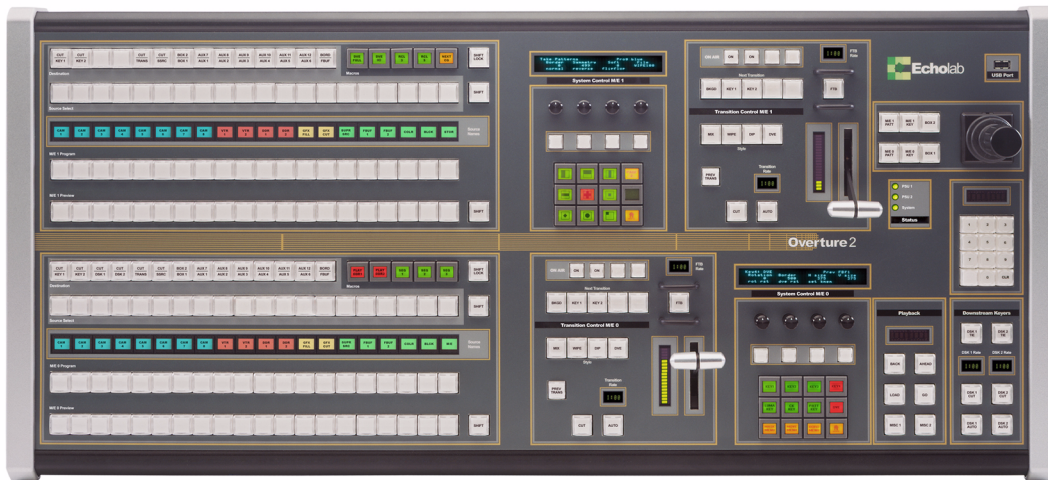




Overture2SD

Video Production System



USERMANUAL

August 2008

1-095-0900 Rev 2

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i PURPOSE & ORGANIZATION

i.1 Purpose of this Manual

This manual provides instructions for installing and operating the Overture production switcher. It also includes specifications, contacts for services and support, and warranty information.

i.2 Manual Organization

This manual is organized into several chapters. Below is a summary of each chapter.

- **Installation** Detailed connection and installation.
- **Startup** Turning on the switcher for the first time.
- **Overview, Controls, & Menus** Panel & Chassis Overview
- **Configuring Your Switcher** Using configuration tools.
- **Transitions** Basic switcher transitions.
- **Adjusting Transition Rates**
- **Look Ahead Preview** Next Transition workflow.
- **Using the Frame Buffer** Storing and capturing images.
- **Using Colorizers**
- **SuperSource** Using this powerful next generation tool.
- **Graphic Wipe** Using the advanced DVE features.
- **Keying** Using keyers for layered video effects.
- **Aux Mapping**
- **Graphics Utility Tool**
- **SequenceEditor** Creating, editing, and using sequences.
- **Conductor** The ultimate Overture enhancement
- **Warranty**
- **Updating Firmware** Updating your firmware.
- **Technical Terms & Abbreviations**
- **How To Build A Shaped Key** Step-by-step How To for Photoshop CS3E
- **Specifications** Technical and operational specifications
- **Troubleshooting IP** Hints and steps to fixing an IP issue.

i.3 Conventions Used

Within this manual there are several styles and layouts used to help the reader differentiate between differing types of information. Below are examples of these styles, and an explanation of what each means.

WARNING

Warnings alert the reader to important, not-to-be-forgotten, critical details directly relevant to the surrounding text.

NOTE:

Notes provide helpful tips or hints.

IMPORTANT:

Important Notes provide instruction or details relevant to instructions included in the surrounding text.

- **Important Words** are bold.
1. Steps are presented in this style.

ii INSTALLATION

CAUTION:

Contains hazardous live voltages. Only trained service personnel may open the chassis or panel enclosure. Disconnect all power sources before opening chassis door or front panel enclosure.

IMPORTANT:

The chassis and front panel have independent sources of power (Universal input: 110-220 VAC, 50/60Hz)

1. System must be installed in a well-ventilated area on a firm stable surface, or securely rack-mounted. Ensure that all legends and typing is legible in an upright fashion.
2. Ensure installed programmed CompactFlash Card is in place before booting system.
3. On the back of the switcher chassis is a small switch named "Mode." Set the "Mode Switch" to zero ('0').
4. Connect reference generator to Genlock or set to internal.

IMPORTANT:

5. Connect panel to chassis as follows, under the "Panel" heading:
 - Panel TX0 to Chassis RX
 - Panel RX0 to Chassis TX

NOTE:

The chassis and panel are connected using two 75-ohm coax cables (not supplied) connected to the RX (receive) and TX (transmit) connectors; RX (Panel) connects to TX (Switcher), and TX (Panel) to RX (Switcher). The maximum separation is 300 meters.

6. Connect power to Chassis and Panel.

NOTE:

Power supplies for the chassis and panel are auto-sensing between 100 and 240 volts AC. Conditioned, un-interruptible power is strongly recommended.

ii.1 Configuring Inputs

ii.1.1 Configuring Analog Inputs

1. Using the Universal System Control, from the Home menu select I/O to go to the Input and Output selection menu.
2. Select INPUT Format. Select the analog source on the ME/0 preview bus.

3. Select an analog format from the options displayed on the LCD button menu:

CMP – Composite
 YC – Y/C, SVHS
 YUV – Component YCbCr
 RGB – Component RGsB

If you have floating framebuffers available, they will be selectable here.

4. Select FRAME SYNC to turn on the internal frame sync for this source. Using the internal Frame Sync allows for the use of asynchronous sources. The Frame Sync will add up to 1 frame of delay to the source.

ii.1.2 Configuring SDI Inputs

1. Using the System Control, from the Home menu select I/O to go to the Input and Output selection menu.
2. Select INPUT Format. Select the analog source on the ME/0 preview bus.

NOTE:

SDI is the only format choice and will be shown as the default selection. If you have floating framebuffers available, they will be selectable here.

3. Select FRAME SYNC to turn on the internal frame sync for this source. Using the internal Frame Sync allows for the use of asynchronous sources. The Frame Sync will add up to 1 frame of delay to the source.

ii.1.3 Saving Input Formats

Overture 2 automatically saves all Input/Output changes, and reloads them on reboot.

ii.2 Connecting Peripherals

1. Connect any serial port (RS-232) devices.
2. Connect any edit port (RS-422) devices.
3. Connect your Conductor or other Ethernet (RJ45) based devices.

NOTE:

The Ethernet connection is T-base 10/100 and can be configured for your network, or to create a network, using the Configuration Tools.

ii.3 Installing Configuration Tools

**If you have Conductor, Configuration Tools are already installed!
 See next section for Conductor Information.**

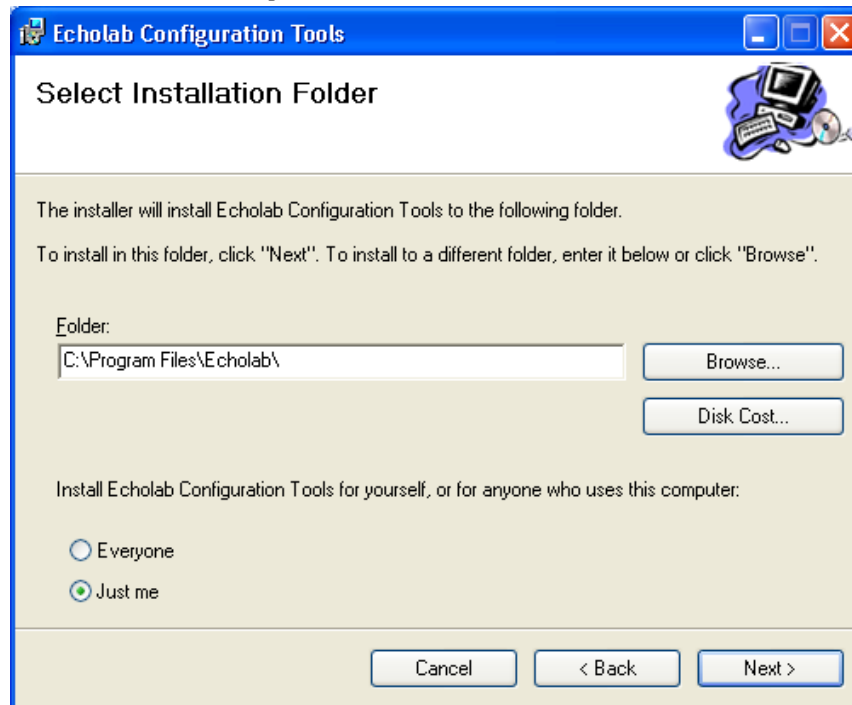
1. To use this program you must have Microsoft.NET Framework installed. If you do not have it, or do not know if you have it, visit <http://www.microsoft.com/downloads/> in order to download it.

2. **Insert** your **Echolab Configuration Tools CD**.
3. **Navigate** to the CD folder, find "**SETUP.MSI**", and double-click to **launch** the Echolab Conductor installation program.

NOTE:

If a Windows Security Warning appears, please click "Run" to allow installation to continue.

4. You will be greeted with a Welcome screen. **Press Next**.



5. Choose a **location** to **install** the program. **Continue pressing "Next"** until installation is complete.

NOTE:

"Browse" will allow you to search your computer for a location. "Disk Cost" will tell you how much disk space this installation will require.

IMPORTANT:

You may choose to click "Everyone" to allow everyone who uses the computer to have access to this program, or "Just Me" for just yourself.

6. Once the installation is complete, simply press **"Close."**

ii.4 Connecting Your Conductor

NOTE:

If you are connecting Conductor & RemoteAux, please see Section ii.5.

Setting up your Conductor is a quick process.

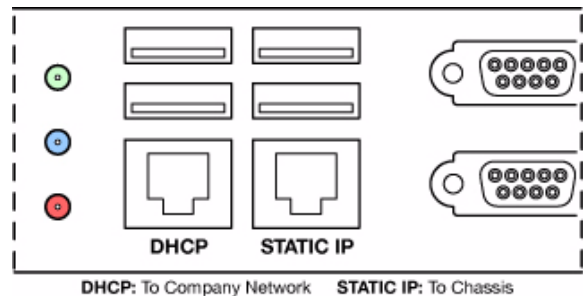
1. **Place** your Conductor in the **location** you plan to use for it.
2. Using the included screwdriver, **remove** the **bottom cover** of the touchscreen.
3. **Connect** the **Power Cord**

WARNING:

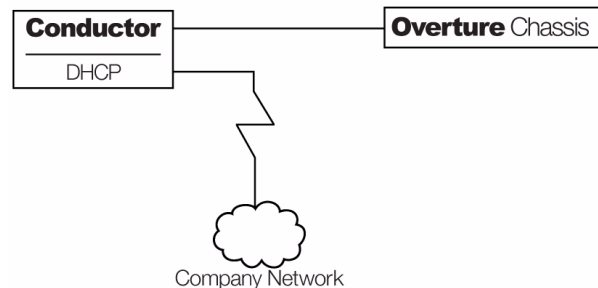
Connect the power to the conductor before plugging into the wall.

4. Connect the **Keyboard**.
5. Connect the **Mouse**.
6. Connect the **RJ45 Ethernet** to your **switcher chassis**.
7. Connect the **RJ45 Ethernet** to your **Conductor's Static IP jack**.
8. Connect your **Network Ethernet** to your **Conductor's DHCP jack**.

Refer to the image at the right, please use the SECOND, or Static IP, port. If looking at the Conductor from the front, this will be the Ethernet port to the right.



The below image shows the recommended connection for Conductor.

**IMPORTANT:**

Contact your network administrator to assist with plugging the Conductor into your network

NOTE:

Depending on the hardware connected to your switcher, you may have to purchase additional networking gear to maintain full functionality. For example, if you use another network based product, such as RemoteAUX, you may need to connect the Conductor and other hardware to a hub, and the hub to your switcher.

9. **Replace** the **cover**, making sure to **direct all wiring** through the **appropriate holes** available on the hardware.
10. **Turn on** the power.

ii.5 Connecting RemoteAux

NOTE:

If you are connecting Conductor & RemoteAux, please see Section ii.5.

Software Configuration Utility

RemoteAUX utilizes its own Configuration Utility to configure its IP address. This software can be installed from the Configuration Tools CD. The Software Configuration Utility will allow the user to modify the following Remote AUX Panel settings using an Ethernet or Serial connection.

- Default gateway
- Three most significant bytes of the panel's IP address
- Subnet mask

NOTE:

When making these changes, it might be easier to connect the Remote AUX Panel directly to a laptop with the serial null modem cable since it will be difficult to establish a connection through the LAN when the LAN settings conflict with the Remote AUX Panel's default settings

When the Software Configuration Utility is used to make the desired changes, the Remote AUX Panel must be reset using the configuration utility, the reset button on the back, or by disconnecting the power supply. This should be done prior to connecting the Remote AUX Panel to the production studio's LAN.

The least significant byte of the Remote AUX Panel's IP address is configured using the rotary switches on the rear of the unit

Using the Software Configuration Utility

To use the Software Configuration Utility, you must know the IP address of the Remote AUX Panel you would like to connect to and modify, or connect to it directly using a serial null modem cable. To avoid network conflicts, it is best to connect directly to the Remote AUX Panel with the serial cable when changing these settings.

Choose the Method of Communication

1. From the **File** menu, use Serial Communication to **connect** to the **Remote AUX** Panel using **serial null** modem cable.

NOTE:

The default is to use TCP/IP

Change the Default Gateway

1. Enter the **IP address** or select the COM Port of the Remote AUX Panel you would like to modify
2. Click **Get Settings...**
3. Enter the new **Default Gateway** address
4. Click **Update...**

5. **Restart** the Remote AUX Panel by disconnecting the power supply, or pressing the Reset button on the rear of the Remote AUX Panel

Change the Subnet Mask

1. Enter the **IP address** or select the COM Port of the Remote AUX Panel you would like to modify
2. Click **Get Settings...**
3. Enter the new **Subnet Mask**
4. Click **Update...**
5. **Restart** the Remote AUX Panel by disconnecting the power supply, or pressing the Reset button on the rear of the Remote AUX Panel

Change the IP Address

1. Enter the **IP address** or select the COM Port of the Remote AUX Panel you would like to modify
2. Click **Get Settings...**
3. Enter the new **IP address**

NOTE:

In an IP address of the following form, XXX.XXX.XXX.YYY only the XXX.XXX.XXX portion of the address can be modified. Please ensure that the YYY portion is the same, since this is defined with the rotary switches on the rear of the Remote AUX Panel

IMPORTANT:

To modify the YYY portion of the Remote AUX Panel's IP address, use the IP Address rotary switches on the rear of the Remote AUX Panel

4. Click **Update...**
5. **Restart** the Remote AUX Panel with the Software Configuration Utility, by disconnecting the power supply, or by pressing the Reset button on the rear of the Remote AUX Panel

Change the Switcher RemoteAUX IP

WARNING:

Upgrading your firmware involves altering the CompactFlash Card controlling your system. CompactFlash (CF) Cards contain all the intelligence and user information on your Switcher. **BACK UP YOUR FILES BEFORE STARTING!**

1. First, you want to ensure you have a **CompactFlash (CF) Card reader** attached to your computer.
2. **Browse** to the location of your CF Card.

Typically, this is available from "My Computer" and shows up as a "Removable Disk"

3. Once you have located your CF Card, **Double-click** to enter the card's memory.
4. You will see a **folder titled "Echolab"** and a system file. Double-click the 'Echolab' folder.

WARNING:

Unless otherwise instructed: Do NOT alter the folder structure of your CFCard. Do NOT delete any files on your CFCard. Do NOT edit any files on your CFCard.

5. You will now see eleven folders, eight of which are mode folders. These are the folders you must pay attention to.

To locate your correct mode, check your switcher chassis mode switch.

6. Locate your **Mode folder**, and Double-click to enter.

7. You will see four folders and two system files.

For ease of understanding, this guide assumes you are using Mode 0. This may not be true in your case, see Step 5 Footnote for information on how to locate your Mode.

8. Double-click the '**Configs**' folder.
9. Locate and **Right-click** the **remoteaux.XML** file. Scroll to and select '**Edit.**'
10. You will see the line "<ip>192.168.1.76</ip>"
11. Set the **IP address** to the address you intend to use.

Connecting RemoteAUX**CAUTION:**

Contains hazardous live voltages. Only trained service personnel may open the RemoteAUX. Disconnect all power sources before installing RemoteAUX.

1. RemoteAUX should be rack-mounted and installed in it's final location before continuing.
2. Connect the **RJ45 Ethernet** to your **switcher chassis**.
3. Connect the **other end** of the **RJ45 Ethernet** to your **RemoteAux**.
4. Connect the **power supply** to your **RemoteAux**.
5. Connect the **power supply** to your **power source**.

ii.6 Connecting Conductor & RemoteAUX

Connecting your Conductor, Overture, and RemoteAUX is a simple procedure.

Required Material:

- Conductor
- Overture
- RemoteAUX

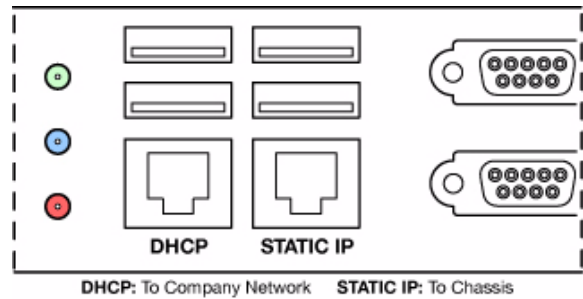
- 4 port Hub or Router
- Three (3) RJ45 Ethernet Cables

Determined length is dependent upon the distance between products.

Connecting Your Products:

1. Ensure your products, including the hub, are in the locations you have chosen.
2. Plug one end of **Ethernet Cable 1** into your **Overture** switcher Ethernet port.
3. Plug the **other end** of **Cable 1** into your **hub's LINK** port (typically port 3-4).
4. Plug one end of **Ethernet Cable 2** into your **RemoteAUX** Ethernet port.
5. Plug the **other end** of **Cable 2** into your **hub**. You may use port 1.
6. Plug one end of **Ethernet Cable 3** into your **Conductor's 'Static IP'** port.

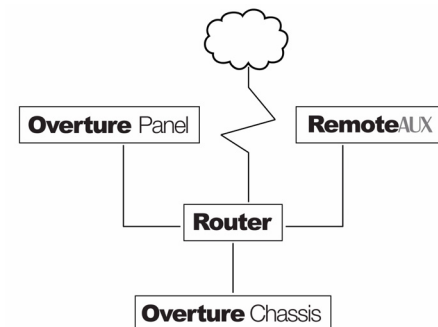
Refer to the image at the right, please use the **SECOND**, or **Static IP**, port. If looking at the Conductor from the front, this will be the Ethernet port to the right.



7. Plug the **other end** of **Cable 3** into your **hub**. You may use port 2.

Ensuring Connectivity:

Your Conductor, Switcher, and RemoteAUX have already been set to work flawlessly after being connected. We do not recommend connecting your hub to your network as network IP conflict errors may occur. If you must connect your hub to the network, please have your Network IT Administrator assist you with setting your products' IP addresses to avoid conflicts within the network.



IMPORTANT:

RemoteAUX uses a software configuration utility to set its IP Address. This address is default to 192.168.1.76. You may download this from Echolab's website. We DO NOT recommend connecting the hub to your network.

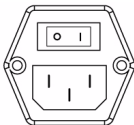
INTRODUCTION

Thank you for using Echolab products. This manual addresses the installation and operation of Echolab's Overture2 switcher. Within you will find step-by-step instructions that will explain every measure involved, and should you have any questions you should be sure to read through these instructions first.

Echolab Overture2 is fast to setup and intuitive to operate. Its sleek ergonomic design and comprehensive range of production tools give you creative power at your fingertips. This powerful production system will allow you to produce high quality programming and incorporate stunning effects. Overture2 is available with either of our award winning OvertureSD or OvertureMD video production switchers, so whatever your production needs – now or in the future – the Echolab Overture2 will ensure they are met.

Getting Started

The first thing you'll want to do is read through these instructions completely, and use the Echolab.com site to answer any questions you might have. Alternatively our support line is available 24 hours a day, 7 days a week at 1-978-715-1030 or online at support@echolab.com. The site contains documentation for users of all levels, beginner to advanced

	To disconnect the power, find the MAINS switch on lower right of the back side of the switcher chassis. Switch will connect or disconnect both ends of power.
	<u>CAUTION:</u> Do not expose to dripping or splashing. No objects filled with liquids, such as vases, may be placed on the apparatus. Must be connected to MAINS socket outlet with protective earthing connection.
	CE Compliant The letters 'CE' are an abbreviation of Conformité Européenne, French for European conformity.
	Electric shock warning ISO 3864, Number 5036
	C-Tick Certified EMC regulations in Australia and New Zealand (Pending)

1.0 STARTUP

1.1 Initializing System

1. Ensure the **correct CFCard** Memory Card is in the CFCard **reader** on the **chassis**.
2. Ensure **genlock** source is **connected** to chassis.
3. **Power** up Overture **Chassis**, power switch on rear of case.
4. **Power** up Overture **Panel**, power switch on side panel.

WARNING:

Overture will not operate without a valid SDI Genlock source.

1.2 Status LEDs

Look at the back of your Switcher Chassis. During initialization, the green ‘status’ light should blink briefly and then go out. The red status light only blinks if the memory card is not in the reader, or is not properly formatted and loaded, or if removed while powered.

1.3 System LEDs

Look at the back of your Switcher Chassis. After initialization, the system lights should all be working as follows:

A	Main Diagnostic	Light On indicates that the system clock is operational.
B	Disk Activity	Indicates data activity on the memory card. This will only light during access to the memory card, and will not be steady.
C	CPU Activity	Indicates that the main CPU is operating properly, and will blink steadily.
D	Genlock Indicator	Light On indicates the presence of a genlock source. The system will not operate properly without a genlock source.

NOTE:

If Genlock is not present, the panel will display “No Genlock” to assist you in defining the problem.

1.4 Verifying Successful Setup

If the panel does not initiate to its Home configuration or displays “Not connected,” verify the following:

- Proper Genlock
 - Secure panel connection cables
 - Properly inserted memory card on your chassis
- The System Lights on the back of the chassis will help determine your issue.

The Source Names LCDs above the Program Bus should display Input names and positions as determined in the Configuration Tools. For information on how to use the Configuration Tools, please read section “Configuring your Switcher.”

2.0 OVERVIEW, CONTROLS, AND MENUS

2.1 Chassis Overview

Overture2SD 1612:

- 16 inputs, analog or digital, 12 outputs: 4 Analog & Digital, 8 SDI Only



Overture2SD 1616:

- 16 inputs, analog or digital, 16 outputs: 4 Analog & Digital, 4 Composite & Digital, 8 SDI Only

Overture2SD 3216:

- 32 inputs, analog or digital, 16 outputs: 16 Analog & Digital

All inputs not intended to be used with internal frame syncs must be genlocked to the same system timing as the switcher. Input timing has a +/- 18 microsecond timing window, so additional timing adjustments are not necessary. All inputs may be mapped to any panel crosspoint using the Configuration Tools.



2.1.1 Overview

With a industry leading standard feature set, sleek panel, and space-saving rack design, the Overture is an impressive product that is completely incomparable to any other. Perfect for space-limited operations, such as flight packs and OB Vans, the Overture is also essential for every other production environment.

With industry standard “Look-Ahead” preview architecture, broadcast quality 10-bit NTSC and PAL Serial Digital Video, and unprecedented ease-of-use and familiar operation, the Overture series is the most versatile switcher you could imagine.

2.1.2 Connectivity/Configuration

There are three methods of connecting to the Overture to allow an operator to configure the switcher. You may connect via TCP/IP using Conductor. Conductor is a powerful touch screen software suite that helps you deliver the best program possible. Difficult tasks can be automated and executed with total confidence while on air. During pre-production, Conductor can configure the switcher, build complex sequences and assign them to soft buttons. On air, Conductor becomes an extension of the control panel; a touch screen interface executes sequences, loads graphics into the frame buffer, routes auxiliary outputs, and controls 3rd party devices.

Alternatively, you can connect through TCP/IP to the switcher using the Configuration Tools included with the Overture series. Configuration Tools allows the operator to manage Aux Configuration, Input & Source Names and locations, network configuration, and more. Finally, you can also configure your switcher directly from the panel.

2.1.3 Video Layering

Echolab's Overture has 11 keyers for truly unprecedented layering capability. This offers an amazing amount of power in terms of creative control. Four upstream effects keys support linear, chroma, preset pattern, and 2D DVE's. Two downstream keyers allow title keying for graphics, logos, bugs, and more. One transition keyer is included in the transition Block. Plus, the amazing SuperSource™ adds another five keyers for multiple DVE box shots. Both background and key transitions can be set up and previewed with Echolab's complete look-ahead preview system. Transitions include cut, wipes, mixes, Dip, DVE, and a rich library of over 600 wipe patterns.

2.1.4 Upgradeability & Flexibility

Overture's system-on-chip architecture provides for centralized storage of firmware and hardware configuration updates on a Compact Flash memory card. Up to eight custom or previous versions can be stored on the card. Multiple versions on the card allow for different users to customize their switcher for show-specific needs. Previous versions stored on the card allow a user to confidently upgrade their switcher without fear of a loss of a previous working version. No messy, unpredictable, risky upgrades.

The interconnectivity, smart architecture, and advanced firmware of the Overture allow us to offer a lifetime guarantee of free upgrades to the core software. This allows our customers to stay current with our ever-evolving technology. Overture's aggressive use of state-of-the-art industry standard networking means integrating the switcher into your studio is a snap. Plug it in, and it's ready to use: from down the hall, or halfway across town.

2.1.5 Memory Card

Overture is supplied with two compact flash memory card (CFCard), one for the panel and one for the chassis. The cards are loaded with the latest software. A Memory card is necessary to properly initialize the switcher on start up. The memory card also contains the user configuration file, organic wipes, and stills. Once the system is initialized, the card may be

removed, but access will be lost to wipes and stills that are not already loaded to the panel memory.

2.1.6 Inputs

Overture2 has a stock input capacity of 16 or 32 external analog or SDI video and key inputs. Analog and SDI inputs are configured in groups of 4. For example, an 8 input chassis may be 8 analog, 4 analog and 4 SDI, or 8 SDI inputs. Additional input modules are available as options in any configuration of 4 (8, 12, 16, 20, 24, 28, or 32).

It is recommended that all inputs be genlocked to the same system timing as the switcher. Input timing has a +/- 18 microsecond timing window, so additional timing adjustments are not necessary. For sources that can not be genlocked, the available internal Frame Sync for that input may be turned on.

All inputs may be mapped to any panel crosspoint using the configuration tools. In addition to external inputs, Overture2 has two color matte generators, one frame buffer, and one alpha frame buffer, or alternatively may have two frame buffers and no alpha buffers based on user selection.

2.1.7 Input Configuration

The Overture2 comes with 2 types of Input modules; Analog or SDI. The analog inputs each need to be configured for which type of analog format is to be used. There is the additional setting for using the internal Frame Sync for that input. The SDI inputs only need to be set for using the internal Frame Sync.

2.1.8 Mode Switch

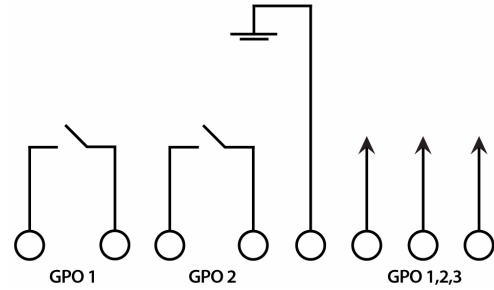
The Mode switch allows for loading different sets of User Configurations, or Modes, at start up of the switcher. To change configurations, dial up the number of the Mode desired and power up the chassis. Modes can be changed without turning off the panel. You can change the mode and then initiate a switcher reboot directly from the panel. For more information, see Section 7.A, Input Buffer & Input Configuration.

2.1.9 Inputs & Outputs

All inputs not intended to be used with internal frame syncs must be genlocked to the same system timing as the switcher. Input timing has a half-line timing window, so additional timing adjustments are not necessary. All inputs may be mapped to any panel crosspoint using the Configuration Tools.

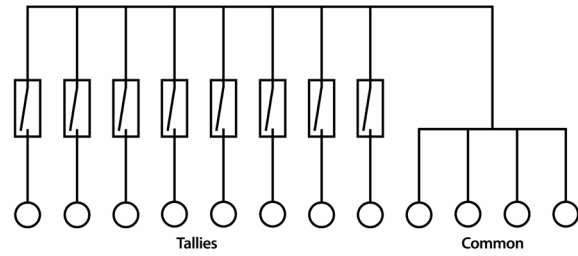
2.1.10 GPIO

GPIs 1 through 3 as well as GPO 1 and 2 are brought out on this connector. The GPI inputs can be triggered by either a short to ground or a trigger from a TTL or bipolar level signal ($\pm 12\text{v}$ max). GPOs are programmable to be pulses or a user-defined trigger length. GPIO is programmed using the Configuration Tools.



2.1.11 Tallies

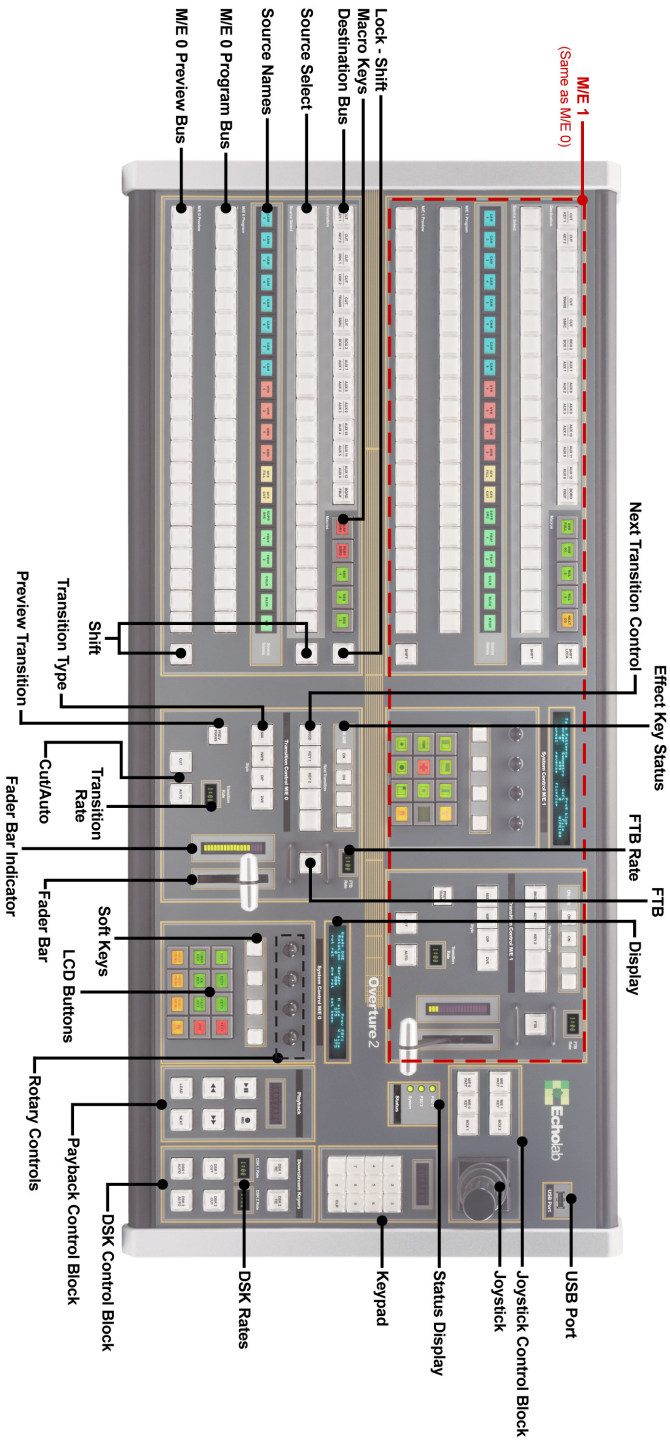
There are 32 tallies available for your switcher. The tally connections function by providing a closed contact. Tally output pins are mappable using the User Configuration File. See the Section on Changing Switcher Configuration for information on Tally mapping.



2.2 Panel Overview

Overture2 - Control Panel Layout

Video Production System

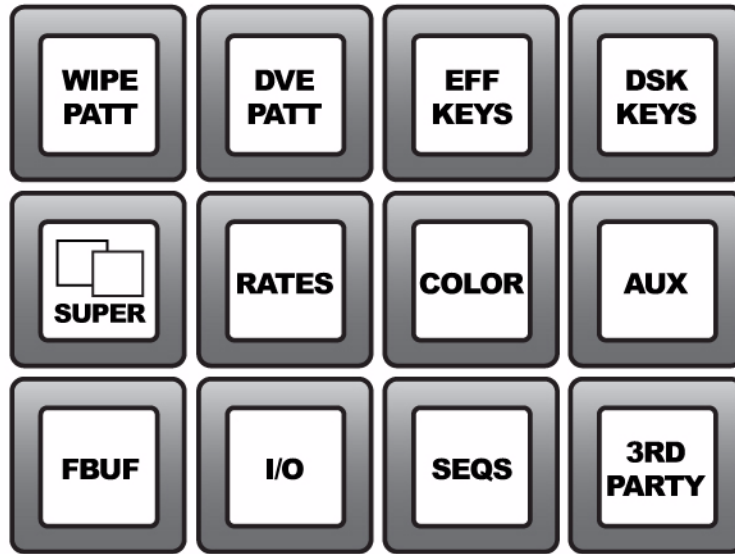


2.2.1 Panel Controls Explained

Lock - Shift	Serves two functions, first by SHIFTing the Destination Bus, and second by locking the Destination Bus to it's selection so that the operator's hands are free to work elsewhere.
Macro Keys	Allow the user to assign frequently used sequences
Destination Bus	Allows the user to assign sources to switcher destinations, such as auxes, keys, SuperSource, etc.
Source Select	Allows the user to determine what input will be sent to the destination currently displayed in the Destination Display.
Source Names	Displays the user defined names for the inputs.
M/E 0 Program Bus	Allows selection of the input for display on the program. Shifted sources will blink.
M/E 0 Preview Bus	Allows selection of the input for display on the preview. Shifted sources will blink.
Shift	Provides access to 'Shifted' control options. When pressed, the most immediately viewable change is that the Source Names display will change to the 'Shifted' inputs.
Transition Type	Allows the user to select whether the next transition will be a Wipe, Mix, DVE, or Dip transition. DVE and Dip transitions will be represented by the transition type button turning green.
Preview Transition	Triggers the Look Ahead Preview function. For more information, see Section 6, Look Ahead Preview.
Cut / Auto	Allow the user to take the action with either a cut, or automatically through a mix, wipe, Dip, or DVE transition.
Transition Rate	Displays the currently selected transition rate.
Fader Bar Indicator	Provides visible information as to how far along a transition has gone.
Fader Bar	Allows the use to manually control the next transition.
Soft Keys	Provide access to features visible in the display, and correspond to the feature positioned directly above each key.

LCD Buttons/System Control	The LCD Buttons in the upper left of the panel comprise the System Control area. This System Control lends access to the various Menus used to operate the switcher. Additionally, the System Control will display corresponding controls depending on actions taken by the user, such as changing the transition mode selection.
Rotary Controls	Provide the user a method of altering settings in cooperation with the Display.
Playback Control Block	For Future Use.
DSK Control Block	Provides access to the user to cut to or auto transition to both Downstream Keyer 1 and 2, as well as access the DSK Tie function.
DSK Rates	Displays the currently selected DSK rate.
Keypad	The keypad provides a numeric input device.
Status Display	Provides the user with the current status of each of the redundant power supplies in the panel.
Joystick	The joystick supports two ranges of movement in horizontal (x) and vertical (y).
Joystick Control Block	Working in conjunction with the joystick, allows the user to determine which DVE, Pattern, or Key to adjust.
USB Port	For Future Use.
Display	Works in conjunction with the LCD Button Menus, Rotary Encoders, and Select Bus. The Display will show the assignments for the Rotary Encoders and Soft Keys as determined by which Menu is selected.
FTB	Initiates an immediate Fade-To-Black that corresponds to the nearby FTB Rate.
FTB Rate	Displays the currently selected FTB rate.
Effect Key Status	Offers a visible indicator as to which keys are currently On-Air.
Next Transition Control	Allows the user to determine what keys and whether the background will be included in the next transition taken.

2.3 Home Menu Keys



A page-by-page listing of available wipe patterns.



A page-by-page listing of available DVE patterns, graphic mixes, and wipes.



Includes key selection, type, masks, and flying.



DSK key selection.



Set up your SuperSource Boxes, priority, saves and recalls.



Displays current rates, and allows changes.



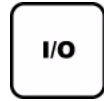
Allows set, save, and recall of the internal color generators.



Set up and configure your Aux Outputs, saving and recalling Aux bus settings.



Manage your framebuffer, freeze frames, & select dual or alpha, as well as save and recall stills.



Displays switcher IP, Input & Output Formats, Firmware version, and more.



Load and run sequences.



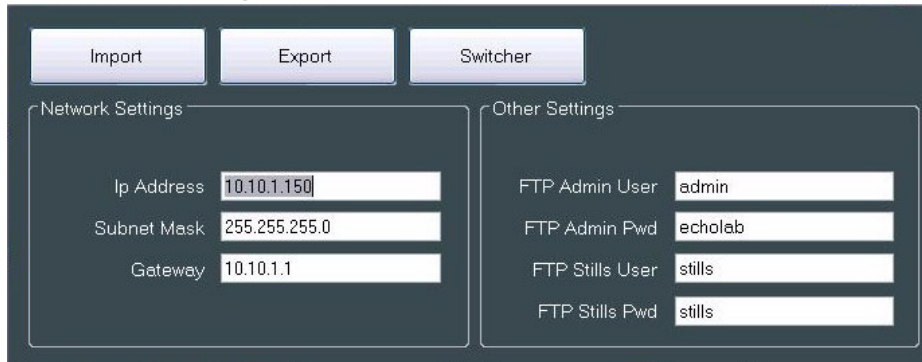
Control 3rd Party products.

3.0 CONFIGURING YOUR SWITCHER

Configuration is done using Configuration Tools. If you have purchased Conductor, these are included already. If not, you will need a PC with Configuration Tools installed. Refer to Section iii, Installation.

Make sure you are connected to the switcher's ethernet port before beginning. Refer to Section E, Troubleshooting IP Connection if you are having trouble connecting to your Conductor.

3.1 Network Configuration Tool



The Network Administration Configuration Tool gives you control over your switchers IP, subnet mask, and gateway, as well as FTP access information.

WARNING:

The network settings pertain to your entire Configuration Tools product, and should not be changed unless directed to do so by your IT department. Changing these settings may render Configuration Tools inoperable!

3.1.1 Starting Network Configuration Tool

1. On your Windows desktop, click the **Start** button
2. **Browse** to "Programs>Echolab>Configuration>Network Admin"
3. Locate the "Network Admin" icon in the program folder.
4. **Double-click** the icon to execute, and Echolab Network Configuration will start automatically.

3.1.2 Understanding the Interface

The Configuration interface is easy to navigate, and built to correlate to all other Echolab Configuration tools. There are three simple buttons at the top of the screen, and the in-depth configuration tools beneath it. Let's start with the three buttons first.

3.1.2.1 Import/Export/Switcher

These three buttons are your method of communicating with the switcher and panel you are using.



1. Import:

When Configuration Tools starts, it will automatically import settings from your switcher. If during your configuration you wish to revert to the last export to your switcher simply import your settings to remove any changes.

2. Export:

The export button will send all the settings in your configuration tool directly to the switcher, where they will be updated live.

3. Switcher:

The switcher button allows you to set the IP address of the switcher. Your configuration tool will not communicate without a proper IP address, so this is important! You can verify the switcher IP address on the panel by pressing “I/O” on the home menu, and then pressing “Switcher Info.”

3.1.3 Network Settings

The network settings section of the Network Admin consists of four selections:

1. IP Address:

The IP Address your switcher occupies.

IMPORTANT:

The Default IP Address is 192.168.1.240

2. Subnet Mask:

The subnet mask for your network.

3. Gateway:

Gateway mask for the network.

3.1.4 Other Settings

OvertureMD has an FTP server built in which can be used to access the CFCard via FTP. To access your FTP, use your FTP client to visit ftp://X.X.X.X, where X.X.X.X is your switcher’s IP address. The default address is ftp://192.168.1.240.

There are two levels of FTP access to the CFCard:

- Admin: Complete administrative access to the entire CFCard contents.
- Stills: Access exclusively to the ‘Stills’ folder on the CFCard.

3.2 I/O Configuration Tool

The I/O Configuration Tool gives you control over your input sources and output sources in an easy-to-navigate interface.

3.2.1 Starting I/O Configuration Tool

1. On your Windows desktop, click the **Start** button
2. **Browse** to "Programs>Echolab>Configuration>I/O Configuration"
3. Locate the "I/O Configuration" icon in the program folder.
4. **Double-click** the icon to execute, and Echolab I/O Configuration will start automatically.

3.2.2 Understanding the Interface

The Configuration interface is easy to navigate, and built to correlate to all other Echolab Configuration tools. There are four simple buttons at the top of the screen, and the in-depth configuration tools beneath it. Let's start with the four buttons first.

3.2.2.1 Import/Export/Switcher/Default

These four buttons are your method of communicating with the switcher and panel you are using.

1. Import:

When Configuration Tools starts, it will automatically import settings from your switcher. If, during your configuration, you wish to revert to the last export to your switcher, simply import your settings to remove any changes you've made.

2. Export:

The export button will send all the settings in your configuration tool directly to the switcher, where they will be updated live.

3. Switcher:

The switcher button allows you to set the IP address of the switcher. Your configuration tool will not communicate without a proper IP address. You can verify the switcher IP address on the panel by pressing "I/O" on the home menu, and then pressing "Switcher Info."

4. Default:

Sets all options to their factory defaults.

3.2.3 Options

Inputs

The Input selections determine what type of input is coming into the switcher. I/O Configuration will automatically detect whether any boards are empty, and the only options you need to change is what the inputs themselves are operating on. Select the appropriate setting to match the type of source that is connected to that input on the switcher.

- SDI
- YPrPb
- FrameStore

Please refer to "Using The Frame Buffer" for information.

Frame Syncs

The frame sync checkbox next to each input allow the assignment of up to 32 floating frame syncs, depending on the number of inputs your chassis supports. If you have these available, the checkbox will be available. After you have used your maximum, you will be informed.

•

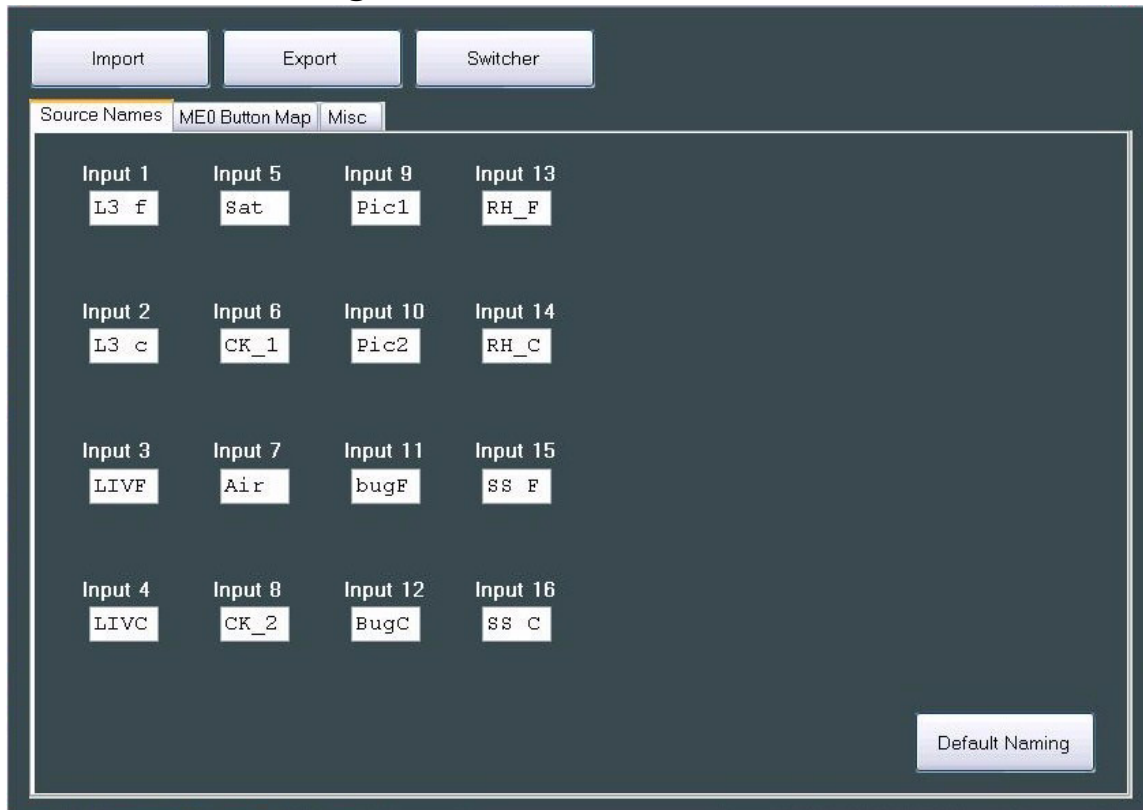
Video Standard

Using the dropdown box you can select the current video standard for the switcher.

FrameSync & FrameStore License

In the upper-right corner you will see the total number of Framesyncs and Framestores available for use.

3.3 Switcher Configuration Tool



The Switcher Configuration Tool gives you control over your source names, button maps, and other useful options.

3.3.1 Starting Switcher Configuration Tool

1. On your Windows desktop, click the **Start** button
2. **Browse** to "**Programs>Echolab>Configuration>Switcher Configuration**"
3. Locate the "**Switcher Configuration**" icon in the program folder.
4. **Double-click** the icon to execute, and Echolab Switcher Configuration will start automatically.

3.3.2 Understanding the Interface

The Configuration interface is easy to navigate, and built to correlate to all other Echolab Configuration tools. There are three simple buttons at the top of the screen, and the in-depth configuration tools beneath it. Let's start with the three buttons first.

3.3.2.1 Import/Export/Switcher

These three buttons are your method of communicating with the switcher and panel you are using.

1. Import:

When Configuration Tools starts, it will automatically import settings from your switcher. If, during your configuration, you wish to revert to the last export to your switcher, simply import your settings to remove any changes you've made.

2. Export:

The export button will send all the settings in your configuration tool directly to the switcher, where they will be updated live.

3. Switcher:

The switcher button allows you to set the IP of the switcher. Your configuration tool will not communicate without a proper IP address. You can verify the switcher IP address on the panel by pressing "I/O" on the home menu, and then pressing "Switcher Info."

3.3.3 Source Names

The source names selection allows you to label your input sources. It's advisable to name them after the sources you'll be using, such as CAM1, VTR1, or ENG2. There is a 4 character maximum for these labels.

3.3.3.1 Bitmap Label

The Bitmap Label dialog allows the alteration of the switcher's key label color, and whether to use the default image, a custom image, or custom text.

3.3.3.1A Preview & Color

1. Preview: Provides a visual preview of the label with up-to-date representation of changes made to the label.
2. RGB Color: Allows up to 4096 different color combinations through RGB color choices.

3.3.3.1B Label Options

1. Default Bitmap: Reverts to the bitmapped four character source name.
2. Custom Bitmap: Allows the use of a pre-designed custom bitmap image as a chosen label.

3. Custom Text: Provides up to 3 lines of completely customizable text. There are no limits to the amount of characters per line, but it is important to use the preview in order to judge the final outcome.

3.3.3.1C Custom Bitmap Information

To make a graphic compatible with the Input Labels, you need to make a graphic that is:

- 36x24 Pixels
- Black & White

Windows Bitmap (.bmp file extension)



3.3.4 Button Map

The button map allows you to assign sources to the physical buttons on the panel.

Bu...	Source		Bu...	Source		Source
1	L3 f		1	L3 c		Blk
2	Sat		2	Pic2		Clr1
3	CK_1		3	Pic1		Clr2
4	Air		4	bugF		
5	CK_2		5	BugC		
6	SS F		6	SS C		
7	LIVF		7	LIVC		

- Buttons: Directly corresponds to the physical buttons on your panel
- Shifted: Physical buttons with the SHIFT key pressed
- Source: Unassigned sources list

Simply click and drag the unassigned source you'd like to use to the button you wish to assign it to. The source that was previously on that button will now be located under the Unassigned Sources heading. The available internal sources are:

GNLK	CLR1	CLR2	FBUF1
FBUF2	SSRC	BLK	M/E 1 PRG
M/E 1 PRV			

IMPORTANT:

M/E0 and M/E1 each map independently through Switcher Configuration.



3.3.5 GPI/GPO Events

General Purpose Inputs (GPI) fire when they receive information from their source. For example, a GPI may fire a Cut when it receives a signal from a parent company to display an emergency warning. A General Purpose Output (GPO) fires off a signal when a specific action is fired. For example, when Auto button is pressed, it may trigger a cued tape device to play it's next clip. There are 18 options for your GPI/O events:

1. None
2. Cut
3. Auto
4. FTB
5. DSK1 Cut
6. DSK1 Auto
7. DSK2 Cut
8. DSK2 Auto
9. -18. Sequences A-J (1-10)

3.4 Aux Configuration Tool



The Aux Configuration Tool allows you to customize the label and button graphic of your auxiliary outputs.

3.4.1 Starting Aux Configuration Tool

1. On your Windows desktop, click the **Start** button
2. **Browse** to "**Programs>Echolab>Configuration>Aux Configuration**"
3. Locate the "**Aux Configuration**" icon in the program folder.
4. **Double-click** the icon to execute, and Echolab Aux Configuration will start automatically.

3.4.2 Understanding the Interface

The Configuration interface is easy to navigate, and built to correlate to all other Echolab Configuration tools. There are four simple buttons at the top of the screen, and the in-depth configuration tools beneath it. Let's start with the four buttons first.

3.4.2.1 Import/Export/Switcher/Default

These four buttons are your method of communicating with the switcher and panel you are using.

1. Import:

When Configuration Tools starts, it will automatically import settings from your switcher. If, during your configuration, you wish to revert to the last export to your switcher, simply import your settings to remove any changes you've made.

2. Export:

The export button will send all the settings in your configuration tool directly to the switcher, where they will be updated live.

3. Switcher:

The switcher button allows you to set the IP of the switcher. Your configuration tool will not communicate without a proper IP address, so this is important! You can verify the switcher IP address on the panel by pressing "I/O" on the home menu, and then pressing "Switcher Info."

4. Default:

Sets all options to their factory defaults.

3.4.3 Labels

The labels section gives you the ability to choose any 3-line name for your aux inputs. These names will be visible in the Configuration Tools tool as well. You can access this section by double-clicking the default icon.

The graphics section allows you to give them a default or custom graphic.

To change to a custom graphic:

1. Click on **"Custom Graphic."**
2. Click the **'...'** icon.
3. **Browse** to and **select the graphic** you want to use.

3.4.5 Graphic Information

To make a graphic compatible with the Aux Labels, you need to make a graphic that is:

- 36x24 Pixels
- Black & White
- Windows Bitmap (.bmp file extension)



4.0 TRANSITIONS

The primary function of a video switcher is switching from one video source to another. The functional block that performs this operation is the mix/effect block (M/E), also known as the Transition Block. The M/E accepts two video inputs and makes a single output.

The red lit button on the program bus of the crosspoint array indicates the video input that is currently on program, ignoring any keyers at this point. While the system is not in the middle of a transition, the program input is passed directly through the system to become program output. The green lit button on the preview bus indicates the video input that is currently on preview.

Performing a transition means taking the video input that is on preview and moving it to program, and taking the input on program to preview, and ‘switching’ the program and preview outputs. To indicate this flip-flop, the highlighted buttons on the program and preview buses are exchanged.

During the transition, the program output displays a combination of program and preview. The previously red and green lit buttons will both be lit red to indicate the fact that you are in the middle of a transition. Additionally, the fader bar indicator, located to the left of the fader bar itself, displays the position and progress of the transition.

Transitions are performed by either pressing the Auto or Cut buttons, or also by moving the fader bar. In the case of the fader bar, a full transition is performed by moving the fader bar from one end to the other, either top to bottom or bottom to top. After completing a transition, the next fader bar move will begin a new transition.

At the completion of a transition, the operator composes the next video scene on the preview input, then switches the scene to program at the desired time by using a cut, mix, wipe, dip, or DVE.

The program and preview inputs are fed by a background video source and sometimes a combination of the effects keys layered on top of the background video.

4.1 Transition Types

The mix/effect block (M/E) performs five types of transitions:

Cut	Switch immediately to the preview source.
Mix	Gradually fade from program to preview. Output is a linear combination of program and preview.
Wipe	Use a moving borderline to reveal the preview and cover the old program.

Dip	Gradually fade from program to the border source, and then fade from the border to the preview. The halfway point of the transition will be the border source.
DVE	Use DVE to either bring in the preview video in the DVE, or to 'fly' away the program output revealing preview.

4.2 Performing a Transition

The operator chooses the type of transition and how to control its progress.

NOTE:

All transitions have their current rate displayed above the Auto button. To change these rates, refer to Section 5.0, Adjusting Transition Rates

Cut

1. To execute a cut, **press** the **Cut** button. Program and preview are immediately exchanged.

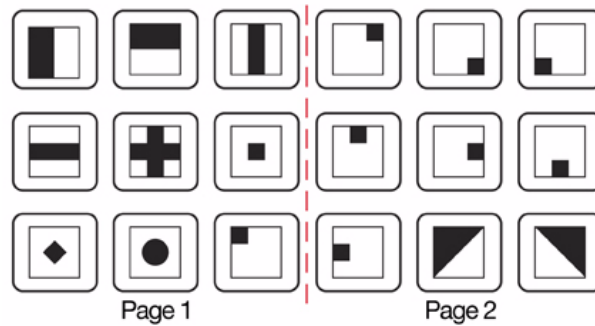
Mix

1. To execute a mix, ensure that the **Mix button** is **illuminated**, or press it to select mix.
2. Use the **fader bar** or **Auto** button to perform the transition.

Dip

1. To execute a Dip, ensure the **Dip button** is **illuminated** , or press **DIP** to select Dip.
2. **Select** your **border source**, and begin the transition.
3. Use the **fader bar** or **Auto** button to perform the transition.

4.3 Classic Wipe



Wipes require the selection of additional parameters that control the appearance of the wipe:

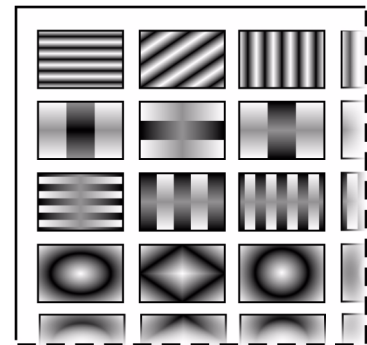
1. To execute a wipe, ensure that the **Wipe button** is **illuminated** or press it to select wipe.
2. Next, choose **shape** of the **wipe pattern** on the System Control Wipe Patterns menu page.

Pressing the Wipe button in the transition control block displays a menu of wipe patterns on the System Control. You can also navigate manually to the “WIPE PATT” menu in the System Control.

3. The currently selected wipe pattern is highlighted in red.
4. Use the **fader bar** or **Auto** button to perform the transition.

4.3.1 Organic Wipes

Organic wipes are controlled by the contours of a grayscale wipe image. The possible effects are complex matrix wipes, multiple rotary wipes and free flowing shapes. For more information, please see the included Organic Wipe Reference.



1. An organic wipe is selected by entering the number of the desired pattern on the numeric keypad.
 2. Press the Organic button on the menu page. The light flashes briefly as the image is read from the switcher memory card.
- If an organic wipe is already selected, pressing the Organic button displays the number of the current pattern in the upper right corner of the display.
 - If the Organic Wipe button is unavailable, make sure your switcher is not set to Dual Framebuffer Mode, as organic wipes will not work on this setting.

4.3.2 Wipe Parameters

Aspect Ratio	The aspect ratio and center of some classic wipes can be adjusted. If the wipe is positionable, the joystick can move the center of the pattern horizontally and vertically around the screen. The aspect ratio can be adjusted using the Symmetry Knob or the Z axis of the Joystick. Adjusting the Symmetry will allow you to change circle and square wipes into ellipses and rectangles.
--------------	--

Border	The appearance of the border between the Program and Preview is controlled by the rotary encoders when the Take Pattern menu is displayed. The edges of the wipe pattern can be adjusted between sharp and fuzzy using the softness rotary encoder. The width of the border is adjusted with the Border rotary encoder.
--------	---

NOTE:

If the border width is not zero, then some portion of the border source is visible. When the Take Pattern menu is displayed, the select bus allows you to select a video source to display in the wipe border. One of the colors is frequently chosen as the source, but there is no restriction on the source selection.

Normal	Wipe patterns have a normal direction by convention. The normal direction for closed patterns such as circles, diamonds and boxes is to grow from the center of the screen and progress outward.
--------	--

The current status of the wipe direction appears on the soft keys when the Take Patterns menu is displayed. If the toggle button is selected, the wipe pattern will alternate between normal and reverse. The normal or reverse button is illuminated to indicate the direction of the next wipe.

Reverse	When a wipe is reversed, closed patterns close in from the edges of the screen toward the center.
---------	---

4.4 DVE

1. To execute a DVE, ensure the **DVE button** is **illuminated**, or press **DVE** to select DVE.
2. **Select** your **DVE move** by **typing** in the selected DVE's number on the **keypad**, and then press **DVE** in the System Control. Please see the DVE Reference Guide for help.
3. Use the **fader bar** or **Auto** button to perform the transition.

4.4.1 DVE Parameters

Normal	Wipe patterns have a normal direction by convention. The normal direction for closed patterns such as circles, diamonds and boxes is to grow from the center of the screen and progress outward.
Reverse	When a wipe is reversed, closed patterns close in from the edges of the screen toward the center.
Flip Flop	In Flip-Flop mode, the transition will first perform a normal transition and on the second transition will perform a reverse.

4.5 Controlling Mix, Wipe, Dip & DVE Transitions (Advanced)

To mix automatically at a smooth rate, press the Auto button in the transition control block. The time required to complete the transition appears above the button. The duration of the transition can be adjusted as described in the manual section on Adjusting Transition Rates.

To control the transition manually, move the fader bar from one end of travel to the opposite end. Pressing the Auto button while an auto transition is in progress stops the transition. Pressing the Auto button again resumes the transition.

If you stop a manual transition before the end stop, pressing the Auto button will complete the transition. The fader bar indicator turns off, signaling that the fader bar has been disconnected from the transition. Moving the fader bar has no effect on transitions until the fader bar and the transition are synchronized at an end stop.

To reconnect the fader bar, move it to one stop or the other. The last segment of the fader bar indicator lights at the end of travel.

5.0 ADJUSTING TRANSITION RATES

The Rates for each transition are displayed on the panel above the button for each transition. These rates are in a simple format of (# of Seconds:# of Frames). For NTSC the number of frames per second is 30, whereas for PAL the number of frames per second is 25. From the Rates menu you can independently set each rate.

Controlling Transition Rates

Using the System Control, from the Home menu select RATES to go to the transition rates menu.

Video Rates

1. Select the **RATES** menu from the **System Control**.

NOTE:

To adjust M/E1 rates select the RATES menu on the M/E1 System Control.

2. Select **VIDEO RATES**.
3. The rotary encoders are now assigned for the different auto transitions available:
 - TAKE – next transition
 - DSK1 – downstream key 1 auto
 - DSK2 – downstream key 2 auto
 - FTB – Fade to Black auto
4. Use a **rotary encoder** to “dial-in” a rate.
5. **Alternatively**, use the **numeric keypad** to enter a rate.

NOTE:

Rate input format is as follows:

2 DIGIT #'S:

Input is the number of total frames (1-99 frames).

3 DIGIT #'S:

First digit is number of seconds, last two is number of frames.

6. Once the desired rate is entered, **press** the corresponding **soft key** to set the rate.

6.0 LOOK AHEAD PREVIEW

Thanks to Echolab's Look-Ahead Preview architecture, the operator can preview their transition without affecting the current on-air program. Look ahead preview is used to see what your transition will look like on the preview channel.

1. To preview a transition, **press** the **Transition Preview** button.
2. The preview output switches to a copy of program out.
3. **Move** the **fader bar** to perform the next transition on the preview output without affecting program output.

NOTE:

You cannot preview a transition that is already in progress.

During the transition preview, you can switch between transition types or change wipe parameters. You can push the fader bar all the way to the end of the transition.

1. To end transition preview, **return** the **fader bar** to the position from which you **started**.
2. At the end, the light in the Transition Preview button will go out and the preview monitor will return to normal.
3. You are now **ready** to execute the transition.

Preview transitions can only be controlled with the fader bar. The Auto button is disabled in transition preview.

6.1 Next Transition Workflow

The modifications to the current program output are controlled using the Next Transition Control buttons. The operator can change the background video or any of the four effects keyers and include them in the next transition by pressing the desired button.

If the background is involved in the next transition, the background video on the preview bus is selected using the preview bus on the panel. If the background is not involved in the next transition, the background video is the same as the program.

IMPORTANT:

When using Preview Transition to view a DVE transition, the background is always included in the preview. For example, if you want to preview a DVE transition that spins a lower-third key off the screen, the preview will always show the background in the transition as well.

The effects keyers layer the key cut and fill sources over both program and preview sources. The small "On Air" buttons displays the state of the keyer. If this On Air button is lit, your keyer will be live on program.

If you are using a keyer in your next transition, then that keyer will be changed during the transition. If the keyer is currently on, it will be turned off over preview, and if the keyer is currently off, it will be turned on over preview.

If a key is not involved in the next transition, the keyer over preview will be the same as it is over program. Keyers that are on stay on, and those that are off remain off.

NOTE:

To include the background and keys or multiple keys in the next transition, the selected buttons must be pressed and released simultaneously as a group.

A key can be directly cut between program and preview by pressing the On-Air button.

6.1.1 Transition Examples

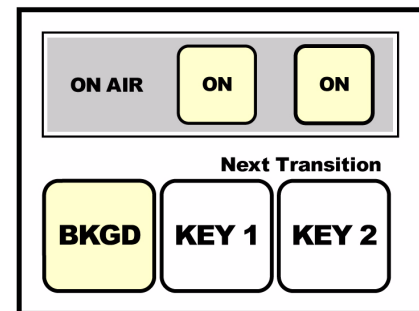
In order to help understand the various methods of transitioning with multiple keys and a background, here are a few examples.

Example 1:

In this example, you have two keys ON-AIR, and have chosen to change the background and leave both keys ON.

1. **BKGD** is selected, and **both ON-AIR** keys are lit.
2. Now press **AUTO**.

The background will have transitioned, while both keys remained ON-AIR.

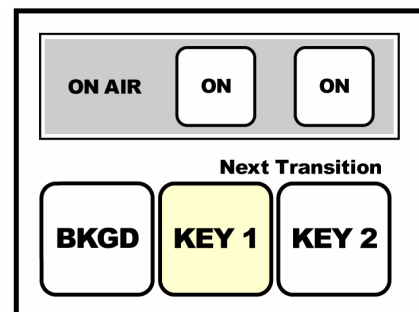


Example 2:

In the second example, only KEY1 is added to the next transition. No keys are ON-AIR at the moment.

1. **KEY1** is selected.
2. Now press **AUTO**.

The background will remain the same, and KEY1 will go ON-AIR.

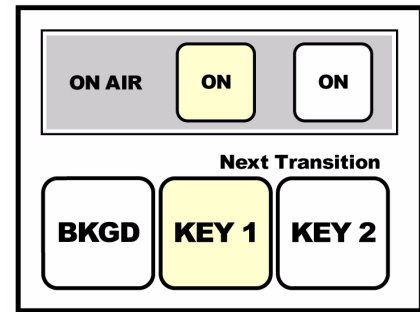


Example 3:

In the third example, KEY1 currently has been selected in the next transition. This will take KEY1 OFF-AIR.

1. **KEY1** is selected, and **KEY1 ON-AIR** is lit.
2. Now press **AUTO**.

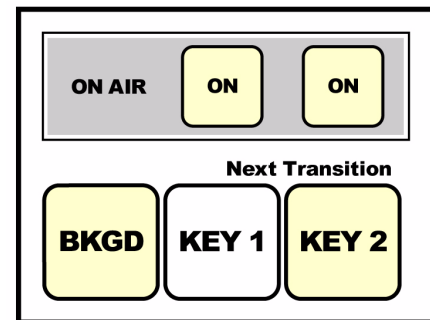
KEY1 will be taken OFF-AIR, and the background will remain the same.

**Example 4:**

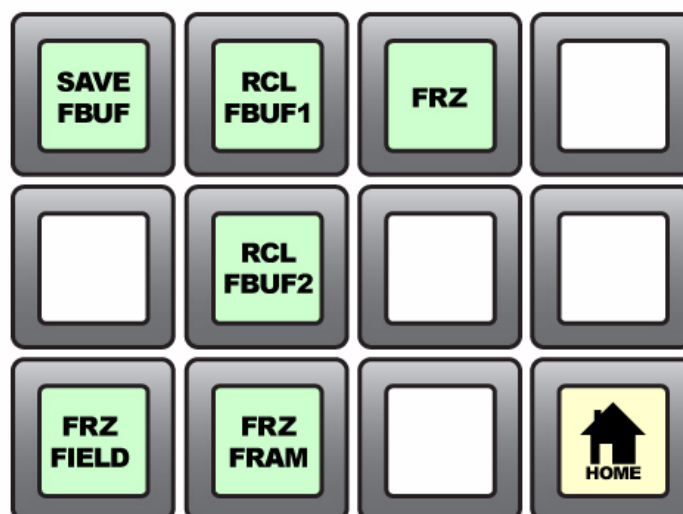
In the final example, KEY1 and KEY2 are ON-AIR. KEY2 has been selected in the next transition and will be taken OFF-AIR.

1. **BKGD** is selected, as well as both **ON-AIR** keys, and **KEY2**.
2. Now press **AUTO**.

The background is selected in the next transition, therefore the background will change. KEY1 is not selected so it will remain on air. Key 2 is selected so it will go Off-Air.



7.0 USING THE FRAME BUFFER



7.1 Accessing the Frame Buffer

The Overture system has (2) internal Frame Buffers (Fbuf). The Fbuf is used for capture and display of still images from video. Stills are saved “globally” and can be accessed in all operating Modes. For information on Modes, refer to “Configuring Your Switcher.”

There are two modes of operation, Dual FBUF and FBUF+Alpha. In Dual FBUF mode, you have no access to organic wipes.

The Frame buffer operates as a simple stillstore for common or frequently used images. For example, you might put your Live or Logo bug in the framebuffer, or grab a live image from the signal to highlight a specific shot.

NOTE:

Stills are stored on the Compact Flash card supplied with the switcher. If you have more stills, you can always upgrade your CFCard to up to 2GB.

7.2 Recalling stills

Using the System Control, from the Home menu select FBUF to go to the Frame Buffer menu. To recall a still, enter the number of the still and press RCL FBUF (#).

Or, use the rotary encoder indicated for Frame buffer File to dial in a still by number, and press RCL FBUF (#). Pushing RCL FBUF1 will recall into Frame Buffer 1, while pushing RCL FBUF2 will recall into Frame Buffer 2.

7.3 Frame Buffer controls

7.3.1 Frame Buffer sources

Any source (mapped to a crosspoint switch) can be routed into the framebuffer by selecting FBuf on the designation bus. Shifted sources will require the use of SHIFT with the select bus.

7.4 Capture / Saving captured stills

1. Select the **Fbuf crosspoint** on Program so it can viewed on a monitor.

NOTE:

This step is for monitoring only – Fbuf does not need to be selected on a x-point to Save or Recall a still.

2. **Select a source** for the Fbuf (preferably with a moving image) from the **Source Select Bus**.

FRZ (Freeze) should be off. The source should pass through the Fbuf.

3. Press **FRZ** to capture a frame.

Pressing FRZ again will release the frame and return to “pass through”.

NOTE:

After capturing the desired frame, the Fbuf can be viewed as a frame or as a field. Viewing as a field will reduce or eliminate inter-field jitter. The Fbuf defaults to FRZ FRAM (frame) on.

4. To change the view to field, press **FRZ FIELD**.
5. To save a still created in the Fbuf, **enter a number** and press **SAVE FBUF**.

The still will be written to the Memory disk as a .nov file, referenced by the number selected, i.e. still10.nov.

6. Stills are saved “globally” and can be accessed by any operator Mode.

WARNING:

There is no over-write protection for stills. Be careful not to overwrite other desirable stills. You may want to copy your stills to a computer or another compact Flash card as a backup.

7.5 Saving to an Input Buffer

1. **Select** the input source **crosspoint** you want to save the framebuffer to.
2. On the **System Control** Home, select **I/O**.
3. Press **“Input FMT”**
4. Select **FBUF**
5. Press **FRZ FBUF**.

7.6 Importing to Your Framebuffer

There are two ways of importing stills to your switcher, either by using the Graphic Utility or by importing with Conductor. Please refer to the Graphic Utility section for information on using the Graphic Utility. For information about using Conductor to quickly import to your Switcher, please refer to Section 15, Conductor.

7.7 Deleting stills

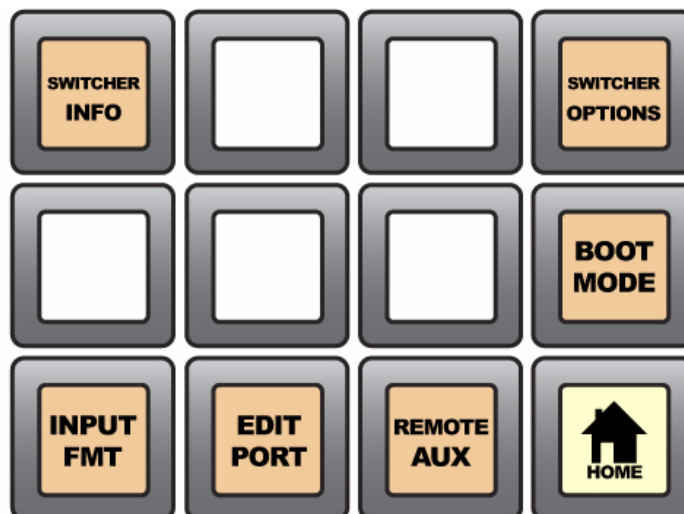
Stills can be deleted from the Memory card by editing on a computer. Locate the “stills” folder, and delete the still.

Another option would be to “overwrite” the still, preserving the file and number.

IMPORTANT:

Echolab uses the .NOV filetype for framebuffer stills. For information on how to utilize this filetype, please refer to Section 13, Graphics Utility Tool.

7.A INPUT BUFFER & INPUT CONFIGURATION



7.A.1 Switcher Info

Switcher Info will provide the user with useful information in the display area such as:

1. IP Address
2. Release Version
3. MAC Address
4. Video Standard
5. Genlock Source

7.A.2 Switcher Options

After selecting Switcher Options, and using the left-most rotary encoder, the user can see the options currently installed on their switcher, such as Frame Syncs and DVE's.

7.A.3 Boot Mode

Boot Mode allows the user to select a different MODE for the switcher to load in, and then reboot the switcher. It is often useful to reboot the switcher in the same mode as well.

The Boot Mode page on the System Control will highlight the currently used boot mode in an orange in order to provide a point of reference for which boot mode the switcher is currently in.

NOTE:

Modes without an operating firmware version installed will not be visible. For information on installing firmware, please see Section A, Updating Firmware.

7.A.3.1 Rebooting

To reboot the switcher, simply follow these instructions:

1. Select **I/O** from the **System Control**.
2. Select **BOOT MODE**.
3. Press **REBOOT**

Immediately visible next to the REBOOT button will be a YES and a NO button. The Switcher will not reboot without confirming YES to reboot.

4. Press **YES** to confirm reboot, or NO to cancel.

WARNING:

The switcher will still reboot into the manually selected MODE option on the back of the switcher if rebooted manually.

7.A.4 Input Format

Input Format allows the user to set each input's current format. There are four options:

1. SDI
2. YUV
3. RGB
4. Component

7.A.4.1 FrameSync

Simply press the FRAME SYNC button in order to turn on one of your internal frame synchronizers from the selected input.

7.A.4.2 Save Configuration

After changing the options for your inputs, pressing SAVE CONF will save your changes to the switcher, as well as input buffers. Upon Recall, this will reload your stored graphics.

WARNING:

If you do not save your configuration, the switcher will not remember your changes after a reboot.

7.A.5 Edit Port

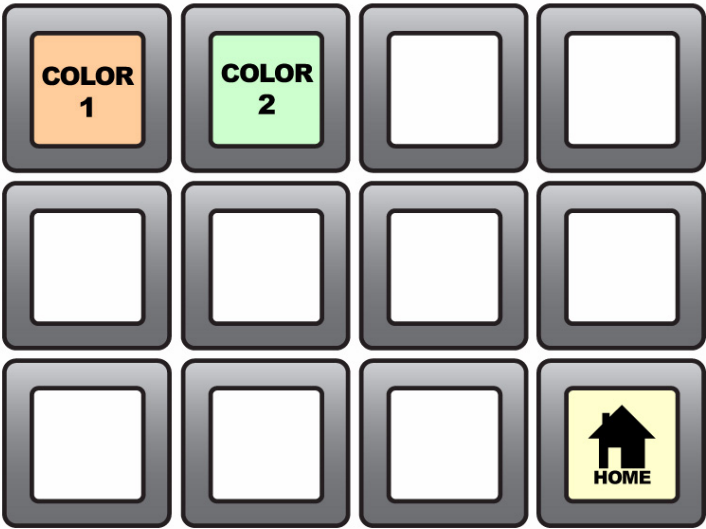
Edit Port allows the user to select the behaviour of the physical edit port.

7.A.6 Remote Aux

Remote Aux will provide the user with useful information in the display area such as:

1. RemoteAux Name
2. RemoteAux IP Address
3. Connection Status
 - Green: Configured & Connected
 - Orange: Configured, Not Connected
 - Red: Not Configured, Not Connected.

8.0 USING COLORIZERS



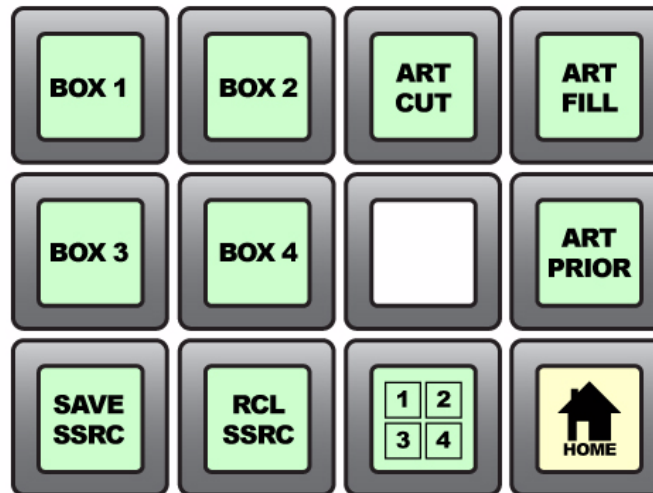
Overture has two color generators. These can be used for Border Source, Dip Through, or as a regular crosspoint source. To use CLR1 and / or CLR2 as a source, they must be assigned as source crosspoints for the switcher. To set up your crosspoints, please refer to the section on Configuring Your Switcher. Alternatively, you can also use your Conductor.

8.1 Adjusting the Colors

- 1. Using the **System Control**, from the Home menu select **COLOR** to go to the Color generators menu.
- 2. From the **COLOR** menu select the color you wish to **adjust**.
- 3. The **rotary encoders** are now assigned for **adjusting** the **attributes** for the color matte generator.

Save Colors	To save a color, enter a number using the numeric keypad and press the soft key assigned for save clr.
Recall Colors	To recall a previously saved color, enter a number using the numeric keypad and press the soft key assigned for rel clr.
Hue	To change the hue, dial the rotary encoders.
Saturation	To change the saturation, dial the rotary encoders.
Luminance	To change the luminance, dial the rotary encoders.

9.0 SUPERSOURCE



The SuperSource™ is a pre-composited input that allows you to build a custom layout using DVE's and graphics, and assign that layered composition to a crosspoint button. The SuperSource™ includes its own keyers leaving upstream and downstream keyers available for adding lower thirds, tickers and other elements. The special SuperSource™ crosspoint keys are used to build a custom layout available through a crosspoint button, which can consist of up to 3 sources using 3 keyers.

IMPORTANT:

SuperSource assumes the use of a **Shaped Key**. To use a linear key, you must first set up your keyer in the traditional workflow, and enable **Key Memory**. When the key with KeyMem is selected, the cut source will be remembered. For more information, see Section 11, Key Memory.

9.1 Making a SuperSource

1. Ensure that the **SuperSource is available** on the crosspoint array. You should see a crosspoint with 'SSRC' displayed above.
2. Press the **button labeled 'SSRC'** on the preview bus. This will enable the SuperSource.
3. Push the **SuperSource button in the system control**. The output will remain black until you assign sources to your SuperSource.

NOTE:

Supersource shares DVE's with the system. This means that DVE's must be available in order to use the SuperSource. If DVE's are unavailable when you press the SSRC button, you will receive a message stating "# of 2 DVE's are busy." Similarly, if you are using all the DVE's in a SuperSource and try to add a DVE key, you will see "No DVE's Available."

4. To **assign sources** for the Art FILL and CUT, use **"Art Cut"** and **"Art Fill"** in the System Control.

IMPORTANT:

Alternately, you may also select the Art CUT or FILL through the use of LOCK-SHIFT and the Destination Bus.

5. **Push ART CUT, assign the ART CUT** signal by choosing a source on the **select bus**.
6. **Push ART FILL, assign the ART FILL** signal by choosing a source on the **select bus**.
7. Select either **two or four boxes** by pressing the **"4 Box"** button.
8. To **assign sources** to the boxes, use the buttons labeled **BOX1, BOX2, BOX3 & BOX 4**.
9. **Push BOX1, assign the BOX1** signal by choosing a source on the **select bus**.
10. **Push BOX2, assign the BOX2** signal by choosing a source on the **select bus**.
11. **Push BOX3, assign the BOX3** signal by choosing a source on the **select bus**.
12. **Push BOX4, assign the BOX4** signal by choosing a source on the **select bus**.
13. To adjust the box priority, simply press the **"BOX PRIOR"** button in the system control.

Box & Art Priority allow you to determine the layering of either one box over the other, or the art over or behind the boxes.

14. Push the **"ART PRIOR"** button to change the art priority over the boxes.

You can choose to have the boxes with the art behind as a background, or in the foreground in order to have the boxes show through the artwork.

NOTE:

The M/E keyers are not used to build the SuperSource. Now you can use your M/E keyers in order to add lower thirds, logos, and bugs on top of your SuperSource. Plus, since the SuperSource is now assigned to a single crosspoint, you can mix, wipe, and dip to it as a single source. It's not just a source, it's a SuperSource!

15. Use the **joystick to position and size** the boxes. Press BOX1 to adjust BOX1, BOX2 to adjust BOX2, BOX3 to adjust BOX3, and BOX4 to adjust BOX4.

Using the joystick to size and position your DVE is easy. Simply move the joystick horizontally or vertically to position the box on-screen. Twist the joystick right to increase the size, and left to decrease.

9.1.1 Masking a SuperSource

SuperSource utilizes Intelligent Masking, which allows a user to adjust the visible area of the input being masked without altering the mask's parameters.

All masking options become visible in the Display area after selecting the SuperSource button in the System Control. You have four options:

- Top
- Bottom
- Left
- Right

9.2 Saving & Recalling a SuperSource

The suggested workflow for using SuperSources is to build & save your SuperSources before production, and list the corresponding save numbers visibly. Then, during your live event you can recall the SuperSources as required easily and without issue!

1. In order to **save** your SuperSource, simply type a number on the keypad and **press "SAVE SSRC."**
2. In order to **recall** your SuperSource, type in the selected SuperSource's **save number** (the same used to save the SuperSource) on the keypad and **press "RCL SSRC"**

NOTE:

When Saving or recalling your SuperSource, the following will be saved or recalled:

- Art Sources
- Key Sources
- Box Sizes for All Boxes
- Box Positioning for All Boxes
- Box Sources for All Boxes

9.3 Navigating the SuperSource Folder (Advanced Users)

The SuperSource recall is saved on your CompactFlash Card, and can be accessed through the following directory:

WARNING:

CompactFlash (CF) Cards contain all the intelligence and user information on your Switcher. BACK UP YOUR FILES BEFORE STARTING!

1. First, remove the CFCard from your Switcher. While doing this, check the front of the Overture and verify the **MODE** that you are on.

To locate your correct mode file, check the front of your switcher. It will have a small clicker in the upper right with a symbol stating "< Mode." This is the mode you are in now. For example if the clicker says "1" then your correct mode folder is "Model"

2. Once you have your **CFCard connected to a CFCardReader**, and the Reader attached to your computer, **browse to the CFCard's drive**.
3. You will see a **folder titled "Echolab"** and a .SYS file. Under no circumstances should you alter the .SYS file.
4. **Click the Echolab folder** icon to view it's contents. You will see eleven folders.
5. **Select the folder** that correlates with the **MODE** you verified in Step 1. For example, if the mode was "1" then select folder "Model" and double click to access this folder.
6. **In the MODE folder**, you will see three folders and a .ACE file. Under no circumstances should you alter the .ACE file.
7. **Select the RECALLS folder** and double click to access this folder.
8. In the **RECALLS folder** you will see five folders.
9. **Select the SUPERSRC folder** and double click to access this folder.
10. All SuperSource recalls are saved in this folder. You may copy them to another mode or another Overture entirely, or delete them.

WARNING:

Once deleted, Recalls are no longer available for use on the Panel. Be cautious when making changes as alterations or deletions may affect your production. Do not tamper with the folder structure as this could render your switcher inoperable.

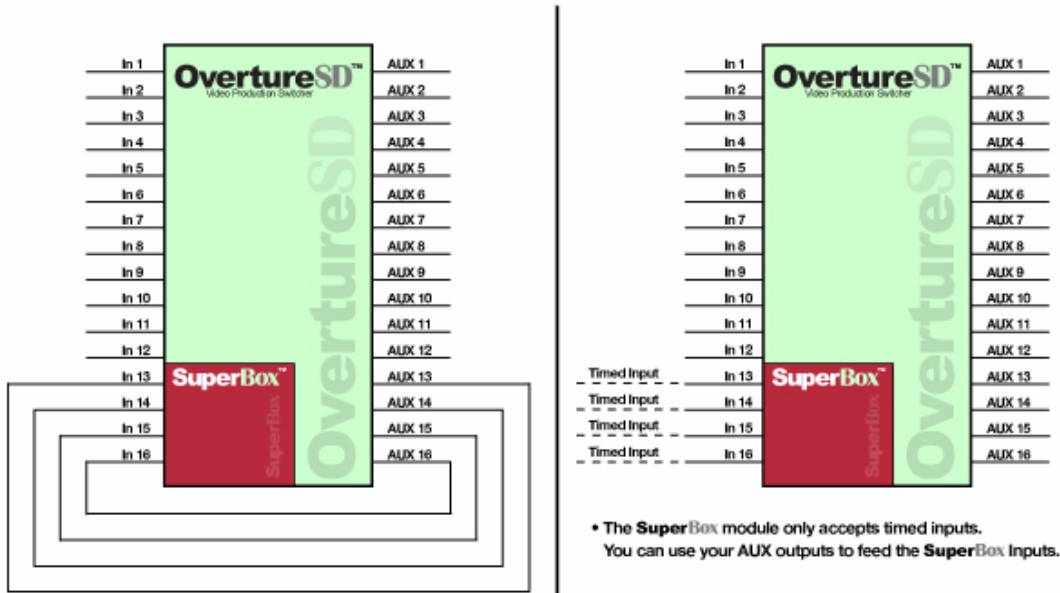
9.4 SuperBox

With SuperBox™, you can put up to four boxes on-screen and still have access to your DVE moves and wipes, and even add other boxes to the screen with DVE keys. Now, your four-box interview can experience a full DVE transition. Plus, SuperBox™ uses Intelligent Masking—the ability to retain your mask dimensions while moving the section of the input video that's being viewed.

SuperBox™ also provides a simple and affordable monitoring solution with panel-centric controls and easy setup. Adding it to your production is a quick upgrade process taking only minutes, and eliminates the need for an expensive and single-use multiviewer while

still having all the power of your Overture panel. With SuperBox™, you can use the monitoring function when you need it, and still get all it's other great features when you don't, without sacrificing your switcher's power.

Installation Diagram



Also available in a 32input/16output chassis

SuperSource Functionality

	SuperSource without SuperBox Module	SuperSource with SuperBox Module
Total # of Boxes in the System	2	6
Maximum # of Boxes in the SuperSource Crosspoint	2	4
Additional DVE's Available while using SuperSource	0	2
Maximum Box Size	100%	2 @ 100% + 4 @ 25%
Independent Size Control	Yes	Yes
Masking	Yes	Yes
Intelligent Masking	Yes	Yes
Box Rotation	Yes	No
Art Over Boxes Priority	Yes	Yes
Boxes Over Art Priority	Yes	No

10.0 ADVANCED DVE TRANSITIONS

Overture features Advanced DVE Transitions built directly into the Transition Block. Performing these sophisticated transitions is as easy as a basic mix or wipe. Overture's Advanced DVE Transitions use their own keyers leaving the upstream and downstream keyers free for use in lower thirds, logos, and bugs!

Graphic Wipes are perfect for wiping your station, team, or other logo across the screen as a transition. Stinger™ is the simple solution for flying in a DVE over a mix transition.

NOTE:

Advanced DVE Transitions assume the use of a **Shaped Key**. To use a linear key, you must first set up your keyer in the traditional workflow, and enable **Key Memory**. When the key with KeyMem is selected, the cut source will be remembered. For more information, see Section 11, Key Memory.

10.1 Graphic Wipes

The DVE Graphic Wipe option allows you to fly your station logo, team logo, or other graphic across the screen in perfect timing with a horizontal wipe. This produces the effect that the graphic is revealing the new background underneath.

IMPORTANT:

When creating a Graphic Wipe, you must create a vertical 'Banner' type graphic that is no more than 25% of the total screen width.

10.1.1 Making a Graphic Wipe

1. Press the **'DVE' transition button** to select DVE as your transition type.

NOTE:

DVE Transitions share DVE's with the system. This means that DVE's must be available in order to use the DVE Transition. If DVE's are unavailable when you press the DVE button, you will receive a message stating "# of 2 DVE's are busy." Similarly, if you are using all the DVE's in a SuperSource and try to add a DVE key, you will see "No DVE's Available."

2. Select the **Graphic Wipe button**, , from the **DVE Patt** menu on the system control.
3. **Assign the Fill** by choosing a source from the **select bus**.
4. **Press the 'Auto' transition key** to perform the Graphic Wipe.

NOTE:

Like all other DVE moves, Graphic Wipes can go from left to right (Normal), right to left (Reverse), or in Flip-Flop mode, where the wipe will change directions every use!

10.2 Stinger

The unique Stinger™ transition makes it easy to use animated transitions. With the push of a single button, you can trigger an external animation sequence in conjunction with a perfectly timed transition effect - traditionally only performed by the most experienced operators. Stinger™ effects use a unique keyer that has been designed into the Transition Block, leaving all of the upstream and downstream keyers available for compositing your output.

10.2.1 Preparing a Stinger

1. Select the **"Stinger" Graphic Mix button**, , from the **DVE Patt** menu on the system control.
2. **Assign the Fill** by choosing a source from the **select bus**
3. Hold **CUT/FILL** and **select a cut** or alpha source from the **select bus**.
4. Turn on **'FLY' key** by pressing the **softkey under 'Fly'** in the display.
5. **Press the 'Auto'** transition key to perform the Stinger Graphic Mix.

11.0 KEYING

The switcher gives you many powerful ways to use keyers in your production. This section will show you how to set up each kind of key. The initial step to setting up a key is to set which key type is desired. Overture includes many keyers, including full featured upstream keyers. Configured using the system control block, the keyers let you add Linear Keys, Shaped Keys, Chroma Keys, and Pattern keys upstream of the M/E.

2 traditional downstream keyers are accessible from the dedicated DSK block. DSK's are explained later in this section. A keyer, built into the Transition Block is used for creating unique transitions such as the graphic wipe, and Stinger™ transition. The special Super-Source™ crosspoint keyers are used to build a custom layout available through a crosspoint button. These keyers are explained in the SuperSource and Advanced DVE Transitions sections of the manual.

Key Memory is a useful tool that allows you to maintain your key settings based on the source input so that once you've set up your keyers you simply press the input source and all your previous settings are restored! For more information on this, see Section 11.A.

Keyers create a layered video output by combining three input signals:

BACKGROUND + KEY/CUT + FILL = RESULT

Background video source

The 'Background' is a full video source that you plan on adding a key on top of. This could be your newsmen in the field reporting breaking news.

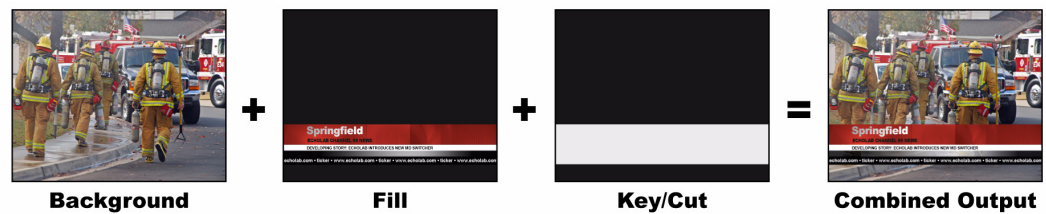
Key/CUT signal

The key signal is the area of the background that will be 'cut' to allow the full key to be visible. Visually, it appears that the fill source has been "cut into" or "layered over" the background image. This would be a 'hole' shaped like your LIVE icon.

Fill video source

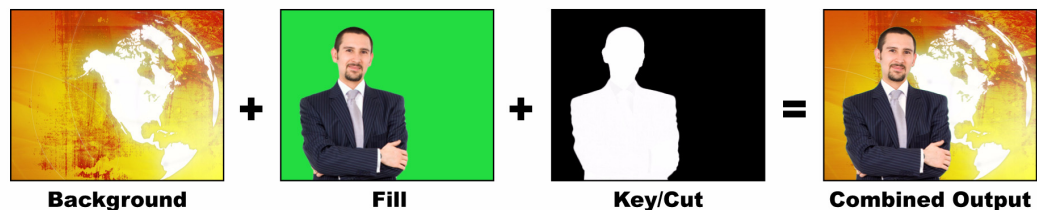
The fill source is the video or graphic you plan to display on top of your background video. The Fill fits into the 'hole' from the key, or CUT, signal, and 'fills' it. This would be the actual graphic of your LIVE icon.

Luma Keys (LUMA KEY)



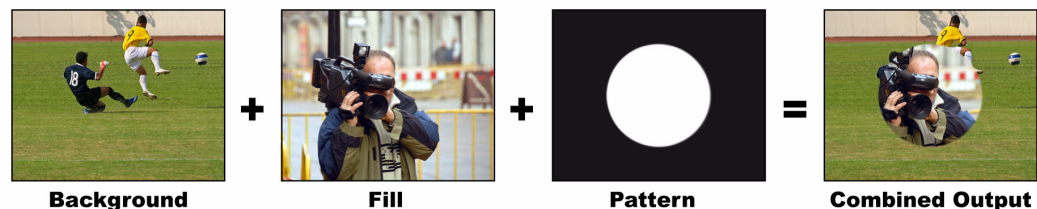
Luma Keys, also commonly called linear keys, consists of two video sources, known as a cut signal and a fill signal. The fill signal contains a video image which is to be displayed on screen, while the cut signal contains a video mask which is used to select regions of the fill signal to be removed from the final display. Combining the cut and fill signals allow user defined, non-rectangular images to be displayed in the final output. Since both the cut and fill signals are video inputs, both signals can be in motion while on screen.

Chromakeys (CK KEY)



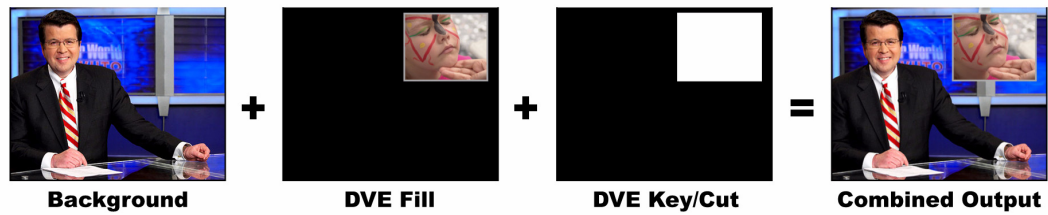
Chroma key is a technique for mixing two images or frames together, in which a color from one image is removed, revealing another image behind it. This technique is also referred to as color keying, colour-separation overlay, greenscreen, and bluescreen. It is commonly used for weather forecast broadcasts, wherein the presenter appears to be standing in front of a large map, but in the studio it is actually a large blue or green background. The meteorologist stands in front of a bluescreen, and then different weather maps are added on those parts in the image where the color is blue. If the meteorologist himself wears blue clothes, his clothes will become replaced with the background video. This also works for green-screens, since blue and green are considered the colors least like skin tone.

Pattern Keys (PATT KEY)



A pattern key is one in which the key is generated using the Overture's internal pattern generator to create the key layer. There are 18 patterns overall.

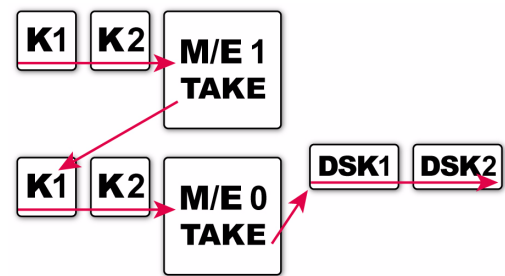
Digital Video Effect Keys (DVE)



DVE stands for “Digital Video Effect.” A "black box" which digitally manipulates the video to create special effects. Overture’s DVE’s allow scaling, rotation, border, and positioning. Essentially, a DVE is a two-dimensional special effects generator.

11.1 Upstream Keyers

Upstream Keyers are so named because they precede the Transition Block. What this means is that from the Background, you have your KEY1, KEY2, KEY3, and KEY4 layered one on top of the other until you reach the transition block, where your mix/wipe/dip/DVE transitions are visible, and then from there to your DSKs. In terms of layer priority, upstream keyers are underneath the transition block. There are four types of Upstream Key: Linear (or Luma) keys, Chromakeys, Pattern keys, and DVE keys.



11.2 Setting Up a Linear (LUMA) Key

In a linear key, the key signal is generated by processing the luminance channel of a cut source video signal. The cut signal may be selected from any source that is available in the crosspoint array. An external character generator will typically produce cut and fill video signal, which will be connected to the external inputs of the switcher.

11.2.1 Select the Cut and Fill Source

NOTE:

The cut and fill sources are selected using the select bus of the panel.

1. To set up a keyer, navigate to the **EFF KEYS** menu using the System Control.

Adding a keyer to the next transition will automatically navigate to the key menu for the selected keyer.

2. Select **LUMA KEY** as the key type on the Keyer menu.
3. Select the **fill source** by pressing the button that corresponds to the fill video source on the **select bus**. If the source is mapped to a shifted crosspoint, you may need to press the **SHIFT** key on the program bus.

4. Select the **cut source** by pressing and **holding the LOCK-SHIFT** button while pressing the button on the **select bus** that corresponds to the **cut video source**.

IMPORTANT:

Pressing the LOCK-**SHIFT** button on the destination bus toggles the assignment of the select bus between fill and cut sources.

5. If you do not have a CUT source, you may be able to use the same source. This is known as a **self-key**. To perform a self key, simply select the **same select bus crosspoint** as both the **cut and fill** source.

WARNING:

If your CUT signal is set to BLACK, you will not be able to correctly set up your linear key.

11.2.2 Linear Key Adjustments

All adjustments to your linear key are made through the rotary encoders and soft keys in System Control & Display section of the Overture Control Panel.

Clip	The clip level sets a threshold that defines the size of the key signal. If the clip is set to zero, the key will be clipped all the way in. With the clip set to 999, the key will probably not be visible. Adjust the clip level until the key hole is the desired size.
Gain	The gain adjustment determines the softness of the key edge.
Reverse	The reverse key inverts the key signal. The cut and fill regions of the video swap when reverse is selected.
Shaped	Most character generators produce shaped keys. The cut source has already been carefully produced, to allow soft edges, drop shadows and transparency effects. The fill source exactly matches the cut source, and neither should be modified by keyer adjustments. When Shaped is enabled, the clip and gain adjustments are removed.
Set KMEM	Refer to the section 11.A, Key Memory
Fly Key	Refer to the section 11.A, Flying A Key
Mask	Refer to the section 11.A, Key Masking

11.3 Setting Up a Chromakey

A chromakey selectively replaces a color in the fill source with the background video. The most common example of a chromakey is a computer-generated weather map behind a

weatherman. The weatherman stands in front of a carefully painted and lit wall that is typically bright blue or green. The chromakey electronically searches for this color, removes it from the fill source, and generates a key signal that displays the background source in the areas where the color has been removed.

11.3.1 Select the Cut and Fill Source

The cut and fill sources are selected using the select bus of the panel.

1. Navigate to the **EFF KEYS** menu using the System Control.

Adding a keyer to the next transition will automatically navigate to the key menu for the selected keyer.

2. Select **CK KEY** as the key type on the Keyer menu.
3. **Select** the **fill** source by choosing a **crosspoint** on the **select bus**.

You must select the **source** with the specially prepared **chroma-key backdrop** as the **fill source**. Since the key signal is automatically generated from the fill source, the cut source is ignored.

11.3.2 Chromakey Adjustments.

Hue	The hue adjustment selects the color that will be replaced. Rotate the hue knob until the background keys through the desired color.
Gain	The gain adjustment determines how the colors around the select hue are keyed. Adjust the gain knob until the edges of the keyed region appear the way you want them.
Ys Luminance Suppression	The luminance suppression adjustment sets the black level of the region where the chromakey level has been removed. Adjust the luminance suppression knob until the black level of the chroma removed region is correct.
Lift	Key lift should normally be set to zero for a well set up chromakey scene. Key lift allows very low saturation values of the keyed color to be excluded from key. Colored light spilling onto a neutral colored object in the foreground will sometimes cause small areas to key to the background source. Key lift allows you to fill these small holes in the key signal.

Narrow	The acceptance angle of colors around the selected hue should generally be as broad as possible to achieve natural looking chromakeys. Sometimes, if some colors in the Fill source are too close to the chromakey color, it may be hard to exclude them from the key. Selecting the Narrow button uses a smaller acceptance angle around the chromakey color. Selecting Narrow temporarily, may help you center the Hue adjustment.
Set KMEM	Refer to the section 11.A, Key Memory
Fly Key	Refer to the section 11.A, Flying A Key

11.3.3 Adjusting Parameters with a Vectorscope

You may wish to set up a chromakey using color bars as the background source, and watching the result on a vector scope as you perform the following procedure.

1. Turn **Narrow off**.
2. Set **Lift** to 0.
3. **Adjust** the hue until the color hex **dots are centered** around black.
Adjusting the **hue knob** will offset the black point, and the constellation of the 6 color bar dots will rotate around the screen.
4. **Adjust** the gain until the color **bars** are near their **target boxes** on the vector scope.
Adjusting the **gain** will expand and contract the color vectors about the center.
5. Adjust the **Y-suppression** knob until the **black level is correct**.

11.4 Setting Up a Preset Pattern Key

Each effects keyer in the switcher has a dedicated pattern generator that can produce key signals in a variety of geometric shapes. The shapes can be sized and positioned to produce the desired key signal.

11.4.1 Select the Fill Source

1. Navigate to the **EFF KEYS** menu using the System Control.
Adding a keyer to the next transition will automatically navigate to the key menu for the selected keyer.
2. Select **PATT KEY** as the key type on the Keyer menu.
You need only select a fill source, since the key signal is generated by the pattern generator. The cut source is ignored. In place of a cut source, you

must select a pattern from the pattern menu of the keyer that you are setting up.

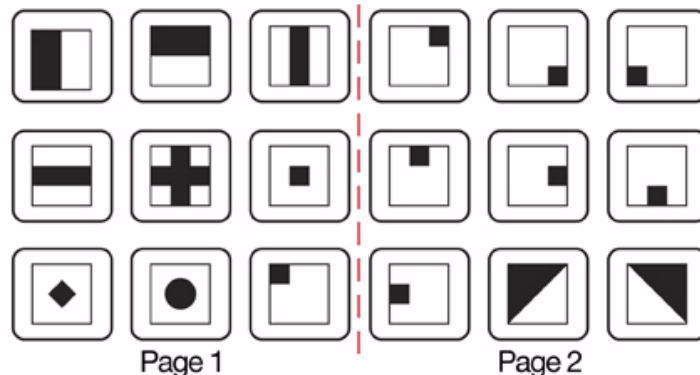
3. **Press** the **PATT MENU** button to view Pattern options.

4. **Select** a pattern option from the PATT MENU.

11.4.2 Preset Pattern Adjustments.

Softness	The softness adjustment changes the softness of the edge of the key signal.
Size	The size adjustment increases and decreases the size of the selected pattern.
X & Y Position	Some of the patterns may have their center point repositioned. To position a pattern, navigate to the pattern selection page of the keyer you are setting up. Use the joystick to move the pattern vertically and horizontally. To re-center the pattern, press the pattern select button of the current pattern in the menu. This will reset the position and symmetry of the pattern.
Symmetry	Some of the patterns may have their symmetry or aspect ratio adjusted. Circle patterns may be adjusted to become horizontal or vertical ellipses. The symmetry adjustment is on the Z axis of the joystick when you are on the pattern selection page of the keyer you are setting up. Twist the knob of the joystick to adjust its symmetry.
Reverse	The Reverse button is used to invert which region is filled with the fill source. For example, fill a region outside of a circle by positioning the circle wipe as desired and then selecting Reverse.
Set KMEM	Refer to the section 11.A, Key Memory
Fly Key	Refer to the section 11.A, Flying A Key

11.4.3 Pattern Menu Options



11.5 Setting Up DVEs

Your effects key have DVEs that can transform the fill and key signal used by the keyer. The video sources may be resized, positioned in X and Y, and rotated about their center. This section describes how to set up the keyer to display the output of the DVEs.

The DVEs may be used to create a “picture-in-picture” box, which may have a border. The DVE creates the key signal to insert the box into the background video.

11.5.1 Select the Fill Source

1. Navigate to the **EFF KEYS** key menu using the System Control.

Adding a keyer to the next transition will automatically navigate to the key menu for the selected keyer.

2. Select **DVE KEY** as the key type on the Keyer menu.

You need only select a fill source, since the key signal is automatically generated. The cut source is ignored.

3. Select the **fill** source by choosing a **crosspoint** on the **select bus**.

11.5.2 DVE Adjustments

X& Y Position	The X & Y position of the DVE is adjusted with the joystick. If SHIFT is held while moving the joystick, the DVE will be twisted and rotated around it's center point.
Size	Adjust the size of the DVE.
Border	Refer to Section 11.5.3, DVE Border
Rotation	Spin the box around its center point with the Rotation adjustment knob.
Rotation Reset	Press Rot Reset to quickly set the rotation back to 0.
DVE Reset	Press DVE reset turns off the border, and positions the size and position of the DVE to full screen. If you ever lose track of the DVE during adjustment, you can press reset to bring the DVE to full screen, then squeeze it back into position.
Set KMEM	Refer to Section 11.A, Key Memory

11.5.3 DVE Border

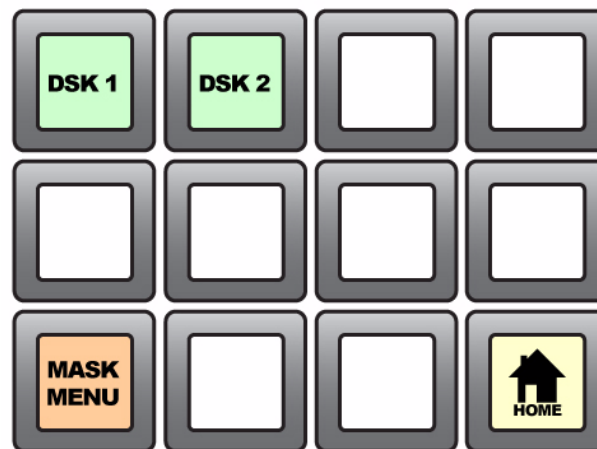
DVE's include a powerful border capability. These borders allow the user to adjust everything from light source, color, and style, to softness and hue.

- Access the Border menu by clicking on “DVE” under “EFF KEYS” and then selecting “BORD MENU.”

Under the Border Menu you will be presented with eight ‘styles.’ Each style is a different 3D-appearance border. After choosing a style, you will be able to make changes to various settings which are adjusted with the rotary encoders:

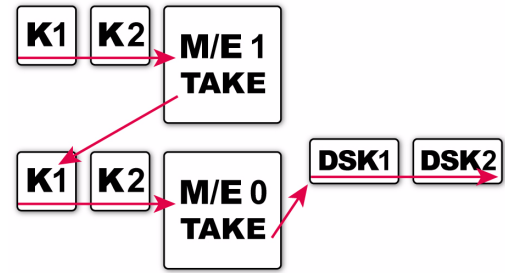
SOFT/color Softkey	Changes from the SOFT Menu, to the COLOR Menu. This softkey is the furthest right on the Display.
Width	Adjusts the width of the border. SOFT Menu item.
IN Soft	Adjusts inside (towards the DVE video) softness. Softness is how ‘hard’ the border line is. SOFT Menu item.
3D Soft	Adjusts 3D (middle of the border) softness. Softness is how ‘hard’ the border line is. SOFT Menu item.
OUT Soft	Adjusts outside (away from the DVE video) softness. Softness is how ‘hard’ the border line is. SOFT Menu item.
Hue	Adjusts the hue of the DVE image. COLOR Menu item.
Sat	Adjusts the saturation of the DVE image. COLOR Menu item.
Luma	Adjusts the luminence of the DVE image. COLOR Menu item.
Lite Dir	Adjusts the direction of the light source on the border. COLOR Menu item.

11.6 Setting Up a Downstream Keyer



A Downstream Keyer, or DSK, provides a key at the end of a video signal, ‘down’ at the end of the video stream.

The video signal flow moves from Key1 to Key 2 to Key 3 to Key 4, to the Transition Block, and then finally to DSK1 followed by DSK2. Each subsequent step is a higher level layer of the video, so K1 is ‘upstream,’ or lower layered, than TAKE which is upstream, or lower layer, than DSK1. DSK1 is then beneath DSK2, as DSK2 is further downstream than DSK1. Due to this, a DSK is always on top of the rest of the video signal, regardless of what keys may be active.



DSK's are normally set up in a pre-production environment; the best way to preview a DSK is with the Key-Tie function. The Key-Tie function allows the DSK to be previewed on an M/E preview output but also “ties” the key to the next transition. Once keys are set up they can be saved and recalled later.

11.6.1 Select the Cut and Fill Source

The cut and fill sources are selected using the select bus of the panel.

1. From the **HOME** page of the System Control Menu you press the **DSK KEYS** button. Once inside this menu select either **DSK 1** or **DSK 2**.

You may also simply select DSK 1 Tie or DSK 2 Tie, this performs 2 functions, first it will select the DSK KEYS area of the System Control Menu and the correct DSK that you want to use, but secondly, it will begin to output the Keyer to the ME preview output for viewing while setting up.



Select the **FILL** source on the **select bus**.

Hold the **SHIFT** button and select the source on the **Select Bus**.

IMPORTANT:

Overture DSK's will self key. If you do not have an alpha output for your cut source you can select the same source for cut as you did for fill. With a proper graphic and adjustment, a quality key can be achieved, however, there will be no linearity available in the key to achieve transparency.

11.6.2 DSK Adjustments

Clip	The clip level sets a threshold that defines the size of the key signal. You will adjust this value until the “cut” hole is the correct size. Rotating the rotary encoder knob just below this display will adjust this value. Counterclockwise rotation decreases the hole size, clockwise rotation increases the size. Adjust the clip until the entire graphic area is visible. If the background video blacks out, the clip value is too high.
Gain	The Gain adjustment is used to soften the edges of the Key. Rotating the knob under the Gain value in the display counterclockwise will soften the edges of the key. A properly set Gain adjustment will be achieved when the edge softness is desirable but the background video luminance or brightness is not affected. After the Clip and Gain are set correctly, alternately press the DSK 1 Tie button to remove and return the key to preview. Make sure that no changes in background video levels are seen as the key jumps in and out.
Shaped	Overture has an auto key adjustment known as Shaped Key. If the Character Generator or graphic that you are using outputs a Shaped Key, Overture will key that graphic properly automatically. To turn on Shaped Key for the DSK press the white button directly below the word “shaped” in the display window. While in shaped mode you will see no Clip and Gain values in the display because the switcher is auto-keying the graphic. Pressing the Shaped button again turns shape off and returns the Keyer to manual adjustment mode. Shaped Keys have black level that is set to 16 and white level that is set to 235.
Key Mask	Each DSK has a mask available to crop the key. To activate and adjust the Mask for a DSK press the Mask Menu button in the System Control Menu for the appropriate DSK. Once inside the menu, to activate the mask press the white button directly below the word mask in the display. You will now see Top, Bottom, Left, and Right and their values in the display. Rotating the knobs below each value will move that portion of the mask in, cropping the graphic. To reset the mask to it’s default settings, press the white button under the mask rst display. Pressing the mask white button again will turn the mask back off for that Keyer

11.A MANIPULATING KEYS

11.A.1 Flying a Key

Key ‘Flying’ is the process of animating a key and moving it from one point on a screen to another. Each move consists of 2 user-defined keyframes: A and B. Keyframes allow a user to choose the starting and ending location, size and rotation of the move. Overture1 will interpolate the DVE action between the keyframes to create a smooth motion path.

When flying a key, the DVE is a modifier of fill and key signals that have already been computed though some other keying method. A DVE may fly any type of key; Luminance, Chromakey or Preset Pattern. The key menus contain a Fly button.

- 1. Press the **Fly** button to turn on the DVE to **transform** both the Fill video and the key signal before the keyer.
- 2. Use the joystick to position and size the key.
- 3. Adjust additional parameters, such as size, rotation, or border as necessary.

11.A.1.1 Building Moves

- 1. One you have setup your selected key, select **MOVE MENU** or **FLY MENU**.
- 2. Position the key for Keyframe A (start of move). Press **SET KFRM A**.
- 3. Position the key for Keyframe B (end of move). Press **SET KFRM B**.

Once you have selected the Fly Menu, press the ‘Fly’ key to display new adjustment options in the System Control Display consisting of Rotation & Rate. In the case of DVEs, the adjustments are visible immediately upon hitting Move Menu, and include the additional option of adjusting your Border parameters.

After A and B keyframes are set, a number of moves are possible:

	To move from A to B, press Run to B. The move will execute at the rate specified as the Recall Rate.
	To cut from A to B, press Shift + Run to B. The move will execute in 1 frame.
	To move from B to A, press Run to A. The move will execute at the rate specified as the Recall Rate.

 + 	To cut from B to A, press Shift + Run to A. The move will execute in 1 frame.
	To move from either keyframe to full screen, press Run to Full. The move will execute at the rate specified as the Recall Rate.
 + 	To cut from either keyframe to full screen, press Shift + Run to Full. The move will execute in 1 frame.
	To move from either keyframe to infinity (straight back from current position), press Run to Infinity. The move will execute at the rate specified as the Recall Rate.
 + 	To cut from either keyframe to infinity, press Shift + Run to Infinity. The move will execute in 1 frame.
 OR 	After moving to infinity, press either Run to A or Run to B to return from the last infinity location.

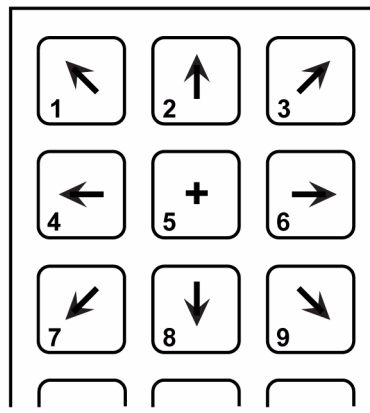
NOTE:

When the key is at Keyframe A, SET KFRM A will be lit.

When the key is at Keyframe B, SET KFRM B will be lit.

11.A.1.3.1 Directional Chart for Run to Infinity:

Run to Infinity also offers other executable moves. By entering a numeric argument, the DVE will move from it's current position to infinity, in a specified direction.



11.A.1.4 Saving Moves

To save a move, enter a number (1-99) and press Save Move.

11.A.1.5 Recalling Moves

To recall a move, enter a number (1-99) and press RCL Move (recall).

11.A.1.6 Creating Multi-keyframe moves

You can link Saved Moves to create multiple keyframe moves.

1. Position the key for Keyframe A (start of move). Press **SET KFRM A**.
2. Position the key for Keyframe B (end of move). Press **SET KFRM B**.
3. Enter a number (for this example, enter 10) and press **Save Move**.

NOTE:

Do not make any changes to the DVE Size or Positioning.

4. Press **SET KFRM A**.
5. Position the key for Keyframe B (end of move). Press **SET KFRM B**.
6. Enter a number (for this example, enter 11) and press **Save Move**.
7. **Repeat** the above process until you have saved all the keyframes for the move.

11.A.4.7 Playing Multi-keyframe Moves

1. Recall (for this example 10). The key will position at Keyframe A. Press **Run to B**.
2. Recall (for this example 11). Because **Keyframe A of Move 11** is the **same as Keyframe B of Move 10**, the key will not change. Press **Run to B**.
3. **Repeat** the above process until you have **recalled all the keyframes** for the move.

11.A.2 Masks

Each keyer, Effects or DSK, has an adjustable mask. The Mask Menu is accessed through any of the Key menus. The mask consists of left, right, top, and bottom of the active video window.

11.A.3.1 Adjusting Key Mask

1. Select the **Mask Menu**. Note that the display now shows soft key assignments for **mask** and **mask rst** (reset).
2. **Turn on mask** by selecting the soft key.
3. Now the **rotary encoders** control the sides of the mask.

4. Use the rotary encoders to **adjust the mask**. Mask Rst will reset to default values of no visible mask.
- 5.

11.A.3 Key Memory

Key Memory is a valuable tool that allows you to setup your keys only once, with the flexibility of being able to adjust the key parameters to match the demands of live production.

A particular fill source will often be keyed in the same way at all times. As an example, the fill output from a character generator will always be keyed with the cut output from the character generator. If the output is a shaped key, then a shaped luminance key will always be used.

Since you invest time in setting up your keys, it is convenient to have the switcher remember the settings, and re-use them automatically in the future. This is the function performed by key memory.

Key Memory allows the user to simply press a key source and, with Key Memory turned on, all of your previous settings will be recalled for instant use.

- After setting up a key, pressing the **Set Keymem** stores all of the settings from the current Keyer.
 - If key memory is turned on, when you select a fill source for a keyer, all of the keyer settings that were stored for the selected Fill source are recalled including the cut signal.
 - A key memory saved on a particular keyer, can be recalled on any other keyer with similar capabilities.
 - Luminance keys can be saved and recalled on any keyers.
 - Preset Pattern and Chromakeys can be saved and recalled on effects key 1 through key 4
 - DVE keys can be saved and recalled on effects key 1 through 4.
 - Key memories are stored on the memory card, so they are retained by the switcher even when the power is off.

NOTE:

When using Key Memory, the following will be saved or recalled for each source where KeyMem has been enabled:

- Cut Source
- Key Type
- Key Parameters
- Mask Parameters
- Patterns (Pattern Keys)

11.A.3.1 Setting Up Key Memory

1. **Turn off** key memory.

At the top level of the menus, ensure that the Key Mem button is not illuminated. If it is, press the button to turn it off. Since key mem automatically recalls keyer settings when a fill source is selected, it can be confusing to set up keyers with key memory enabled.

2. Select a source that will be used as a **key fill source**. **Set up the keyer according to the specific key instructions from Section 11.** After the key is adjusted the way you want, press **Set Keymem**.
3. **Repeat step 2** for any other source that will be used as a **key fill source**.
4. Turn **key memory on**.

NOTE:

Verify your settings by previewing a keyer, and select each fill source that you set up. The keyer should be properly configured for each source.

5. To save the current setting to the memory card, return to the top level of the menu (**HOME**), and press **Save Keymem**.

WARNING:

If you turn off the switcher without saving the key memories to the memory card, your changes will be lost.

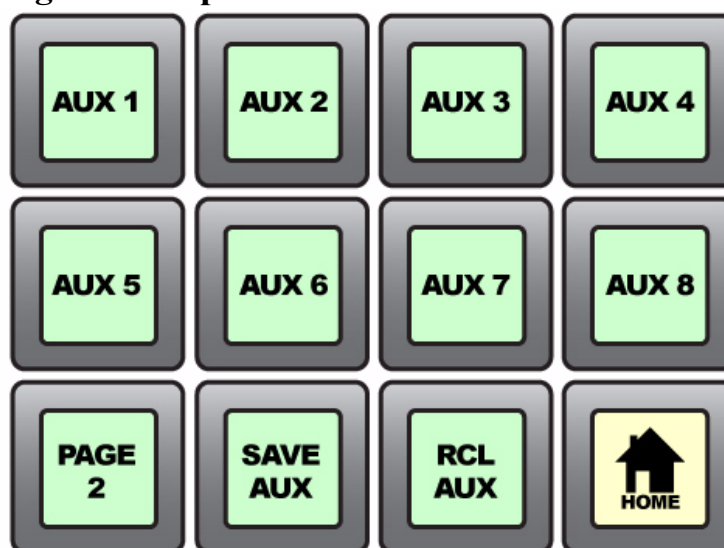
12.0 AUX MAPPING

The Overture2 production system has up to 16 aux outputs, 12 of which are routable, depending on your system configuration and chassis. These outputs are routable from the panel using the System Control. You can point your aux outputs to any input source, program, preview, or cleanfeed.

NOTE:

All of the aux outputs are timed.

12.1 Routing Aux Outputs



1. First, select **AUX** from the System Control.
2. In the System Control, **select** which **Aux** you wish to **configure**.
3. On the Source Select Bus, choose an input for your Aux.

NOTE:

To choose a Shifted source, press Shift before choosing your input. To choose Program/Preview/Cleanfeed, perform a 'Double Shift' by pressing both 'Shift' keys simultaneously.

IMPORTANT:

The switcher will perform a "clean" switch when changing sources through an Aux.

12.1.1 Routing an Aux Output through the Designation Bus

The Destination Bus only allows access to auxes 1 through 12, with access to 13-16 available on the USC so long as your chassis supports 16 aux outputs.

1. On the **Destination Bus**, choose the **Aux** you wish to configure.

To select auxes 7-12, press Lock-Shift before selecting your Aux.

2. On the **Source Select Bus**, choose an **input** for your Aux.

The labels beneath the bus correspond to the Source Select Bus above it.

3. To choose a Shifted source, press Shift before choosing your input.
4. To choose Program/Preview/Cleanfeed, Double-shift by pressing the Source Select Shift and Input Select Shift simultaneously before choosing your input.

12.1.2 Saving & Recalling Auxes

1. Press a **number** on the **keypad**.
2. Press **"Save Aux"**
3. Your aux mapping is now saved to the number you have selected.

To Recall:

1. Press the **selected aux number** on the **keypad**.
2. Press **"RCL Aux"**
3. Your aux mapping has been restored.

NOTE:

In order to make your Aux Save the reboot default, save as number zero (0).

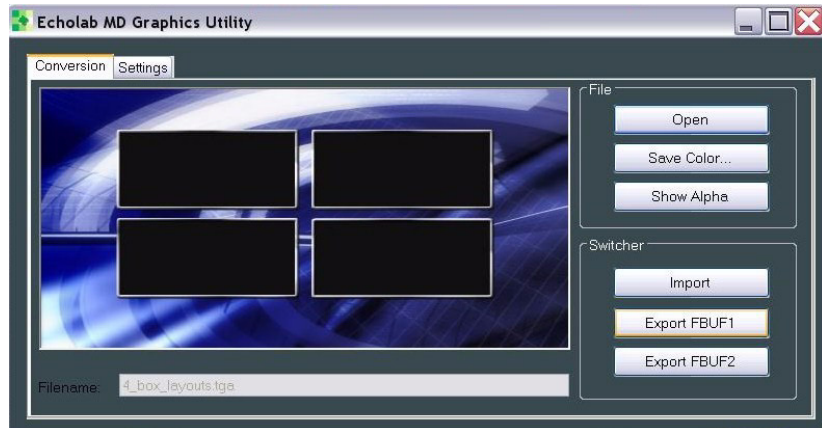
WARNING:

Unless you have an Aux 0 save, the switcher will not retain Aux Mapping. All auxes will return to default upon reboot without an Aux 0 default.

13.0 GRAPHICS UTILITY TOOL

The Echolab Graphics Utility Tool enhances the ability of users to load images into the frame buffer, as well as capture and save images from the frame buffer to their computer for editing or other uses.

13.1 Starting Graphic Utility Tool



1. On your Windows desktop, click the **Start** button
2. **Browse** to "**Programs>Echolab>**"
3. Locate the "**Graphics Utility**" icon in the program folder.
4. **Click** the icon to execute, and Echolab Graphics Utility will start automatically.

13.2 Conversion

13.2.1 Preview

The Preview screen shows the current image that the Graphics Utility Tool is working with, as well as filename and location of the image.

NOTE:

You can also drag and drop into the preview window.

13.2.2 File & Switcher Options

1. Open:
Opens a graphic from the selected graphics folder, and displays it in Preview.
2. Save Color:
Saves the selected image shown in Preview as a.nov file for use on the switcher.
3. Show Alpha:
Shows the current image's Alpha channel.
4. Import:
Imports the current image from frame buffer 1 to the preview.

WARNING:

Graphics Utility Import will not import Frame Buffer 2.

5. Export FBUF:

Exports the current image to frame buffer 1.

6. Export FBUF2:

Exports the current image to frame buffer 2.

13.3 Settings

1. Switcher IP Address

The IP Address your switcher occupies.

2. Video Format

NTSC or PAL video standard.

3. Graphics Folder

The folder you wish to open and save images to.

13.4 Using the Graphics Utility Tool

13.4.1 System Requirements

The Echolab Graphics Utility is compatible with computers running the Microsoft Windows XP, or Windows Vista operating systems.

13.4.2 Image Size and Aspect Ratio

The OvertureSD switcher operates in both NTSC and PAL video standards.

Both PAL and NTSC video monitors have an aspect ratio of 4:3, but the active image areas have different numbers of pixels.

<i>Standard</i>	<i>Horizontal Pixels</i>	<i>Vertical Pixels</i>
NTSC	720	486
PAL	720	576

Neither standard has the ‘square pixels’ that are customary in the world of graphics on computer displays. You must work with your image editing tool to control aspect ratio distortion when your graphics are displayed on video screens with ‘non-square pixels’.

The gamut, or acceptable color range, of video images is smaller than the gamut of computer images. Very saturated and bright colors produce gamut errors when converted to video. Some image editing tools provide filters to help you work within the limited range of legal video colors.

There are many external references that contain helpful information on managing the aspect ratio, resolution and color challenges of displaying computer generated graphics on video.

13.4.3 Supported File Formats

The Graphics Utility application supports several file formats:

- .JPEG, .JPG
- .GIF
- .BMP
- .PNG
- .TGA (32bit TGA type also; See Section C, How To Create A Shaped Key)
- .NOV (Echolab Native Switcher Format)

14.0 SEQUENCEEDITOR

SequenceEditor provides an easy-to-use method of compiling new sequences for use with SequenceEditor. This section explains how to use SequenceEditor, as well as what each event does.

14.1 Starting SequenceEditor

Echolab ConfigurationTools automatically install a shortcut on your Windows desktop.

1. On your **desktop**, look for "**Echolab SequenceEditor**" with the green Echolab logo as it's icon.
2. **Double click** the icon to start.

14.2 Creating a Sequence

1. When you first **start SequenceEditor** you will be looking at a simple grey window.
2. To start, select **File>New** or "**Ctrl-N**"
3. You will now be looking at a white command window. You may choose to **describe** your sequence here in the top input dialog.

This description can be read from the panel display for a loaded sequence.
A maximum of 10 alpha-numeric characters is allowed.

4. **Right-click** and select Record, or press the Record button in the Sequence **window** to build the sequence.

IMPORTANT:

It is important to understand this list of events acts as a playlist and that the operations entered will be executed one-by-one starting from the top of the list.

5. Press buttons on the panel, and they will be recorded directly into SequenceBuilder.

NOTE:

Pauses can be set to a defined time in frames (0-999) or can be set as an indefinite "Front Panel Resume". When a Sequence encounters a "Front Panel Resume", the Sequence stops and the SEQ switch on the panel blinks until the operator pushes it again to continue the Sequence operations.

IMPORTANT:

It may be very useful to start a Sequence with a Panel or ME recall. This creates a defined starting condition for the Sequence.

WARNING:

As a sequence is built, pauses will be automatically added for items which include a rate. It is recommended that each sequence be tested and refined as pauses are manually entered to achieve the expected results.

14.3 Exporting a Sequence

Remember to build your sequence one event at a time, referring to the Command Library for a description of the events. Once you've completed your Sequence, you may be ready to Export it for testing and use. There are two options for this, and both will be explained below:

14.3.1 Exporting to the CF Card

1. Ensure you are **networked** to your **switcher** and that there is communication.

A simple way to do this is to ping the IP Address shown on your panel.

2. **Confirm** that you are **finished** with your **Sequence** and are ready for it to be implemented in a 'live' atmosphere.
3. Select **File>Export To CFCard**.
4. When prompted, **type** the **number** of the **sequence** you wish to create.
5. Hit **OK**.

14.3.2 Exporting directly to the Switcher

1. Ensure you are **networked** to your **switcher** and that there is communication.

A simple way to do this is to ping the IP Address shown on your panel.

2. **Confirm** that you are **finished** with your **Sequence** and are ready for it to be implemented in a 'live' atmosphere.
3. Select **File>Export to Switcher Button** or **"Ctrl-E"**
4. In the Export Sequence to **Switcher window**, **select** the **Sequence Button** you wish to assign.

14.3.2 Executing the Sequence from SequenceBuilder

1. Ensure you are **networked** to your **switcher** and that there is communication.

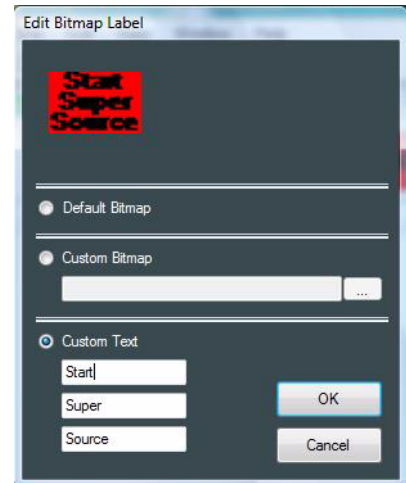
A simple way to do this is to ping the IP Address shown on your panel.

2. **Confirm** that you are **finished** with your **Sequence** and are ready for it to be implemented in a 'live' atmosphere.
3. Select **File>Execute Sequence**.

14.4 Sequence Bitmap

Each sequence allows a custom bitmap, which can be accessed by Double-clicking the sequence icon in the upper right of the sequence. Each bitmap allows three options:

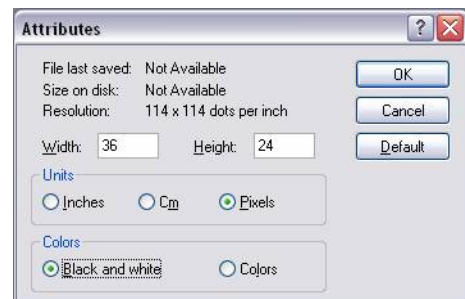
- **Default Bitmap**
Clicking on the radial for “Default Bitmap” will set the sequence bitmap to it’s default.
- **Custom Bitmap**
To choose a Custom Bitmap, select the “Custom Bitmap” radial. Press the “...” icon and browse to the image you wish to use. The image must conform to certain standards, included below in “Graphic Information.”
- **Custom Text**
To choose up to three lines of Custom Text, select the “Custom Text” radial. Each line updates dynamically to allow you to gauge how legible a word or phrase will be.



14.4.1 Graphic Information

To make a graphic compatible with the Sequence Labels, you need to make a graphic that is:

- 36x24 Pixels
- Black & White
- Windows Bitmap (.bmp file extension)



14.5 Understanding the ControlBar

The graphic control bar comes with nine easy-to-find control shortcuts:

- **New Sequence:** Starts a brand new sequence for use
- **Open:** Opens a previously saved sequence
- **Save:** Saves the current sequence for use later
When saved, the sequence is saved as a .xml file. This file cannot be directly exported onto the switcher, it must be exported through SequenceEditor as a .seq.
- **Cut:** Removes selected events from the current sequence to the clipboard
- **Copy:** Copies select events from the current sequence to the clipboard
- **Paste:** Places last clipped events on the clipboard in the current sequence
- **Delete:** Removes permanently the selected events.
- **Redo:** After an ‘Undo,’ will reverse the Undo
- **Undo:** ‘Undo’ the last event entered
- **Record/Stop:** Starts or ends the recording feature in SequenceBuilder.

15.0 CONDUCTOR

IMPORTANT:

Within this Guide, there is an abbreviated method of explaining menu commands. For example “File>New” means “Select ‘New’ from the ‘File’ menu.” You may also notice differences between screen captures and what you see on your screen, due to differing hardware, software, and preferences.

15.1 Starting Conductor

1. Locate the **“Echolab Conductor”** icon on your Windows Desktop.
2. **Double-click** the icon to execute, and Conductor will start automatically.

15.2 Understanding the Interface

The Echolab Conductor interface consists of four control tabs and six Quick Launch sequence buttons. Each control tab has a separate interface allowing the user control over that section, with the ability to switch to any of the other sections. The persistent Quick Launch sequence buttons allow the user to quickly utilise popular sequences regardless of their location in the interface.

15.2.1 Control Tabs



All sections of Conductor are accessed by the control tabs constantly visible from the top of the screen. Simply click on the tab you want to access and a new section will appear. The section you are currently viewing will be a slightly darker grey.

You will find a section on each of the tabs (Sequences / Graphics / Aux Control / Third Party) included below.

15.2.2 Quick Launch Sequence Bar

- Quick Launch Sequence Bar
The Quick Launch Sequence Bar is visible on all sections of Conductor. Visible at the top of the screen, it allows users to have Quick Launch access to popular or vital sequences without having to return to the Sequence tab.
 - Simply click on the button for the sequence you want to fire, and Conductor takes care of the rest!
- Sequence Monitor
Every sequence added to the Quick Launch Sequence Bar also has a visible status monitor designed to help you understand what's happening to your sequences. Each sequence has three possible status':

- **Ready:**
The sequence is ready to be fired. Simply click the 'READY' icon to fire the sequence.
- **Running:**
The sequence is running now.
- **Paused:**
The sequence has been paused. Click the 'PAUSED' icon to continue the sequence.

15.2.3 Connection Information

- **Connection Monitor**

The connection monitor section of the connection information box represents connectivity to the switcher. The status will show one of three different colors, each representing a different level of connectivity.



NOTE:

Conductor requires a license key, similar to frame synchronizers and stores, to operate. If the license file does not have Conductor enabled then the Conductor will not connect to the switcher, making it inoperable

1. Green

Green status indicates that the switcher is fully connected, and is communicating with Conductor successfully.

2. Yellow

Yellow indicates that the switcher is attempting to connect.

Yellow connection does not necessarily mean that your switcher or Conductor is not working, merely that they are not successfully connected. This could be a disconnected wire, or other similar issue.

3. Red

Red indicates that the switcher is not communicating with Conductor.

Red connection indicates an issue with either your switcher or Conductor. You should contact your dealer or Echolab for assistance.

WARNING:

If your switcher is consistently showing yellow or red connection, refer to Section E, Troubleshooting IP Connection.

- **Switcher**

This refers to the name and type of switcher you are using.

- **Version**

Version number refers to the firmware running on the switcher.

- **Standard**

This will inform you of which standard you are operating in.

- **Framebuffer**

Depending on the type of switcher and panel you are using, you may see one of two different types here:

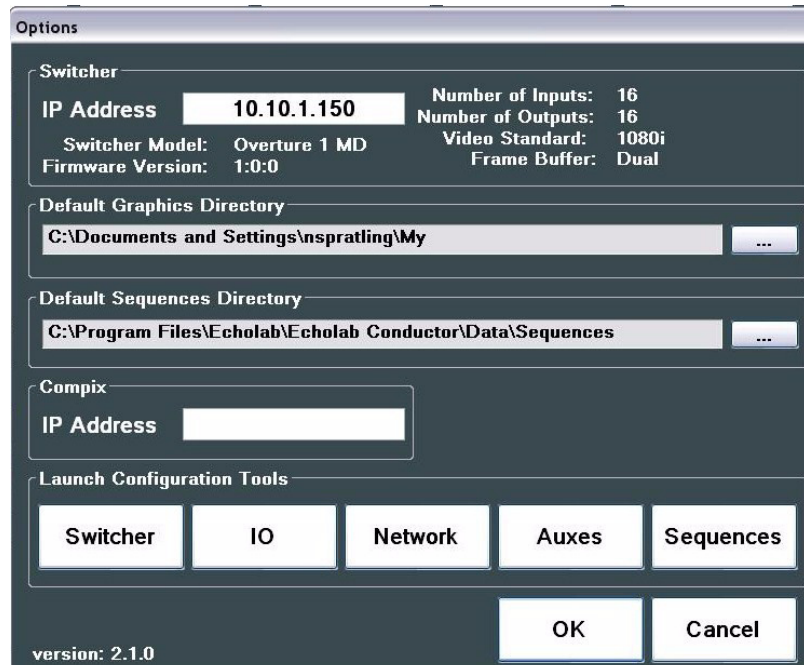
1. Single/Alpha

This refers to the fact that your switcher supports a single framebuffer and a single alpha buffer. Under the graphics control tab you should notice that you have a framebuffer preview and an alpha buffer preview.

2. Dual

This refers to the fact that your switcher supports two framebuffers. Under the graphics control tab you should notice that you have two frame buffer preview windows.

15.2.4 Options



Right-clicking on the Echolab logo on Conductor will present you with the Options dialog. The Options selector allows you to alter the end-user configuration for your Conductor.

NOTE:

Your screen will be altered depending on your switcher & Compix IP's, input/output information, and folder selections.

1. Switcher IP Address

Conductor allows you to quickly reference the IP Address of the switcher, or change the IP for a different switcher on the fly! Also includes number of Input/Output, video standard, firmware version and switcher model.

2. Default Graphics Folder

This folder holds all the graphics that Conductor uses. You can change the folder on the fly simply by clicking the ‘...’ folder browse toggle.

3. Default Sequences Folder

This folder holds all the XML sequences that Conductor uses. You can change the folder on the fly simply by clicking the ‘...’ folder browse toggle.

4. Compix IP Address

Specify the IP address to allow Conductor to communicate with Compix.

5. Switcher

Starts the Switcher Configuration Tool, refer to Section 3, Configuring your Switcher.

6. IO

Starts the IO Configuration Tool, refer to Section 3, Configuring your Switcher.

7. Network

Starts the Network Administration Tool, refer to Section 3, Configuring your Switcher.

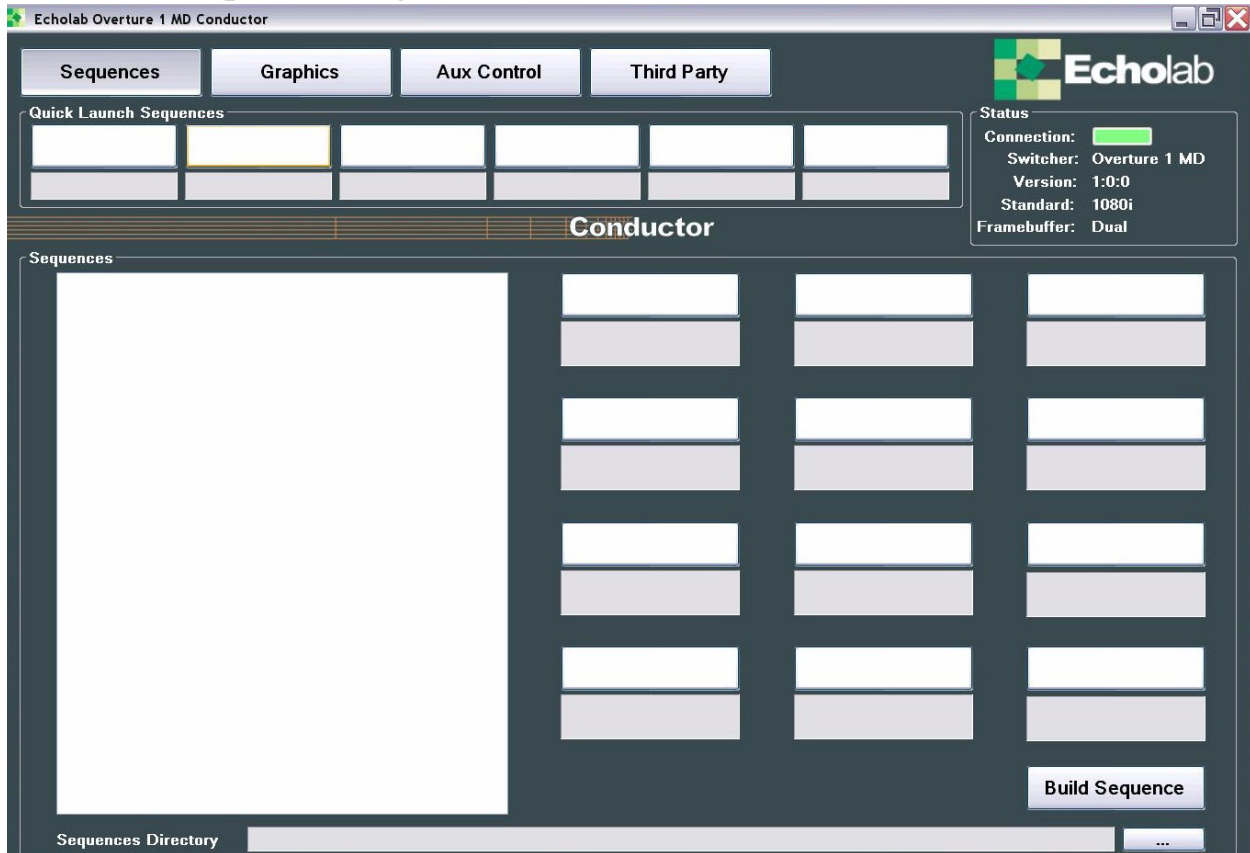
8. Auxes

Starts the Aux Configuration Tool, refer to Section 3, Configuring your Switcher.

9. Sequences

Starts Echolab SequenceEditor, refer to Section 14, SequenceEditor.

15.3 Sequences Page



Sequence List

The sequence list is where all your XML sequences will be available for selection in use with the Quick Launch sequences and the sequence toggles.

Using this list, you will be able to see all the sequences you have already built. Simply highlight the XML sequence file you want to use and you're ready to place it as either a Quick Launch or in the generic sequence toggles (see below). This is a dynamically changing view of the sequences, so you are able to stay LIVE while creating or updating sequences for use. As soon as the sequence is uploaded to the sequence folder, you can use it!

IMPORTANT:

Your sequences must be in XML in order for Conductor to use them. Sequence Builder saves them in XML unless you export directly to the switcher. All sequences on the switcher itself will be in SEQ file format, and are not compatible directly with Conductor.

Sequence Toggles

- **Sequences**

Adding a sequence to one of the 12 toggles available couldn't be easier:

1. Highlight a sequence in the Sequence List. You can do this by selecting it with your mouse, or touching the sequence if you are using a touch-screen.
 2. Push the sequence toggle you want the sequence to occupy.
 3. Push the sequence toggle you want to fire.
- **Sequence Monitor**
There are three status' the sequence can be in:
 - Ready:
The sequence is ready to be fired. Simply click the 'READY' icon to fire the sequence.
 - Running:
The sequence is running now.
 - Waiting:
The sequence in a panel resume state

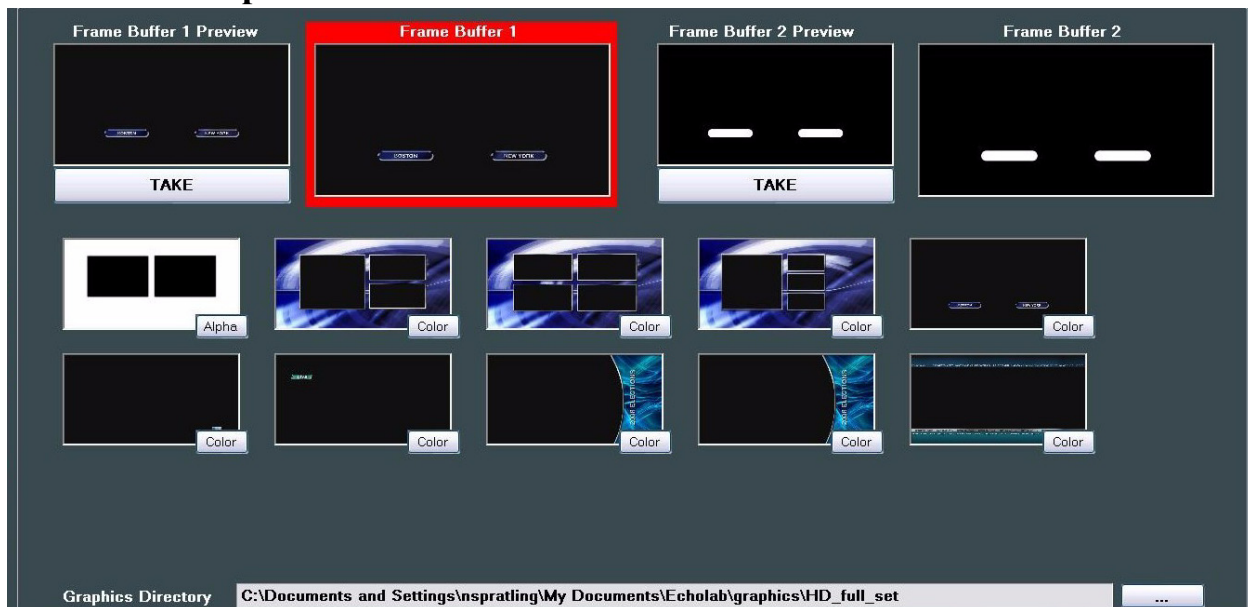
Folder Selector

- **Folder Selection**
The Folder Selection will tell you where you are currently pointing your sequences folder to.
The default folder is "C:\Sequences." To change this, simply follow the instructions under "Browse Folder Toggle"
- **Browse Folder Button**
The "..." icon next to the Folder Selection allows you to change the directory that the sequences folder is pointed at. To do this is simple:
 1. Click the "..." icon.
 2. Browse to the folder you have your.XML sequences located in.
 3. Highlight the folder and click 'OK.' That's it!

Build Sequence

Clicking on the 'Build Sequence' button will launch SequenceEditor. Refer to Section 14, SequenceEditor.

15.4 Graphics



1. Frame Buffer Selector

- **Frame Buffer Preview**

The preview provides a security feature in that you are able to review what you will be sending to air before doing so. To place a graphic in the preview, you simply have to follow these two simple steps:

- Click on the graphic you want to use in the image set.
- Click on the Frame Buffer Preview

- **TAKE**

Pressing the TAKE button will send the graphic in the Preview to the Buffer.

- **Frame Buffer**

This will show what is going across the frame buffer feed currently. If the frame buffer is being used by the panel (ex. ON AIR), the Frame Buffer section will have a bright red border.

2. Frame Buffer 2 Selector

IMPORTANT:

Conductor converts alpha images so that they can be loaded into color frame buffers.

- **Frame Buffer Preview**

The preview provides a security feature in that you are able to review what you will be sending to air before doing so. To place a graphic in the preview, you simply have to follow these two simple steps:

- Click on the graphic you want to use in the image set.
- Click on the Frame Buffer Preview

- **TAKE**
Pressing the TAKE button will send the graphic in the Preview to the Buffer.
- **Frame Buffer**
This will show what is going across the frame buffer feed currently. If the frame buffer is being used by the panel (ex. ON AIR), the Frame Buffer section will have a bright red border.

3. Image Sets

- **Graphic Selections**
All supported graphics will be visible in the image set as long as they are in the graphics folder you have selected.
- **Color Toggle**
Selecting the 'Color' toggle will show you the alpha associated with any 32-bit TARGA file to easily allow you to choose the proper alpha.
- **Up/Down Toggle**
Conductor shows up to 10 images at a time. In order to see other supported graphics, simply click the 'Down' toggle. To return to images previously viewed, simply click 'Up.'

4. Folder Selector

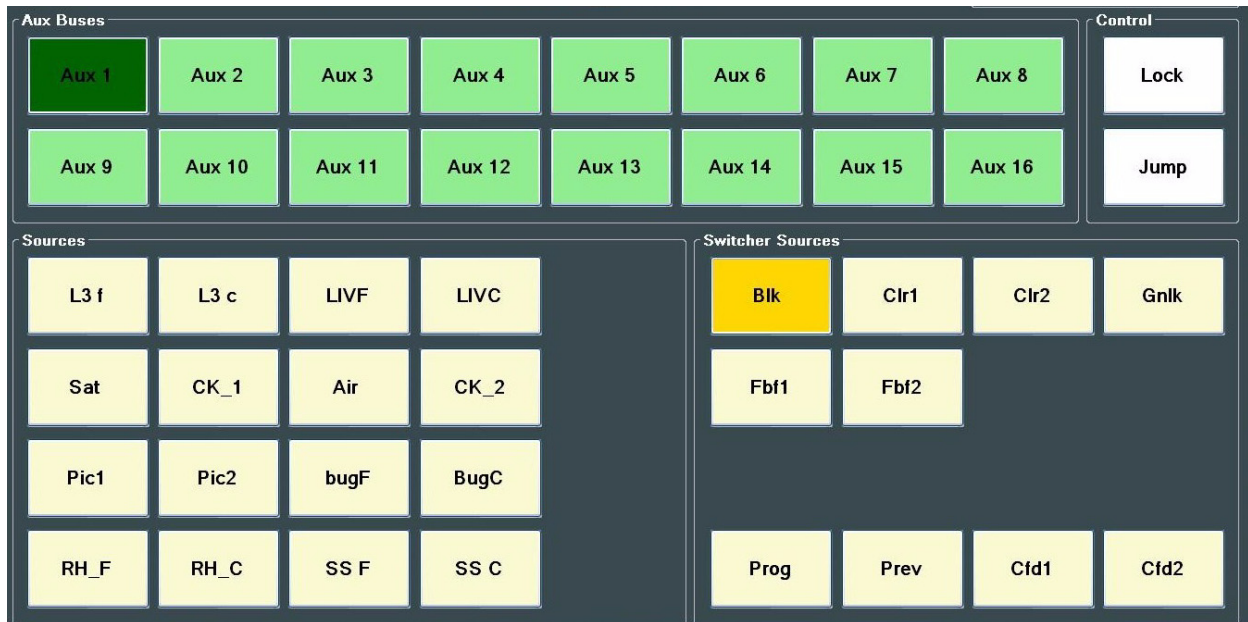
- **Folder Selection**
The Folder Selection will tell you where you are currently pointing your graphics folder to.
The default folder is "C:\MyGraphics." To change this, simply follow the instructions under "Browse Folder Toggle"
- **Browse Folder Button**
The "..." icon next to the Folder Selection allows you to change the directory that the graphics folder is pointed at. To do this is simple:
 - Click the "..." icon.
 - Browse to the folder you have your graphics located in.
 - Highlight the folder and click 'OK.' That's it!

15.4.1 Supported Graphic Formats

The Graphics Utility application supports several file formats:

- .JPEG, .JPG
- .GIF
- .BMP
- .PNG
- .TGA (24 & 32bit TGA; See Section C, How To Create A Shaped Key)
- .NOV (Echolab Native Switcher Format)

15.5 Aux Control



1. Aux Buses

Aux outputs from the switcher.

2. Aux Sources

All available input sources are visible under the 'Sources' subsection. These sources correlate directly with the inputs on your switcher.

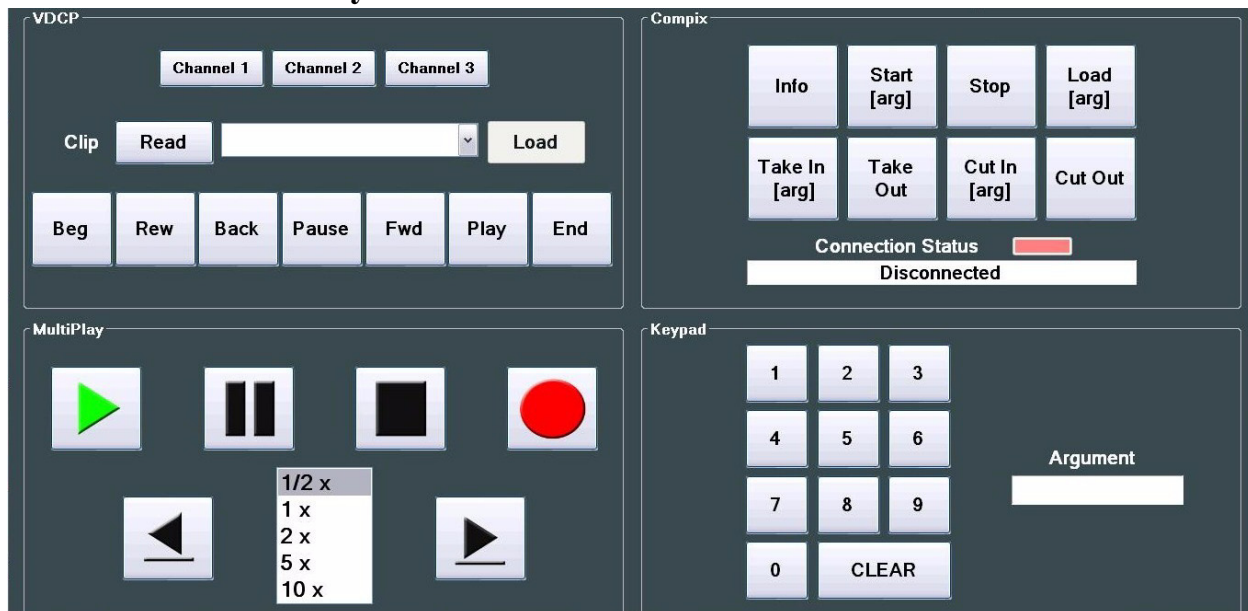
3. Aux Control

- **Lock**
Locks the selected aux bus to it's current settings. Text will turn RED when locked.
- **Jump**
'Jumps' between the last two switcher sources chosen on the selected aux output.

4. Switcher Sources

Additional sources that can be mapped to an Aux output.

15.6 Third Party



1. VDCP Options

- **Channel 1/2/3**
Allows the selection of a channel, whether 1, 2, or 2.
- **Read**
Reads the selected clip.
- **Load**
Loads a clip for play.
- **Beg**
Returns to the beginning of the selected clip.
- **Rew**
Rewinds the selected clip.
- **Back**
Goes back on the selected clip.
- **Pause**
Pauses the selected clip.
- **Fwd**
Fast Forwards the selected clip.
- **Play**
Plays the selected clip from the last position, whether paused or cued.
- **End**
Ends or stops the selected clip.

2. Compix Toggles

- **Info**
Displays information on the current clip.

- **Start [arg]**
Starts the selected clip. Use the keypad (#3) to punch in a number, and then push load. (Ex: '2' + LOAD = LOAD PAGE 2)
- **Stop**
Stops the selected clip.
- **Load [arg]**
Loads a clip. Use the keypad (#3) to punch in a number, and then push load. (Ex: '2' + LOAD = LOAD PAGE 2)
- **Take In [arg]**
Takes in a clip. Use the keypad (#3) to punch in a number, and then push load. (Ex: '2' + LOAD = LOAD PAGE 2)
- **Take Out**
Takes out the current clip.
- **Cut In [arg]**
Cuts in a clip. Use the keypad (#3) to punch in a number, and then push load. (Ex: '2' + LOAD = LOAD PAGE 2)
- **Cut Out**
Cuts out the current clip.
- **Connection Status**
References whether or not a Compix is properly connected. There are two different status' for the monitor:
 - Red: Is not connected
 - Green: Is connected and working properly

NOTE:

Any option that includes the tag '[arg]' means that option requires that an argument is entered before selection. You can do this with the keypad.

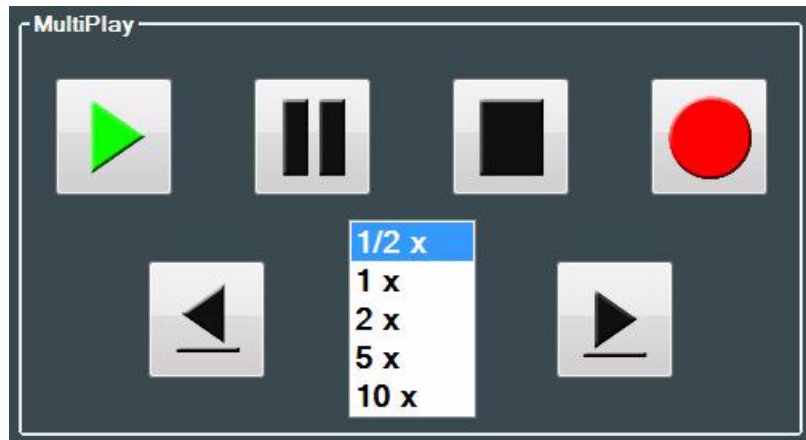
3. Keypad

The keypad offers a digital version of the familiar panel-based keypad. On entering an argument into the keypad, you will see what you have entered immediately to the right in the 'Argument' information section.

The Argument information box appears directly to the right of the keypad.

MultiPlayMD

MultiPlayMD is an unmatched addition to your Overture Series switcher. Allowing the continuous recording of up to 32 inputs controlled directly from the Overture panel, there's no comparison. Redefining instant replay, MultiPlayMD is the definitive choice.



- **Play**
Plays currently saved MultiPlay.
- **Pause**
Pauses currently saved MultiPlay.
- **Stop**
Stops currently playing MultiPlay
- **Record**
Begins recording all inputs.
- **Backward**
Rewinds currently saved MultiPlay.
- **Speed**
Changes the speed of the forward and backward play options.
- **Forward**
Forwards currently saved MultiPlay.

WARRANTY

Echolab, INC warrants that this product will be free from defects in materials and workmanship for a period of 3 years **from the date of purchase**. If a product proves to be defective during this warranty period, Echolab, INC. will, at their discretion, repair or provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, you the Customer, must notify Echolab, INC. of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. Echolab, INC. shall pay for the delivery of the replacement product to the Customer if the shipment is to a location within the country in which an Echolab, INC. service center is located. The Customer shall be responsible for paying all shipping charges, insurance, duties, taxes, and any other charges for products returned to any other locations. Upon receipt of replacement product, the Customer shall be responsible for packaging and shipping the defective product to a designated service center nominated by Echolab, INC. with shipping charges prepaid.

This warranty shall not apply to any defect, failure or damage caused by improper or inadequate maintenance and care. Echolab, INC. shall not be obligated to perform service under this warranty a) to repair damage resulting from attempts by personnel other than Echolab, INC. representatives to install, repair, or service the product, b) to repair damage resulting from improper use or connection to incompatible equipment, c) to repair any damage or malfunction caused by the use of non-Echolab, INC. parts or supplies, or d) to service a product that has been modified or integrated with other products when the effect of such a modification or integration increases the time or difficulty of servicing the product.

THIS WARRANTY IS GIVEN BY ECHOLAB, INC. IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED. ECHOLAB, INC. AND ITS VENDORS DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ECHOLAB, INC.'S RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE WHOLE AND EXCLUSIVE REMEDY PROVIDED TO THE CUSTOMER FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER ECHOLAB, INC. OR THE VENDOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

A • UPDATING FIRMWARE

A.1 Preparing for the Update

WARNING:

Upgrading your firmware involves altering the CompactFlash Card controlling your system. CompactFlash (CF) Cards contain all the intelligence and user information on your Switcher. **BACK UP YOUR FILES BEFORE STARTING!**

1. First, you want to ensure you have a **CompactFlash (CF) Card reader attached** to your computer.
2. **Insert** the chassis' **CF Card** into the CF Card Reader.
3. **Browse** to the location of your CF Card.
Typically, this is available from "My Computer" and shows up as a "Removable Disk"
4. Once you have located your CF Card, **Double-click** to enter the card's memory.
5. You will see a **folder titled "Echolab"** and a system file. Double-click the 'Echolab' folder.

WARNING:

Unless otherwise instructed: Do NOT alter the folder structure of your CF Card. Do NOT delete any files on your CF Card. Do NOT edit any files on your CF Card.

6. You will now see eleven folders, eight of which are mode folders. These are the folders you must pay attention to.
To locate your correct mode, check your switcher chassis mode switch.
7. Locate your **Mode folder**, and Double-click to enter.
8. You will see four folders and two system files. **COPY these files.**

For ease of understanding, this guide assumes you are using Mode 0 and Mode 1 is empty. This may not be true in your case: to locate your correct mode, check your switcher chassis mode switch.

9. **Go back** to the Echolab folder. Select an **empty Mode folder**. For many users, this will be Mode1.

IMPORTANT:

This Mode will be referred to repeatedly. Please remember which Mode you choose to use.

10. **PASTE** the copied contents of your Mode folder into the empty folder.
11. **DELETE the ACE file you just pasted.** You should still be in the Mode folder that was previously empty. For many users, this will be Mode1.

A.2 Updating the Firmware

1. **Locate the Firmware Update** file. This file should be in .ACE file format.
2. **COPY the .ACE** Firmware Upgrade.
3. **Browse** to the location of your CF Card.
Typically, this is available from “My Computer” and shows up as a “Removable Disk”
4. Once you have located your CF Card, **Double-click** to enter the card’s memory.
5. You will see a folder titled **“Echolab”** and a system file. Double-click the ‘Echolab’ folder.

WARNING:

Unless otherwise instructed: Do NOT alter the folder structure of your CFCard. Do NOT delete any files on your CFCard. Do NOT edit any files on your CFCard.

6. You will now see eleven folders, eight of which are mode folders.
7. **Locate the Mode folder** used during “Preparing for the Update.” This folder would have been previously empty, and **will NOT have a .ACE file** inside. For many users, this will be Model.
8. **PASTE the copied .ACE** file from your update.
9. Close Windows Explorer.

A.3 Selecting the Mode

1. **Remove** the CFCard from your CFCard Reader.
2. **Insert** the CFCard into the **Echolab Chassis’s CFCard Reader**.
3. **Select the Mode** that you placed the .ACE Update file in. For many users, this will be Model.
4. **Power down** your Echolab Switcher.
5. **Power on** your Switcher.

IMPORTANT:

Using these instructions, Mode 0 can be safely retained as a backup. You should always test new firmware before putting it on air. It is recommended you use Mode 0 until you are comfortable with Mode 1, it is entirely safe to switch Modes. If you discover an issue with Mode 1, please report it to Echolab and revert to your Mode 0 backup.

Congratulations! You are now updated!

B • TECHNICAL TERMS & ABBREVIATIONS

The following terms are used throughout this manual:

- **Alpha**
See “Cut”
- **Aux**
See “Auxilliary Outputs”
- **Auxilliary Output**
Any output that is not pre-programmed and can be routed or changed.
- **Conductor**
A touchscreen addition to the Overture1 and 2, can configure the switcher, build complex sequences and assigned them to soft buttons, and extends panel control over aux outputs, frame buffers, and third party devices.
- **Cut**
The key signal defines an area of the fill video that will be inserted into the background video. The inverse of the key signal is used to “cut” a hole in the background video. The switcher then adds the two pieces together.
- **Downstream Keyer**
A linear key that is after the transition block, or the uppermost layer, in the signal.
- **DSK**
Downstream Keyer; See “Downstream Keyer”
- **DVE**
Digital Video Effect
- **FBUF**
Frame Buffer; See “Frame Buffer”
- **Fill**
Key signal; See “Cut”
- **Frame Buffer**
Used for capture and display of still images from video. Stills are saved “globally” and can be accessed in all operating Modes.
- **Frame Store**
Input Buffer; See “Input Buffer”
- **I/O**
Input / Output
- **Input Buffer**
Memory on the input that will hold a still frame for reference from the crosspoint.
- **Key**
The effect of electronically cutting one image into another including luminance, chroma, linear, and high gain. Each type of key provides a different method of cutting the foreground image into the background image
- **Keyer**
Dedicated controls on the control panel indicating the status and type of key used on an M/E
- **M/E**
A mix/effects bus, which includes the program/preview bus

- **MD**
Multi-Definition; See “OvertureMD”
- **Mix/Wipe/Dip/DVE**
Dedicated controls on each M/E which determine the type of transition between the A (Program) and B (Preview) bus
- **Organic Wipe**
A wipe that consists of ‘reality-based’ shapes, such as waves and triangles, above and beyond traditional wipe patterns.
- **Overture1**
Echolab’s 1 M/E panel, either SD or MD
- **Overture2**
Echolab’s 2 M/E panel, either SD or MD
- **Overture Chassis**
The main frame of the switcher
- **OvertureMD**
The very latest in multi definition switcher technology offering an impressive list of features including internal frame synchronizers, up/down/cross conversion, and high quality multi channel 3D DVE’s. It has been designed from the ground up with the ability to handle standard definition and high definition formats
- **OvertureSD**
Dual format live production switcher is designed to meet the needs of any digital production system or any analog system transitioning to digital. It can be seamlessly installed into an analog only or mixed format studio. The flexible OvertureSD input and output modules allow for a custom mix of analog and digital inputs and outputs, and internally converts from analog to digital and digital to analog and offers internal synchronization
- **Operator and User**
The person operating the panel
- **Remapping**
Assigning an input to a crosspoint
- **SD**
Standard Definition; See “OvertureSD”
- **Stinger**
With the push of a single button, you can trigger an external animation sequence in conjunction with a perfectly timed transition effect - traditionally only performed by the most experienced operators. Stinger™ effects use a unique keyer that has been designed into the Transition Block, leaving all of the upstream and downstream keyers available for compositing your output and easy to use for all users
- **SuperSource**
The SuperSource™ is a pre-composited input that allows you to build a custom layout using DVE’s and graphic (over or under), and assign that layered composition to a crosspoint button. The SuperSource™ includes its

own keyers leaving upstream and downstream keyers available for adding lower thirds, tickers and other elements

- **Transition**
A mix, wipe, dip, or DVE effect
- Upstream Keyer
Preceding the transition block, or the lowest layers, in the signal.

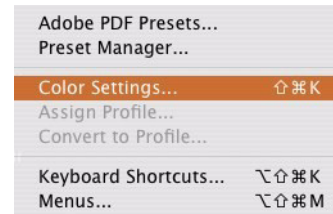
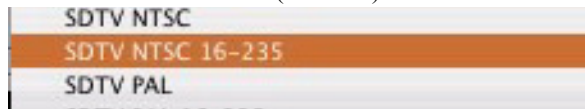
C • HOW TO CREATE A SHAPED KEY

Using Photoshop CS3 Extended it is a straight-forward process to create a shaped key for use with your Overture series switcher.

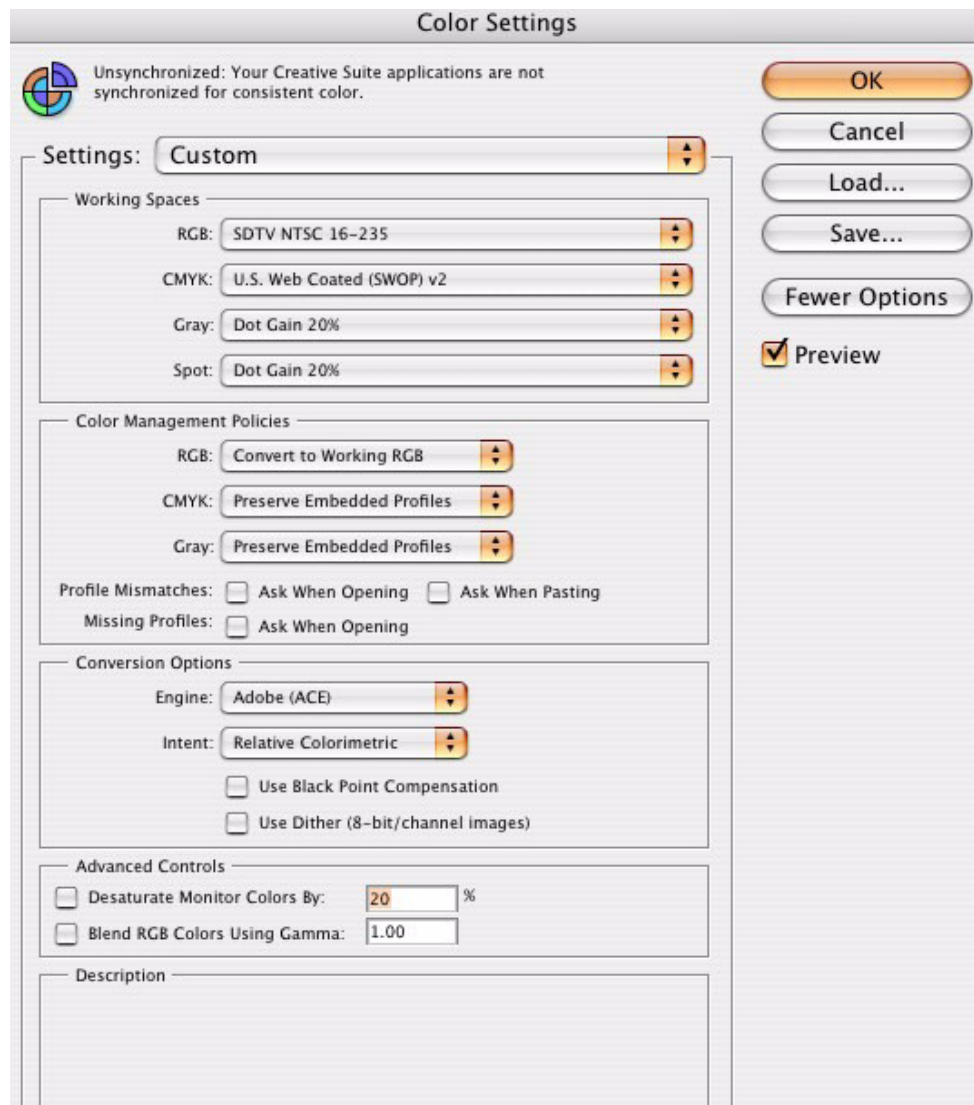
C.1 Set Up

1. First, go to **EDIT > COLOR SETTINGS**
2. Under **WORKING SPACES**, select **RGB**, and browse to **"SDTV NTSC 16-235"**

You can also use "SDTV PAL 16-235", or "HDTV(Rec.709) 16-235."



3. Press **OK**



Example of Color Settings

C.2 Building The Key

1. Select **FILE > NEW**
2. Under **PRESET**, select **"Film & Video"**



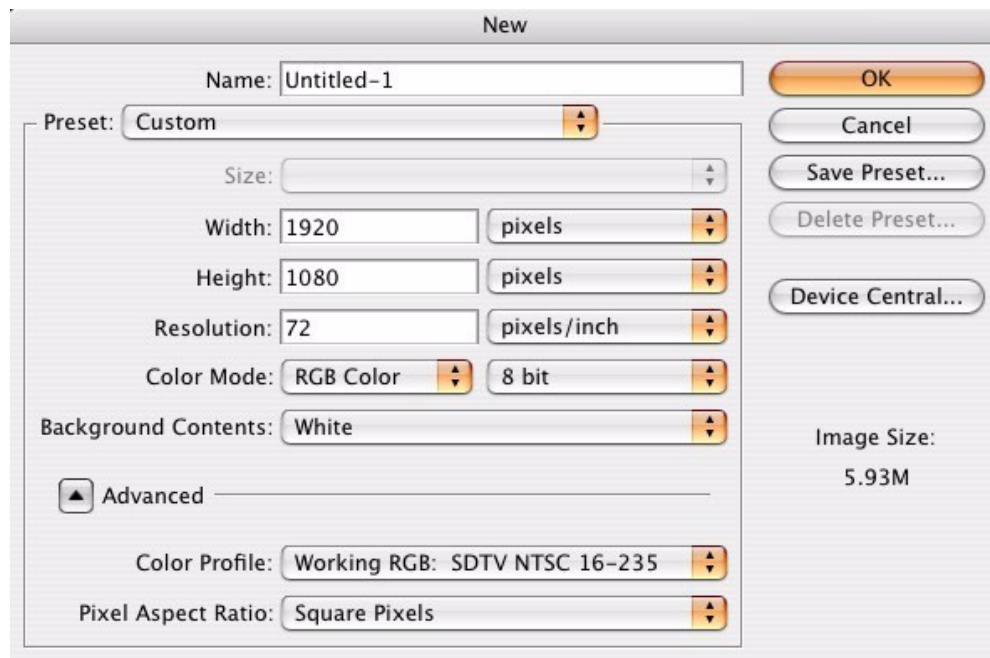
3. Choose the size for your image.

IMPORTANT:

NTSC - 720 x 486 (NTSC D1 / NTSC D1 Widescreen)
PAL - 720 x 576 (PAL D1/DV / PAL D1/DV Widescreen)
720p/I - 1280 x 720 (HDV / HDTV 720p/29.97)
1080p/I - 1920 x 1080 (HDTV 1080p/29.97)

4. Under **ADVANCED**, select **COLOR PROFILE**, and browse to **"Working RGB: SDTV NTSC 16-235"**

You can also use "SDTV PAL 16-235", or "HDTV(Rec.709) 16-235."



5. Press **OK**
6. On the **dialog** that pops up for aspect ratio confirmation, press **OK**.

C.3 Selecting Your Key Image

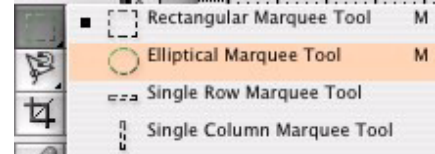
1. Select **FILE > OPEN** and browse to the image you wish to key.
2. When opening the file, you will be asked whether you wish to convert the embedded color profile.

3. Press **OK** to convert.

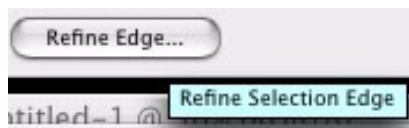
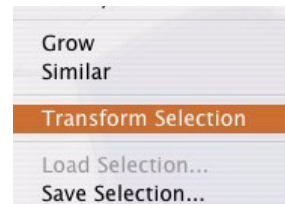


4. Using a **SELECTION TOOL**, roughly outline the image you wish to key.

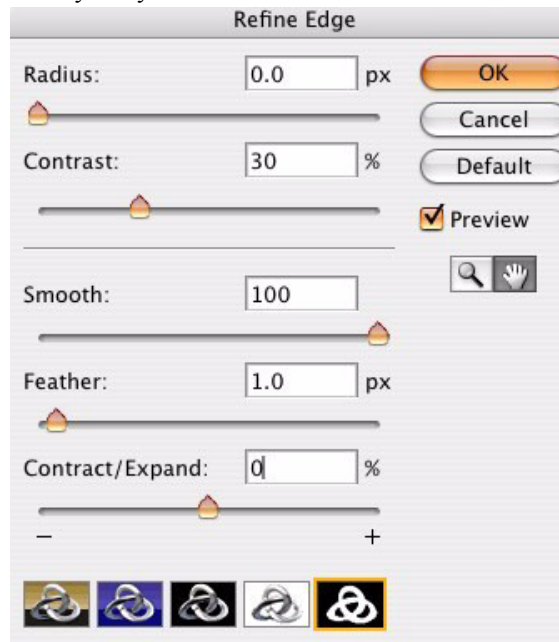
Press and hold **SHIFT** to maintain equilateral proportions.



5. If further transformation is required, select **SELECT > TRANSFORM**
6. Use the mouse to **POSITION** and **RESIZE** the selection tool perfectly.
7. Press **RETURN** to confirm the position and resize.
8. On the toolbar, select **REFINE EDGE**.

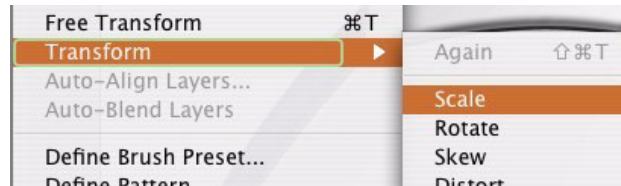


You may use your own defined entries. We recommend 0.0/30/100/1.0/0



C.4 Creating The Key

1. **COPY** the selected image.
2. **PASTE** the image in your original **SDTV NTSC** file and scale to desired size..
3. To scale, select **EDIT > TRANSFORM > SCALE**



4. Use the mouse to **CLICK AND DRAG** the edges to **RESIZE**
5. Press and hold **SHIFT** to maintain proportions, and press **ENTER** to accept changes.

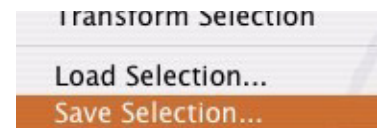
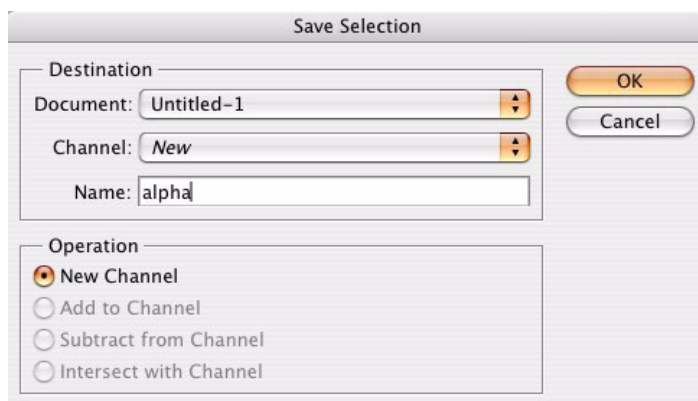
You may also change the percentages in the toolbar as opposed to clicking and dragging.

6. Go to and select the image on the **LAYERS** pallet by pressing **CTRL** (or CMD on a MAC) and clicking on the image thumbnail.

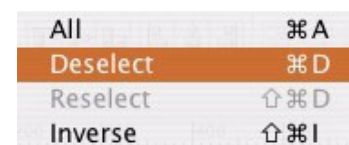
Your cursor will change into a selection icon over the thumbnail



7. Select **SELECT > SAVE SELECTION.**
8. Name the selection **"ALPHA"**



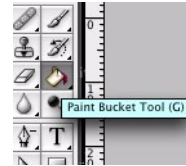
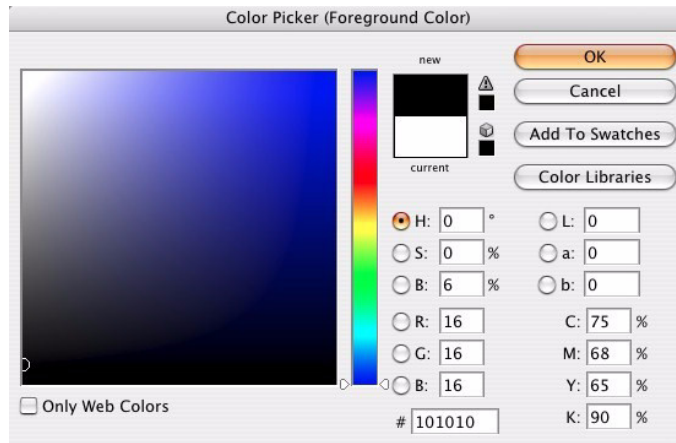
9. Select **SELECT > DESELECT SELECTION**



C.5 Formatting The Key

1. On the **LAYERS** pallet, select **BACK-GROUND.**

2. Select the **PAINT BUCKET TOOL**.
3. Set your **FOREGROUND COLOR** to **RGB 16/16/16** or **HEX 101010**.

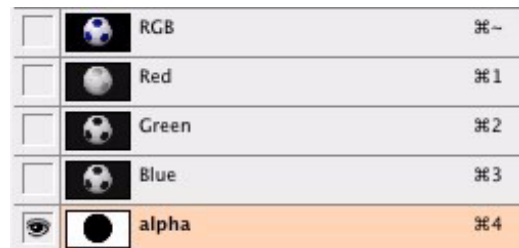


4. **FILL** the **BACKGROUND**.

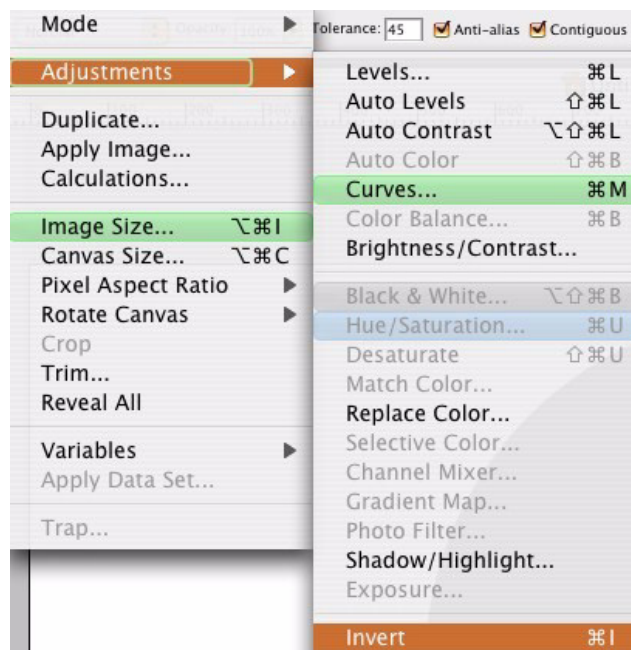
C.6 Designing The Channel

1. Select the **CHANNELS** pallet, next to your Layers pallet.
2. Select the **'ALPHA' CHANNEL**.

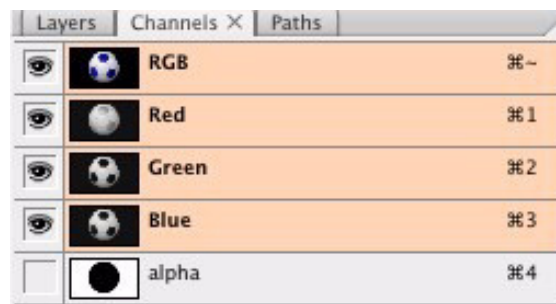
You should deselect the RGB channels.



3. Select **IMAGE > ADJUSTMENTS > INVERT**

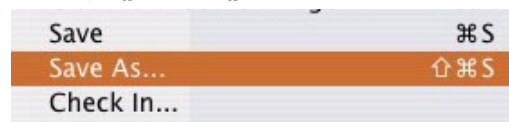


4. On the **CHANNEL** menu, select **RGB**.

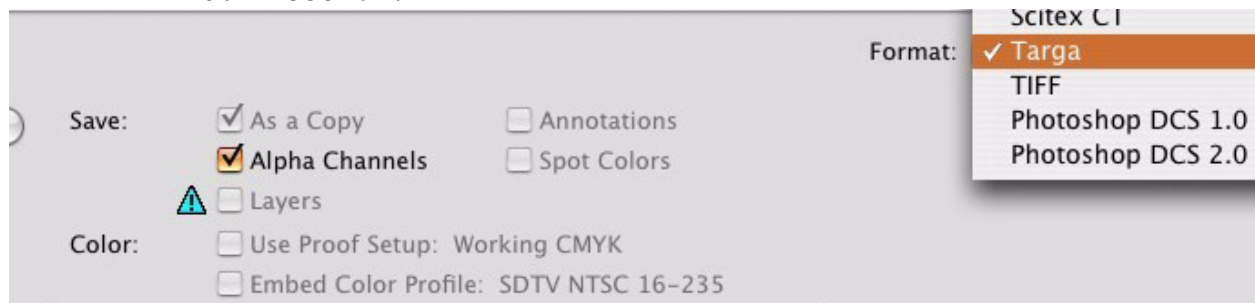


C.7 Finalizing The Key

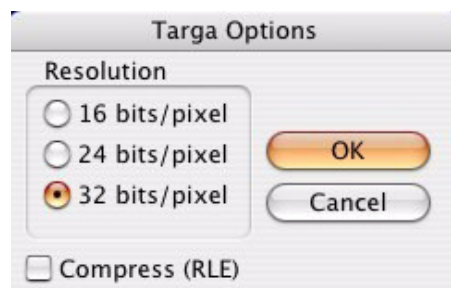
1. Select **FILE > SAVE AS**



2. Choose **TARGA** as your filetype.
3. Press **OK**.



4. On the **POPUP**, select **32 BIT**.
5. Press **OK**.



Congratulations!

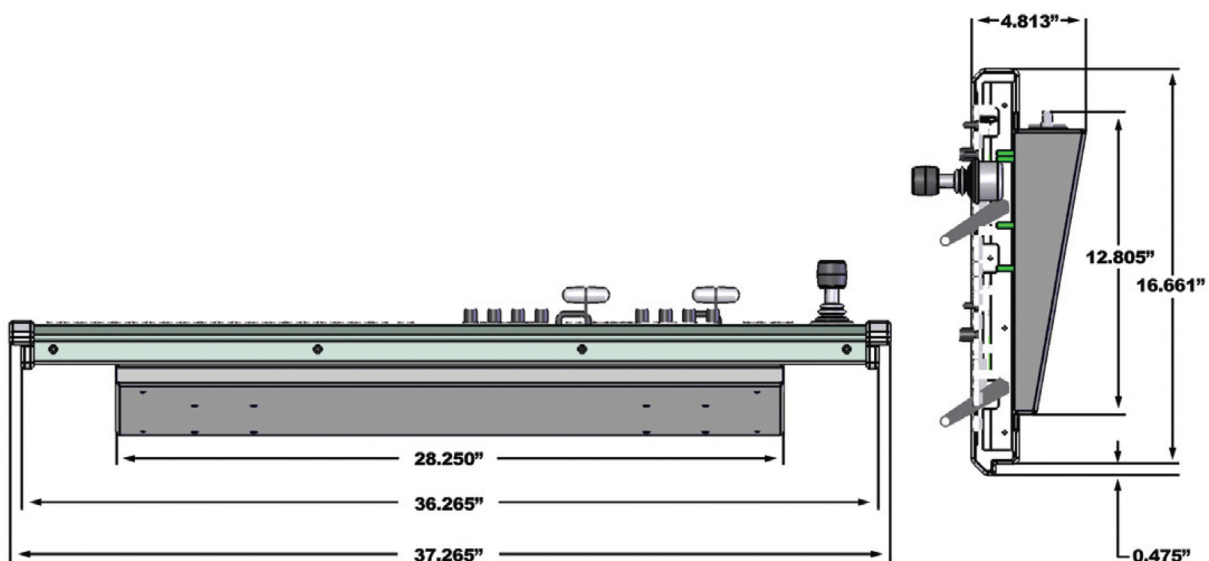
D • SPECIFICATIONS

General	Overture Panel
Direct Cross Points	20
Shifted Cross Points	20
Crosspoint Button Type	NKK Soft Touch, Tri-Color LED
Crosspoint Display	High Contrast RGB Bitmap
Menu Driven Keyers, Aux Routing, etc...	Yes
Menu Driven "Soft" Buttons and Knobs	Yes
Programmable Menu	Yes
Next Transition Selectors	BKG, Key1 - Key4
DSK Transition Selectors	Auto, Cut, Tie/Pvw
Transition Selection Switches	Yes, With Indicators
Preview Next Transition	Yes, on Each M/E
Transition Rate Displays	Yes
On-Air Indicator	LED
Panel Display	4 Line Interactive
Fader Bars	2
3-Axis Joystick	Yes
Rotary Encoders	Yes
Numeric Keypad	Yes
Remote Auxiliary Panel	Optional
Dimensions	
Width	37.27"
Height	5.12"
Depth	14.14"
Cutout Width	36.27"
Cutout Depth	16.67"
Power	
Redundant Power Supply	Standard
Panel Input Voltage	120-220V ~, 110VA, 50-60Hz (Per Outlet)
Panel Power Usage	75W
Features	
Next Transition Workflow	Yes
"Look Ahead" Preview	Yes, on Each M/E
Effects Take to Air	Auto, Cut, Fader Bar
Transitions	Mix, Wipe, Dip, DVE, Stinger, FTB
Transition Rate	Adjustable

Main Pattern Generators	2 (1 per M/E)
Basic Wipes	18 SMPTE
Organic Wipes	100, Upgradable to 500
DVE Transitions	Over 32 in SD, Over 100 in MD
Pattern Adjustments	Positioning, Symmetry
Wipe / DVE Borders	Yes
Border Sources	Any Source
Border Width	Variable
Border Softness	Yes
DSK with Perfect Edge Technology	2
DSK Types	Linear, Shaped
DSK Take	Auto, Cut, Tie/Pvw
DSK Transition Rate	Adjustable
DSK Preview	Yes
DSK Masks	2 (1 Per Keyer)
DSK Memory / Recall	Yes, Referenced to Fill Source
M/E Keyers with Perfect Edge Technology	4 Total, 2 on Each M/E
M/E Key Types	Linear, Shaped, Chroma, Pattern
M/E Key Pattern Generators	4 (1 Per Keyer)
M/E Key Masks	4 (1 Per Keyer)
M/E Key Viewable Matte	Yes
M/E Key Mask Resets	Yes
M/E Chroma Keyers	4
General	OvertureSD
Video Processing	10 bit 4:2:2 Serial Digital
External Reference	Digital Genlock
Status Indicators	Yes, LED
Width	17" (43.18cm)
Height	10.4" (26.42cm)
Depth	13.74" (34.9cm)
Size in RU	6RU
Width - 32/16 Chassis	17" (43.18cm)
Height - 32/16 Chassis	17.8" (45.21cm)
Depth - 32/16 Chassis	13.74" (34.9cm)
Size in RU - 32/16 Chassis	11 RU
Number of Inputs	Aug-32
SD-SDI (SMPTE 259M)	Yes

D. SPECIFICATIONS

Analog YPbPr Component	Yes
Analog RGB Component	Yes
Y/C (S-Video)	Yes
Composite (CVBS)	Yes
Input "Self Timing" Window	+/- 18uS
Auto Equalization	280 Meters Max
Return Loss	15dB Minimum
Number of Outputs	16-Aug
SD-SDI (SMPTE 259M)	Yes
Analog YPbPr Component	Yes
Analog RGB Component	Yes
Y/C (S-Video)	Yes
Composite (CVBS)	Yes
Output Signal Level	750-850 mV p-p
Program Output	User Configurable
Preview Output	User Configurable
Aux Outputs	User Configurable
Clean Feed	User Configurable
525/59.94 (NTSC)	Yes
625/50 (PAL)	Yes
Single Power Supply	Standard
Redundant Hot Swappable Power Supply	Optional
Input Voltage	100-240V, 4A, 50-60Hz



E • TROUBLESHOOTING IP CONNECTION

This section will go through all of the most common issues for connecting to an Echolab switcher. Please go through each step in order before calling or emailing, as we may have included your issue below.

NOTE:

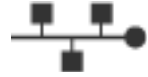
Within this Section, there is an abbreviated method of explaining menu commands. For example “File>New” means “Select ‘New’ from the ‘File’ menu.”

E.1 Making sure the switcher is operating

1. **Go to your Switcher.**
2. Ensure that your **switcher is turned ON.**
The power switcher shows two symbols, ‘O’ and ‘I.’ ‘I’ is the ON position.
3. **Check the ‘STATUS’ lights.** There should be no lights flashing. If you see a red light, make sure you have a CompactFlash memory card in the slot. If the CFCard is installed and the light still flashes red, contact Echolab Support.
The green light **will not be steady.** This is expected. The green status light indicates activity on the CFCard. It may blink or flash but will not stay on steadily.
4. **Check the ‘SYSTEM’ lights.** These lights should be operating as follows:
 - A should be ON. This indicates a master clock.
 - B should be OFF. This shows data transfer to the CFCard.
 - C should be BLINKING. This is your microprocessor.
 - D should be ON. This indicates Genlock.
5. Ensure that your **ethernet cable is connected** to the ‘Ethernet’ port on the switcher.
You will be able to notice flashing ethernet activity lights.
6. On your Panel, **retrieve the IP address** for your switcher, and write it down.
 - To find the IP address, turn on the switcher and panel.
 - Select “I/O” from the switcher’s home button configuration.
 - Select “Switcher Info” from the “I/O” screen.

E.2 Setting your IP address

1. Go to your PC.
2. Make sure your **ethernet cable is connected** to the ethernet connector on your PC. You may see a symbol like the one shown to the right on your PC.
3. Click **Start >Settings >Control Panel**.
4. On the control panel, **double-click Network Connections**.



On Windows Vista, this will be called “Network & Sharing Center.”

5. **Right-click Local Area Connection**.
6. **Click Properties**.

WARNING:

Be sure to write down the current settings before making any changes. This will allow you to restore these settings if you disconnect the PC.

7. Select **Internet Protocol (TCP/IP)**, and then **click Properties**.

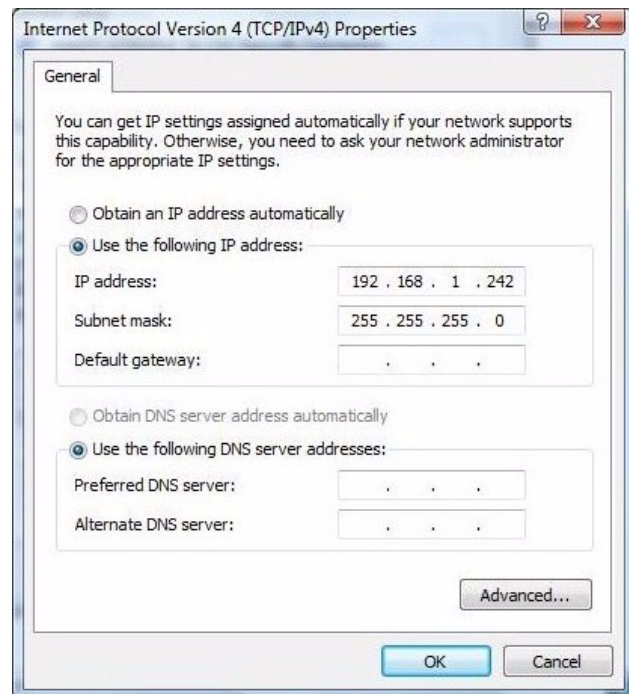
If Internet Protocol (TCP/IP) does not appear in the list:

- Click Install.
- Select Protocol, and then click Add.
- Select Internet Protocol (TCP/IP).
- Click OK to return to the Local Area Connection Properties window.

8. Select **“Use the Following IP Address”**.

9. **Complete** the IP address, Subnet mask, and Default gateway fields. If you don’t have this information, have your **IT department** give you the settings.

Your switcher’s IP address can be found by selecting “I/O” on the panel, and then selecting “Switcher IP.” Echolab switchers always start with the default of 192.168.1.240. You can usually safely use 192.168.1.X where X is a number from 1-254. If you are uncertain about these settings, please contact your IT department for help.



10. **Click OK** on the Local Area Connection Properties window.
It is not necessary to restart your PC.

WARNING:

Do not use the same IP address as the Overture system occupies.

E.3 Making sure there is a connection

1. Click **Windows Start >Run**.
2. In the **Open dialog**, type **"cmd"** and hit **'OK.'**
3. A black box command prompt should open.
4. In the command prompt, **type "PING X.X.X.X"** where **'X.X.X.X'** is the IP address of your switcher.

Your switcher's IP address can be found by selecting "I/O" on the panel, and then selecting "Switcher IP."
5. You should see a reply such as follows:

Pinging X.X.X.X with 32 bytes of data:
Reply from X.X.X.X: bytes=32 time=1ms TTL=128
Ping statistics for X.X.X.X:
Packets: Sent = 4, Received = 4, Lost = 0 (0% Loss)
6. If you do not see the noted screen, or you time out, please continue.

E.4 Renewing your IP address

1. Click **Windows Start >Run**.
2. In the **Open dialog**, type **"cmd"** and hit **'OK.'**
3. A black box command prompt should open.
4. In the command prompt, **type "ipconfig /release"** and press enter.

NOTE:

You must insert one blank space between ipconfig and /release

- If the system returns the message, **no such command** or displays **Help** text, the command was probably typed incorrectly.
 - If the system returns the message **IP configuration** and no further information, make sure your Internet Protocol Properties (TCP/IP) are set.
5. The system should respond with an IP address of 0.0.0.0 (all zeros).
 6. In the command prompt, **type "ipconfig /renew"** and press enter.

IMPORTANT:

The renew command takes longer to execute than the release command. When renewal is complete, the system should respond with your IP address.

7. In the command prompt, **type "PING X.X.X.X"** where 'X.X.X.X' is the IP address of your switcher.

Your switcher's IP address can be found by selecting "I/O" on the panel, and then selecting "Switcher IP."

8. You should see a reply such as follows:

Pinging X.X.X.X with 32 bytes of data:

Reply from X.X.X.X: bytes=32 time=1ms TTL=128

Ping statistics for X.X.X.X:

Packets: Sent = 4, Received = 4, Lost = 0 (0% Loss)

If you see the screen above, you are successfully communicating with your switcher.

Should you find that you still cannot connect to your switcher, please contact your IT department, or Echolab Support for assistance.

ABOUT ECHOLAB

Echolab, Inc. is a leading provider of video production switchers and tools that offer flexibility and on-air reliability for the production and distribution of digital media in a variety of formats. The company's products include the Overture1™ and Overture1™ video production systems, MultiPlayMD™ multichannel instant-replay system, MegaKeyMD™ clip player/mixer/keyer, and Conductor™ control integration system, all of which provide functionality and ease of use critical to professional-quality production. Echolab is online at www.echolab.com.

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