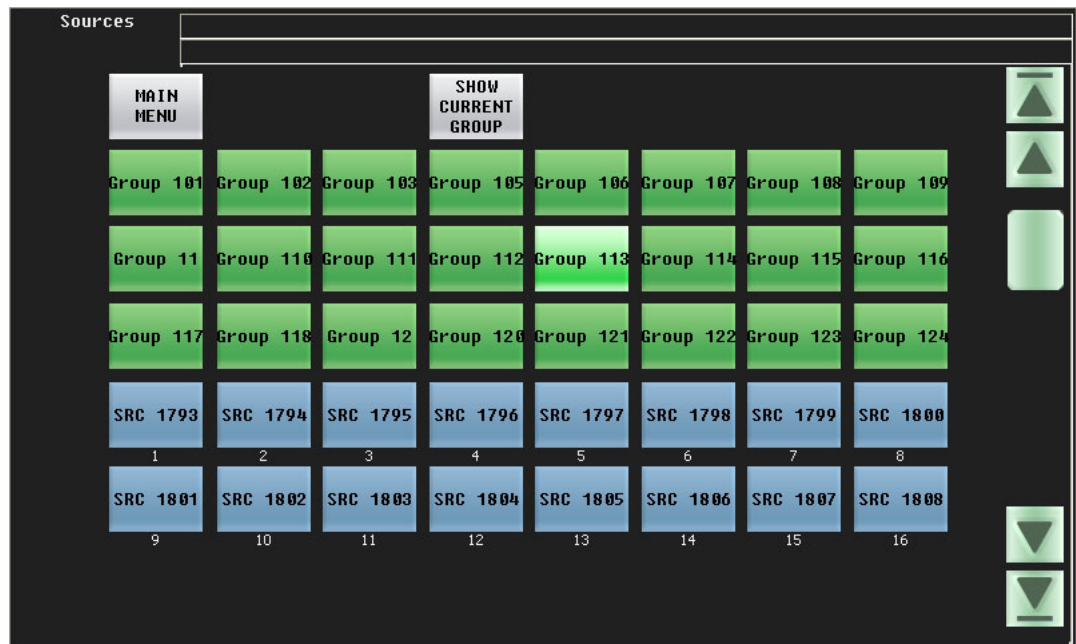


Fig. 4-22: Sources Menu

This menu displays the names of source groups (on the green buttons) and displays the sources that belong to the selected source group in blue. Up to 24 sources may belong to a group. There can be any number of groups.

To view a different source group, press the appropriate green button. Scroll if necessary to find the source group you want.

You can

- Add sources to the selected group.
- Remove sources from the selected group.
- Change a selected source (in the selected group).

The 'Main Menu' button returns you to the main menu.

Adding a Source to a Group

Follow these steps:

- 1 Select the source group to which you want to add a source.
- 2 Press any *grey* source button:



A dialog appears in which you can choose any router source available:



Press a source button to choose a source. Scroll, if necessary, to find the source.
Press 'Cancel' to return to the Sources menu. Press 'Show Selection' if the current selection is not visible in the window.

- 3 After you choose a source, the panel immediately returns to the 'Sources' menu. The added source selection (here, HDPL BAR) is available:



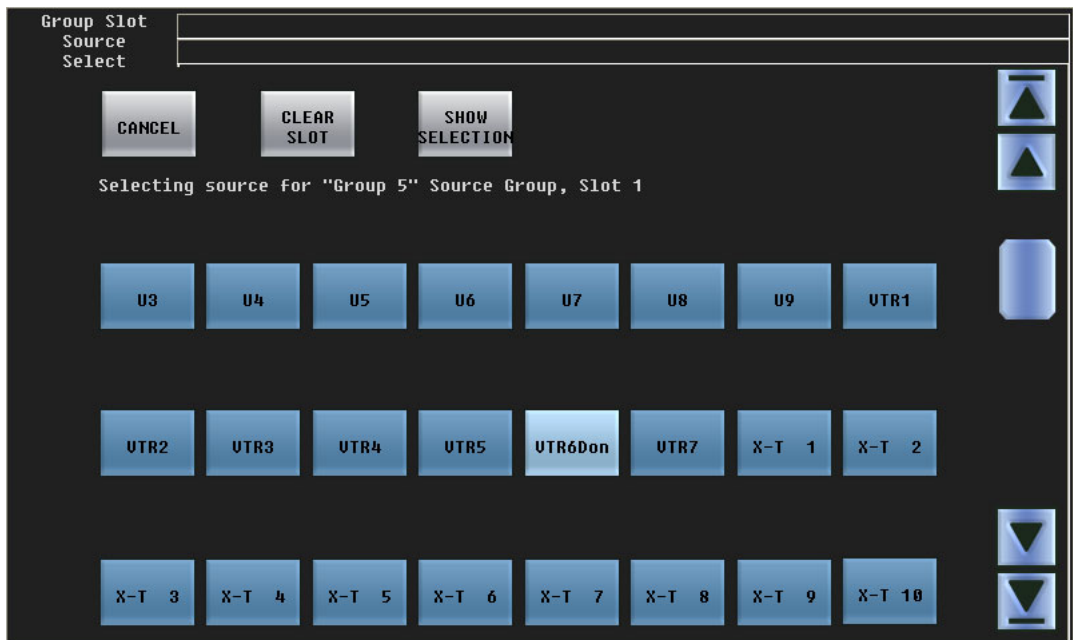
Changing a Source within a Group

Follow these steps:

- 1 Press any blue source button. In this example, the first source (VTR6Don) was pressed:



A dialog appears in which you can choose any router source available:



Press a source button to choose a source. Scroll, if necessary, to find the source.

Press 'Cancel' to return to the Sources menu. Press 'Show Selection' if the current selection is not visible in the window.

- 2 After you choose a source, the panel immediately returns to the Sources menu. The new source selection (here, VTR7) is available:



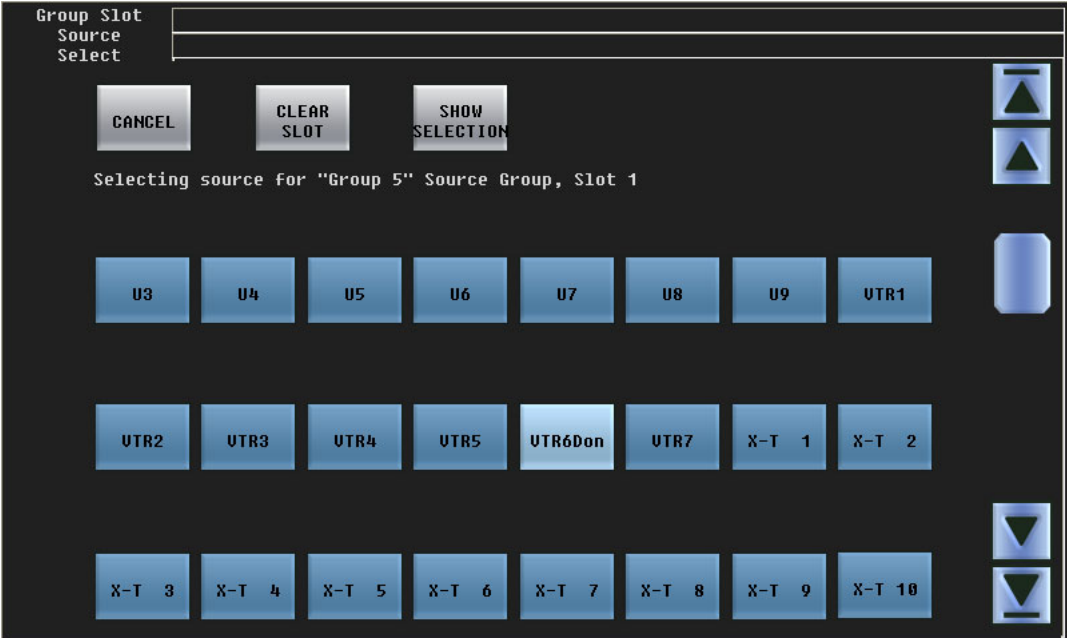
Removing a Source from a Group

Follow these steps:

- 1 Press any blue source button. In this example, the first source (VTR6Don) was pressed:



Again, a dialog appears:



Press 'Clear Slot' to remove the source.

Or, press 'Cancel' to return to the 'Sources' menu. Press 'Show Selection' if the current selection is not visible in the window.

- 2 The panel immediately returns to the 'Sources' menu. The source has been removed and an empty slot is in its place:



Panel Menu

From the main menu, press the 'Panel Settings' button to access the 'Panel Info' menu:

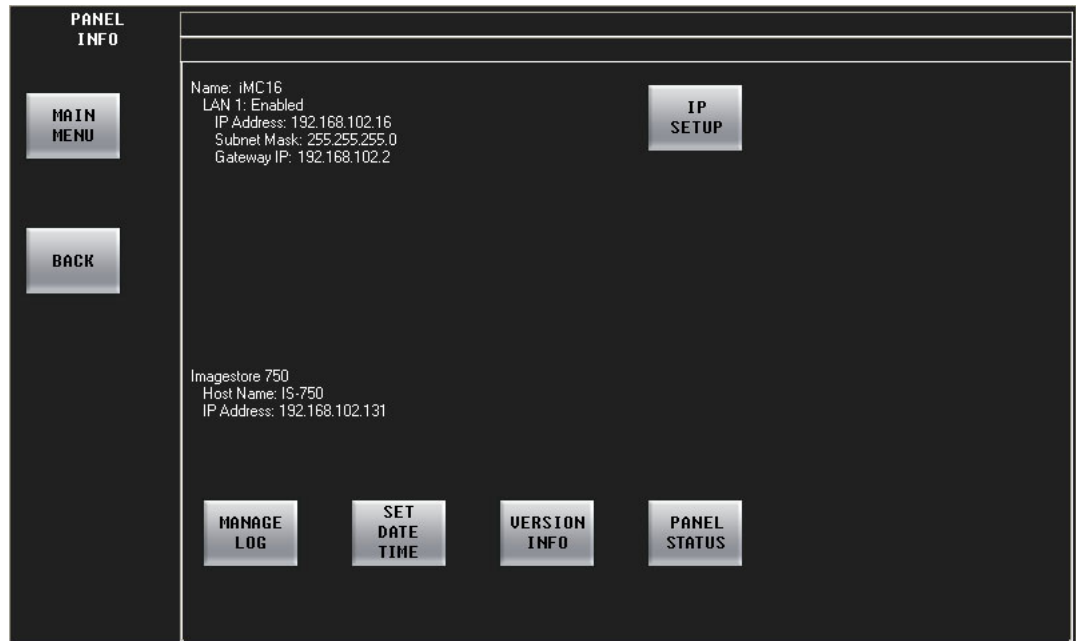


Fig. 4-23: Panel Info Menu

The 'Panel Info' menu has 5 buttons that let you do the following:

- [IP Setup](#). Change the panel's IP address and mask.
- [Manage Log](#). View and clear the system log.
- [Set Date Time](#). Set the time and date.
- [Version Info](#). Review software and firmware versions.
- [Panel Status](#). Restart the control panel, adjust the LCD brightness, update the panel configuration, and perform control panel tests.

The 'Panel Info' menu also displays the IP address of the control panel and the attached Imagestore 750.

IP Setup

From the 'Panel Info' menu, press the 'IP Setup' button to display the 'IP Setup' sub-menu:

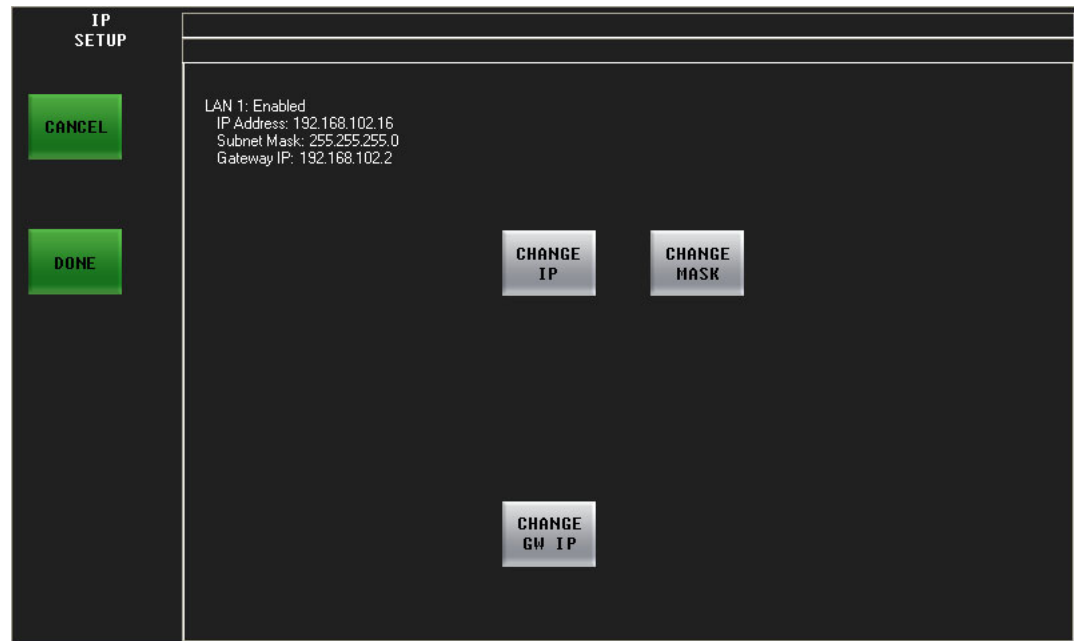


Fig. 4-24: IP Setup Menu

The 'IP Setup' menu allows you to enable, disable, or change the LAN1 address pertaining to the iMC-Panel-300. LAN1 is for communication with the Imagestore 750 and its IP address should be 192.168.aaa.bbb, where *bbb* is different for each control panel in use and *aaa* depends on the subnet you've chosen. (For *bbb*, we suggest: 100, 110, 120...). The subnet mask should always be 255.255.255.0.

The 'Change IP', 'Change Mask', and 'Change GW IP' buttons invoke sub-menus.

Note

Panel operators should not generally modify these settings.

Use the 'Change IP' button to change the four IP address bytes. Use the 'Change Mask' button to change the four mask bytes. Use the 'Change GW IP' button to change the gateway IP address. A keypad appears after you touch the button. Use the keypad to enter values numerically. Press 'Cancel' to cancel the entry or press 'Done' to accept the entry. (You cannot use menu knobs.)

- ▲ You must restart the panel when you change its IP address. LAN1 must be enabled.
- ▲ If you press any of the buttons in this menu, the menu will ask you whether you want to restart the panel even if you did not make a change.

Manage Log

From the 'Panel Info' menu, press the 'Manage Log' button to display the 'Manage Log' sub-menu:



Fig. 4-25: Manage Log Sub-Menu

The 'Manage Log' sub-menu allows you to view and to clear the system log.

Press 'View Log' to display the 'View Log' sub-menu, which lists all network transactions for trouble-shooting purposes.

Press 'Clear Log' to clear the contents of the system log, as required.

A person using the MCS Panel Configuration Editor can subsequently read the panel's log file.

Press 'Show Status' to display system messages. If there are no messages, the display will be blank.

You can scroll the display of the log with the joystick. You can also scroll using knobs. The left-most 4 knobs control vertical scrolling; the rightmost 4 control horizontal scrolling.

Set Date Time

From the 'Panel Info' menu, press the 'Set Date Time' button to display the 'Date and Time' menu.

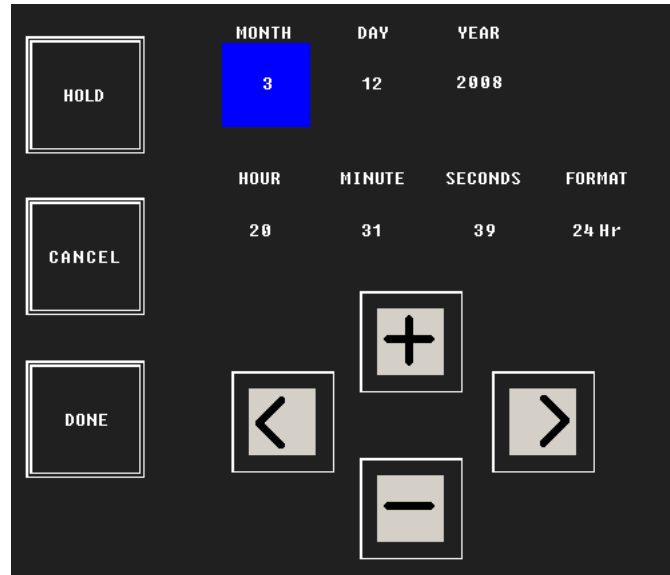


Fig. 4-26: Date/Time Sub-Menu

This menu has 3 fields for date and 4 fields for time. Touch the left or right arrow buttons to select the field you want to modify. When you have selected a field, press the "+" or "-" buttons to change the value.

Press the 'Hold' button to freeze the time values. Doing this might help you synchronize to another clock. Release the hold at the moment you want the clock to start again.

Press 'Cancel' to discard your changes and return to the 'Panel Info' menu.

Press 'Done' to save your changes and return to the 'Panel Info' menu.

Version Info

From the 'Panel Info' menu, press the 'Version Info' button to display the 'Version Info' menu.

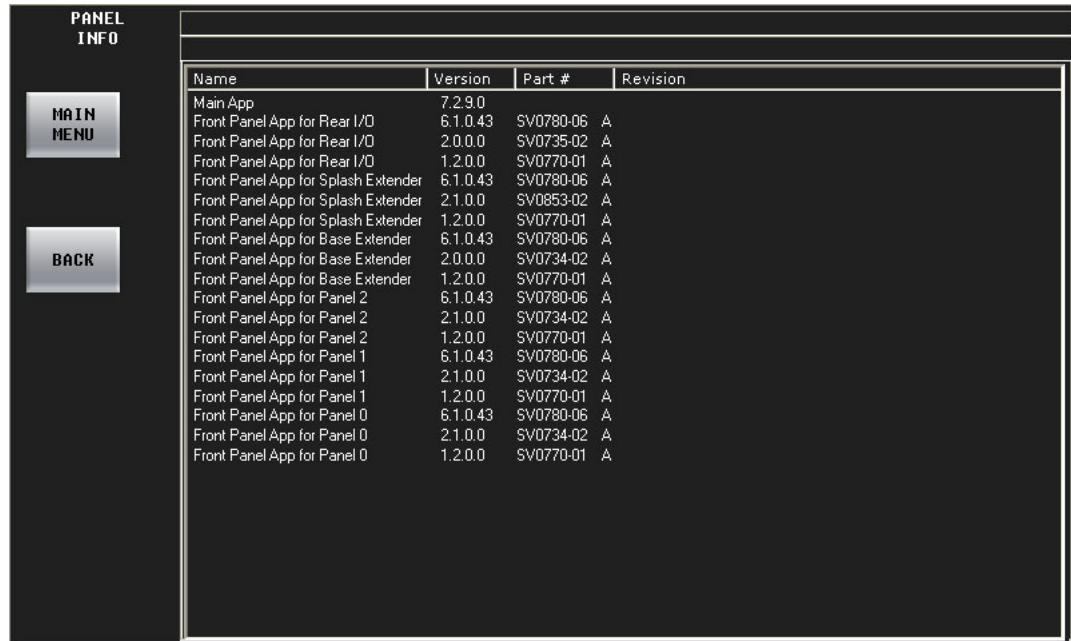


Fig. 4-27: Version Info Menu

The 'Version Info' sub-menu allows you to view software and firmware revisions.

Panel Status

From the 'Panel Info' menu, press the 'Panel Status' button to display the 'Panel Status' menu:

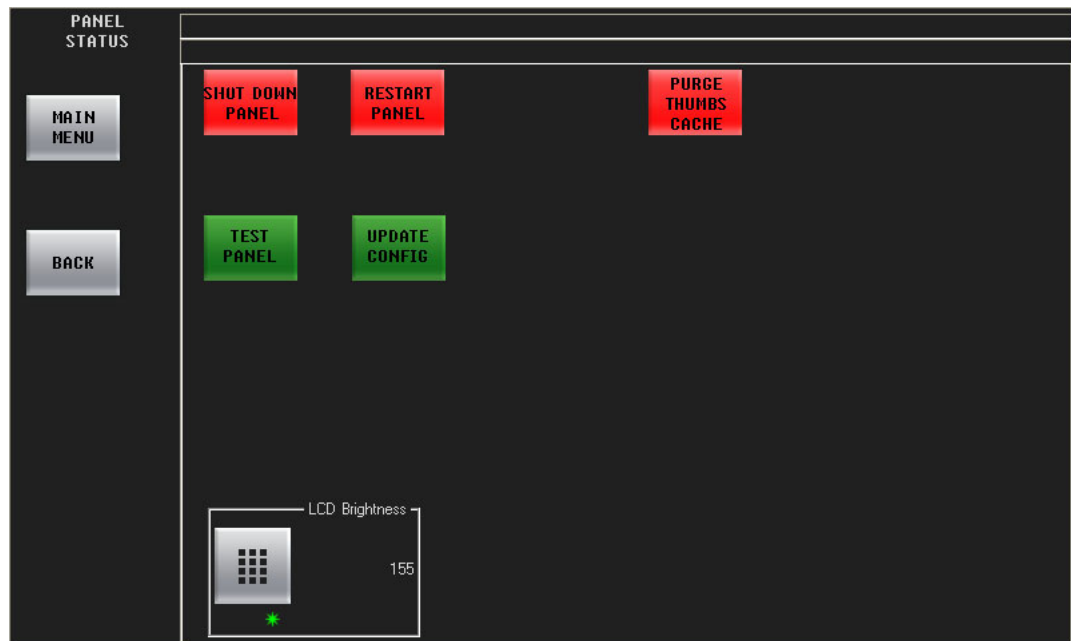


Figure 4-28. Panel Status Menu

The 'Panel Status' sub-menu allows you to restart the panel, adjust the LCD brightness, update the panel configuration, and perform tests.

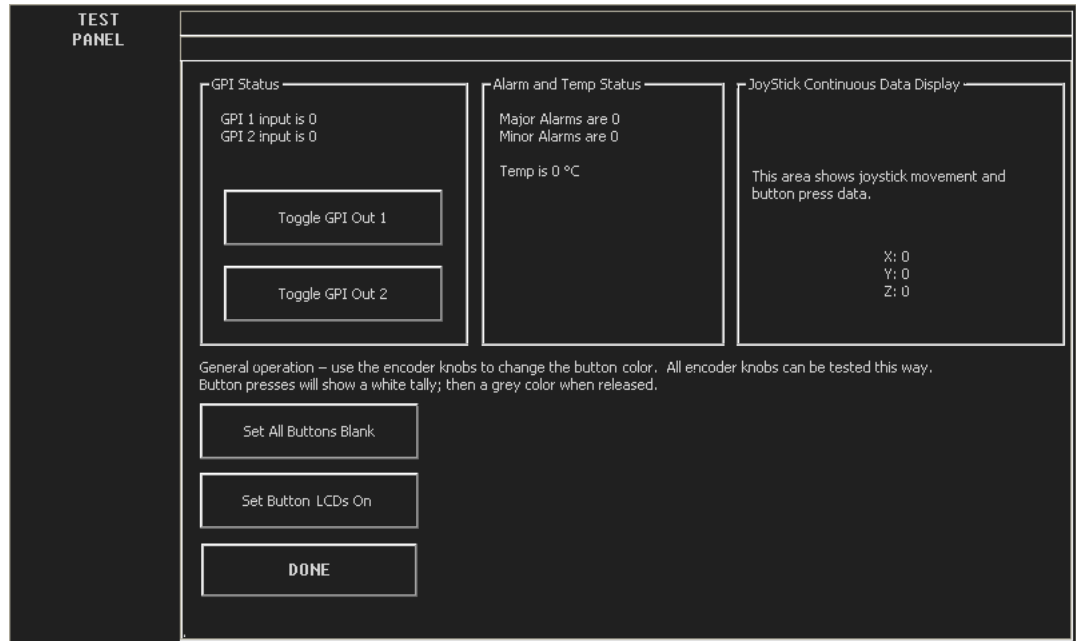
Turn the menu knob for LCD brightness to adjust brightness visually or use the keypad to enter a numerical value (from 40 to 255). The LCD brightness does not reduce to zero. We suggest you try a brightness value of 127.

Four function buttons are available:

Button	Function
Shut Down Panel	Performs a "clean" shutdown. The internal software halts, the screen becomes dark, and buttons and knobs become inoperable. The power supplies shut down. Warning: never just shut off power. You risk damage to the panel's flash memory. To start the panel after a shutdown, you must cycle power, either at the power cord, or by flipping the power supplies' on/off switches inside the panel.
Restart Panel	Performs a "hard" start — restarting the control panel completely. The process takes about a minute. After restart, the menu system resumes at the main menu.
Test Panel	Press the 'Test Panel' button to view the Panel Test Sub-Menu .
Update Config	Performs a "soft" start — restarting the control panel software only (with the current configuration). ("Update" means that the panel's configuration is copied from local non-volatile storage to local memory.) The "Update Config" process takes only a few seconds. During this time the panel will cycle off and back on again. Use this soft start function to restart the control panel software when you have written a configuration to the panel.
Purge Thumbs Cache	Pressing 'Purge Thumbs Cache' causes the panel to empty its cache of Intuition XG thumbnail images.

Panel Test Sub-Menu

From the 'Panel Status' menu, press the 'Test Panel' button to display the 'Panel Test' sub-menu:



These are the functions of the 'Panel Test' sub-menu:

- View alarm status and temperature information.
- Turn (all) button LCDs on and off, verifying that they work.
- Test and observe movement on the joystick.
- Exercise the 2 GPI output relays.
- Test any of the knobs and buttons, and observe changes in the color of the buttons.

When you press the 'Done' button in the 'Panel Test' sub-menu, the panel returns to its previous state.

- ▲ Button testing has no direct effect on the program or preview output. Those outputs continue unimpaired.

5 Operation

Chapter 5 describes many of the operating procedures and operating characteristics of the iMC-Panel-300 when it is used to control an Imagestore 750.

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Note

Throughout this guide, and especially in this chapter, we use *sample* source names, effect names, and menu lists for illustration. The names on your panel will differ.

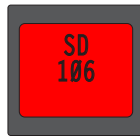
General Information

About Colors

The physical buttons of the iMC-Panel-300 are large having LCD legends in several colors. Each button has 3 line of text, up to 8 characters per line. Although not physical, menu buttons also show 3 lines of 8 characters.

Colors on LCD Buttons

The colors you are viewing here are approximate only.



Red buttons have the following warning functions:

On the program and preset buses, red indicates that the selected source is LOS or non-sync. The error line of the menu displays the current error condition. Note that the system will put a non-sync source on air if you want it.

On the program and preset buses, red can also indicate audio LOS.

When you perform a channel change, the new channel button flashes red for a moment. That indicates that the system has acknowledged the change request. A (selected) channel that is absent, malfunctioning, or in emergency bypass mode shows red. Emergency bypass buttons are red when the selected channel is in emergency bypass mode.

Panel lock, if present, is high-tally red when the panel is locked.



Amber buttons sometimes represent mild warnings, such as LOS on a video effect.

High-tally amber also indicates a follower channel that is “ganged” to the main channel (green). If there are multiple followers, each has an amber button.



Low-tally buttons (dark green) are **unselected** main sources, channels, or functions. Green generally indicates that there is no error.



High tally buttons (bright green) are **selected** main sources, channels, or functions.

On the program and preset buses, high tally buttons are selected main sources. Green indicates that there is no error. (High-tally violet represents an audio source in a breakaway selection.)

High-tally green represents the active channel, the main channel in a gang, or an active function on a configurable button.



Voice-over buttons are violet, and high-tally when selected.





Video effect buttons are blue, and high-tally when selected.



Menu selection buttons are normally grey. When you press a menu selection button to select a menu, the button turns aqua. (Aqua is a shade of blue not very different from high-tally blue.)



Source buttons can be configured in any of 4 colors: green, yellow, red, or white. The color of selected sources may be different from the color of unselected sources.

The default color is green.



Buttons that are off (dark) have no function assigned or they have disabled functions.

Menu Button Color

The menu buttons use color to represent different types of functions and give you visual feedback:



Some gray buttons are navigation buttons. (The 'Main Menu' button, for example, always takes you to the main menu. Most other navigation buttons take you to sub-menus. Some gray buttons are function buttons.



Most green buttons are function buttons. Most of these are toggles: when you press one, its function becomes active and the button turns bright green. When a button is dark green, its function is inactive.



Some green buttons are momentary functions. They turn bright green momentarily while they are performing their functions.



List buttons are blue or green. (A list has at most one selected entry.)

A **selected** list entry is high-tally.



'Apply' buttons are bright red. These buttons are found in the audio channel shuffle menus. A few other buttons are light red because you should exercise caution when using them. ('Restart Panel' is an example.)

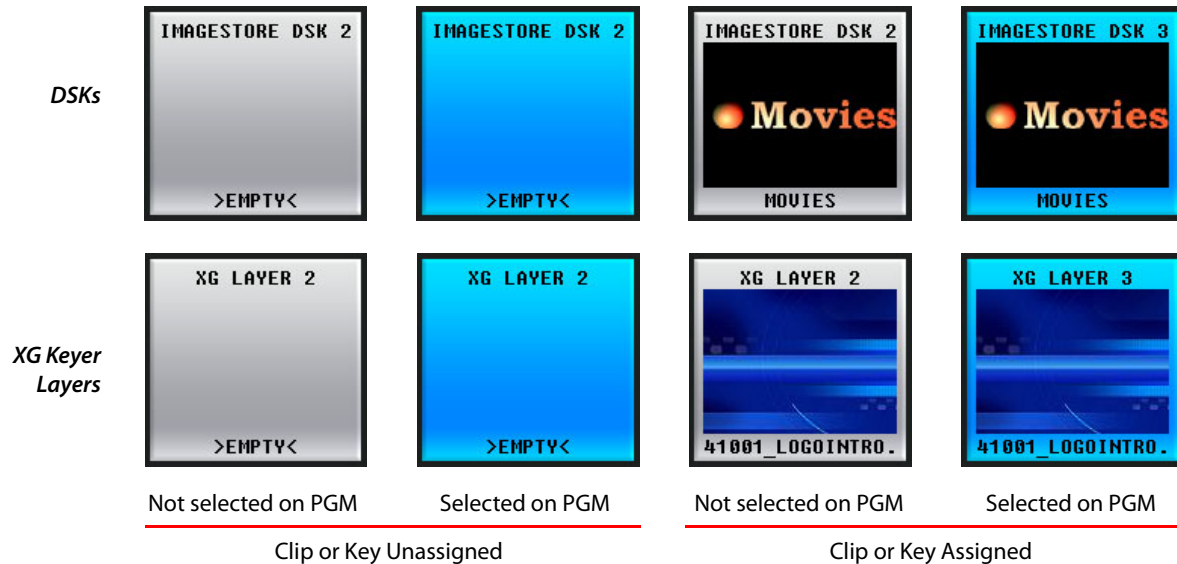


Thumbnail Color

The DSK and XG keyer layer thumbnail images in the main menu give you an indication of the state of the DSK or XG keyer layer.

The thumbnail frame is blue when the DSK or XG keyer layer is on the program bus (i.e., program output). Otherwise, the thumbnail frame is grey.

The thumbnail frame is empty when the DSK has been cleared (i.e., has no clip or key assigned). Similarly, the thumbnail frame for an XG keyer layer is empty when the layer has been cleared. Otherwise, the thumbnail frame shows an image representing the clip (or key):



About Error Messages

Error messages that appear on the menu's error line are "stacked" in order of their effect on the on-air signal—with higher priority messages taking precedence over lower priority messages. For example:

- If you experience a video non-sync error, and simultaneously lose video reference to the Imagestore 750, the system displays the video reference loss error message.
- If you fix a problem with non-sync video, yet the button still remains red, a lower-priority audio format error might still be occurring (and will have moved to the top of the error stack). Always check the menu display to obtain information about current errors.

About the Button Rows

The iMC-Panel-300 has four button rows each comprising 24 buttons.

The preset and program rows have exactly the same button functions.

The aux/user has the same main source buttons as the preset and program rows. Buttons in the aux row that are not main source buttons are configurable buttons.

The preview/user row comprises additional configurable buttons.

About "Layer" Buttons

The "layer" section of the preset and program rows can include video effect buttons and voice-over buttons. The layer section can vary from panel to panel. Video effects include 4 DVEs and 4 DSKs.

- ▲ Some Imagestore 750s do not have DVE processors.

About Configurable Buttons

When your panel is controlling an Imagestore 750, there are 4 sets of buttons that provide customer-configurable buttons:

- The 4×4 array of buttons on the upper left part of the panel.
- The 3×4 array of buttons in the “Audio Monitoring” section at the upper right.
- The rightmost buttons of the aux/user button row.
- The entire preview/user button row.
- The entire front row of buttons (except the transition button).

The buttons in these sections perform functions that are chosen by the person who configured the panel.

Panels and Channels

Several panels (and automation) can control the same channel at the same time. When someone else makes a change to a channel that you are also controlling, the changes are reflected (insofar as possible) on your control panel. Similarly, changes you make are reflected on all other panels that control the same channel.

This is not an issue if your system has been configured so that channels cannot be controlled by more than one panel.

A single panel can control multiple channels. When it does, the channels are said to be *ganged*. (The actions you perform on the main channel are also performed for the follower channels.)

Sharing vs. Preemption

Each control panel can be configured to share or not to share channels with other control panels.

Each control panel is configured with a priority level for access non-shared access. Panels with higher priority can preempt panels with lower priority and thereby gain access to the channel.

If your panel is configured for sharing, it will attempt to share a channel that is already in use. If the channel is controlled by a panel that does not share and that has a higher priority than yours has, the sharing attempt will fail.

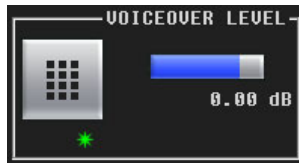
If the sharing attempt succeeds, the panel operates normally. If it fails, you will be notified.

If your panel is not configured for sharing, when it attempts to acquire a channel, it can preempt the other panel if yours has a higher priority. You will be asked for permission to preempt the other panel. If the other panel has higher priority, the attempt to acquire the channel will fail and you will be notified.

Using the Keypad

Follow these steps to operate a keypad:

- 1 Press the desired 'Keypad' button (within a menu) to display the keypad menu for the parameter you wish to change. A sample is shown here:



- 2 On the keypad, press the desired digits for your numeric value. The "entry register" shows your entry in progress:



- 3 As necessary,
Press 'Clear' to clear the Entry register.
Press 'Cancel' to return to the previous menu, without having entered a number.
Press 'Done' to accept the new entry and return to the previous menu.
- 4 If an error message appears, (e.g., Invalid Entry), press 'OK' to start the entry procedure again.
The Entry register automatically clears.

Performing Transitions

The iMC-Panel-300 is a master control panel that sets up and initiates program transitions in an Imagestore 750. The Imagestore 750 executes the transitions.

Setting up a transition is the primary task of the panel operator. Automation can also set up and initiate transitions but that is of little concern to panel operators, except that operators may inhibit or enable automation and must generally avoid interfering with automated transitions.

Most transition operations involve selecting a source on the preset bus, selecting a transition type and rate, and transitioning the source to program. Some transitions involve applied video effects and voice-overs.

Basic Transition

Follow these steps to perform a *basic* transition:

- 1 Select the desired source on preset.
- 2 (Optionally) select or deselect the desired video effects and voice-overs on preset.
- 3 Use the menus to choose, and possibly modify, video effect settings.
- 4 (Optional) Select the desired transition type: cut, V-fade, cross-fade, PB cut-fade, or another. Select the desired transition rate: slow, medium, or fast.
- 5 Press the transition button. At the end of the transition period, the selections on the preset bus will appear on the program bus. During the transition, the preset sources and program sources will combine according to the transition type and rate.

Please note:

- You can “hot cut” to a new source directly on the program bus *at any time*, simply by pressing the desired source on the program bus. Hot cuts are not recommended.
- Once a transition is initiated, it cannot be stopped, except by (hot) cutting to a different source directly on the program bus during the transition period.
- Automation also initiates transitions.

Transition Options

The Imagestore 750 has several configuration options that affect how transitions occur and how the preset buttons and program buttons function.

Some of the differences in behavior are subtle.

The options are identified here by their names in the configuration software. (Some of those names are cryptic.) These are the options:

- ‘Cut All from Air on Hot PGM Switch’

This option can be enabled or disabled.

When it is enabled, performing a hot cut on the program bus causes all effects (DVEs, XG keyer layers, DSKs, and voice-overs) to be removed (cut down) from the program bus.

When this option is disabled, a hot cut does not change the effects present on the program bus.

- ‘Re-arm mix on PST bus source change.’

This option can be enabled or disabled.

When it is enabled, selecting a source on the preset bus that is different from the source selected on the program bus causes the most recently selected transition type to become selected. (It does not matter why you selected that transition type — the option uses *the most recently selected transition type*.) Further, if you select a source on the preset bus that is the same as the source on the program bus, all transition types becomes de-selected.

When this option is disabled, selecting a source on the preset bus has no effect on whatever transition type is selected or not selected.

- ‘Preview Select’

Normally, this option presents the preset bus at the preset output. (Within the configuration software, this output is called either preview or preset.)

It is possible, although not likely, for the Imagestore 750 to be configured to present program output, the program A/B mixer output, the program DVE output, or the outputs of DSKs 1, 2, or 3 as the preset output.

- 'Active Preview AB Mixer'

This option can be enabled or disabled.

When it is *enabled*, the preset (a.k.a. preview) background video depends on both the progress of the program A/B mixer and its arm state.

When you have not armed the A/B mixer (i.e., have not selected a transition type), the preset background video is the same as the program video background.

When you select a transition type, the preset background video is what you have chosen as the preset source, which will be the background video on program after the next transition (or "Take").

When the option is *disabled*, the preset background video is independent of the A/B mixer and its arm state. The preset background video is always the preset source you have chosen.

- 'Active Preview DVE'

When this option is activated, if you hot-cut a DVE on the program bus, it will also become active on the preset bus. And, if you hot-cut a DVE off the program bus, it will also be removed from the preset bus.

- 'Active Preview Keyers'

Some operators like the "PresStation" method of arming DVEs, DSKs, and voice-overs on the preset bus. Other operators like the traditional method (which is used for MCEs and MCPMs).

When this option — coupled with 'Enable Traditional PST Tally' of the MCS Panel Configuration Editor — is chosen, the panel will operate using the *traditional* method. Otherwise, the panel will use the *PresStation* method.

- 'DSK *n* Preview Keyer Position'

This basically turns the Imagestore 750's individual DSKs on or off.

If your panel has DSK buttons, and they are disabled in the Imagestore 750's configuration, the buttons will be disabled on your panel. They might be enabled for another Imagestore 750.

- 'Aux Bus Follow'

This option — although not strictly a transition option — has 3 choices: 'none', 'PGM', or 'PST':
When the option is 'PGM', the aux bus "follows" the program bus. That means that whatever source you select on the program bus is also selected on the aux bus.

When the option is 'PST', the aux bus "follows" the preset bus.

When the option is 'none', the aux bus does not "follow" either bus and operates normally.

Note that when the option is 'PGM' or 'PST', you can still use the aux buttons, normally, to switch sources to your aux output.

Working with Transition Type and Rate

It is the Imagestore 750 that stores the transition type and rate. It supports 8 transition types: cut, V-fade, cut-fade, cross-fade (or X-fade), fade-cut, U-fade, V-fade preset 1, and V-fade preset 2. (A U-fade is like a V-fade with a dwell period in the middle. The dwell period is pre-configured. The characteristics of the V-fade preset 1 and preset 2 are also pre-configured.)

Rates are 'Slow', 'Medium', and 'Fast'. Your panel might have an 'Automation Rate' button which selects whatever rate is in effect in the automation system in your facility.

The Imagestore 750's A/B mixer has its slow, medium, and fast rates. You can change these rates in the 'A/B Mixer' menu.

Each DSK has its own rates (slow, medium, and fast) and each voice-over has its rates. You can change a DSK's three rates in its menu. Larger values are slower rates. The range of values is 1 to 999. You cannot change the rates of a voice-over from the panel.

By convention, transition type and rate buttons are assigned to the 'Transition Control' button group at the front of the panel. However, any of these functions can be assigned to any configurable button.

To select a transition type, simply press one of the transition type buttons. The button will go high-tally and other transition type buttons go low-tally. To select a rate, press one of the transition rate buttons.

A "cut" transition does not involve a rate and any rate buttons on your panel become disabled.

Notes

- When you set a transition type, it is set within the Imagestore 750. Other panels attached to the Imagestore 750 can detect, and use, its transition type.
- The transition type in the current Imagestore 750 might not be represented on your panel. In that case, all transition type buttons on your panel will be disabled.

Changing Transition Rates

To *change* the rate of the A/B mixer, follow these steps:

- 1 From the main menu, press an 'A/B Mixer' button to access the 'A/B Mixer' menu.
- 2 Use the keypad or knob proxy adjacent to the slow, medium, or fast value to change the value. The new rate is immediately available for use.

To *change* a DSK rate, follow these steps:

- 1 From the main menu, press a DSK button or press a 'DSK Browser' menu button to access a 'DSK Browser' menu.
- 2 Use the keypad or knob proxy adjacent to the slow, medium, or fast value to change the value. The new rate is immediately available for use.
- 3 Repeat steps 1 and 2 to change the transition rates for other DSKs.

No further action is required to use the new transition rate(s). A new rate remains active until you enter another rate.

Working with DSKs

All Imagestore 750s provide 4 DSKs (downstream keyers). A key is a video effect that usually consists of two video sources, fill and key. The keyer mixes the fill, masked by the key, with upstream program video. In some cases, key values are derived from the luminance of the key's fill values. A key can be partially or fully opaque. It is possible for an operator to control the way the key values mask the fill values.

The Imagestore 750 performs video effects in a configurable order:

DSK 1 is upstream of DSK 2, which is upstream of DSK 3, which is in turn upstream of DSK 4.

The DVE (if present) can be placed before DSK 1, before DSK 2, or before DSK 3.

where the effects to the right have visual priority over effects to the left. We say the effects to the right are *downstream* and effects to the left are *upstream*. Your panel's effect buttons, if any, might occur in any order. Your panel might not have buttons for all video effects.

- ▲ In an Imagestore 750 configuration, some or all DSKs can be disabled.
- ▲ The LGK-3901 and ISM-3901 have 5 DSKs, and no DVE.
- ▲ The DSK-3901 has 2 DSKs, no DVE, and no internal storage audio or video clips.

Keys can be external or internal. The Imagestore 750 supports up to 3 external key sources. Internal keys are generally called clips, stills, or animations. The number of internal keys is potentially large and is limited only by available memory.

The use of DSKs is affected by certain transition options. See [Transition Options](#) on page 110 for more information.

Performing Key Transitions

You can transition any combination of video effects (including up to 4 DVEs and up to 4 DSKs) to program output.

Follow these steps to transition one or more keyers to program output:

- 1 Use the 'DSK Browser' menus to select keys and perhaps change their settings. The names of the selected keys become visible on the associated DSK buttons. See [Changing Key Settings](#), following.
- 2 Press the desired DSK button(s) on preset. Selected DSK buttons are high-tally.
On preset, the DSK buttons have 3 states: cut, fade, and off. Press the button again to cycle it to its next state. When the state is 'cut', the DSK cuts to the program bus during the next transition and when the state is 'fade', the DSK fades (at its current rate) to the program bus.
- 3 Optionally, set up other video effects, voice-overs, and transition type and rate.
- 4 Press the Transition button.

To *remove* key(s) from program, press the desired DSK button(s) on the preset bus to deselect them and perform a transition in the normal way. Here too, the DSK buttons have 3 states: cut, fade, and off. When the state is 'cut', the DSK cuts from the program bus during the next transition and when the state is 'fade', the DSK fades from the program bus.

Please note: you can "hot cut" keys directly on and off the program bus *at any time*, as required, simply by pressing the desired keyer on the program bus. Hot cuts are not recommended.

Hot cuts have side effects on the preset bus, depending on which transition options are active in the currently selected Imagestore 750.

Changing Key Settings

Go to the 'DSK Browser' menu. A list of keys appears (with scroll bars if the list includes more than 12 keys). Press a list entry to select the key of your choice. The setting now appears high-lighted (in blue) in the list and the setting name appears on the DSK buttons in the program and preset button rows.



Touch the list control buttons (e.g., 'Still', 'Anim') to trim the list to the types of keys in which you are interested.

Rates, CGT, Keying

Press 'Rates CGT Keying' to access a menu in which to change the DSK rate, the clip, gain, transparency parameters, or key options. The 'DSK Rates, CGT, Keying' sub-menu appears:

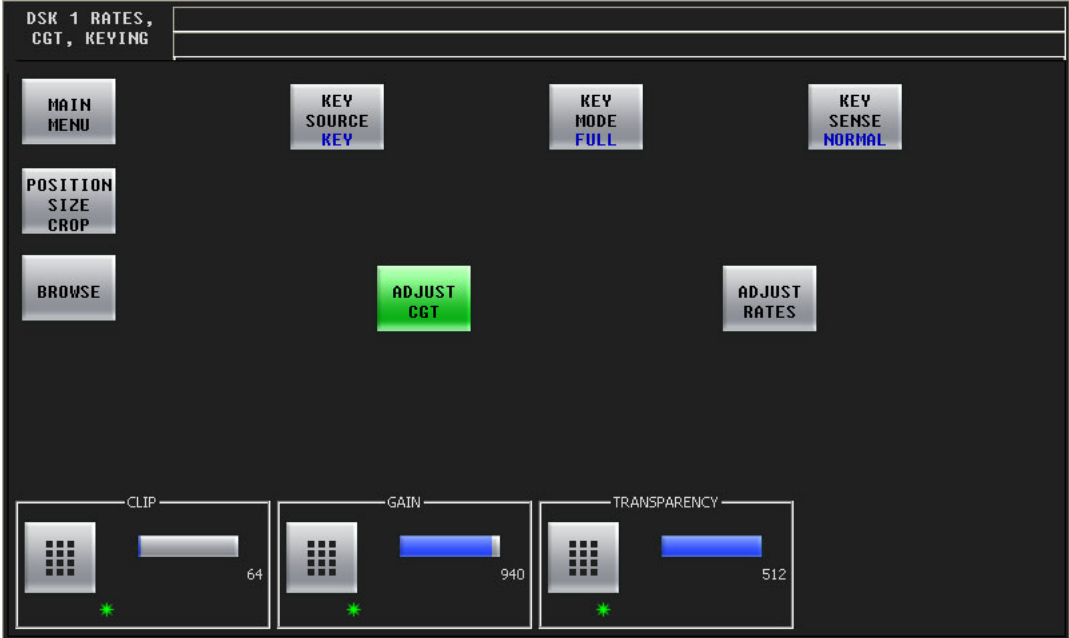


Fig. 5-1: DSK Rates, CGT, Keying Settings (Sample)

This menu controls three things:

- DSK rates (slow, medium, and fast).
- Key parameters (clip, gain, and transparency).
- Key options (source, mode, and sense).

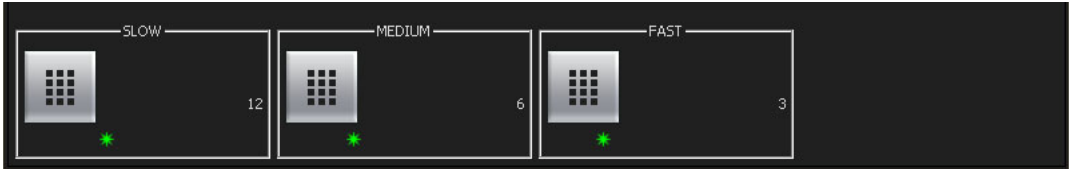
Clip, Gain, Transparency

Press the 'Adjust CGT' button to change the DSK's clip, gain, and transparency values. The menu will show a control at the bottom for each parameter (as shown in Figure 5-1 above).

Use the keypad icon or turn the knob below the parameter's green asterisk to change the value.

DSK Rates

Press the 'Adjust Rates' button to change the DSK's slow, medium, and fast rates. The menu will show a control at the bottom for each rate:



Use the keypad icon or turn the knob below the parameter's green asterisk to change the value.

Key Options

The top 3 buttons are toggles:

- Key source—toggles between 'Key' and 'Self'. Self-keys do not use a separate key input. The key values are derived from the chroma values of the fill source.
- Key mode—full or linear.
- Key sense—normal or inverted.

Refer to the *Imagestore 750 Reference Manual* for definitions of these options.

Position, Size, and Crop

Press 'Position Size Crop' to access a menu in which to change the key's position or crop boundaries. The 'DSK Position, Size, Crop' sub-menu appears:

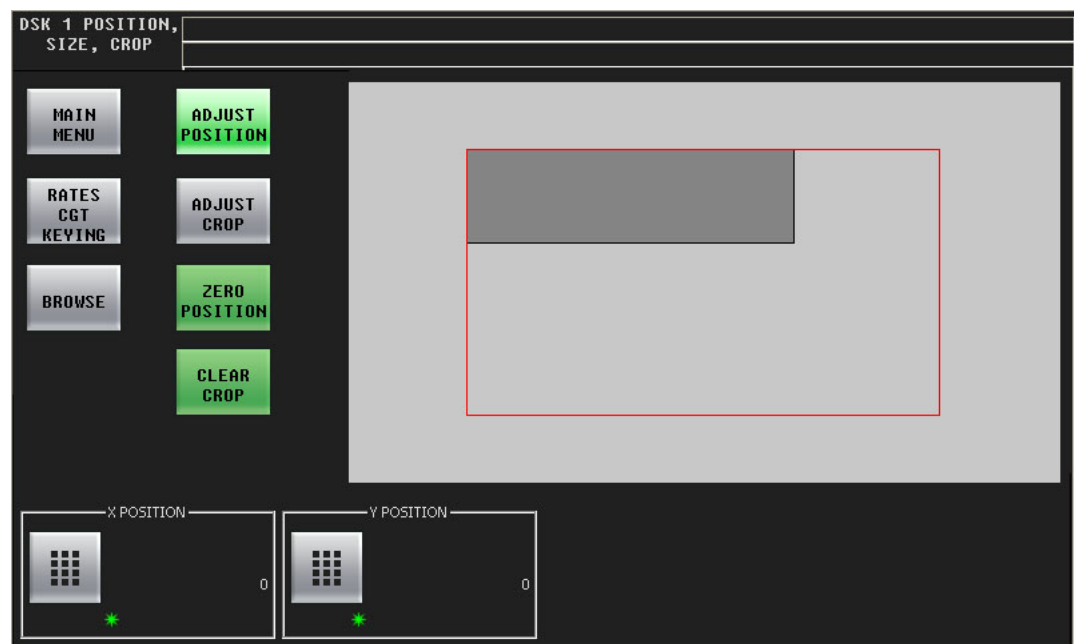


Fig. 5-2: DSK Position, Size, Crop Settings (Sample)

There are 4 adjustment buttons in this sub-menu:

- Adjust position.
- Adjust crop.
- Zero position.
- Clear crop.

Position

Either (1) press 'Adjust Position' modify the position of the DSK on the screen, (2) press 'Zero Position' to reset its position to (0,0), or use the X and Y controls at the bottom of the window to enter a position. (Press the keypad icon to enter a number with a keypad or turn the knob next to the parameter's green asterisk.) The coordinate you choose is of the upper left corner of the DSK.

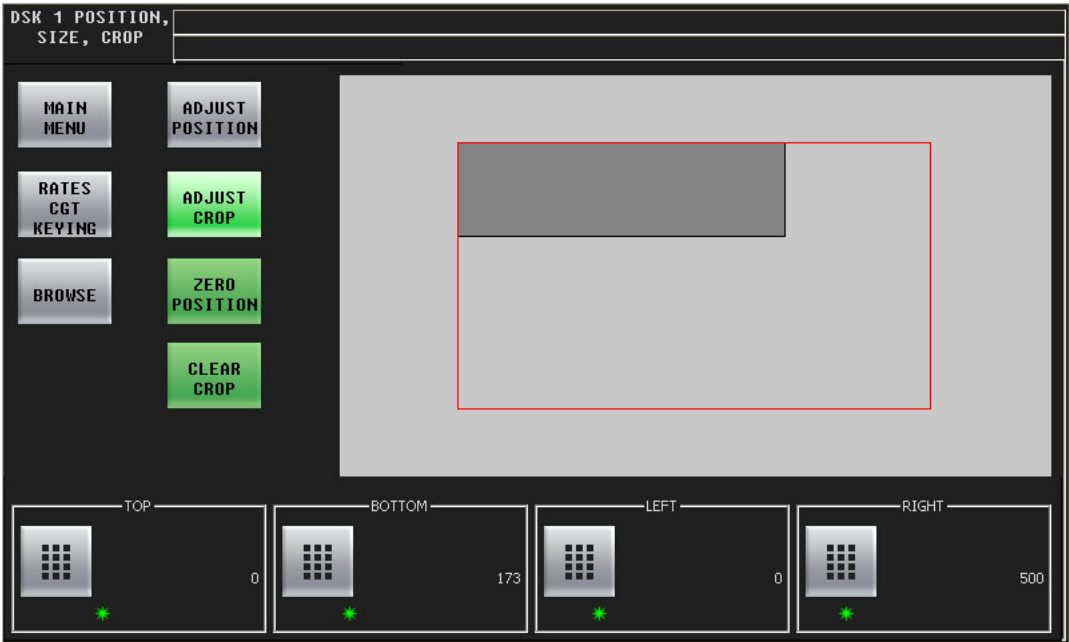
The large red outline represents the screen boundary. The darker gray rectangle represents the DSK.

Crop

Either (1) press 'Adjust Crop' modify the crop values of the DSK, (2) press 'Clear Crop' to reset its 4 crop values 0, or use the four controls at the bottom of the window to enter values. (Press the keypad icon to enter a number with a keypad or turn the knob next to the parameter's green asterisk.)

The crop values do not change the position value and vice versa.

The large red outline represents the screen boundary. The darker gray rectangle represents the *cropped* DSK while the medium gray rectangle represents the *uncropped* DSK:



Saving DSK Settings

Press 'Options Saving' to access a sub-menu in which to save settings for the specific DSK: rate, the clip, gain, transparency parameters, or key options. The 'Options, Saving' sub-menu appears:



Fig. 5-3: DSK Options Saving Page

Then press 'Save DSK Settings' to save the settings. Note that this button is absent if you have cleared the DSK because there are no settings to save.

Working with DVEs

There are up to 4 DVE buttons on the panel. The Imagestore 750 configuration permits the association of one DVE (of a possible 97 stored DVEs) with each button.

- ▲ The LGK-3901, DSK-3901, and ISM-3901 do not provide DVEs. When panels controlling these units have DVE buttons, the DVE buttons are disabled.

To use a DVE:

- 1 Press the appropriate DVE button on the preset row.
- 2 Carry out other presets as required.
- 3 Press the transition button.

You can "hot cut" DVEs to the program bus. Hot cuts are not recommended.

If your panel has a 'PGM DVE Enable' button, you can use it to enable or disable DVEs on the program bus.

If your panel has a 'PST DVE Enable' button, you can use it to enable or disable DVEs on the preset bus.

The use of DVEs is affected by certain transition options. See [Transition Options](#) on page 110 for more information.

Working with XG Layers

There are up to 8 XG layer accessible at your panel. Your panel can have some number of XG layer buttons. You can choose XG clips in the XG layer sub-menu. You can also turn the layers on and off in that menu.

XG layers are peculiar. First, XG layers are processed by one of the Imagestore 750's DSKs. If you are using XG layers, only 3 of the 4 DSKs are available to process keys.

Second, you cannot view an XG layer merely by selecting it on PST. Doing so only arms the XG layer for transition. However, you can view XG layers by selecting XG layers on PGM and then selecting the DSK that carries it, either on PGM or on PST. If you select the DSK on PGM, the XG layer appears on air. If you select the DSK on PST, it does not.

The Imagestore 750 has several options that relate to this phenomenon and which affect the way you work with that Imagestore 750. These are the options:

- 'Slave keyer assign'.

This option designates one of the DSKs as the default carrier for XG layer content. When you select an XG layer (on PST or PGM) the default DSK is also selected. You can always override this default.

The option can also specify that none of the DSKs is the default. In this case, you must choose a DSK carrier manually.

- 'Slave keyer follow up'.

This option can be enabled or disabled. When it is enabled, the default DSK turns on automatically when you have selected one or more XG layers.

When this option is disabled, the default DSK is not affected by XG layer selections.

Note that when this option is *enabled* and you select XG layers on PGM, the DSK is also selected on PGM. Consequently, the XG layers appear on air. When this option is *disabled* and you select XG layers on PGM, you can select a DSK on PST to view the XG layers.

- 'Slave keyer follow down'.

This option can be enabled or disabled.

When it is enabled, the default DSK turns off automatically when no XG layers are selected.

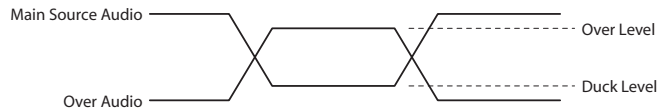
When this option is disabled, the default DSK is not affected by XG layer selections.

Consult your system's administrator to determine how your Imagestore 750s are configured.

Working with Voice-Overs

Imagestore 750s have two voice-over mixers: Over 1 and Over 2. The “layer” section of the program and preset button rows can include 0, 1, or 2 voice-over buttons.

There are two parameters that govern the use of voice-overs: the “duck” level and the over level:



Both of these values are expressed in decibels (in the range -99.9 dB to $+28.0\text{ dB}$).

Each voice-over has its own set of levels. The physical audio level knobs adjust these parameters. The knob labeled ‘Duck Level’ adjusts the “duck” level. The knob labeled ‘Gain/Voice-Over Preset’ adjusts the over level.

Voice-over sources are defined in the Imagestore 750 configuration. When voice-over accepts EasyPlay clips, you can select different clips using the EasyPlay menus.

The voice-over mixers can also accept input from the Imagestore 750’s AES inputs. Choosing audio clips from external media is outside the scope of this manual, but it will probably involve loading, cueing, and pre-rolling different media.

Performing Transitions with Voice-Over

You can transition voice-overs to (or from) program output.

Follow these steps to transition one or more voice-overs to program output:

- 1 Press the desired VO button(s) on preset. Selected VO buttons are high-tally.
On preset, the VO buttons have 3 states: cut, fade, and off. Press the button again to cycle it to its next state. When the state is ‘cut’, the VO cuts to the program bus during the next transition and when the state is ‘fade’, the VO fades (at its current rate) to the program bus.
- 2 Optionally, set up other video effects, and transition type and rate.
- 3 Press the Transition button.

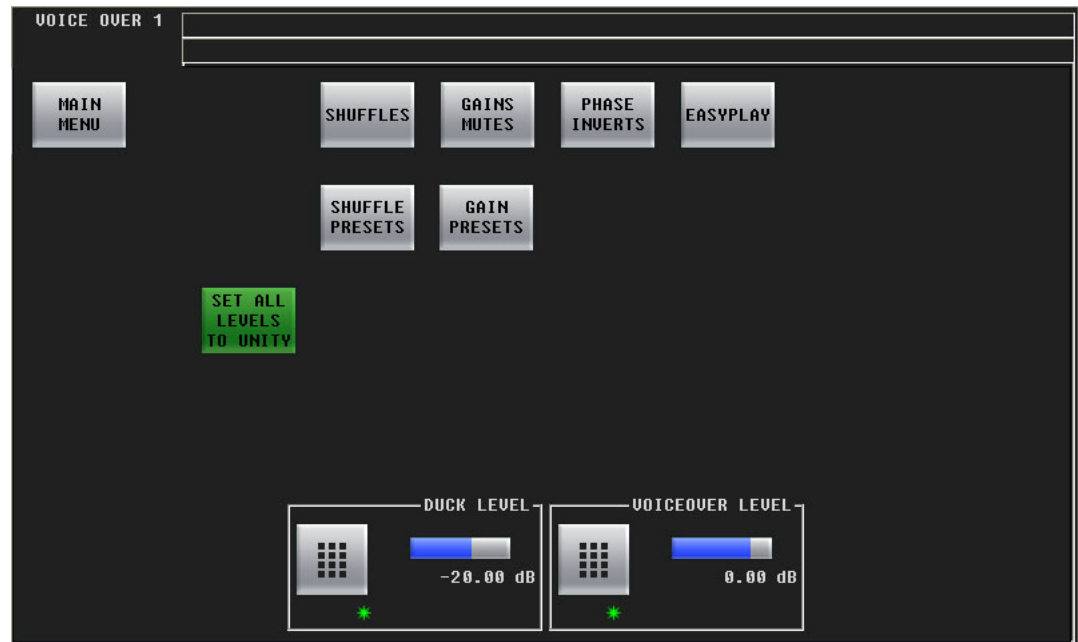
To *remove* voice-over(s) from program, press the desired VO button(s) on the preset bus to deselect them and perform a transition in the normal way. Here too, the VO buttons have 3 states: cut, fade, and off. When the state is ‘cut’, the VO cuts from the program bus during the next transition and when the state is ‘fade’, the VO fades from the program bus.

Please note: you can “hot cut” VOs directly on and off the program bus *at any time*, as required, simply by pressing the desired VO on the program bus. Hot cuts are not recommended.

Hot cuts have side effects on the preset bus, depending on which transition options are active in the currently selected Imagestore 750.

Voice-Over Menu

You can exercise detailed control of an over's audio levels in the voice-over menu. Choose the menu for voice-over 1 or voice-over 2 from the main menu or press a voice-over menu button. This is the 'Voice-Over 1' menu:



The 'Voice-Over 2' menu is just like it.

The controls at the bottom of the screen adjust the "duck" level and the voice-over level of program output. To adjust these parameters, either turn the knob associated with the green asterisk in the control box, or touch the keypad icon to access a large keypad with which to enter a number.

The 'Main Menu' button returns you to the main menu. The 'Set All Levels to Unity' button sets all 16 audio channels of the voice over to unity gain. The 'EasyPlay' button takes you to the 'EasyPlay' menu corresponding to voice-over 1 or 2, whichever you are using. The other 3 buttons access the sub-menus.

Three of the other 5 buttons access voice-over sub-menus.

The 'Shuffles' button accesses the 'Shuffles' sub-menu (for voice-over audio).

The 'Gains Mutes' button accesses the 'Gains Mutes' sub-menu (for voice-over audio).

The 'Phase Inverts' button accesses the 'Phase Inverts' sub-menu (for voice-over audio).

▲ The term *phase* is a misnomer. Phase has nothing to do with signal inversion.

The 'Shuffle Presets' button accesses the 'Shuffle Presets' sub-menu (for voice-over audio).

The 'Gains Presets' button accesses the 'Gain Presets' sub-menu (for voice-over audio).

Presets

A shuffle preset is a predefined configuration of the shuffle matrix such as you might define using the 'Shuffles' submenu. A "gain preset" is a predefined set of 16 gain settings such as you might define using the 'Gains and Mutes' submenu.

(These presets are defined in the Imagestore 750 Configurator.)

Gains and Mutes

This is the 'Gains and Mutes' sub-menu:



Each of the 16 audio channels has a mute button. Touch the mute button to mute or un-mute the channel. When the channel is muted, the button is amber.

Each of the 16 audio channels has a keypad icon. Touch the keypad icon to access a keypad in which you can enter a numerical value.

Either the top row of 8 buttons or the bottom row of 8 buttons can be associated with the 8 knobs. To choose the top row, touch the top row. To choose the bottom row, touch the bottom row. You can thus adjust the gain of each channel by turning its knob.

The gain range is -99.5 dB to $+28.0$ dB. The gain of individual channels is affected by the master gain of the program input.

Press the 'Shuffles' button to go to the 'Audio Channel Shuffle' sub-menu.

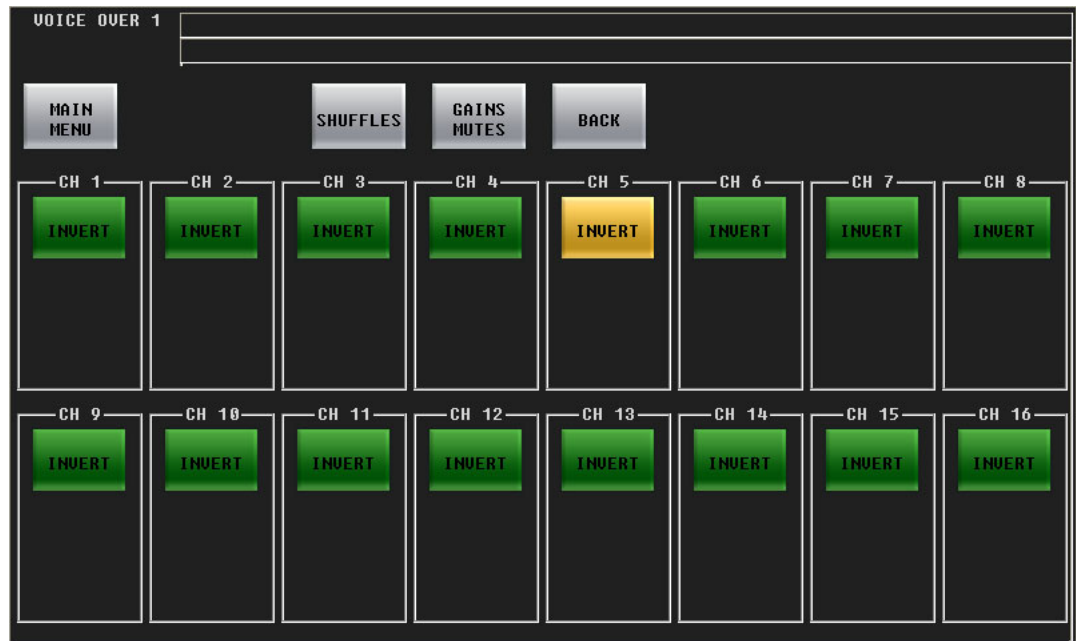
Press the 'Phase Inverts' button to go to the 'Phase Inverts' sub-menu.

Press the 'Back' button to return to the voice over menu.

Press the 'Main Menu' button to return to the main menu.

“Phase Inverts”

This is the 'Phase Inverts' sub-menu:



When the audio channel is inverted, its PCM values are multiplied by -1 .

▲ The term *phase* is a misnomer. Phase has nothing to do with signal inversion.

Touching an invert button either inverts or un-inverts the audio samples. When the button is amber, the samples are inverted. When the button is green, the samples are normal.

Touch the 'Shuffles' button to return to the 'Audio Channel Shuffle' sub-menu.

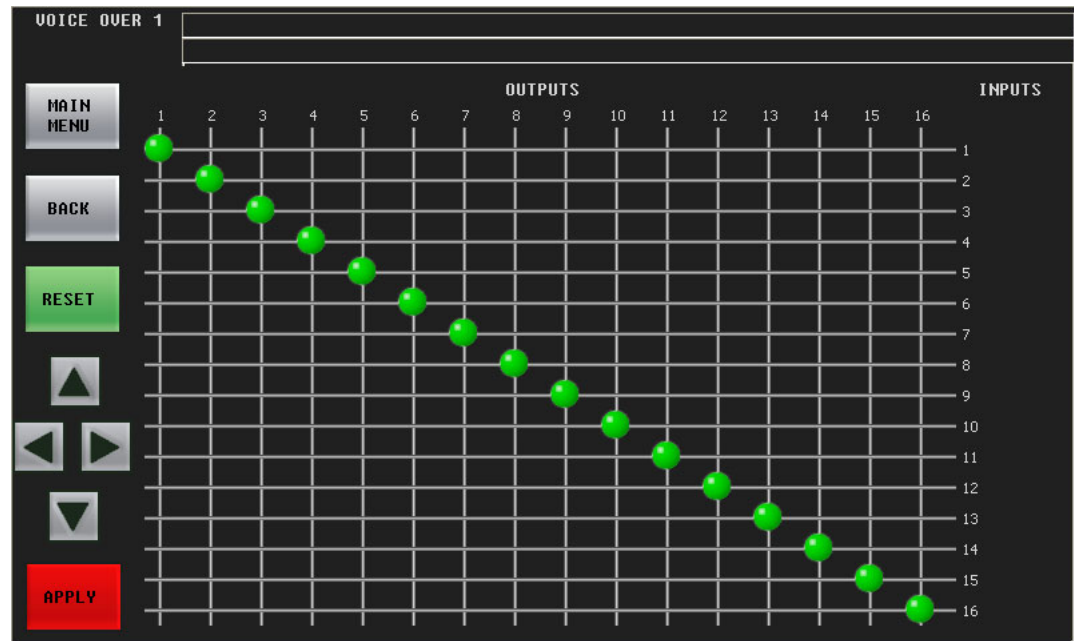
Touch the 'Gains Mutes' button to return to the 'Gains and Mutes' sub-menu.

Touch the 'Back' button to return to the voice-over menu.

Touch the 'Main Menu' button to return to the main menu.

Audio Channel Shuffle

This is the 'Audio Channel Shuffle' sub-menu:



See [Shuffling Audio Channels](#) on page 134.

Press the 'Back' button to return to the voice-over menu.

Press the 'Main Menu' button to return to the main menu.

Performing Over Transitions

Follow these steps to transition a voice-over to program output. (This assumes that your panel is configured with at least one voice-over button.)

- 1 Press the desired over button on the preset bus. A selected over button is high-tally violet. It is possible to select both available overs.

The over buttons, like DSK buttons, have 3 states: cut, fade, and off. Press the button again to cycle it to its next state. When the state is 'cut', the over cuts to the program bus during the next transition and when the state is 'fade', the over fades (at its pre-configured rate) to the program bus.

- 2 If necessary, adjust the duck level, over level, and any individual audio channel parameters.
- 3 Carry out other presets as needed.
- 4 Press the Transition button.

To *remove* over(s) from program, press the desired over(s) on the preset bus to deselect them (they now appear low tally) —and perform a transition in the normal way.

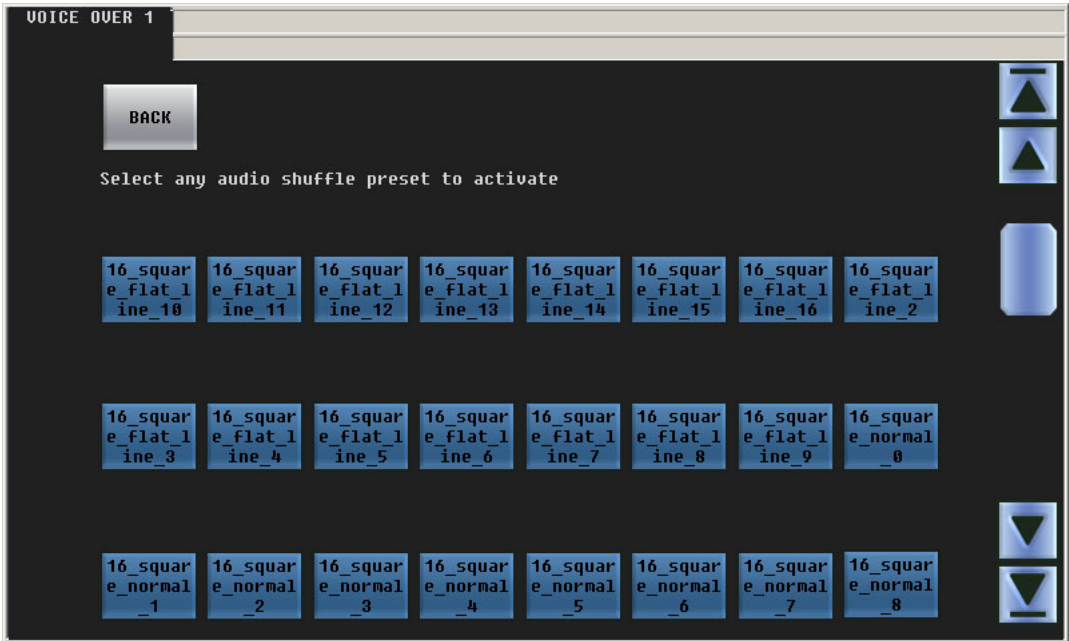
Please note: you can "hot cut" overs directly on and off the program bus *at any time*, as required, simply by pressing the desired keyer on the program bus. Hot cuts are not recommended.

- ▲ When a voice-over button is selected on the program button row, the corresponding voice-over button in the main menu becomes highlighted. The voice-over buttons in the main menu also select a voice-over menu.

▲ You cannot change the over source. There is one source for each VO and it is pre-configured.

Shuffle Presets

This is the 'Gain Presets' sub-menu (of the Voice-Over menu):



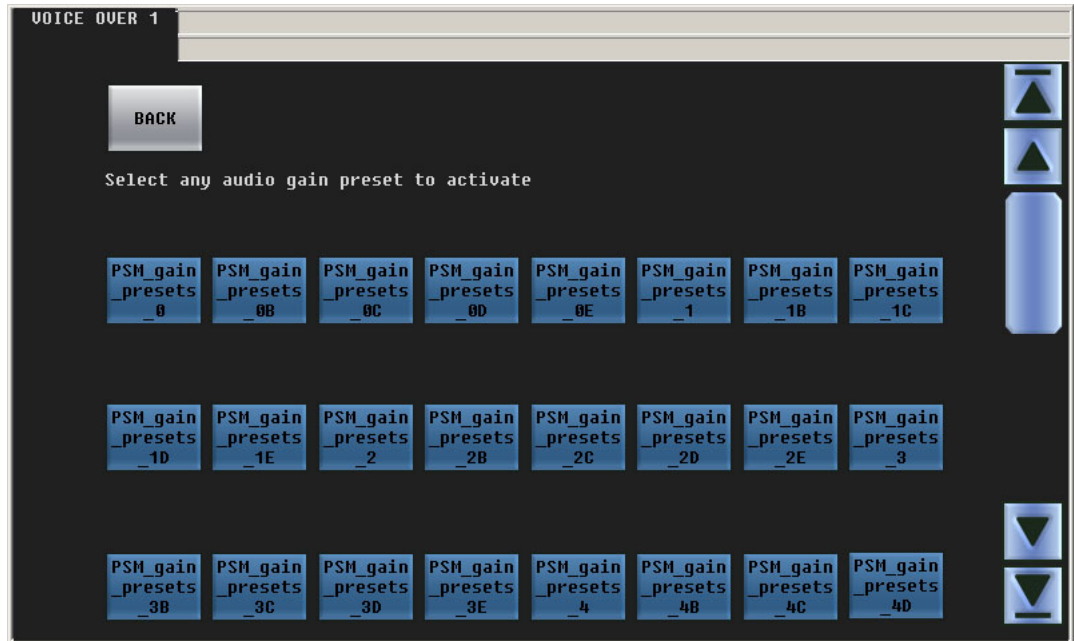
A shuffle preset is a predefined configuration of the shuffle matrix such as you might define using the 'Shuffles' submenu. These presets are defined in the Imagestore 750 Configurator.

To choose a shuffle preset, click the blue button representing the desired preset. Scroll if necessary.

Shuffle presets are available for the program input audio menu, the preset input audio menu, the program output audio menu, and for both voice-over menus.

Gain Presets

This is the 'Gain Presets' sub-menu (of the Voice-Over menu):



A “gain preset” is a predefined set of 16 gain settings, such as you might define using the ‘Gains and Mutes’ submenu. These presets are defined in the Imagestore 750 Configurator.

To choose a gain preset, click the blue button representing the desired preset. Scroll if necessary.

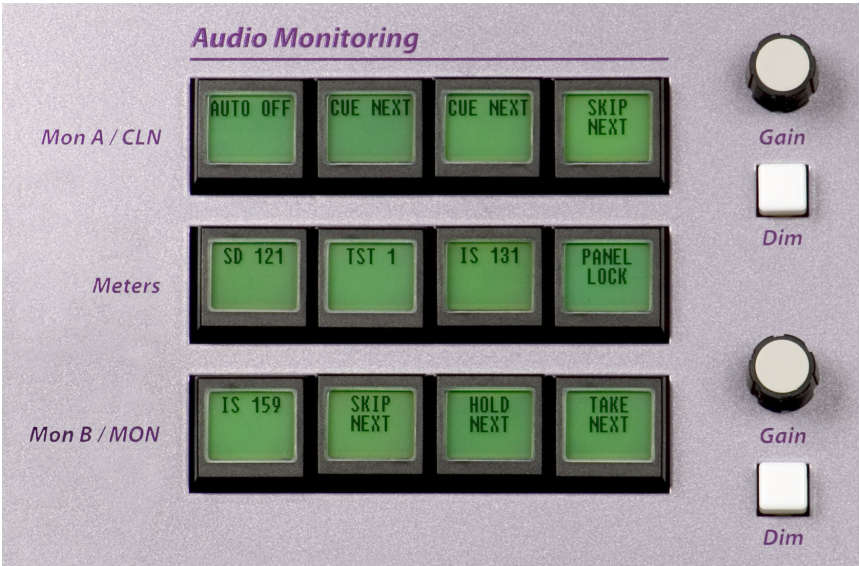
Gain presets are available for the program input audio menu, the preset input audio menu, the program output audio menu, and for both voice-over menus.

Working with Audio Monitors

Audio monitoring outputs are available on the CLN (clean-feed) and MON (monitor) outputs of the Imagestore 750 which provide clean and monitor video outputs respectively.

There are several taps for the CLN and MON video output and there are several taps for the audio as well.

The monitor levels section of the iMC-Panel-300 has two knobs:



You can adjust the gain of the CLN audio output simply by turning the upper knob. You can adjust the gain of the MON audio output simply by turning the lower knob.

The monitoring taps will have been selected during the configuration of the Imagestore 750.

- ▲ The array of 12 buttons in this section of the panel is not related to audio monitoring. The buttons are simply customer-configurable buttons.

Audio Monitor Menu

Figure 5-5 shows the panel's 'Audio Monitor' menu:

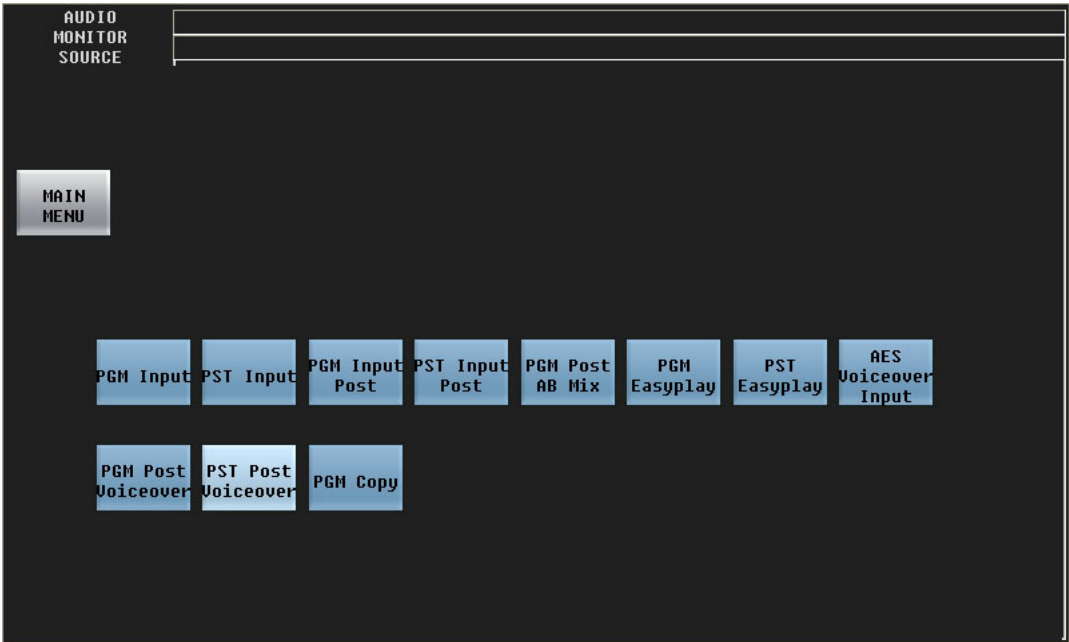


Fig. 5-4: Audio Preview Menu

This menu allows you to select the source for the audio that is directed to the Imagestore 750's monitor output.

Audio Preview Menu

Figure 5-5 shows the panel's 'Audio Preview' menu:

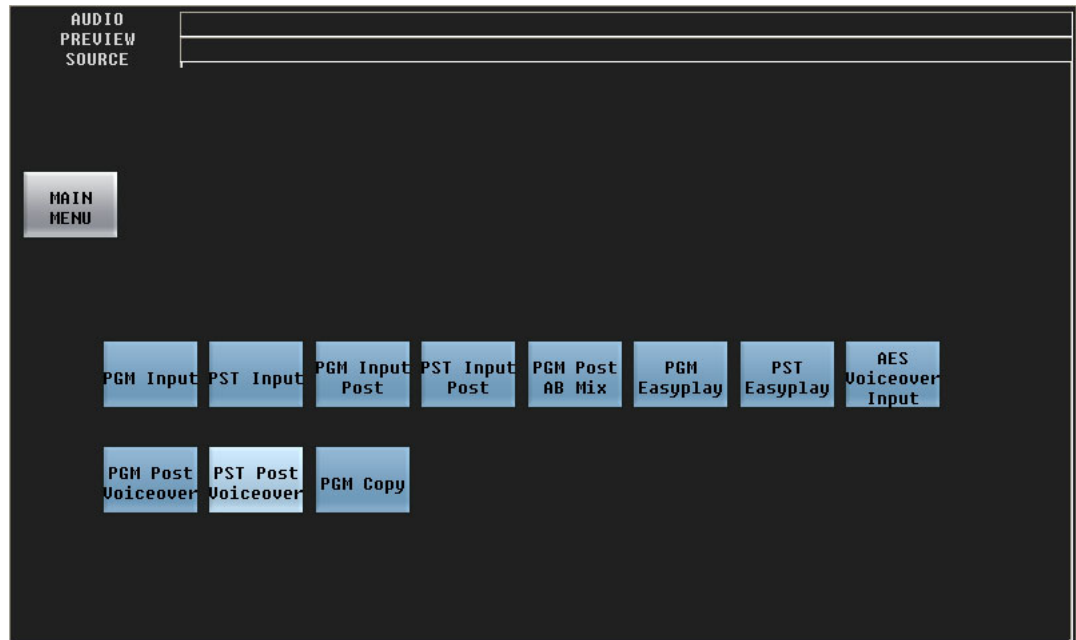


Fig. 5-5: Audio Preview Menu

This menu allows you to select the source for the audio that is directed to the Imagestore 750's preview output.

Buttons

The 'Audio Monitor' menu and the 'Audio Preview' menu have a certain number of buttons that depend on the configuration of the Imagestore 750 under control.

There are 11 source choices illustrated above:

PGM Input	PGM Input Post	PGM Easyplay	PGM Post Voiceover
PST Input	PST Input Post	PST Easyplay	PST Post Voiceover
PGM Copy	PGM Post AB Mix	AES Voiceover Input	

The number of sources and the names of the sources are determined by the person who configured the Imagestore 750. Consult your management if you need to know what the sources mean.

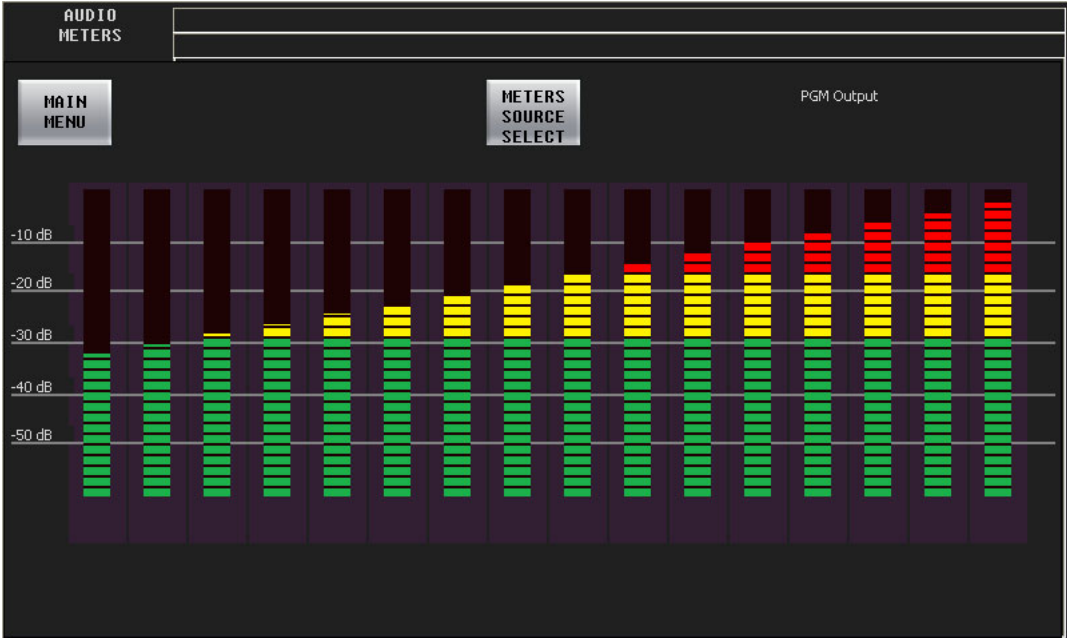
The 'Main Menu' button returns you to the main menu.

If the required audio component is absent, the menu displays a message similar to the following:

Waiting for configuration information, or this audio output multiplexer is not defined in the audio template or Configurator audio graph.

Working with Audio Meters

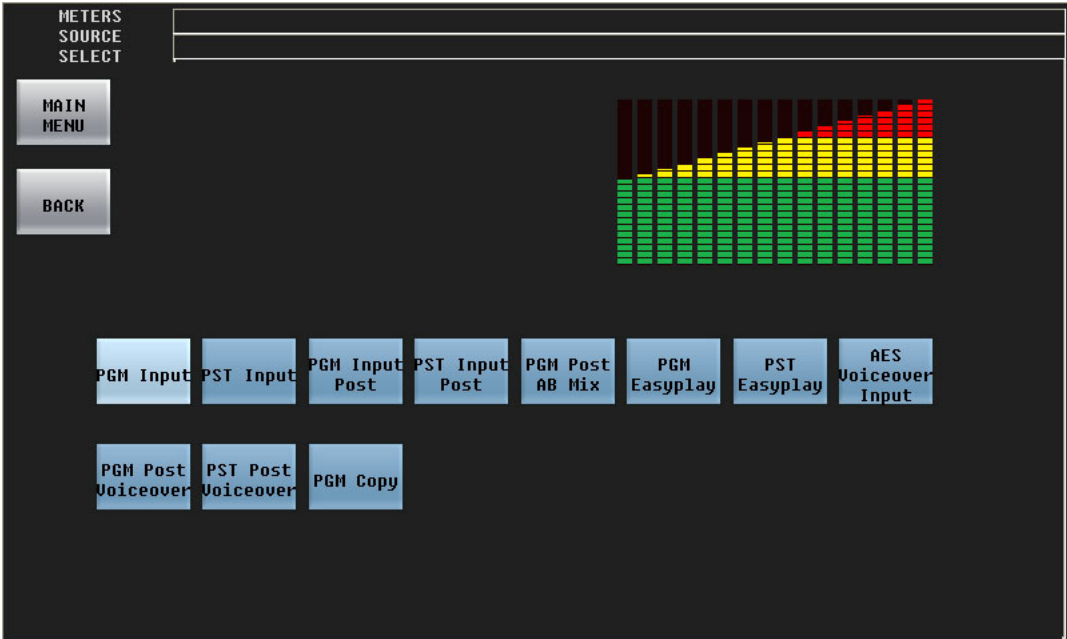
The iMC-Panel-300 provides an audio metering display. It shows the 16 levels of the selected audio metering source in real time:



The name of the selected audio source is displayed at the upper right.

Touch the 'Main Menu' button to return to the main menu.

Touch the 'Meters Source Select' button to access the 'Meters Source Select' menu:



There are 11 sources illustrated here. The number of sources and the names of the sources are determined by the person who configured the Imagestore 750. Consult your management if you need to know what the sources mean.

Press the 'Back' button to return to the 'Audio Meters' menu.

Press the 'Main Menu' button to return to the 'Audio Meters' menu.

If the required audio component is absent, the menu displays a message similar to the following:

```
Waiting for configuration information, or this audio
output multiplexer is not defined in the audio template or
Configurator audio graph.
```

Working with Audio Levels

The panel has two audio level knobs:



They are labeled:

- Duck Level
- Gain / Voice-Over Preset

Duck Level Knob

Use this knob to adjust the "duck level" of program audio. Refer to the *Imagestore 750 Reference Manual* for the definition of "duck level."

If no over button is selected (on the program bus), turning the knob has no effect.

This knob adjusts the "duck level" in increments of 0.5 dB.

You can change the duck level in the 'Voice-over 1' menu or the 'Voice-over 2' menu. There are separate duck levels for each VO.

Gain/Voice-Over Preset Knob

Use this knob to adjust the over level.

This knob adjusts the audio level in increments of 0.5 dB.

You can change the over level in the 'Voice-over 1' menu or the 'Voice-over 2' menu. There are separate over levels for each VO.

Menus

There are 5 menus for working with audio levels:

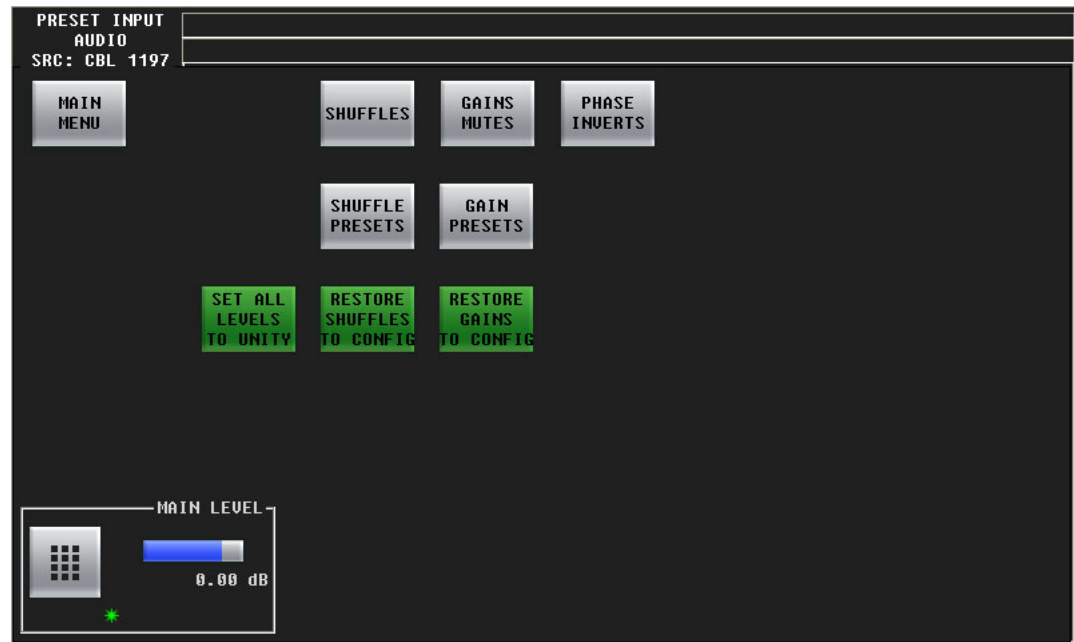
- Program input audio and preset input audio—the Imagestore 750's audio *inputs*.
- Program output audio—the Imagestore 750's audio *outputs*.

- Voice-over audio (1 and 2)—the Imagestore 750's voice-over *inputs*.

The menus all function the same way, although they affect different parts of the Imagestore 750.

- ▲ The program and preset audio inputs apply individually to main sources. You can save and restore audio settings for each source.

This is the 'Program Input Audio' menu:



The 'Preset Input Audio' menu is just like the 'Program Input Audio' menu.

The control at the bottom of the screen adjusts the master audio level. The 16 individual audio channels are affected by the main level.

To adjust the main level, either turn the knob associated with the green asterisk or touch the keypad icon to access a large keypad with which to enter a number.

The 'Main Menu' button returns you to the main menu. The 'Set All Levels to Unity' button sets all 16 audio channels to unity gain. The other buttons access other sub-menus.

The 'Restore...' buttons restore your audio settings (shuffle or gain) to what was in the Imagestore 750's configuration.

Gains and Mutes

This is the 'Gains and Mutes' sub-menu:



Each of the 16 audio channels has a mute button. Touch the mute button to mute or un-mute the channel. When the channel is muted, the button is amber.

Each of the 16 audio channels has a keypad icon. Touch the keypad icon to access a keypad in which you can enter a numerical value.

Either the top row of 8 buttons or the bottom row of 8 buttons can be associated with the 8 knobs. To choose the top row, touch the top row. To choose the bottom row, touch the bottom row. You can thus adjust the gain of each channel by turning its knob.

The gain range is -99.5 dB to $+28.0$ dB. The gain of individual channels is affected by the master gain of the program input.

Press the 'Shuffles' button to go to the 'Audio Channel Shuffle' sub-menu.

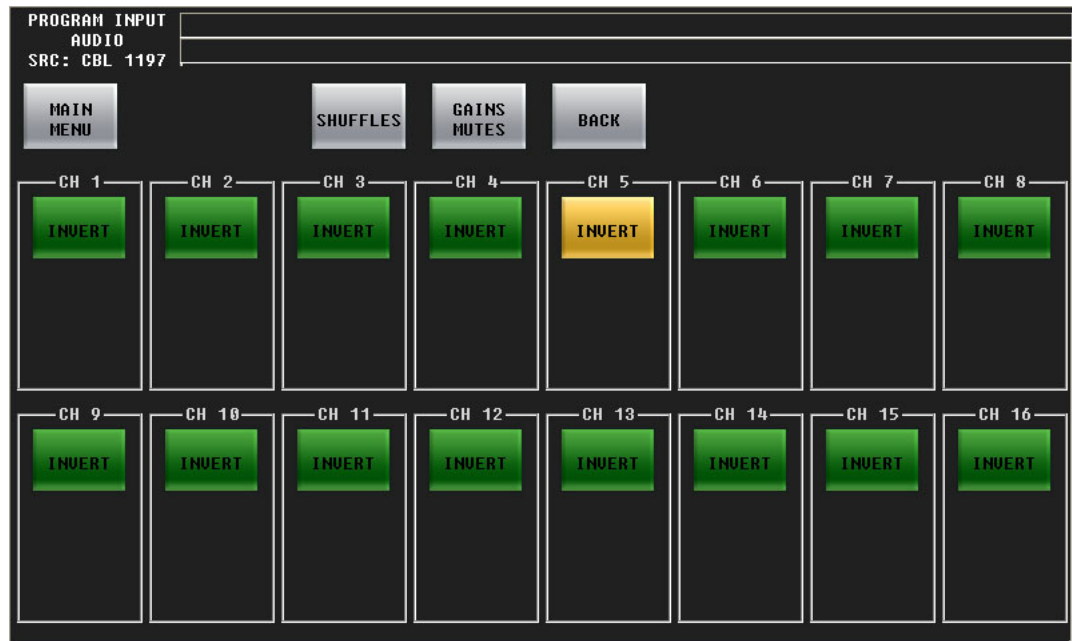
Press the 'Phase Inverts' button to go to the 'Phase Inverts' sub-menu.

Press the 'Back' button to return to the parent-level menu.

Press the 'Main Menu' button to return to the main menu.

“Phase Inverts”

This is the 'Phase Inverts' sub-menu:



When the audio channel is inverted, its PCM values are multiplied by -1 .

▲ The term *phase* is a misnomer. Phase has nothing to do with signal inversion.

Touching an invert button either inverts or un-inverts the audio samples. When the button is amber, the samples are inverted. When the button is green, the samples are normal.

Press the 'Shuffles' button to go to the 'Audio Channel Shuffle' sub-menu.

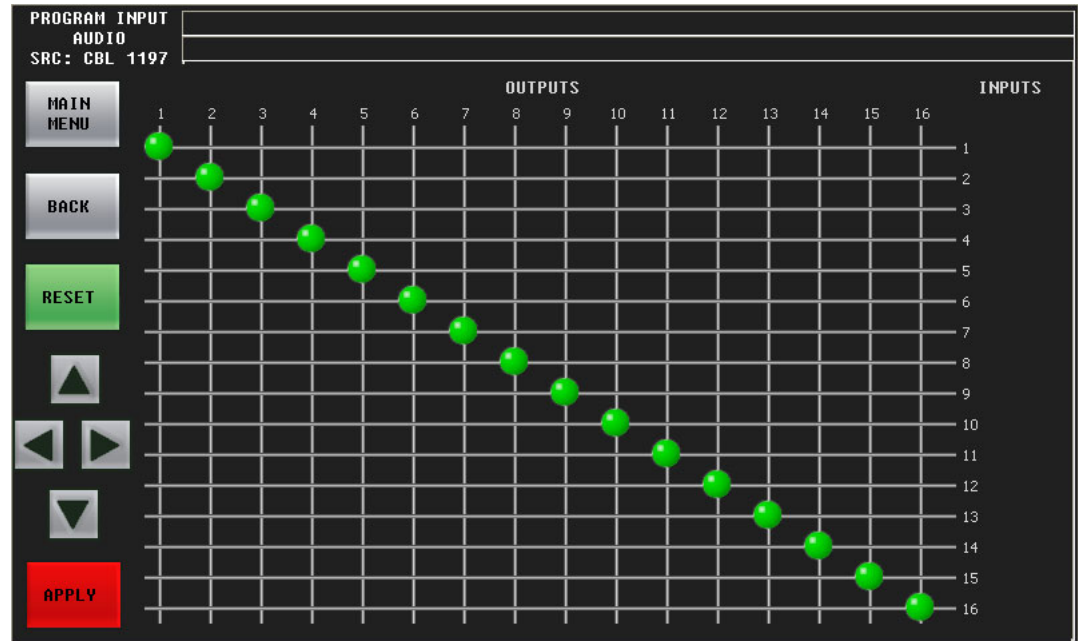
Press the 'Gains Mutes' button to go to the 'Gains and Mutes' sub-menu.

Press the 'Back' button to return to the voice-over menu.

Press the 'Main Menu' button to return to the main menu.

Audio Channel Shuffle

This is the 'Audio Channel Shuffle' sub-menu:



See [Shuffling Audio Channels](#), next, for information.

Press the 'Back' button to return to the audio menu.

Touch the 'Main Menu' button to return to the main menu.

Shuffling Audio Channels

There is an 'Audio Channel Shuffle' sub-menu under the following menus:

- PGM In Audio
- PST In Audio
- Voice-Over 1
- Voice-Over 2

Pressing the 'Shuffles' button takes you to an 'Audio Channel Shuffle' menu. The 4 shuffle menus are functionally identical.

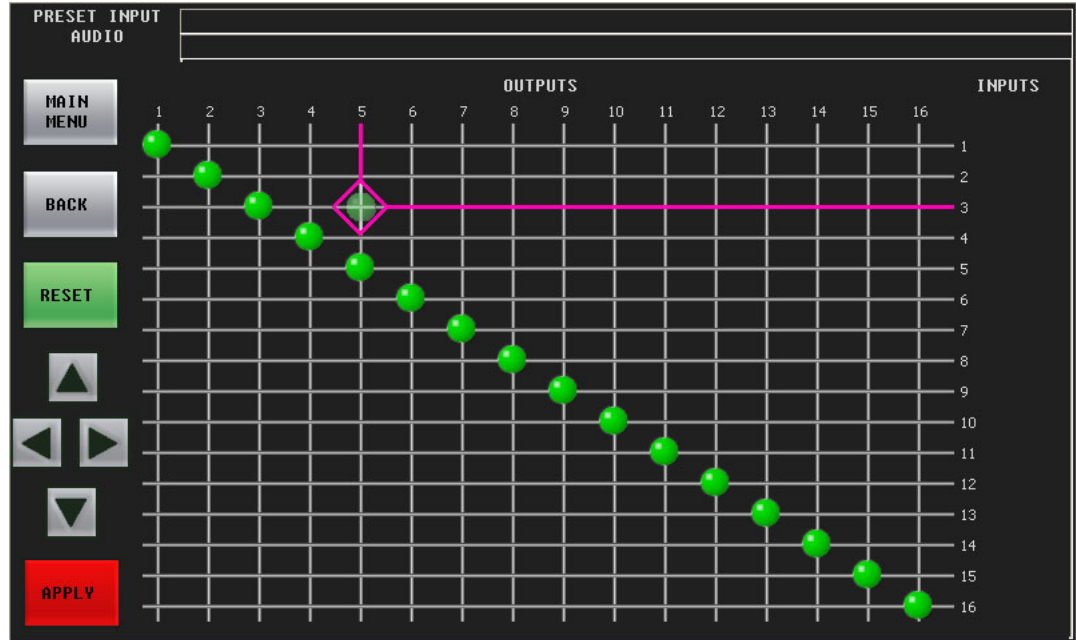
The shuffle menu presents a 16x16 crosspoint matrix. Inputs (rows) are mapped to outputs (columns) with a green circle.

Performing a Shuffle

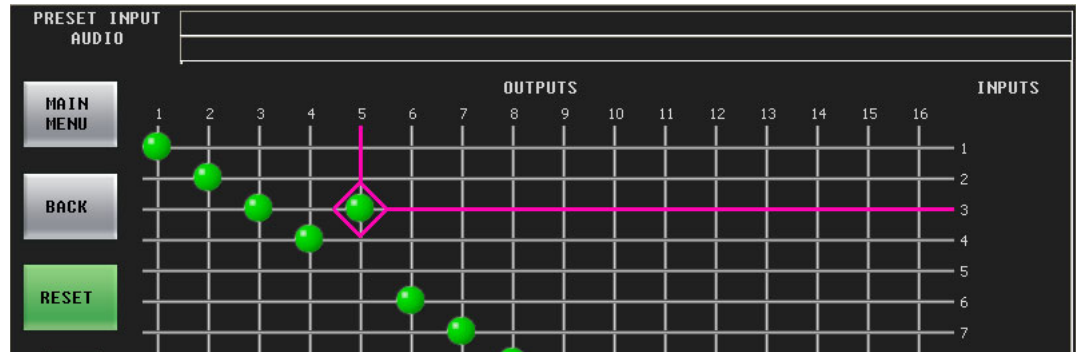
Although it is not immediately evident how to perform a channel shuffle, it is not difficult. You can use either the joystick or the arrow buttons in the lower left part of the menu.

To initiate a shuffle (when the shuffle menu is displayed), either move the joystick or press one of the arrows. A red reticle (or crosshair or cursor) appears that you can either drag with the joystick or position with the arrow buttons.

Position the reticle on the crosspoint you want. In this illustration, the reticle is on the column for output 5 and will change the input for that column from 5 to 3. A faint circle appears at the new location:



Now press the red 'Take' button (or press the left button on the joystick):



The faint circle turns solid.

You can now move the reticle to select another crosspoint to change.

It is possible to route a single input to multiple outputs. It is not possible to route multiple inputs to a single output.

Press 'Reset' to restore the default channel configuration (which is diagonal).

Press 'Back' to return to the parent-level menu.

Press 'Main Menu' to return to the main menu.

Please note:

- Shuffle changes occur immediately, letting you "hot swap" audio assignments directly on program output.
- You can save audio channel settings (including shuffles) in the Imagestore 750 or restore audio channel data from the Imagestore 750.

Working with Multiple Channels

You will probably find one or more channel buttons in the configurable button sections of your iMC-Panel-300. (A channel is an Imagestore 750, LGK-3901, DSK-3901, ISM-3901, or an MCE or an MCPM.)

There are 3 types of channel buttons:

- Channel selection.
- No channel.
- Gang channels.

Channel selection can also be performed in the 'Channel Select' menu. However, selecting no channels or ganging channels requires the use of channel buttons. Channel selection is affected by "automatic gang mode." See the discussion of automatic gang mode, following.

You can access the 'Channel Select' menu either by pressing a 'Channel Select' menu button or by touching the 'Channel' button in the main menu.

When channels are ganged, one channel is the "main" channel and other channels are "followers." The operations you perform are executed on the main channel and are replicated on the followers.

▲ Ganged channels must either be all Imagestore 750s or a combination of MCEs and MCPMs.

A 'No Channel' button can be used to take the panel out of service for maintenance.

A 'Channel Status' button (normally white) displays the name of the currently selected channel and turns red when the channel is malfunctioning.

A 'Channel Control' button re-acquires the currently selected channel.

When you select a channel, all status and configuration parameters for the newly selected channel are downloaded to the panel. A channel change takes approximately one second (unless you are denied access to the channel). Buttons, main sources, video effect sources, transitions rates, and salvos can *all* change according to your specific channel configuration.

Channel changes can be programmed to trigger an NV9000 salvo. Consult your system administrator if you need to determine whether your channel selection buttons trigger salvos.

Channel Selection with Buttons

To change channels, press the button (in the configurable button section) for the channel that you want to control.

When you perform a channel change, the *new* channel button flashes red for an moment, indicating that the system has acknowledged the change request. When the channel is ready, the button goes high tally green, unless there is a problem in which case the button stays red.

Channel Selection in the Menu

Follow these steps to change channels in the 'Channel Select' menu:

- 1 Press the 'Channel' button in the main menu to display the 'Channel Select' menu. The menu displays a list of channels. The currently selected channel is highlighted.
- 2 To select a channel, touch a list entry. You might have to scroll the list to find the entry you want. The channel change executes *immediately* although it takes approximately a second to complete.

When you perform a channel change, the *new* channel button flashes red for an moment, indicating that the system has acknowledged the change request.

If the channel you select is the default channel under automatic gang mode, the panel selects all the channels in the automatic channel gang. The multiple channel selection takes a few seconds.

No Channel Selection

To disconnect your panel from all channels, press a 'No Channel' button (in one of the configurable button sections). If you do not have a 'No Channel' button, you cannot do this.

The panel becomes partially "inert"—any button that controls a channel becomes disabled. Other buttons remain active, in particular, any channel selection buttons you have. The menus and menus also remains active.

To resume normal operations following a "no channel" period, select any channel.

Sharing Channels

Your panel can be configured to share or not to share channels with other panels.

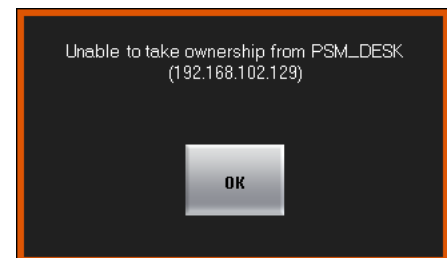
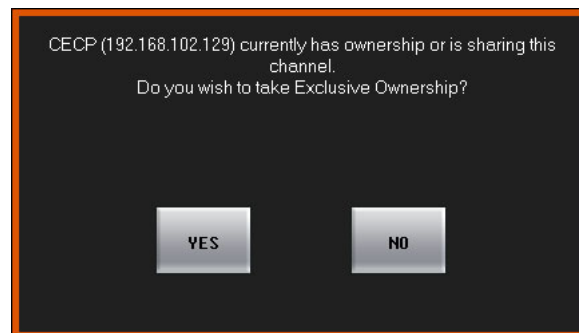
If your panel is not configured to share, an attempt to acquire the channel at an other panel can preempt your use of the channel. If the other panel has a higher priority than yours has, it will preempt you and take over the channel, and you will be notified of the fact.

Conversely, if you wish to preempt another panel, and have a higher priority than that panel, you can preempt the other panel.

If your panel is configured for sharing, it is possible for you to share a channel with other panels, unless some other channel that is not configured for sharing controls that channel.

Preemption

When your panel is not configured for sharing, if the channel (or one of the ganged channels) you want to control is in use, you will see either a permission message or a denial of access message:



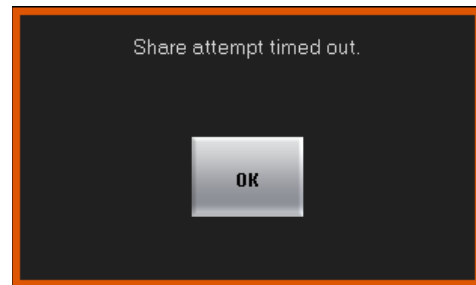
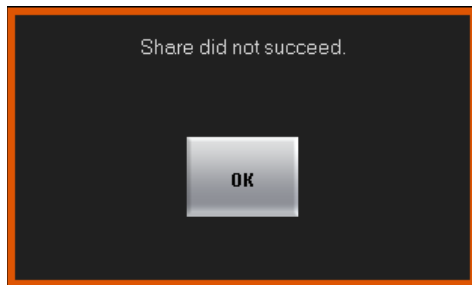
If you see a confirmation message, and you wish to preempt the other panel, press 'OK'. Otherwise press 'Cancel'.

If you see a denial of access message, press 'OK'. You may not acquire the channel. You can try again later, choose another channel, or negotiate with the other panel operator.

- ▲ If someone preempts you, your panel will immediately appear to “go dead.” What actually happens is the same thing that would happen if you pressed a ‘No Channel’ button. You will have to wait for the channel to become available again or switch to another channel.
- ▲ A panel can preempt another panel if it has been configured with a higher priority or in some cases, with the same or higher priority.

Sharing

When your panel is configured for sharing, if the channel (or one of the ganged channels) you want to control is in *exclusive* use (at a panel that does not share), you will see a failure message:



If the sharing attempt failed, your panel will revert to its previous state, control the channel it controlled prior to the sharing attempt.

Monitor Wall Re-Layout

Your panel can be configured so that a channel change triggers a monitor wall re-layout. Some or all of your channels (whether Imagestore 750s, MCEs, or MCPMs) can be set so that when they are selected, they cause the Kaleido-X multi-viewer driving the monitor wall to use a particular *room* and *layout* (defined for that Kaleido-X multi-viewer).

(Your panel might also have buttons that also trigger monitor wall changes.)

Working with a Monitor Wall

The master control system you are using can be set up to work with a monitor wall or a portion of a monitor wall. A monitor wall can display up to 24 sources from the master control system. The monitor can display the sources of the source group currently selected at your panel.

There are several points you should keep in mind:

- If you change the sources in a source group, those changes will be reflected at the monitor wall.
- The monitor wall can also display the program, preset, clean-feed, and monitor outputs of the currently selected Imagestore 750, and can display the aux output associated with that Imagestore 750.
- Your panel can be configured so that when you switch to a different channel, the monitor wall switches to the layout associated with the channel. Your panel can also have buttons with which you can change the monitor wall layout manually.

Different Imagestore 750s can be configured (and connected) differently and so can behave differently.

Working with the Aux Buttons

The aux/user button row comprises a number of main source buttons and some number of configurable function buttons. The main source buttons are exactly identical to the sources of the preset and program button rows. They control the router sources that can be routed to an auxiliary device such as a monitor.

The auxiliary device is optional.

If your master control system has an auxiliary device, simply press any main source button of the aux/user row to direct the source signal to the device.

'Aux Bus Follow'

Imagestore 750s in the master control system have an 'Aux Bus Follow' option. This option has 3 choices: 'none', 'PGM', or 'PST':

When the option is 'PGM', the aux bus "follows" the program bus. That means that whatever source you select on the program bus is also selected on the aux bus.

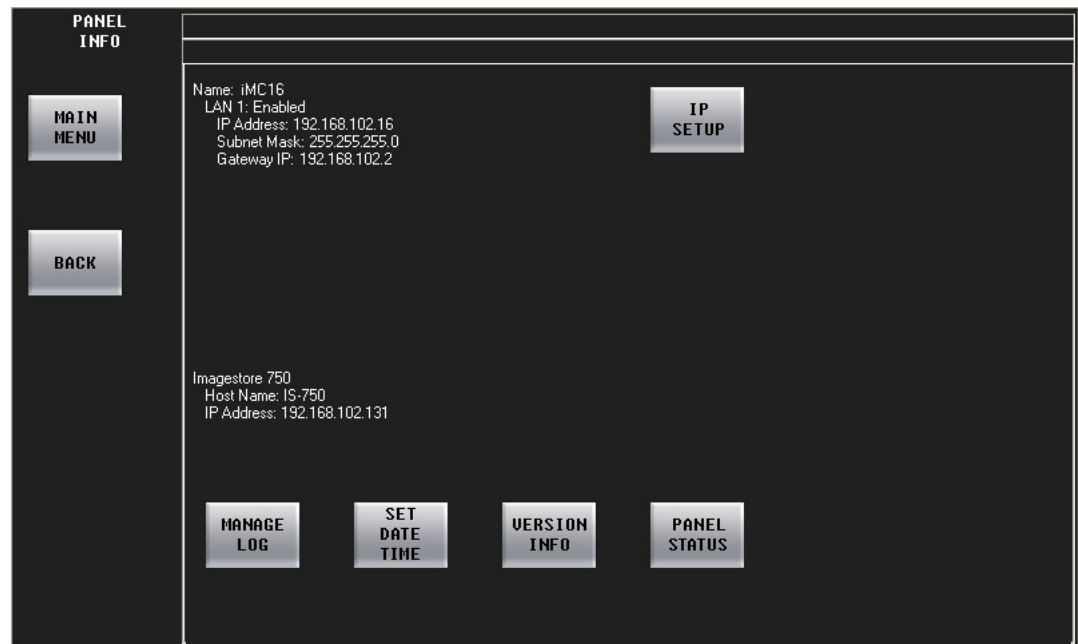
When the option is 'PST', the aux bus "follows" the preset bus and whatever source you select on the preset bus is also selected on the aux bus.

When the option is 'none', the aux bus does not "follow" either bus and operates normally.

Note that when the option is 'PGM' or 'PST', you can still use the aux buttons, normally, to switch sources to your aux output.

Using the Panel Menu

From the main menu, press 'Panel' to display the 'Panel Info' menu.



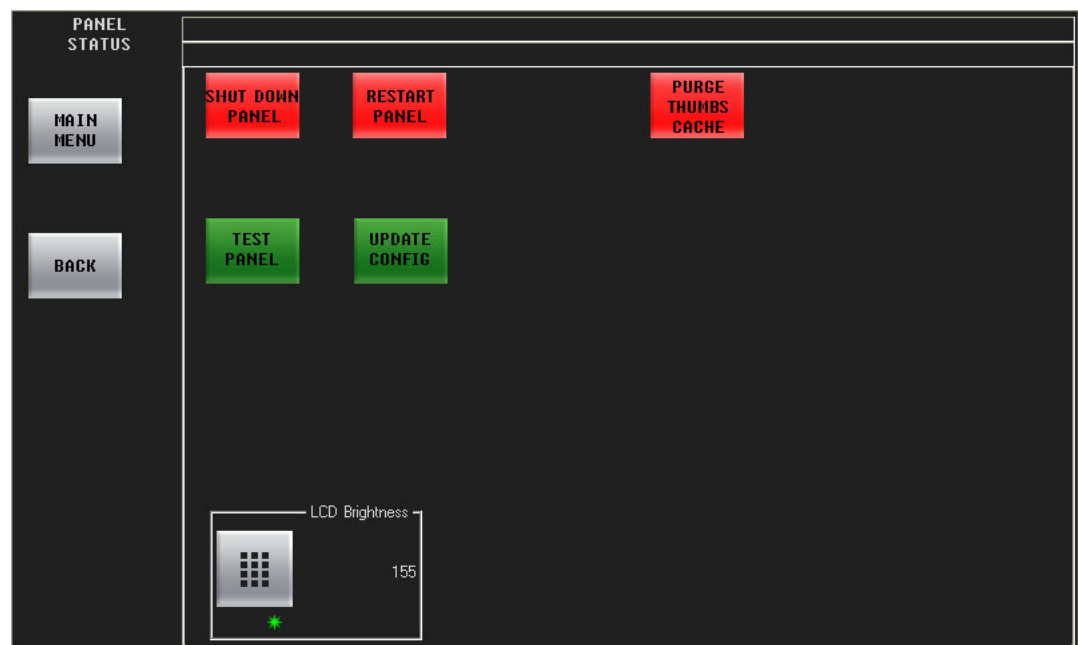
The Panel menu provides the following functions:

- Display the panel's IP address, subnet mask, and gateway address.
- Display the IP address of the currently selected channel.

- Change the IP address, subnet mask, and gateway address.
- View or clear the panel's log file.
- Set the date and time.
- Display the versions of internal software and firmware.
- Perform panel tests.
- Restart or shut down the panel.
- Adjust the brightness of the touchscreen.

Panel Status

From the main menu, press 'Panel' to display the 'Panel Info' menu. Then press 'Panel Status'.



Use the 'LCD Brightness' keypad or the associated menu knob to adjust the touchscreen's brightness as desired. The range of values is 40–255. The touchscreen will not become completely dark.

Pressing 'Update Config' causes the panel software to restart. 'Update Config' can be used to start the new configuration you have just written to the panel. The process takes a few seconds.

Pressing 'Restart Panel' causes a full, hard reboot. This is not recommended unless you are experiencing a severe problem or you are installing a new panel configuration. Automation (if present) will continue to operate any Imagestore 750s during this restart cycle. The process takes about a minute.

Pressing 'Shut Down Panel' causes the panel to stop completely. (You must cycle power to restart the panel following a shutdown.)

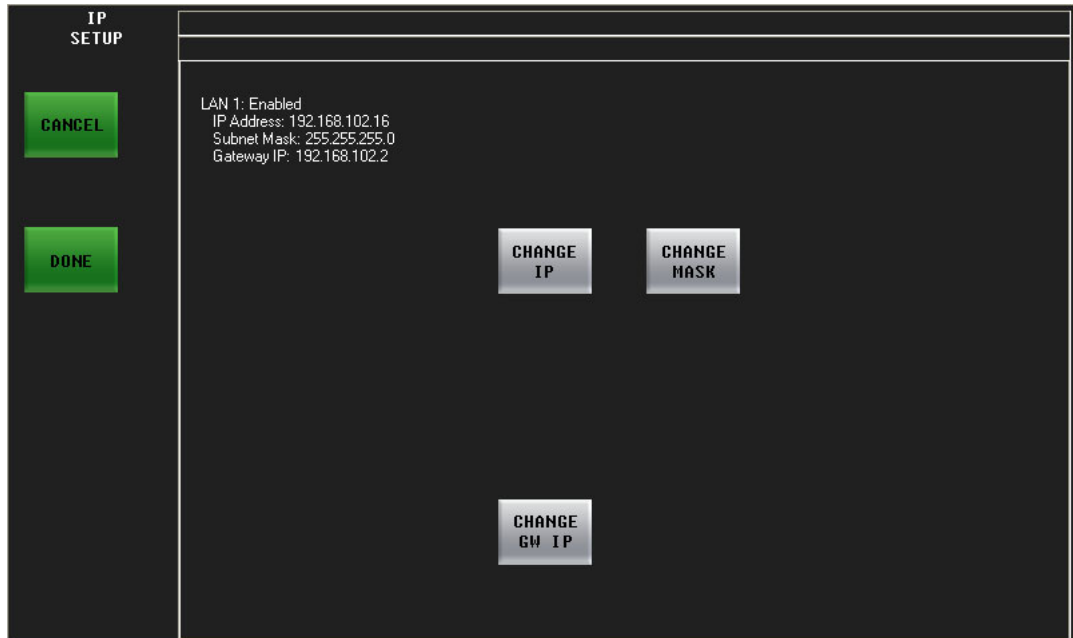
Pressing 'Purge Thumbs Cache' causes the panel to empty its cache of Intuition XG thumbnail images.

'Test' presents a sub-menu of tests, described in [Panel Test Sub-Menu](#) on page 102.

IP Address

Follow these steps to change the panel's IP address:

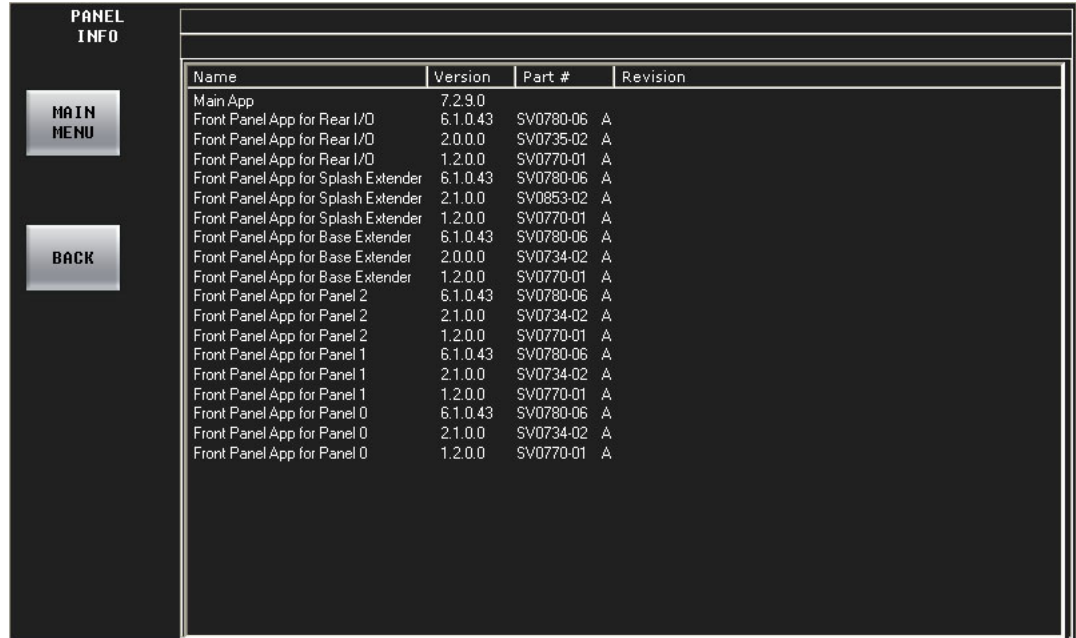
- 1 From the main menu, press 'Panel' to display the 'Panel Info' menu. Then press 'IP Setup'.



- 2 Press 'Change IP' to display the 'IP address' sub-menu. Use the keypads to enter or change the IP address.
 - 3 Press 'Change Mask' to display the 'Subnet Mask' sub-menu. Use the keypads to enter or change the subnet mask.
 - 4 Press 'Change GW IP' to display the 'Gateway IP address' sub-menu. Use the keypads to enter or change the IP address.
 - 5 In the keypad menu, press 'Done' to save the new IP address or press 'Cancel' to discard it. If you press 'Done', the menu will display a message that you must restart the panel to activate the new IP address: Press 'OK' in the alert to proceed. Press 'Cancel' to leave the IP address unchanged.
- ▲ Changing the IP address incorrectly can result in an inoperable system, although the problem can be corrected easily. This is usually the responsibility of the system administrator and done once and rarely thereafter.

View Version Information

From the main menu, press 'Panel Settings' to display the 'Panel Info' menu. Then press 'Version Info':



The screenshot shows the 'PANEL INFO' menu with a table of version information. The table has four columns: Name, Version, Part #, and Revision. The table lists 20 different applications and their corresponding version and part numbers.

Name	Version	Part #	Revision
Main App	7.2.9.0		
Front Panel App for Rear I/O	6.1.0.43	SV0780-06	A
Front Panel App for Rear I/O	2.0.0.0	SV0735-02	A
Front Panel App for Rear I/O	1.2.0.0	SV0770-01	A
Front Panel App for Splash Extender	6.1.0.43	SV0780-06	A
Front Panel App for Splash Extender	2.1.0.0	SV0853-02	A
Front Panel App for Splash Extender	1.2.0.0	SV0770-01	A
Front Panel App for Base Extender	6.1.0.43	SV0780-06	A
Front Panel App for Base Extender	2.0.0.0	SV0734-02	A
Front Panel App for Base Extender	1.2.0.0	SV0770-01	A
Front Panel App for Panel 2	6.1.0.43	SV0780-06	A
Front Panel App for Panel 2	2.1.0.0	SV0734-02	A
Front Panel App for Panel 2	1.2.0.0	SV0770-01	A
Front Panel App for Panel 1	6.1.0.43	SV0780-06	A
Front Panel App for Panel 1	2.1.0.0	SV0734-02	A
Front Panel App for Panel 1	1.2.0.0	SV0770-01	A
Front Panel App for Panel 0	6.1.0.43	SV0780-06	A
Front Panel App for Panel 0	2.1.0.0	SV0734-02	A
Front Panel App for Panel 0	1.2.0.0	SV0770-01	A

View or Clear the Panel's Log File

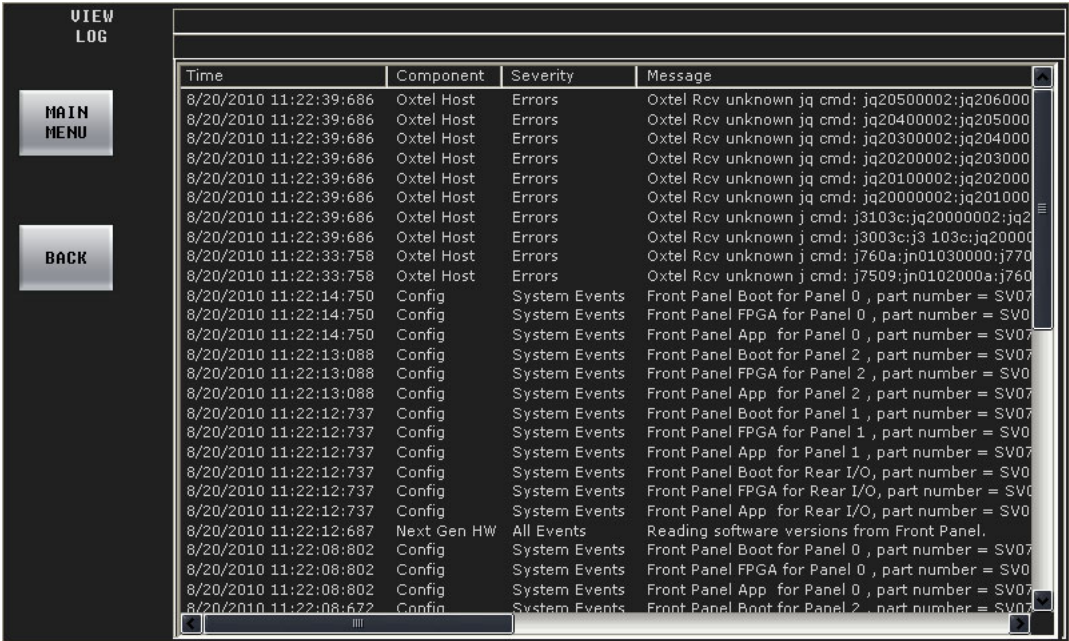
From the main menu, press 'Panel Settings' to display the 'Panel Info' menu. Then press 'Manage Log':



Press 'View Log' to see the log file or press 'Clear Log' to erase the log file.

You (or your system administrator) can read the log file contents into a file in your configuration PC's file system using the MCS Panel Configuration Editor.

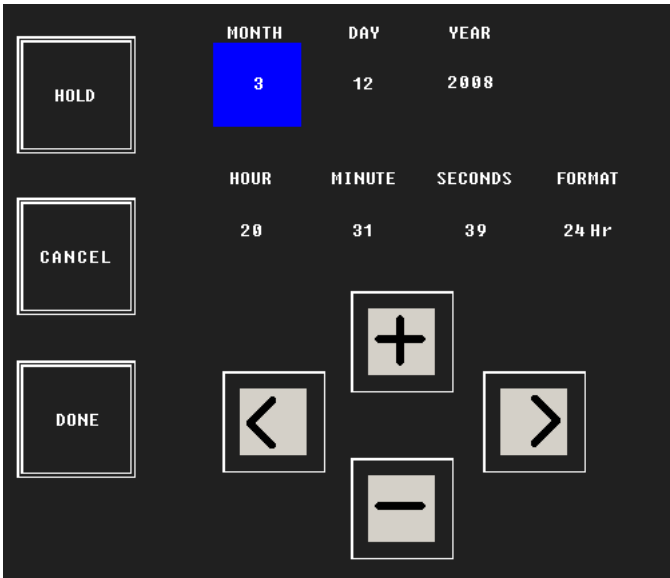
This is a sample of the log file display:



Time	Component	Severity	Message
8/20/2010 11:22:39:686	Oxtel Host	Errors	Oxtel Rcv unknown jq cmd: jq20500002;jq206000
8/20/2010 11:22:39:686	Oxtel Host	Errors	Oxtel Rcv unknown jq cmd: jq20400002;jq205000
8/20/2010 11:22:39:686	Oxtel Host	Errors	Oxtel Rcv unknown jq cmd: jq20300002;jq204000
8/20/2010 11:22:39:686	Oxtel Host	Errors	Oxtel Rcv unknown jq cmd: jq20200002;jq203000
8/20/2010 11:22:39:686	Oxtel Host	Errors	Oxtel Rcv unknown jq cmd: jq20100002;jq202000
8/20/2010 11:22:39:686	Oxtel Host	Errors	Oxtel Rcv unknown jq cmd: jq20000002;jq201000
8/20/2010 11:22:39:686	Oxtel Host	Errors	Oxtel Rcv unknown j cmd: j3103c;jq20000002;jq2
8/20/2010 11:22:39:686	Oxtel Host	Errors	Oxtel Rcv unknown j cmd: j3003c;j3 103c;jq20000
8/20/2010 11:22:33:758	Oxtel Host	Errors	Oxtel Rcv unknown j cmd: j760a;jn01030000;j770
8/20/2010 11:22:33:758	Oxtel Host	Errors	Oxtel Rcv unknown j cmd: j7509;jn0102000a;j760
8/20/2010 11:22:14:750	Config	System Events	Front Panel Boot for Panel 0 , part number = SV07
8/20/2010 11:22:14:750	Config	System Events	Front Panel FPGA for Panel 0 , part number = SV0
8/20/2010 11:22:14:750	Config	System Events	Front Panel App for Panel 0 , part number = SV07
8/20/2010 11:22:13:088	Config	System Events	Front Panel Boot for Panel 2 , part number = SV07
8/20/2010 11:22:13:088	Config	System Events	Front Panel FPGA for Panel 2 , part number = SV0
8/20/2010 11:22:13:088	Config	System Events	Front Panel App for Panel 2 , part number = SV07
8/20/2010 11:22:12:737	Config	System Events	Front Panel Boot for Panel 1 , part number = SV07
8/20/2010 11:22:12:737	Config	System Events	Front Panel FPGA for Panel 1 , part number = SV0
8/20/2010 11:22:12:737	Config	System Events	Front Panel App for Panel 1 , part number = SV07
8/20/2010 11:22:12:737	Config	System Events	Front Panel Boot for Rear I/O, part number = SV0
8/20/2010 11:22:12:737	Config	System Events	Front Panel FPGA for Rear I/O, part number = SV0
8/20/2010 11:22:12:737	Config	System Events	Front Panel App for Rear I/O, part number = SV0
8/20/2010 11:22:08:802	Next Gen HW	All Events	Reading software versions from Front Panel.
8/20/2010 11:22:08:802	Config	System Events	Front Panel Boot for Panel 0 , part number = SV07
8/20/2010 11:22:08:802	Config	System Events	Front Panel FPGA for Panel 0 , part number = SV0
8/20/2010 11:22:08:802	Config	System Events	Front Panel App for Panel 0 , part number = SV07
8/20/2010 11:22:08:672	Config	System Events	Front Panel Boot for Panel 2 , part number = SV07

Set Time and Date

From the main menu, press 'Panel' to display the 'Panel Info' menu. Then press 'Set Date Time'. The Time and Date menu appears:



This menu has 3 fields for date and 4 fields for time. Touch the left or right arrow buttons to select the field you want to modify. When you have selected a field, press the "+" or "-" buttons to change the value.

Press the 'Hold' button to freeze the time values. Doing this might help you synchronize to another clock. Release the hold at the moment you want the clock to start again.

Press 'Cancel' to discard your changes and return to the 'Panel Info' menu.

Press 'Done' to save your changes and return to the 'Panel Info' menu.

Fade to Black

A 'Fade to Black' button is a toggle: press it once to fade program video to black. Press the button again to fade up from black to normal program output.

The FTB and FTS rates are pre-configured in the Imagestore 750. You cannot change them.

- ▲ When the Imagestore 750 has faded to black/silence, the FTB and FTS buttons of the main menu are highlighted in red.

Fade to Silence

A 'Fade to Silence' button is a toggle: press it once to fade program audio to silence. Press the button again to fade up from silence to normal program output.

The FTS rate is pre-configured in the Imagestore 750. You cannot change it.

- ▲ When the Imagestore 750 has faded to silence, the FTS button of the main menu is highlighted in red.

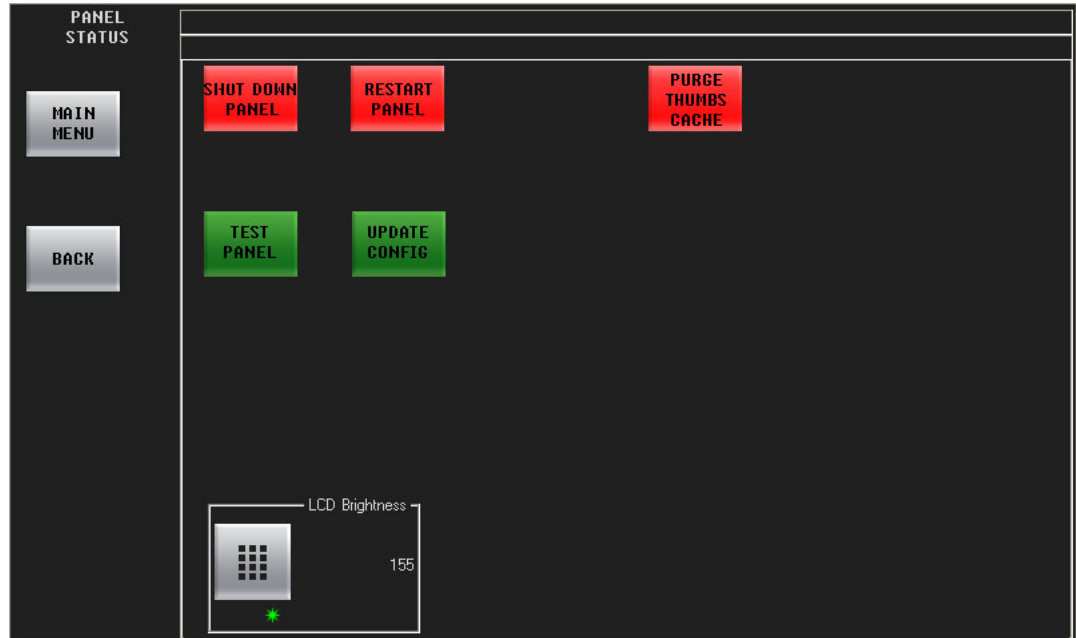
Updating Configuration Settings

You (or your system administrator) can create new iMC-Panel-300 configurations and then *update* the iMC-Panel-300 accordingly. The configuration software is *MCS Panel Configuration Editor*.

Refer to the *MCS Panel Configuration Editor User's Guide* for configuration instructions.

Panel Startup and Shutdown

To shutdown or restart the panel, press 'Panel' in the main menu to go to the 'Panel Info menu. Then go to the 'Panel Status' sub-menu:



Choose 'Shut Down Panel' to perform a clean shut down. You must later cycle power to restart the panel.

▲ **Warning:** never just shut off power. You risk damage to the panel's flash memory.

Choose 'Restart Panel' to restart the panel.

Please note:

- When the panel is starting up and shutting down, all buttons and knobs are disabled and various buttons will cycle on and off.
- While the panel is shutting down, it displays a shutdown message.
The front row of buttons on the panel give a 'Shutdown Complete' message when it is safe to cycle power.
- While the panel is starting up, it displays a startup message. When the panel has finished starting up, it automatically attempts to connect to its default channel.

6

Misc. Topics

Chapter 6 provides the following:

Topics

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Notes

Alarms

The iMC-Panel-300 produces two levels of alarm output:

- Major alarm:
 - A failure of any circuit board.
 - Failure of both power supplies.
 - A detected failure of an attached transition lever arm.
- Minor alarm:
 - Failure of one power supply.
 - Fan failure or over temperature.

The alarm outputs appear on the GPI/Alarm connector on the rear of the panel. The alarm outputs are SPDT relay terminals (NC, NO, COM) as are the GPI output terminals on the connector. What the alarm relays operate, if anything, is determined by the customer.

Specifications

Electrical

AC Power 90–130/180–250VAC, 50/60Hz, auto ranging. Two connectors, IEC filtered.
Power Consumption 75 watts maximum.
Regulatory UL listed and CE compliant.

Mechanical

Dimensions 28.25" W × 20.14" D × 6.96" H (717.6mm×511.6mm×176.8mm).

Control Inputs and Outputs

Ethernet Ports:

10/100baseT, NV5100MC network.

DB15 (CP AUX) connector for the optional Transition lever Arm.

DB25 (GPI/Alarm):

GPI inputs: 2, optically isolated, level-sensitive TTL.

GPI and alarm outputs: 2 (relays), 3 terminals: COM, NC, and NO.

Power applied to the inputs can be from 5 to 24 VDC, and less than 30 mA. Typically, 5 V at 1 mA.

Loads for the outputs can be larger:

Max current: 1 A

Max voltage: 125 VAC, 110 VDC.

Max capacity: 62.5 VA, 33 W.

Rated loads: 1 A at 30 VDC; 0.3 A at 110 VDC; 0.5 A at 125 VAC.

Drawings

The following drawings identify features and provide overall and critical dimensions.

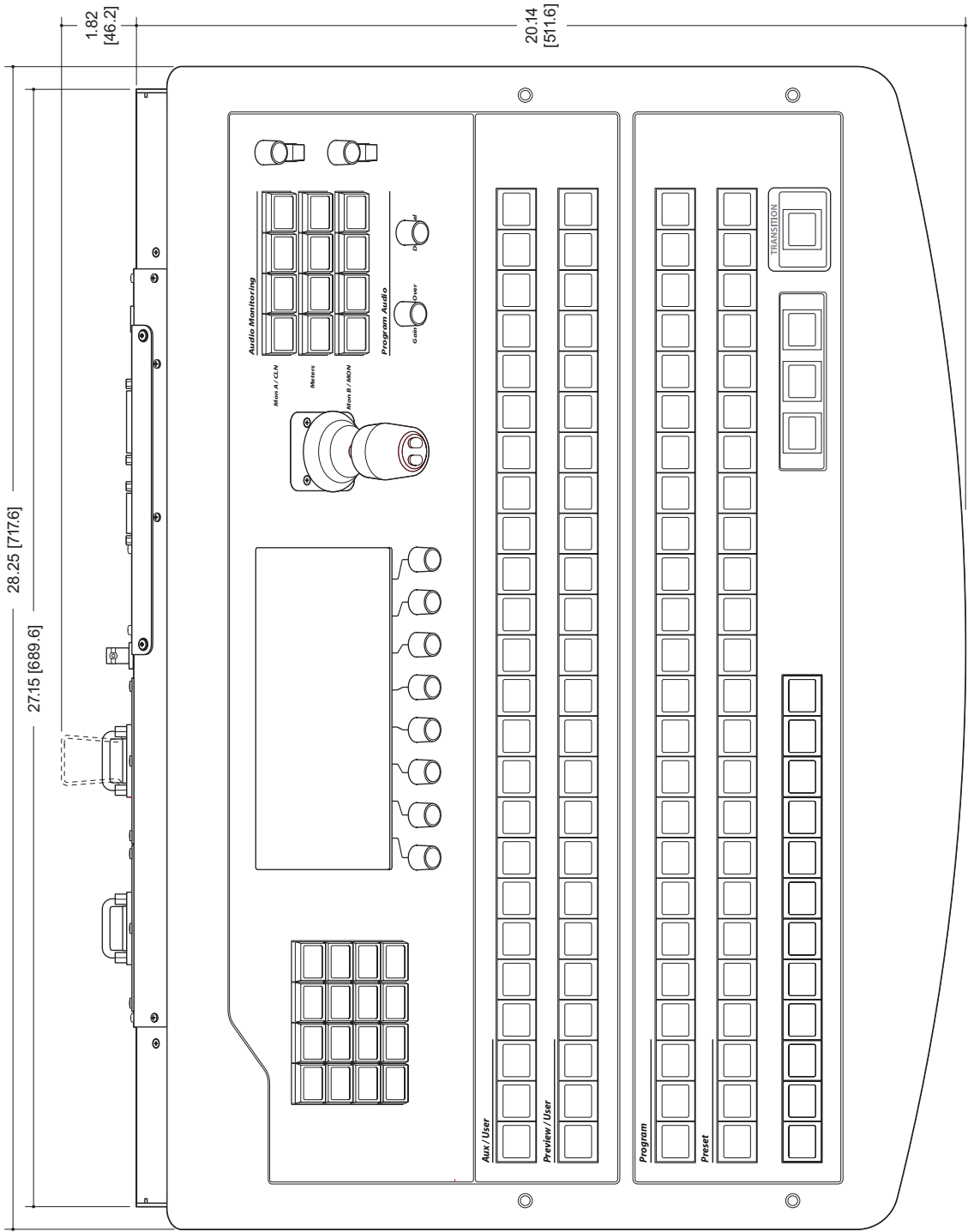


Fig. 6-1: iMC-Panel-300, Top View

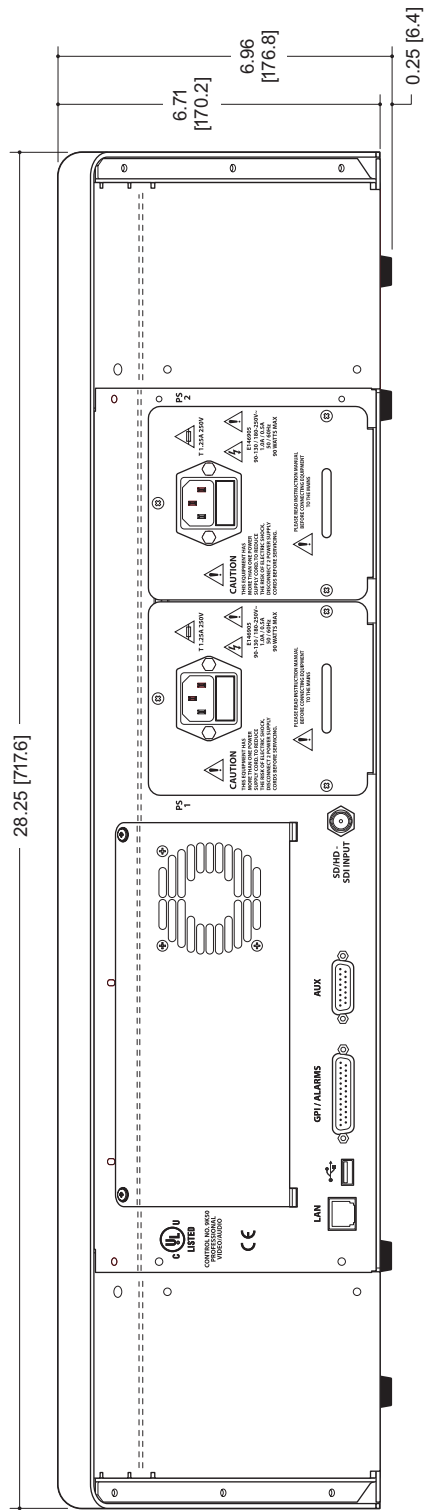


Fig. 6-2: iMC-Panel-300, Rear View

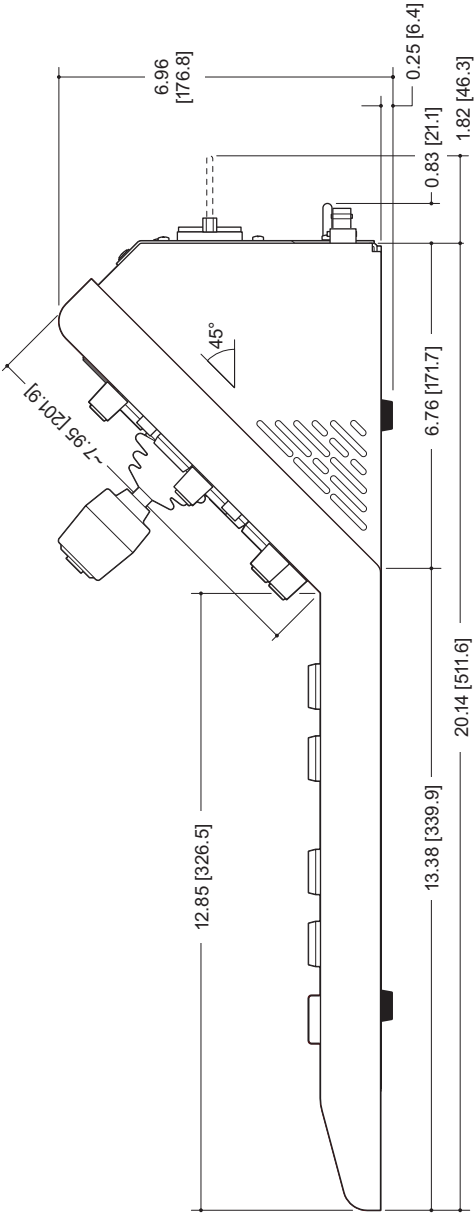


Fig. 6-3: iMC-Panel-300, Right-Side View

7 Glossary

Channel	Definition 1: A single Imagestore 750, MCE or MCPM (and, specifically, its program output). Definition 2: One of 16 audio channels.
GPI	General-purpose interface. The iMC-Panel-300 has 2 GPI inputs and 2 GPI outputs. You can assign a panel-specific GPI output to a configurable control panel button. (GUIs do not have panel-specific GPIs.)
Intuition XG	Intuition XG is a combination of a graphics processor and Xmedia software.
Key, Keyer	A process that overlays a masked image — the <i>key</i> — on the program. A key comprises one or two video sources: fill and (usually) a key. The key image masks the fill image. If the keyer uses only a fill source, the key is derived from the luminance of the fill image.
Self key	A process in which a keyer uses the fill to generate its own key (mask).
XG clip, XG media clip	A term used in this document to refer to one of the video and audio sequences stored in, and played by, the Intuition XG processor. An XG clip is a programmed composition of video, static and animated graphics, audio, and text (which can be derived from live data).
XG Dash- board	Configuration tool for Intuition XG.
XMedia	A collection of configuration and creative software used with Intuition XG.
Xbuilder	“Template population” and “promo timeline control” software for Intuition XG.
XPlay	A “media event sequencer” used to configure the Intuition XG and to manage clips. Xplay must be running on the Intuition XG processor for correct operation under master control.
Xstudio	“Template creation” software for Intuition XG.

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