Α·C·U·Ι·Τ·Υ

Ultrix Acuity Setup Manual

v14.0



www.rossvideo.com

Thank You For Choosing Ross

You've made a great choice. We expect you will be very happy with your purchase of Ross Technology.

Our mission is to:

- **1.** Provide a Superior Customer Experience
 - offer the best product quality and support
- 2. Make Cool Practical Technology
 - develop great products that customers love

Ross has become well known for the Ross Video Code of Ethics. It guides our interactions and empowers our employees. I hope you enjoy reading it below.

If anything at all with your Ross experience does not live up to your expectations be sure to reach out to us at *solutions@rossvideo.com*.

>al Ross

David Ross CEO, Ross Video dross@rossvideo.com

Ross Video Code of Ethics

Any company is the sum total of the people that make things happen. At Ross, our employees are a special group. Our employees truly care about doing a great job and delivering a high quality customer experience every day. This code of ethics hangs on the wall of all Ross Video locations to guide our behavior:

- **1.** We will always act in our customers' best interest.
- 2. We will do our best to understand our customers' requirements.
- 3. We will not ship crap.
- **4.** We will be great to work with.
- 5. We will do something extra for our customers, as an apology, when something big goes wrong and it's our fault.
- 6. We will keep our promises.
- 7. We will treat the competition with respect.

- **8.** We will cooperate with and help other friendly companies.
- **9.** We will go above and beyond in times of crisis. *If there's no one to authorize the required action in times of company or customer crisis do what you know in your heart is right. (You may rent helicopters if necessary.)*

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Patents

Patent numbers US 7,034,886; US 7,508,455; US 7,602,446; US 7,802,802 B2; US 7,834,886; US 7,914,332; US 8,307,284; US 8,407,374 B2; US 8,499,019 B2; US 8,519,949 B2; US 8,743,292 B2; US D752,530 S; GB 2,419,119 B; GB 2,447,380 B; and other patents pending.

Ross Video Switchers Privacy Notice

Scope of this Notice

We at Ross Video Ltd. ("We ", "Us ", or "Our ") know that your privacy is important. This Notice is designed to give you notice of the categories of data that are collected, and the processing activities performed on that data when you use Our products and services (" Services ").

Your use of Our Services is covered by Our Privacy Policy which can be reviewed by navigating to *www.rossvideo.com/privacy-policy*. This Notice is intended to supplement the Privacy Policy and addresses pertinent data processing activities as you make use of Ross Video Switchers.

Use and Purpose

From time to time during the useful life of your Ross Video Services, you may experience technical issues with these products, depending on how you use these products and the environments in which they are used. To assist you to resolve these issues via our Technical Support Services (*Technical Support* on page viii), Ross Video may require certain data from your systems, such as:

- Kernel logs: baseOS (Operating System) logs like access logs, authorization logs, error logs, etc.
- System boot information: boot up, version information, hardware, start-up information, module discovery information.

- Device connection logs these can be specific to your device.
- Generic Information: Video Reference, Button presses (panel), Crosspoint state, temperatures, etc.

How to securely transfer the data to Ross **Video's Technical Support Team**

The log files can either be shared with the Technical Support Team via email or uploaded to a Ross Video customer portal. The information contained in these files, such as those listed above, may contain sensitive data.

Ross Video does not make use of this information other than for resolving technical issues. For further information pertaining to Ross Video's Customer data retention practices, please refer to Our Privacy Policy at www.rossvideo.com/privacy-policy.

Data Integrity and Security

We recommend that to maintain the data integrity of the information you share with US, you password protect the file when sharing with Ross Video or encrypt the data to ensure the confidentiality of your data remains intact. For more information on how to do this, please speak with your Ross Video representative.

Ross Video has implemented appropriate security controls to protect the confidentiality, integrity, and privacy of customers data.

Privacy Contact

For any additional questions, please reach out to mailto:privacy@rossvideo.com and refer to Our *Privacy Policy* for more details.

Important Regulatory and Safety Notices to Service Personnel

Before using this product and any associated equipment, refer to the "Important Safety **Instructions** " listed in the front of your *Setup* Manual to avoid personnel injury and to prevent product damage.

The switcher makes use of a number of individual component products to make up a complete system. The Important Safety Instructions section of this manual is intended to compliment individual OEM product manuals and the User must refer to, and heed, any safety instructions outlined in these supplementary

product manuals. Separate manuals are included for the following component products:

- Acuity Rack Panel
- Ultrix[™] Router

Product may require specific equipment, and/or installation procedures to be carried out to satisfy certain regulatory compliance requirements. Notices have been included in this publication to call attention to these specific requirements.

This product has been determined to be compliant with the applicable standards, regulations, and directives for the countries where the product is marketed.

Compliance documentation, such as certification or Declaration of Compliance for the product is available upon request by contacting techsupport@rossvideo.com. Please include the product; model number identifiers and serial number and country that compliance information is needed in request.

Symbol Meanings

Protective Earth: This symbol identifies a Protective Earth (PE) terminal, which is provided for connection of the supply system's protective earth (green or green/yellow) conductor.

Notice: This symbol on the equipment refers you to important operating and maintenance (servicing) instructions within the Product Manual Documentation. Failure to heed this information may present a major risk of damage or injury to persons or equipment.



Warning: The symbol with the word "Warning" within the equipment manual indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.





Warning Hazardous Voltages: This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.



ESD Susceptibility: This symbol is used to alert the user that an electrical or electronic device or assembly is susceptible to damage from an ESD event.

Important Safety Instructions

- **1**. Warning: Read these instructions.
- **2.** Keep these instructions.
- 3. Heed all warnings.
- **4.** Follow all instructions.
- **5.** Do not use this apparatus near water.
- 6. Clean only with a dry cloth.
- **7.** Do not block any ventilation openings. Install in accordance with manufacturer's instructions.
- 8. Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- **9.** Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- **10.** Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- **11.** Only use attachments/accessories specified by the manufacturer.
- **12.** Unplug this apparatus during lightning storms or when unused for long periods of time.
- **13.** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- **14.** Do not expose this apparatus to dripping or splashing, and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
- **15.** To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
- **16.** The mains plug of the power supply cord shall remain readily operable.



Warning: Indoor Use: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

- **18.** The safe operation of this product requires that a protective earth connection be provided. A grounding conductor in the equipment's supply cord provides this protective earth. To reduce the risk of electrical shock to the operator and service personnel, this ground conductor must be connected to an earthed ground.
- **19.** Warning: This apparatus, when equipped with multiple power supplies, can generate high leakage currents. To reduce the risk of electric shock, ensure that each individual supply cord is connected to its own separate branch circuit with an earth connection.
- 20. A CAUTION: These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.
- **21.** Service barriers within this product are intended to protect the operator and service personnel from hazardous voltages. For continued safety, replace all barriers after servicing.
- **22.** Certain parts of this equipment still present a safety hazard with the power switch in the OFF position. To avoid electrical shock, disconnect all A/C power cords from the chassis' rear appliance connectors before servicing.
- **23.** This product contains safety critical parts, which, if incorrectly replaced, may present a risk of fire or electrical shock. Components contained within the product's power supplies and power supply area are not intended to be customer-serviced and should be returned to the factory for repair.
- **24.** To reduce the risk of fire, replacement fuses must be the same type and rating.
- **25.** Use only power cords specified for this product and certified for the country of use.
- **26.** The safe operation of this equipment requires that the user heed and adhere to all installation and servicing instruction contained within the equipment's Setup Manuals.



Warning: This product includes "Ethernet Ports " which allow this product to be connected to

local area networks (LAN). Only connect to networks that remain inside the building. Do not connect to networks that go outside the building.

- **28.** A CAUTION: These apparatus contain Lithium batteries, which if replaced incorrectly, or with an incorrect type, may cause an explosion. Replace only with the same type. Dispose of used batteries according to the manufacturer's instruction.
- **29.** A CAUTION: Only instructed persons may change or service the lithium coin batteries used in these apparatus.

30. Warning: Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.

- **31.** For applicable Touchscreen Panel power supplies, see user instructions contained within the product's Setup manual.
- 32. ▲ CAUTION: The Aux Power connectors PS1 and PS2 on the back of the Acuity[™] control panels are for use with the following Acuity[™] approved accessories: Touchscreen Display MN:AP-TOUCHSCREEN-A (PN:4820AR-243-01) and Auxiliary Control Panels MN:AP-AUX2RU40 (PN:4820AR-283-01), MN:AP-AUX2RU32 (PN:4820AR-282-01), and MN:AP-AUX2RU24 (PN:4820AR-281-01).

ATTENTION: Les connecteurs d'alimentation auxiliaire PS1 et PS2 sur le dos des panneaux de contrôle d' Acuity[™] sont pour une utilisation avec les éléments suivants Acuity[™] accessoires approuvés: Écran tactile MN:AP-TOUCHSCREEN-A (PN:4820AR-243-01) et de Contrôle Auxiliaire Panneaux MN-AUX2RU40 (PN:4820AR-283-01), MN:AP-AUX2RU32 (PN:4820AR-282-01), et MN:AP-AUX2RU24 (PN:4820AR-281-01).

33. 🗸

CAUTION: RISK OF ABNORMAL SUPPLY LOADING: USB connected accessory loading not to exceed 5 USB unit loads. Each USB unit Load on Rear panel is limited to 250mA max.

34. A **CAUTION:** The pressure in the panel struts diminishes over time. Check the panel strut locking mechanism before servicing. Stop maintenance work and contact the manufacturer if there is a failure of the panel strut locking mechanism.

- **35.** For use at altitude 2000m or lower.
- **36.** For use in non-tropical locations.
- **37.** A **CAUTION:** Do not make mechanical or electrical modifications to the equipment or add metallic items, such as metallic foil labels, to the printed circuit boards. Modifications can impair

regulatory compliance, or performance and may void your warranty.

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CAUTION: Only use an approved power supply (PN:70-00824) with the Software Defined Production Engine (SDPE) blades.

CAUTION: Risk of electrical shock. Enclosure shall be connected to earth ground via protective earth stud and 18AWG conductor or larger.

EMC Notices

US/Canada

United States of America

FCC Part 15

This equipment has been tested and found to comply with the limits for a class A Digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a Commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada

This Class "A" digital apparatus complies with Canadian ICES-003 rules.

Cet appareil numérique de la classe "A" est conforme a la norme NMB-003 du Canada.



Important: Changes or modifications to this equipment not expressly approved by Ross Video Limited could void the user's authority to operate this equipment.

European Union

This equipment is in compliance with the essential requirements and other relevant provisions established under regulation (EC) No 765/2008 and Decision No 768/2008/EC referred to as the "New Legislative Framework".



Warning: This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

Australia/New Zealand

This equipment is in compliance with the provisions established under the Radiocommunications Act 1992 and Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2008.

International

This equipment has been tested under the requirements of CISPR 22:2008 or CISPR 32:2015 and found to comply with the limits for a Class A Digital device.

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Notice: This is a Class A product. In domestic environments, this product may cause radio interference, in which case the user may have to take adequate measures.

General Handling Guidelines

- Careful handling, using proper ESD precautions, must be observed.
- Power down the system before PCB removal.

A Word About Static Discharge

Throughout the many procedures in this manual, please observe all static discharge precautions.



CAUTION: Avoid handling the switcher circuit boards in high static environments such as carpeted areas, and when synthetic fiber clothing is worn. Touch the frame to dissipate static charge before removing boards from the frame, and exercise proper grounding precautions when working on circuit boards. Exercise proper grounding precautions when working on circuit boards.

Warranty and Repair Policy

Ross Video Limited (Ross) warrants its switchers and related options, to be free from defects under normal use and service for a period of ONE YEAR from the date of shipment. Fader handle assemblies are warranted for the life of the product. If an item becomes defective within the warranty period Ross will repair or replace the defective item, as determined solely by Ross.

Warranty repairs will be conducted at Ross, with all shipping FOB Ross dock. If repairs are conducted at the customer site, reasonable out-of-pocket charges will apply. At the discretion of Ross, and on a temporary loan basis, plug in circuit boards or other replacement parts may be supplied free of charge while defective items undergo repair. Return packing, shipping, and special handling costs are the responsibility of the customer.

Software upgrades for switchers may occur from time to time, and are determined by Ross Video. The upgrades are posted on the Ross Video website, and are free of charge for the life of the switcher.

This warranty is void if products are subjected to misuse, neglect, accident, improper installation or application, or unauthorized modification.

In no event shall Ross Video Limited be liable for direct, indirect, special, incidental, or consequential damages (including loss of profit). Implied warranties, including that of merchantability and fitness for a particular purpose, are expressly limited to the duration of this warranty.

This warranty is TRANSFERABLE to subsequent owners, subject to Ross Video's notification of change of ownership.

Environmental Information

Waste Electrical and Electronic Equipment Directive (WEEE Directive)

The equipment may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.



If you need more information on the collection, reuse, and recycling systems, please contact

your local or regional waste administration. You can also contact Ross Video for more information on the environmental performances of our products.

This appliance may contain a Coin type battery which should not be treated as household waste.

To ensure that the battery will be treated properly use the appropriate take-back systems in your area. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

Use of Hazardous Substances in Electrical and Electronic Products (China RoHS)

Ross Video Limited has reviewed all components and processes for compliance to:

" Management Methods for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products " also known as China RoHS.

The "Environmentally Friendly Use Period" (EFUP) and Hazardous Substance Tables have been established for all products. We are currently updating all of our Product Manuals.

The Hazardous substances tables are available on our website at: http://www.rossvideo.com /about-ross/company-profile/green-practices /china-rohs.html

电器电子产品中有害物质的使用

Ross Video Limited 按照以下的标准对所有组件和 流程进行了审查:

"电器电子产品有害物质限制使用管理办法"也被称为中国RoHS。

所有产品都具有 "环保使用期限" (EFUP) 和有害物 质表。目前,我们正在更新我们所有的产品手册。

有害物质表在我们的网站:

http://www.rossvideo.com/about-ross /company-profile/green-practices/china-rohs.html

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Technical Support

At Ross Video, we take pride in the quality of our products, but if a problem does occur, help is as close as the nearest telephone.

Our 24-Hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support are provided directly by Ross Video personnel. During business hours (eastern standard time), technical support personnel are available by telephone. Outside of normal business hours and on weekends, a direct emergency technical support phone line is available. If the technical support personnel who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. Our Technical support staff are available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

Supporting Documentation

Ross Video provides a wide variety of helpful documentation for the setup and support of your equipment. Most of this documentation can be found either on the Product Resources disk that came with your equipment, on the Ross Video website, or on the Ross Video Community site.

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Ultrix Acuity Setup

The Ultrix[™] router must be set up to support the Ultrix Acuity on the Software Defined Production Engine (SWR-SDPE) blade. This includes setup of the Ultripower units, DashBoard connections, video reference and timing, the matrix database, and the UltriScape Multi-Viewer.

Notice: Refer to the Ultrix[™] documentation for information on setting up and operating your router.

Notice: The Ultrix FR12 frame and SDPE blades require multiple Ultripower units to be tied together in a group to provide power to the router and switcher at the same time. The Ultripower group and Manager must be set up before connecting power to the system. Refer to the documentation for your Ultripower for information on setting up groups and using the Manager.

Ensure that Ultrix[™] is operating properly before setting up Ultrix Acuity. The following sections provide information for setting up the DashBoard connection to Ultrix[™], reference input, and source and destination routing to the switcher.

Ultrix Acuity Hardware Setup

The router and switcher components of Ultrix Acuity must be set up separately before they can work together.

To get your system up and running you must set up the Ultripower units for the switcher and router, connect them, and then power them up one at a time to bring the switcher up and then the router.

The switcher consists of the Acuity CPU and up to four SDPE blades that each support a single ME. Identifying what blade is in each slot will help when you are working with the router database.

Note: Refer to the Ultripower documentation for information on using the Ultripower Manager to power up a multiple Ultripower units at the same time.

Tip: Even though Slot 1 is the second slot in the router, the database will start counting destinations and sources starting with the Flex Slot.





To Setup The Ultripower

The Ultripower units must be set up so that you can control how the switcher and router power up.



Important: The Ultripower powers up as soon as it is plugged in.

 When you rack up the equipment for the first time, do NOT connect the power cables from the Ultripower to the Ultrix[™] or SDPE blade. The Ultripower powers up as soon as it is plugged in and will not power on the switcher and router in the proper order.



Important: This is not recommended by Ultrix[™] but is required for Ultrix Acuity.

2. Connect to the first Ultripower through DashBoard.

Tip: Refer to To Connect to Ultrix from DashBoard on page 15 for information on connecting to Ultripower from DashBoard.

3. Click on the **Setup** tab and enter Acuity-01 in the first **Device Labels** field. Leave the remaining fields blank.



- **4.** For each **Output Port** (1-4) select **Acuity-01**. This ties all the power supplies to a single trigger.
- 5. Click on the **Control** tab and click **Change** for the **Acuity Device State** to power down the output power.



 Click on the PSU tab on the left and wait for the Avg Output (W) to drop to 0.

Tip: This is the Ultripower that power the switcher. You can rename the node in DashBoard to make it easier to locate.

- 7. Repeat this procedure for the other Ultripower except name it Ultrix[™].
- 8. You can now connect the power cables from the Ultripower units to the switcher and router. Make sure to connect the Ultrix[™] Ultripower to the router and the Acuity[®] Ultripower to the SDPE blades.

Important: Ensure that both Ultripower units are showing **Avg Output (W)** = **0** before connecting the cables.

To Power Up the Switcher and Router

The switcher and router must be powered up and down in the proper order to avoid errors or damaging equipment.

Note: To power off the system, follow the same procedure in reverse. Power off the router first and then the switcher.

1. Connect to the Acuity[®] - Ultripower through DashBoard.

2. Click on the **Control** tab and click **Change** for the **Acuity Device State** to power up the output power.



- Click on the PSU tab on the left and wait for the Avg Output (W) to rise to a steady state. The exact number will vary depending on the number of blades in your system
- **4.** Connect to the Ultrix[™] Ultripower through DashBoard.
- 5. Click on the **Control** tab and click **Change** for the **Ultrix Device State** to power up the output power.



 Click on the PSU tab on the left and wait for the Avg Output (W) to rise to a steady state. The exact number will vary depending on the number of blades in your system

Tip: You may have to restart your switcher control panel to have it connect.

The router will come up in DashBoard and the switcher will power up at the same time.

DashBoard Connection

Ultrix[™] has a separate ethernet connection to DashBoard and appears as a separate node in the DashBoard tree view.

Note: A 1 GbE ethernet connection is required for Ultrix[™].

Connecting to Ultrix[™] from DashBoard requires that you use the Walkabout feature to discover the router components on the network and then manually add the them to the Tree View.

To Assign an IP Address to Ultrix[™] and Ultripower

Use DashBoard Walkabout to assign an initial IP address to Ultrix[™].

Note: DashBoard must be running on a computer on the same subnet as the frame to connect.

- 1. Click File > Show Walkabout.
- 2. Click **Refresh** to update the list.
- **3.** Locate the entry for the devices you want to locate on the network.
 - Ultrix[™]
 - Ultripower
 - Ultricool (optional for FR5)

Tip: Ultrix[™] has a primary and secondary network connection for redundancy. You can connect one or both network connections.

- **4.** Update the network information for your device as required.
 - **Name** enter a new name for the device as you want it to appear in DashBoard.
 - Address enter a new IP address for the device.
 - **Netmask** enter a new network mask value for your device.
 - **Gateway** enter a new gateway value for your device.
- **5.** Wait for a minute for the new data to be saved.
- **6.** Click **Reboot** for the device you are updating to send the new information to the device and have it reboot with the new settings.

To Connect to Ultrix[™] from DashBoard

DashBoard connects to each device separately. You must create a new connection for Ultrix[™], the Ultripower units, and Ultricool.

Note: DashBoard must be running on a computer on the same subnet as the frame to connect.

You need the IP address of each device to connect to it from DashBoard.

1. Click File > New > TCP/IP DashBoard Connect or openGear Device.

This wizard al through TCP/	ows you to create a connection to a DashBoard Connect or openGea P. The wizard should be used when your device is not automatically	r Device detected by	
	, ,		
IP Address:		Detect Fram	ne Inform
	Automatically track updates to frame information		
Display Name	Frame		
Protocol:	O GGP @ JSON		
Port:	×		
	Remember connection settings for this frame		

- **2.** In the **IP Address** field, enter the IP address of the device you are connecting to. The default IP addresses are listed below:
 - Ultrix FR5 192.168.20.140
 - Ultricore BCS 192.168.20.160
 - Ultripower 192.168.20.123
 - Ultricool 192.168.20.125
- **3.** In the **Display Name** field, enter the name you want to use to identify the device in DashBoard. This should be a unique name for the device you are setting up.
- **4.** Select the protocol for the device you are connecting to.
 - Ultrix FR5 JSON
 - Ultricore BCS JSON
 - Ultripower OGP
 - Ultricool OGP
- 5. In the **Port** field, select the protocol for your device.
 - Ultrix FR5 5254
 - Ultricore BCS 5254
 - Ultripower 5253
 - Ultricool 5253
- **6.** Click **Finish**. The device appears in the **Tree View**.

Switcher Network Setup

From the web interface, you can set up the IP Address, as well as selecting the IP addresses of all the control panels, and SoftPanel that can access the switcher.

To Set the Switcher Network Settings

 Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are user and password.



2. Click Other... > Network.

This page allows you to change the network configuration of the network ports, as well as enter the current IP Address of the main panel, and satellite panels.

3. In the LAN1 section, enter the **IP Address** and **Subnet Mask** for the switcher.

This is the IP address that you will connect to from the control panel(s).

Note: You cannot set the switcher to an **IP Address** in the range of 192.168.12.xx. This is used internally and will cause interference. The **Subnet Mask** should be set to 255.255.255.0.

Note: The LAN2 port is used internally for connecting to the Ultrix^{∞}. These setting cannot be changed.

- **4.** Optional: Enter the **Default Gateway** for the frame.
- In the Panel section, enter the IP address of the main panel in the IP Address Main Panel field.
- 6. Click Change and Reboot. The switcher restarts with the new network settings.

Reference

Ultrix[™] provides the reference input and internal signals that the switcher uses for timing.

Ultrix[™] can either generate a default internal reference signal or accept an external house reference signal. The Default Reference is only used when a valid reference signal is not detected on the REF connector. An external reference signal is recommended.

Ultrix[™] automatically detects and identifies the reference signal connected to the REF port.

Important: Acuity[®] requires Clean Switch to be active for every output of the switcher.

To Set the Reference Format

The switcher gets the reference signal from the router and both the switcher and trigger 1 on the router must be set to the same format.

Note: Reference B (**REF B**) on Ultrix^{\mathbb{M}} is not supported at this time.

- From the DashBoard tree view for the router, expand the Ultrix > Devices > Controllers + Matrices node.
- **2.** Double-click on the node for the router.
- 3. Click (Frame Configuration) > References.



- **4.** In the **Detect References** table, the **REF A** shows the current reference signal that has been detected by the router.
- 5. In the **Triggers** table click on the **SDI Video Format** for **ID 1** and select the video format that the switcher will be operating in. Trigger 1 is the reference trigger used by the switcher.
- On the switcher control panel menu, press Press HOME > Setup > Installation > More > Reference



- 7. Use the **Ref Format** knob to select the format of the reference that the router is set to.
- 8. Use the Video Format knob to select the video format that the switcher will be operating in. This must be the same format that you set on the SDI Video Format for trigger 1 on the router.

Note: If you are changing between HD and UHDTV1 video formats, the SDPE blades need to be rebooted. When the blades reboot you may need to reboot the Ultrix[™] router to initialize the new configuration on the router.

9. Use the **Color Gamut** buttons to set the color gamut you want identified in the ancillary data stream.



Important: No color gamut conversion is performed. Color gamut setting are only used to identify the color space in the ancillary data stream.

- **BT.709** color gamut recommended for HD video signals.
- **BT.2020** wide color gamut recommended for UHDTV1 video signals.
- **10.** Use the **Dynamic Range** buttons to set the dynamic range you want identified in the ancillary data stream.



Important: No HDR conversion is performed. Dynamic range setting are only used to identify the dynamic range in the ancillary data stream.

- **SDR** Standard Dynamic Range.
- **HLG** Hybrid Log Gamma.
- **PQ** Perceptual Quantizer.
- **S-Log3** Sony[®] S-Log3.

11. Press **HOME** > **Confirm**.

Video Routing in Ultrix

Sources and destinations in the router must be connected to the inputs and outputs of the switcher.

Ultrix[™] uses a database to assign inputs and outputs, as well as define levels and matrices. The switcher has access to any destination in the router, but switcher outputs must be assigned to router outputs from the router. For more information on setting up levels and matrices, refer the Ultrix[™] User Guide.

Ultrix Acuity Video Flow

Video signals come into the router through the SDI IO blades and are passed from the router crosspoint as destinations that are available to the switcher as inputs. All inputs to the router are available to the each ME in the switcher. Video outputs from the switcher are then made available to the router as sources that can be routed to destinations. Unlike the inputs, the switcher cannot control which output on the router a video signal from the switcher is sent to. This routing is done by the router matrix.



Important: The switcher can only access the first 4000 destination and source database entries on the router. Destinations or sources with an ID beyond 4000 are not addressable by the switcher.

To Create a Router Database

The router uses the database to identify sources and destinations and assign them to levels.

Important: The switcher can only access the first 4000 destination and source database entries on the router. Destinations or sources with an ID beyond 4000 are not addressable by the switcher. When you are building your database, on the sources table you should populate the SDI inputs from each blade first, followed by the virtual inputs that are mapped to switcher aux buses, and finally audio channels. For the destinations table, you should populate the switcher outputs from each ME first, followed by the virtual outputs that are mapped to switcher aux buses, and finally audio channels, UltriScape heads, and PiP outputs.

Note: Ensure that you have the UltriMix option installed. This is needed to properly route audio. Refer to the documentation that came with your router for information on installing options.

- 1. From the DashBoard tree view for the router, expand the **Ultrix** > **Database** node.
- 2. Double-click Database Builder.



3. Select the configuration for the database as follows:

Option	Description
Enter a name for the new database	Enter a unique identifier for the database. This name is used to identify sources and destination on this router on the network.
Select one or more frames to be included for the database creation	Select the router you are currently setting up.

Option	Description
Do you want to include AUX ports?	On the router, AUX ports are the SFP ports located on the SDI IO boards. Refer to the Ultrix [™] manual for information on setting up and using the SFP ports.
Do you want to support video signal?	Select Yes .
How many audio channels do you want to add?	Select the number of audio channel you want to support. The default is 16.
Do you want to add breakaway source support?	Select Yes and enter the number of SDI and MADI audio channels you want to support.
Do you want to add disconnect source?	Select Yes . The disconnect source is used to mute audio channels as well as provide black for switcher aux buses.
Do you want to add passthrough source?	Select Yes . This allows audio sources to follow video and bypass the audio processing.
Do you want to add virtual ports?	Select Yes . Virtual ports are used for Aux buses, as well as audio meters and mixers.
Do you want to add Ultriscape support?	UltriScape provides the MultiViewer outputs for the switcher and router.
Number of Multiviewer heads	Select the number of Multi-Viewer outputs you want.
Number of Multiviewer pips per head	Select the number of boxes/pips you want per Multi-Viewer output.
Include detected Multiviewer layout	If you have any Multi-Viewer layouts already on the system, you can include them. Select the number of Multi-Viewer heads (outputs) and boxes (pips) you want in each.

- 4. Click Next.
- **5.** The mixer allows audio to be routed to and from the switcher.

Database Builder	Mixer I/O Ma	0		2
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		< President	Create	Next >

Note: Refer to the documentation that came with your router for information on setting up the Mixer I/O. The switcher needs the audio sources and destinations to route audio, but your overall needs for the mixer may be different.

Option	Description
Do you want to include the Audio Mixer I/O Map?	Select Yes .
Do you want to include Audio Mixer Direct Outputs?	Select whether to allow the use of audio mixer resources without tying up a mixer output.
Select one or more frames to be included for the mixer database creation	Select the router you are currently setting up.
Start Audio Levels for Destinations:	The destination that you want to start assigning audio.
Channels per Destination:	The number of levels to assign for every destination.
Destination Name (prefix):	The prefix for the name of the audio destination.
Starting Number for Destination (postfix):	The suffix number to the audio destination.
Starting Audio Level for Sources:	The source that you want to start assigning audio.
Channels per Source:	The number of levels to assign for every source.
Source Name (prefix):	The prefix to the name of the audio source.
Starting Number for Source (postfix)	The suffix number to the audio destination.

6. Click Next.

7. Set the name and color used for each level in the matrix.



- 8. Click Next.
- **9.** The destinations are the outputs from the crosspoint matrix that can be assigned to outs as well as are the inputs to the switcher. You can change the **Name** for any destination on the list. The destination names are use on the **Soft Panel** to assign sources to destinations.

Note: The switcher menus handle the assigning of router sources to switcher inputs.

Tip: The format of the VID designation is frame.slot.out[number].sdi.ch1. For example, **DST7** is mapped to Ultrix-5ru.flex.out[7].sdi.ch1 which is the SDI signal on HD-BNC output 7 of the blade in the FLEX slot. Your destinations will vary depending on the configuration of your system.



10. Click Next.

11. The sources are the inputs to the crosspoint matrix from the input BNCs as well as outputs from the switcher. You should change the **Name** of the sources from the switcher to the actual video output signal that is coming from the switcher.



Tip: An ME can be assigned to an SDPE blade installed in any slot. Refer to SDPE Slot on page 109 for information on what slot and ME each SDPE blade is setup as.

Note: Prior to v11.2 ME 1 was located in slot 1. With v11.2 all new systems have ME 1 located in slot 8 by default.

Table 1: Default ME 1 Switcher Video Output Mapping

VID	Switcher Output			
Ultrix-5ru.slot8.in[1].sdi.ch1	ME1 PGM A			

VID	Switcher Output
Ultrix-5ru.slot8.in[2].sdi.ch1	ME1 PVW A
Ultrix-5ru.slot8.in[3].sdi.ch1	ME1 PGM B
Ultrix-5ru.slot8.in[4].sdi.ch1	ME1 PGM C
Ultrix-5ru.slot8.in[5].sdi.ch1	ME1 User Out 1
Ultrix-5ru.slot8.in[6].sdi.ch1	ME1 User Out 2
Ultrix-5ru.slot8.in[7].sdi.ch1	ME1 User Out 3
Ultrix-5ru.slot8.in[8].sdi.ch1	ME1 User Out 4
Ultrix-5ru.slot8.in[9].sdi.ch1	ME1 PVW B
Ultrix-5ru.slot8.in[10].sdi.ch1	ME1 PGM D
Ultrix-5ru.slot8.in[11].sdi.ch1	ME1 Media-Store CH1
Ultrix-5ru.slot8.in[12].sdi.ch1	ME1 Media-Store CH1 Alpha
Ultrix-5ru.slot8.in[13].sdi.ch1	ME1 Media-Store CH2
Ultrix-5ru.slot8.in[14].sdi.ch1	ME1 Media-Store CH2 Alpha
Ultrix-5ru.slot8.in[15].sdi.ch1	ME1 Media-Store CH3
Ultrix-5ru.slot8.in[16].sdi.ch1	ME1 Media-Store CH3 Alpha

Table 2: Default ME 1 Switcher Audio OutputMapping

AUD	Switcher Output
Ultrix-5ruslot8AUXA-in[1].audio.ch1	ME 1 Media-Store Audio Channel 1 (left)
Ultrix-5ruslot8AUXA-in[1].audio.ch2	ME 1 Media-Store Audio Channel 1 (right)
Ultrix-5ruslot8AUXA-in[1].audio.ch3	ME 1 Media-Store Audio Channel 2 (left)
Ultrix-5ruslot8AUXA-in[1].audio.ch4	ME 1 Media-Store Audio Channel 2 (right)

- **12.** Click **Create** to create the new database and apply it to the router.
- **13.** Double-click the **System Status** and click on the **Database** tab.



- **14.** In the **Database Management** section, click on the **Load Database Name** list and select the database you just created.
- 15. Click Load.

Your new database has been created and is being loaded onto the router.

To Create a Router SoftPanel

The SoftPanel allows you to connect router sources to destinations and is required to connect switcher outputs to the router outputs.

- 1. From the DashBoard tree view for the router, expand the **Ultrix** > **Database** node.
- **2.** Double-click **Panels**.



- **3.** Enter a name for your panel in the **Panel Name** field.
- 4. Click Levels.



- **5.** Remove all but the **VID** level for now. The other levels are for audio only routing.
- 6. Click Destinations.



- Ensure that all destinations are in the Assigned column. This makes them available to assign sources to on the panel.
- 8. Click Sources.

anels:				Season		
ety .	Viewable sources:					
	Available:		Assigned			
		•		Diwh		
					Cancel	App

- **9.** Move all the switcher sources into the **Assigned** column. The other sources are normal router sources that can be assigned to a destination, but we are only interested in switcher sources now. If you did not label the sources coming from the switcher when building the database, you will have to switch back and forth to the database to identify which sources are coming from the switcher.
- **10.** Click **Apply** to create the panel.

Tip: When you create the panel it is listed in the *Panels* list on the left. You can select a panel and edit it.

To Assign a Switcher Output to a Router Output

Switcher outputs are sources in the router that need to be connected to router destinations and outputs.

- 1. From the DashBoard tree view for the router, expand the **Ultrix** > **SoftPanel** node.
- 2. Double-click on the name of your panel.

The panel is a visual representation of the crosspoint with sources listed across the top and destinations down the side. If you click on the point on the matrix where a source and destination meet, you create a path that routes the source video signal to the output that the destination is assigned to.

3. Click on the crosspoint for each switcher source (output) to assign it to a destination.



4. Click on the crosspoint for each Media-Store audio source from the ME to assign it to a destination.



- ME Media-Store Audio Channel 1 audio channels 1 and 2
- ME Media-Store Audio Channel 2 audio channels 3 and 4
- 5. Click **Take** to apply the routing.

To Set UltriClean Clean Switch

The UltriClean feature allows the router to delay each video output. The switcher introduces a delay in the video path relative to rest of the router. The Clean Switch line buffer must be set for every output used for switcher outputs to properly time them with the rest of the router sources.

Note: Refer to the documentation that came with your router for more information on working with UltriClean.

- From the DashBoard tree view for the router, expand the Ultrix > Devices > Controllers + Matrices node.
- **2.** Double-click on the node for the router.
- **3.** Click (Port Configuration) and click on the slot or slots you are using for the switcher outputs.
- 4. In the Views area select Ports and Outputs, and in the Selection area click Select All.



5. Select the first switcher output that you want to configure.

Tip: Output are identified by their physical address on the router. You may have to refer to the database to identify which switcher sources are connected to router outputs.

6. Select **Clean Switch** (checked) for the output that a switcher source is assigned to.

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		9 100y 60									
		100y 80									
		100y 60									

- 7. Click the Clean Switch Mode cell and select Reference.
- 8. Click the Clean Switch Delay cell and select Full Line.
- **9.** Repeat this procedure for each output assigned to a switcher source.

To Set Up Tallies

The switcher uses TSL to pass tally information back and forth between the switcher and the router. This allows the switcher to tally sources on the UltriScape Multi-Viewer.

Note: The **Ultrix TSL** remote enable (Press **HOME** > **More** > **Remote Enables**) must be **On** for tally information to pass between the switcher and router.

- From the DashBoard tree view for the router, expand the Ultrix node and double-click on the System Status node.
- 2. Click on the **Database** tab.



- 3. Select Enable Tally.
- From the DashBoard tree view for the router, expand the Ultrix > Database node.
- 5. Double-click Sources.



For each source, enter the corresponding TSL ID for Acuity[®] in the Tally column, starting with tally ID 0 for input 1. The switcher supports up to 4000 (0-3999) tally IDs.

Note: Refer to help.rossvideo.com/acuity-device/Topics/Devices/UMD/TSL.html for a list of TSL IDs and the corresponding Acuity[®] source.

7. Click Apply.

Input Sources in Acuity

Video inputs coming into the switcher can be assigned to a type of device they are coming from. Assigning a device type allows you to associate a device you are controlling from the switcher with an input.

Each input from the router can have one or multiple input sources assigned to it. This can allow configurations such as multiple device control or device redundancy. For example, to access both the CG and clip functionality of your graphics processor you can assign two input sources, one set up as a CG and the other as a video server, to the router source from the device. You can then use two source buttons to access the different functionalities of the same device.



To Set Up Video Sources

Note: Do not assign multiple switcher sources to the same Ultrix source. This can lead to the same Ultrix source being tallied as both on-air and off-air at the same time. This conflict is visible on the **Tallies** menu where multiple **Inputs** are assigned to the same **Ext. Source**.

1. Press HOME > Setup > Installation > Source Configuration > Input Type.

- **2.** Use the **Input** knob to select the input source that you want to configure.
- **3.** Use the **Ultrix Source** knob to select the router source that you want to assign the input source to. Sources that appear gray are on Video Inputs boards that are not installed.

Note: Do not assign a switcher **Input** to an **Ultrix Source** that is assigned to a disconnect or virtual input. This can cause the source to tally as both on-air and off-air at the same time.

4. In the **Input Type** area, select how you want the input source configured. Input types are assigned to the input sources, and not the physical BNC.

Note: All input sources must be assigned to **Video** or **Alpha** unless the device connected to that input source is controlled by the switcher.

- Alpha alpha signal to be paired with a fill, or video, signal for an auto select key.
- Char Gen video signal from a character generator.
- **Off** no video signal, or to temporarily turn an input off.
- **Robotic Cam** video signal from a robotic camera.
- **Router** video signal from a router.
- Video video signal from any source you are not controlling from the switcher.
- **VTR** video signal from a VTR or video server.
- 5. Press HOME > Confirm.

Aux Bus Router Sources

Switcher aux buses need to be mapped to router sources and destinations so that video can be assigned to them.

Aux bus routing is done virtually within the router. When a source is selected on an aux bus in the switcher, the switcher tells the router to connect a video source to an aux bus destination. The video does not pass through the switcher.

Note: An aux bus source must be assigned to a destination for that video stream to be available on an output.

To Create Router Aux Sources

- 1. From the DashBoard tree view for the router, expand the **Ultrix** > **Database** node.
- 2. Double-click Sources.



- **3.** Go to the end of the table and select the last item in the list.
- 4. Click Edit > Insert.



- **5.** Enter the following information in the dialog box.
 - **Prefix** enter SRC AUX1- or how you want the name for the aux bus to appear. The AUX1 represents Aux Bus 1. You can change the name later.
 - Starting select 1.
 - **Count** select **8**. This creates the series of 1-8 for Aux Bank 1.
- 6. Click Apply.
- **7.** For each of the new sources you need to add a custom **VID**. The VIDs must follow the format

<router-name>.slot0.virt-in[aux].sdi.ch1.
For example, aux 3 on bank 2 for the router
being used for this example would be
Ultrix-5ru.slot0.virt-in[11].sdi.ch1.

8. Repeat this procedure to add all 8 aux bus banks.

Tip: As you are adding the aux buses, don't forget to add the tally ID numbers to each new source.

9. Insert a single row to the list. This is for the disconnect source on the aux bus which is used to select black on an aux bus from the switcher.

- **10.** Set the name to Disconnect and the VID to <*router-name*>.slot0.disconnect[1].sdi.ch1.
- **11.** Click **Apply**.

To Create Router Aux Destinations

- From the DashBoard tree view for the router, expand the Ultrix > Database node.
- **2.** Double-click **Destinations**.



- **3.** Go to the end of the table and select the last item in the list.
- 4. Click Edit > Insert.



- 5. Enter the following information in the dialog box.
 - **Prefix** enter DST AUX1- or how you want the name for the aux bus to appear. The AUX1 represents Aux Bus 1.
 - Starting select 1.
 - **Count** select 8. This creates the series of 1-8 for Aux Bank 1.
- 6. Click Apply.
- 7. For each of the new sources you need to add a custom VID. The VIDs must follow the format <router-name>.slot0.virt-out[aux].sdi.ch1. For example, aux 7 on bank 4 for the router being used for this example would be Ultrix-5ru.slot0.virt-out[31].sdi.ch1.
- **8.** Repeat this procedure to add all 8 aux bus banks.
- 9. Click Apply.

UltriScape Multi-Viewer

Some of the outputs from each ME are available as PiPs for the software defined UltriScape MultiViewer in the router.

Note: Refer to the documentation that came with your router for information on licensing and setting up UltriScape.

The switcher makes the following sources available as PiPs from ME 1. All other MEs in the switcher have similar outputs. You must assign tally IDs to the router sources to have the switcher tally sources on the Multi-Viewer.

- ME1 PGM A
- ME1 PVW A
- ME1 PGM B
- ME1 PGM C
- ME1 User Out 1
- ME1 User Out 2
- ME1 User Out 3
- ME1 User Out 4

Tip: Refer to *ME* Outputs to the Router on page 38 for information on assigning sources switcher sources to the USER outputs.

Ultrix[™] Ultricore BCS Setup

If your router ecosystem uses an Ultricore BCS, the switcher requires the IP address of the Ultricore BCS to communicate with the router to switch aux buses.

Note: The Ultrix FR12 requires the Ultricore BCS for configuration and operation.

To Connect to the Ultricore BCS

- Press HOME > Setup > Installation > More > More > Ultrix Setup.
- **2.** Enter the IP addresses of the primary and redundant Ultricore BCS.
 - **Primary BCS IP** enter the IP address of the primary Ultricore BCS.
 - **Redundant BCS IP** enter the IP address of the redundant Ultricore BCS.

Tip: You can set whether the switcher uses the primary or redundant Ultricore BCS from the **Remote Enables** menu (Press **HOME** > **More** > **Remote Enables**).

3. Press **Inactive** to have the switcher use the Ultricore BCS to communicate with the router.

Network Setup

If the switcher is using the default network settings, the control panel will automatically detect the frame on power up. No network setup is required. Once connected, you can change the network settings of each control panel. You must restart the switcher each time you want to apply different network settings.

You can connect up to nine control panels. In either a single panel or MultiPanel configuration, you must configure a main panel. Once the main panel is configured, up to eight satellite panels can be configured.

Note: Refer to Network Ports on page 112 for a complete list of network ports used by the frame.

Switcher Network Setup

From the web interface, you can set up the IP Address, as well as selecting the IP addresses of all the control panels, and SoftPanel that can access the switcher.

To Set the Switcher Network Settings

1. Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are **user** and **password**.



2. Click Other... > Network.

This page allows you to change the network configuration of the network ports, as well as enter the current IP Address of the main panel, and satellite panels.

3. In the LAN1 section, enter the **IP Address** and **Subnet Mask** for the switcher.

This is the IP address that you will connect to from the control panel(s).

Note: You cannot set the switcher to an **IP Address** in the range of 192.168.12.xx. This is used internally and will cause interference. The **Subnet Mask** should be set to 255.255.255.0.

Note: The LAN2 port is used internally for connecting to the Ultrix^{\mathbb{M}}. These setting cannot be changed.

- **4.** Optional: Enter the **Default Gateway** for the frame.
- 5. In the **Panel** section, enter the IP address of the main panel in the **IP Address Main Panel** field.
- 6. Click Change and Reboot. The switcher restarts with the new network settings.

Control Panel Network Setup

To configure the network settings of the control panel, you must have the IP address for both the frame that you want to connect to, and each of the control panels. If you are not connecting any satellite panels to your switcher, only configure the main panel.

To Set the Panel Network Settings

Note: The control panel and frame must be on the same subnet to communicate properly.

Note: The Acuity Rack Panel ships with a static IP address (192.168.0.129) as default.

- 1. Press **HOME** three times to place the control panel in diagnostic mode.
- 2. Press HOME > Setup > Network Setup > Configure Frame/Panel IPs.

Tip: Set *Defaults* on (*On*) to set the control panel to the default IP address and to look for the frame at the default IP address of the frame.

3. In the Frame area, enter the **IP Address** of the frame using a keyboard.

Tip: On the Acuity[®] panel you can also use the keypad on the Global Memory Module to enter the network setting. On the TouchDrive panel you can use the Memory area (TD2S and TD3S only) or the Memory Punch Pad (Press **HOME** > **More** > **Memory PunchPad**). The **MENU** button must be active in the Memory area or punchpad of the TouchDrive panel.

- 4. In the Panel area, enter the **IP Address**, **Subnet Mask**, and **Gateway** of the control panel using a keyboard.
- 5. Use the **Panel ID** knob to select the role you want to assign to the control panel.
 - **Main Panel** assign the control panel as the main panel in a MultiPanel setup, or the only control panel.

- **Satellite Panel** *X* assigns the control panel as one of the satellite panels in a MultiPanel setup.
- **6.** Press **Save** and **Yes** to reboot the control panel and use the new network settings.
- 7. Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are **user** and **password**.
- 8. Click Other... > Network.
- **9.** In the Panel area, enter the IP address for the panel you are connecting to the frame.
 - Main Panel enter the IP address of the main panel in the IP Address Main Panel field.
 - Satellite Panel enter the IP address of a satellite panel in the IP Address Satellite X field.

Note: The IP address for the control panel must be the same for the satellite number on the control panel and frame. For example, if you assign a control panel Satellite 5, you must enter the IP address of that control panel in the **IP Address Satellite 5** field.

10. Click Change and Reboot.

To Set the Panel DNS Resolver

The control panel comes configured with default DNS entries. You can enter new ones for your facility or delete the existing ones if you do not have a DNS server for your network.

Before you begin, you will need the nameserver IP addresses of your local DNS and any domain names you want to use.

Note: If the network settings for the control panel are set to DHCP, the DNS entries are gathered from the server and the local settings are overwritten.

Tip: If the control panel cannot reach the IP address set for the DNS nameserver, network connection may slow down.

Press HOME > Setup > Network Setup > DNS Setup.

Tip: The **Current DNS Settings** area lists the domain name entries and nameserver IP addresses currently stored on the panel. You can remove these entries by using the **IP/Domain Name Selection** knob to select each entry and pressing **Remove**.

2. Use the **IP/Domain Name Selection** knob to select the IP address you want to edit or remove.

3. Use the **IP Address** keypad to enter a the IP address of a nameserver on your network. Enter the value for each segment and press **Enter** on the keypad.

Note: If you are using a mouse with the keypad, the value you enter will default back to the current segment value if the mouse leaves the keypad.

4. Press **Add** to add the new IP address to the list or **Replace** to replace the currently selected IP address.

Note: The DNS resolver can have a maximum of 3 nameserver entries.

- 5. Use the **IP/Domain Name Selection** knob to select the domain name you want to edit or remove.
- 6. Enter a new domain name in the **Domain** Name field.

Tip: If you do not have a keyboard connected to the control panel, press **Show Keyboard** and use the internal keyboard to enter the new name.

7. Press **Add** to add the new domain name to the list or **Replace** to replace the currently selected domain name.

Note: The DNS resolver can have a maximum of 6 domain name entries.

8. Press Save and Yes to save the DNS settings and restart the panel.

Default Network Settings

The control panel and switcher are set with default network addresses from the factory.

Table 3: Default Network Settings

	Frame	Acuity [®] Panel	TouchDrive Panel
IP Address	192.168.1.1	192.168.1.2	192.168.0.129
Subnet Mask	255.255.0.0		
Gateway	0.0.0.0		

Network Security

The switcher uses a standard ethernet connection for communication between the control panel and the frame, as well as between some external devices and the switcher. Any time your switcher is connected to a public network, it is important to follow certain precautions to ensure that your switcher is not vulnerable.

- Limit Access Anyone who can access your network could also have access to your sensitive data and equipment. Limit network access by keeping your production equipment on a separate network segment or use a firewall. Contact your IT department for more information about how your network is set up.
- Change Default Passwords Change the web interface password for your switcher.
- **Disable Unused Services** The switcher provides access to a number of default services as listed below. These services can be disabled by Ross Video Technical Support if required for added security.
 - Web Server This service is used for the web interface and is required for upgrades.
 - **FTP** This service is used to transfer images and animations to the switcher for use with the internal Media-Stores.
 - **Telnet Server** This service is used for diagnostic and maintenance purposes.

To Set Up User Accounts and Passwords

The control panel and switcher share the same set of user names and passwords. This information is stored on the switcher and is sent to a control panel when it connects to the switcher.

Note: Once you create a user account, the default user and password are not available.

1. Press HOME > Setup > More > User Accounts.

Custom user accounts that have been created on the switcher are shown in the **User Name** list.

2. Enter the new name and password you want to create in the **Username** and **Password** fields.

Tip: If you do not have a keyboard, press *Show Keyboard* to display a virtual keyboard.

- 3. Press Add User.
- 4. Edit existing user accounts as required.
 - **Delete** use the knob to select the account you want to delete and press **Delete User**.
 - Change Password use the knob to select the account you want to change the password for, enter a new password

in the **Password** field, and press **Change Pwd**.

System Time

The system time allows you to set the current date and time on the hardware clocks on both the frame and the control panel.

The time can be set manually from the main panel, or automatically from a Network Time Protocol (NTP) server.

To Set System Time Manually

Note: If the switcher is using a Network Time Protocol Server (NTP) to set the system time. You must remove the NTP servers via the Web UI to be able to set the time manually.

- 1. Press HOME > Setup > More > Set System Time.
- 2. Press Time Zone and use the **Region** and **Zone** knobs to set the time zone.
 - **Region** select the geographic region the switcher is located in.
 - **Zone** select the time zone the switcher is located in.
- 3. Press Set.
- 4. Press **Date** and use the **Year**, **Month**, and **Day** knobs to set the current date.
- 5. Press Time and use the Hour. Minute, and Second knob to set the current time.
- 6. Press Set.

To Set System Time Automatically

The system time can be set automatically by entering the IP address of up to three (3) Network Time Protocol (NTP) servers. The switcher must be able to access the IP addresses to get the time from an NTP server.

- 1. Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are **user** and **password**.
- 2. Click Other > Time.

All NTP servers that have been set up on the switcher are listed here.

3. In the blank **Time Servers** field, enter the IP Address of the NTP server you want to add.

IP addresses in the range of 192.168.12.xx are reserved by the switcher and cannot be used as a time server address.

4. Click ADD.

Tip: To remove an NTP server from the list, click **DELETE** next to the time server you want to remove.

You are asked to confirm the addition of the time server once it is validated, click **OK** to add the server.

Once the switcher is synchronized to the new NTP server, Okay appears in the Status column. If Okay is not shown next the IP address, check that the IP address is correct, or that the switcher has access to the address.

Video Reference

The switcher receives a reference signal from the router. From that reference signal you can select the video format that you want the switcher to operate in. If you want to operate in a video format that is not supported by the current reference signal, you must change the reference on the router.



Important: Only the **REF A** reference input on Ultrix^m is supported at this time.

The current input reference format (Reference mode) and video format (Video mode) that the switcher is operating in are shown on the **Main Menu**. The status of the reference signal is shown by the color of the **Reference mode** text.

- White reference signal is locked and good.
- Yellow reference signal has been lost or can't lock for less than 10 seconds.
- **Red** reference signal has been lost or can't lock for more than 10 seconds.

Supported Reference Formats

Depending on the input reference format the switcher is receiving from the router, you will only be able to operate the switcher in certain formats.

Video Format	Required Reference	
720p 50Hz	576i	
	720p 50Hz	
	1080i 50Hz	
720p 59.94Hz	480i	
	720p 59.94Hz	
	1080i 59.94Hz	
1080i 50Hz	576i	
	1080i 50Hz	
1080i 59.94Hz	480i	
	1080i 59.94Hz	
1080p 23.98Hz	1080p 23.98Hz	
1080p 24Hz	1080p 24Hz	
1080p 25Hz	576i	
	1080i 50hz	
	1080p 25Hz	

Video Format	Required Reference	
1080p 29.97Hz	1080i 59.94Hz	
	1080p 29.97Hz	
1080p 30Hz	1080i 60Hz	
	1080p 30Hz	
1080p 50Hz (A)	576i	
	720p 50Hz	
	1080i 50Hz	
1080p 59.94Hz (A)	480i	
	720p 59.94Hz	
	1080i 59.94Hz	
1080p 60Hz	1080i 60Hz	
1080pSF 23.98Hz	1080pSF 23.98Hz	
1080pSF 24Hz	1080pSF 24Hz	
UHDTV1 23.98Hz (UHD-2SI)	1080p 23.98Hz	
UHDTV1 24Hz (UHD-2SI)	1080p 24Hz	
UHDTV1 25Hz (UHD-2SI)	576i	
	1080i 50Hz	
	1080p 25Hz	
UHDTV1 29.97Hz (UHD-2SI)	1080i 59.94Hz	
	1080p 29.97Hz	
UHDTV1 30Hz (UHD-2SI)	1080i 60Hz	
	1080p 30Hz	
UHDTV1 50Hz (UHD-2SI)	576i	
	1080i 50Hz	
	720p 50Hz	
UHDTV1 59.94Hz (UHD-2SI)	480i	
	1080i 59.94Hz	
	720p 59.94Hz	
UHDTV1 60Hz (UHD-2SI)	1080i 60Hz	

UHDTV1 Mode

When the switcher is operating in a UHDTV1 video format, the number of available resources is reduced to provide the additional processing power required for UHDTV1 production. The following table provides a quick overview of how the resources are re-allocated.

	HD	UHDTV1
Max MEs (Ultrix FR5)		4

	HD	UHDTV1
Max MEs (Ultrix FR12)	8	
Keys per ME	6	6
Chroma Keys per ME	2	2
2D DVE Channels per ME	14	6
3D DVE Channels per ME	4	1

Refer to *Switcher Resources* on page 112 for a complete list of available resources.

Video Format

The switcher operates in a single video format at a time. This is the format that all video processing is performed in and which all video signals will be converted to on input and to on output. The available video formats depend on the reference signal being received by the switcher from the router.

Refer to *Reference* on page 16 for information on setting the reference and video format for the system.

To Set the Video Format of the Switcher

Set the video format that the switcher operates in.

- 1. Press HOME > Setup > Installation > More > Reference.
- 2. Use the **Reference** knob to select the reference input on the router that you want to use for the switcher. The signal that is detected on the reference input is shown next to the reference input name.

Note: Reference B (**REF B**) on Ultrix^{\mathbb{M}} is not supported at this time.

- **3.** Use the **Ref Format** knob to select the format of the input reference.
- 4. Use the Video Format knob to select the video format you want the switcher to operate in.

Tip: Information on the currently selected video format is shown on the left of the menu.

Switching Field

The switching field is the field in an interlaced video format that the switcher uses to transition from one video source to another. An interlaced video format is made up of two fields, field 1 (odd lines) and field 2 (even lines).

To Set the Switching Field

- Press HOME > Setup > Installation > Output > More.
- Toggle Switch on to select between field 1 (F1) or field 2 (F2) as the switching field.
 - **F1** transitions are performed after the odd field of the source video is drawn.
 - **F1** transitions are performed after the even field of the source video is drawn.
- 3. Press HOME > Confirm.

Video Input Setup

Video sources come into the switcher from the router matrix. Depending on how you want to use these video sources, or where they come from, you may want the switcher to pair them together, or associate an external device with them. Pairing two video sources together is usually used for an auto select key where an external device, such as a character generator, outputs both a key video and key alpha. Associating a video source with an external device allows special control over that device to become active when you select the source on a bus.

Note: Refer to <u>Input Sources in Acuity</u> on page 22 for information on setting switcher inputs to router sources.

Auto Key Setup

An auto key allows you to associate a key alpha with a key video source in the switcher. When the video source is selected as a keyer, the key alpha is automatically used.

You must set a video source as an alpha before you can use it as an alpha for an auto select key.

Tip: You can associate one Media-Store channel as the alpha for another Media-Store channel. This means that if you load a still that has alpha information in the file, the switcher uses the associated channel to load the alpha still.

To Set Up an Auto Key Association

- 1. Press HOME > Setup > Installation > Source Configuration > Input Type.
- 2. Use the **Input** knob to select the input source that is your key alpha.
- 3. In the **Type** area, select **Alpha**.
- 4. Press Auto Key Setup.
- **5.** Use the **Source** knob to select the input source that has the fill of the auto key you want to set up.
- **6.** Use the **Alpha** knob to select the input source that has the alpha of the auto key you want to set up.
- 7. Use the **Mode** knob to assign the alpha as **Shaped** or **Unshaped**.
 - **Unshaped** switcher performs a multiplicative key. The key alpha cuts a hole based on the gradient values of the alpha. Shades of gray are translated into transparency levels, giving the key a soft

edge. Unshaped key alphas can also be considered true linear alphas.

- **Shaped** switcher perform an additive key. With shaped keys, the key alpha cuts a hole based on the monochrome value of the alpha. Shades of gray are translated into either white or black, giving the key a hard edge. Shaped Key alphas are sometimes used with Character Generators to cut very precise holes for the fill.
- 8. Press HOME > Confirm.

Source Names

Each video source on the switcher can be given a unique name that is used on the mnemonics for that source, as well as internal menus. These names can be customized for how they appear on the mnemonics by adjusting the size or the font and the background color.

Internally generated video sources, such as MEs, matte generators, aux buses, and Media-Store channels can also be given unique names.

You can assign a video source to an under monitor display (UMD) input address to provide the mnemonic names. If a video source is assigned to a UMD input address, any source name you enter is replaced with the UMD input name for all the mnemonics and menus.

To Name a Video Source on Acuity[®] Panels

- 1. Press HOME > Setup > Installation > Source Configuration > Names > Source Names.
- **2.** Use the **Source** knob to select the input source that you want to change the name for.
- **3.** Press **Name** and enter the new name in the **New Name** field.
- 4. Press Acuity Mnemonic.
- **5.** Press **Font** and select the size and layout of the font you want to use on the mnemonic displays.

Tip: Select *Standard* to use the standard mnemonic settings.

In 001	In 001 Small	In 001	In 001	In	In
Stridi	Invert	mediam	Invert	Large	Invert
[shft] In 001	[shft] In 001	In 001 [shft]	In 001 [shft]		
I <u>nv Shift</u> Unshift	Shift Inv Unshift	<u>Unshift</u> Inv Shift	I <u>nv Unshift</u> Shift	None	

Tip: Use the **Router/Int** or **Router Only** setting to show both the router and switcher names for a source, or only the router names.

- 6. Press **Color** and select the color you want to use for the mnemonics. This can be the background or text color, depending on whether you have selected an invert font.
 - Acuity Colors use a standard mnemonics color.
 - **ME Colors** use a ME Glow color.
 - **User Colors** use a User Color.

Tip: Select *Standard* under *Acuity Colors* to use the standard mnemonic color.

Tip: Select *None* to not use a color for the mnemonic.

7. Press Accept New Name.

To Name a Video Source on TouchDrive Panels

- 1. Press HOME > Setup > Installation > Source Configuration > Names > Source Names.
- **2.** Use the **Source** knob to select the input source that you want to change the name for.
- **3.** Press **Name** and enter the new name in the **New Name** field.
- 4. Press TouchDrive Mnemonic.
- **5.** Press the **Icon** button and select the icon you want to use.
- **6.** Press **Font** and select the size and layout of the font you want to use on the mnemonic displays.

Tip: Select *Standard* to use the standard mnemonic settings.



Tip: Use the *Rtr Only, Rtr Top/Int Bot*, or *Rtr Bot/Int Top* setting to show both the router and switcher names for a source, or only the router names. The router name is the name of the source assigned to that switcher input from $Ultrix^{\mathbb{M}}$.

- **7.** Press **Background** or **Foreground** and select the color you want to apply to that component of the mnemonics.
 - Acuity Colors use a standard Acuity[®] mnemonics color.
 - **ME Colors** use a ME Glow color.
 - User Colors use a User Color.
 - **TouchDrive Colors** use a standard TouchDrive mnemonics color.

Tip: Select *Standard* under *Acuity Colors* to use the standard mnemonic color.

Tip: Select *None* to not use a color for the mnemonic.

- 8. Press Prev Mnem Start Pos or Next Mnem Start Pos to select which part of the name you want to appear on the mnemonic. For example, if the source is named IN001, but you only want 001 to appear on the mnemonic, press Next Mnem Start Pos twice.
 - **Prev Mnem Start Pos** move the start position one character to the left.
 - **Next Mnem Start Pos** move the start position one character to the right.
- 9. Press Accept New Name.

Engineering Names

Engineering names are only used on the **Source Configuration** menus and allow an additional short description (13 characters) to be applied to a video source.

To Give a Video Source an Engineering Name

- 1. Press HOME > Setup > Installation > Source Configuration > Names > Eng Names.
- 2. Use the knob to select the input that you want to change the engineering name for. The knob shows the current engineering name, mnemonic name, and physical input.
- **3.** Press **Name** and enter the new name in the **New Name** field.
- 4. Press Accept New Name.

Control Panel Button Inserts

Insert films can be installed into most buttons on the control panel. Insert films allow you to label specific source buttons, control buttons, or replace the default button names with those of a different language.

Button insert templates can be downloaded from Ross Video.

To Install a Button Insert

1. Remove the Cap Assembly from the Switch Assembly by grasping it firmly and pulling away from the control panel surface.





2. Remove the Lens from the Diffuser using a common end micro screwdriver.



Figure 2: Removing Lens from Diffuser

3. Place the Insert Film into the Lens so the readable side is facing up. The notches on the sides of the Lens must be at the sides of the text on the Insert Film.



Figure 3: Inserting Film

- **4.** Aligning the notches on the sides of the Lens and Diffuser, press the Lens and Diffuser together until they click.
- **5.** Aligning the notches on the sides of the Cap Assembly to the tabs on the side of the Switch Assembly, press Cap Assembly down onto the Switch Assembly with a rolling motion until they click together.



Figure 4: Replacing Cap Assembly

Bus Maps

Any video input can be mapped to any source button on the control panel using a bus map. Bus maps can be assigned to individual buses on a specific ME, or to the entire panel. Each source button can have up to eight inputs assigned (a standard source and shifted sources).

In a MultiPanel configuration, all control panels share the same bus maps, but which bus maps are assigned to each ME is specific to the panel. For example, on satellite panel 1 you can assign bus map 5 to ME 3. On satellite panel 4 you can also assign bus map 1 to ME 3, as long as both panels have ME 3 assigned to them.

Keep the following in mind:

Keep the following in mind when working with bus maps.

- You can map an input to more than one crosspoint.
- Associate your primary inputs first, followed by your shifted inputs.
- You do not need to assign alpha signals to crosspoint buttons. These signals are used automatically when you select the video crosspoint of the auto key.
- A different bus map can be assigned to the same ME from each control panel.

Editing Bus Maps

Bus maps define the video source, or internal video signal, that is assigned to each crosspoint button on a bus.

To Edit a Bus Map

Tip: You can edit a bus map for a control panel of a different size than the current one by pressing **Select Panel Type** and selecting a different size of panel.

- 1. Press HOME > Setup > Bus Maps > Edit.
- 2. Use the Map knob to select the bus map you want to edit.

Tip: Press *More* > *Default Map* to default the selected map, or *Default ALL Maps* to default all maps.

3. Press **More** > **More** > **Select Panel Width** and press the button for the size of control panel you are setting up the bus map for.

Press **Back** to return to the **Edit Bus Maps** menu.

- 4. Select or edit the button on the shift level that you want to assign a video signal to. Use the middle knob to scroll the list. The button lights on the program bus of all panel rows.
 - **Insert** insert a source at the selected button and shift the remaining sources to the right.
 - **Delete** delete a source at the selected button and shift the remaining sources to the left.
 - **Clear** remove the source from the selected button and not shift the remaining sources. **None** is selected for the cleared buttons and the last button when a source is deleted.
 - **Copy** copy the source from the selected button.
 - **Paste** paste the copied source to the selected button.
- **5.** Use the **Source** knob to select the video source that you want to assign to the selected source button.
 - **NONE** no video source is assigned to the button.
 - **BKGD 1-2** the color background from the matte generator.
 - **BLCK** internally generated black.
 - **ME X PGMA** the Program A program output of another ME for re-entries. Button is blank if it is the same ME.
 - **ME X PGMB** the Program B program output of another ME for re-entries. Button is blank if it is the same ME.

- **ME** *X* **PVWA** the Program A preview output of another ME for re-entries. Button is blank if it is the same ME.
- **ME X PVWB** the Program B preview output of another ME for re-entries. Button is blank if it is the same ME.
- **ME X PGMC** the Program C program output of another ME for re-entries. Button is blank if it is the same ME.
- **ME** *X* **PGMD** the Program D program output of another ME for re-entries. Button is blank if it is the same ME.
- **ME** *X* **PGME** the Program E program output of another ME for re-entries. Button is blank if it is the same ME.
- **ME X PGMF** the Program F program output of another ME for re-entries. Button is blank if it is the same ME.
- **KEY CUT** perform a cut of the AuxKey key on the aux bus that the source button is pressed on.
- **KEY TRNS** perform an auto transition of the AuxKey key on the aux bus that the source button is pressed on.
- **BKGDCUT** perform a cut of the AuxKey background on the aux bus that the source button is pressed on.
- **BKGDTRANS** perform an auto transition of the AuxKey background on the aux bus that the source button is pressed on.
- **K+B CUT** perform a cut of the AuxKey background and key on the aux bus that the source button is pressed on.
- **K+B TRANS** perform an auto transition of the AuxKey background and key on the aux bus that the source button is pressed on.
- **BUS HOLD** the currently selected source on the bus that you select the Bus Hold for, does not change when a memory recall is performed. This is the same as holding the crosspoint button when performing a memory recall. On an Aux Bus, the Bus Hold toggles the Aux Bus Lock on and off.
- **SHFT** *X* switch the source buttons to the selected shifted bus row.
- **ME** *X* **ST** *Y* the Media-Store video channel (*Y*) on ME (*X*).
- **ME** *X* **StA** *Y* the Media-Store alpha channel (*Y*) on ME (*X*).
- **AUX X:Y** the output of aux bus X:Y

- **In XXX** the video source on the selected input.
- 6. Press HOME > Confirm.

To Name a Bus Map

- 1. Press HOME > Setup > Bus Maps > More.
- 2. Use the **Map** knob to select the bus map you want to rename.
- 3. Press Rename Map.
- 4. Press Name and enter the new name in the New Name field.
- 5. Press Accept New Name.

To Copy a Bus Map

- 1. Press HOME > Setup > Bus Maps > More > Copy Map.
- **2.** Use the **Copy From** knob to select the bus map you want to copy from.
- **3.** Use the **Copy To** knob to select the bus map you want to copy to.
- 4. Press Copy Map.

Assigning Bus Maps

Bus maps can be assigned to the program/preset, key, or utility buses of each ME, or to each Aux Bus. Bus Maps can be assigned to individual buses, ME, Aux Buses, or to the entire panel. Bus map assignment are control panel specific and do not affect the Bus Map assignments on other control panels.

Bus map assignments are stored in the personality register of the switcher.

To Assign a Bus Map to An Individual Bus

- Press HOME > Setup > Personality > Bus Maps > More > Assign Maps > Individual Buses.
- **2.** Use the **Bus** knob to select the bus you want to assign the bus map to.
 - **MEX PGM/PST** program and preset bus of the selected ME.
 - **MEX Key Y** selected key bus of the selected ME.
 - **MEX Utility** utility bus of the selected ME.
 - Bnk X Aux Y selected aux bus and bank.
 - **RmtAuxPnl LX** remote aux panel on selected External Link port.

- **RmtAuxPnl PX** remote aux panel on selected Peripheral port.
- **Extern Row** *X* auxiliary control panel on selected external panel row.
- **3.** Use the **Map** knob to select the bus map you want to assign.
- 4. Press Perform Assign.

To Assign a Bus Map to Multiple Buses

- Press HOME > Setup > Personality > Bus Map > More > Assign Maps.
- 2. Press Entire Panel, All ME Buses, All Buses On ME, or All Aux Buses to assign the bus map.
 - Entire Panel all buses assigned to the panel.
 - All ME Buses all ME buses assigned to the panel.
 - All Buses On ME all the buses on the selected ME (program, preset, keys, etc.).
 - All Aux Buses all Aux buses assigned to the control panel.
- **3.** Use the **Map** knob to select the bus map you want to assign.
- 4. Press Perform Assign.

To Update a Bus Map on TouchDrive

Note: You cannot edit the default bus map. You must assign a different bus map to the panel before you can edit it.

1. Tap **PST** on the row control menu.



2. Press the source button on the Preset bus to select the position on the map you want to update. If you are inserting a source select

the source button to the right of where you want to insert the new source.

Tip: Don't forget that you can assign sources to the shifted bus by pressing and holding the shift button and pressing the source button.

Tip: The name of the bus map that you are editing is show on the **Exit** button.

- **3.** Select the type of source you want to assign to the button.
 - **Ext** external sources.
 - Int internal sources.
 - **Buses** re-entry and bus follows.
 - Aux aux buses.
- **4.** Select the function you want to perform and source you want to add to the bus map.

Table 5: Keyers Module Button Functions

Function	Description	
Assign	Assign a new source to the map position. This overwrites the source currently mapped to this position.	
	 Tap the source mnemonic for the video source you want to assign to the map position. 	
Insert	Insert a new source to the left of the selected map position. This shifts all source (except Shift) to the right.	
	a. Tap the source mnemonic for the video source you want to insert to the left of the selected map position.	
Clear	Clear the current map position. This assigns a 'none' source to the position.	
Delete	Delete the source assigned to the map position. This shifts all the sources on the right of the position left to fill the current position.	

Note: Moving source on the main bus of the map does not change sources on the shifted bus (sources don't wrap around). The exception is the Shift button which must exist on all buses. If you add Shift to the main bus it is also added to the same position on the shifted bus.

- **5.** Repeat for any other changes you want to make to the bus map.
- 6. Press Touch Home.

Tallies

Tallies are simple open collectors that the switcher uses to signal other devices, and users,

that a particular video source is on-air. Typically, tallies are used to light a red light on a camera to show people that they are on-air and what camera they should be looking at.

You can only assign a single source to a tally, but you can assign multiple tallies to the same source.

Tally ports are located on the Acuity $^{\text{\tiny M}}$ control panel (panel tallies) and the SDPE blade (ME tallies).

To Assign a Tally to an Input

- 1. Press HOME > Setup > Installation > Source Configuration > Tally.
- **2.** Press **Panel Tallies** or **ME Tallies** to select which tally port you want to set up.

Note: The TouchDrive panel does not support Panel Tallies.

- **3.** Use the **Panel Tallies** or **ME Tallies** knob to select the tally you want to assign a video source to.
- **4.** Use the **Source** knob to select the input source that you want to assign the tally to. Tallies can be assigned to internal outputs, aux buses, and router source.

Note: If you see multiple **Inputs** assigned to the same **Ext. Source**, the tally may not function properly. The switcher identifies the tally state based on the **Input**, but the TSL tally information is based on the **Ext. Source** (Ultrix[™] Source). This can lead to an Ultrix[™] source being reported as both on-air and off-air at the same time.

- 5. Use the **Mode** knob to select when you want to tally the selected source.
 - **On Air** when the source is on-air. The source is on-air when it is included in the program output of an ME that is tallied.
 - **Preview** when the source is on preview.
 - **BnkXAuxY** when the source is active on the selected aux bus.
 - Any Aux Bus when the source is active on any aux bus.
 - **Preset** when the source is active on the preset of any ME.
 - **ME** *X* **PGM** *Y* when the source is active on the selected program output of the selected ME.
 - **ME** *X* **PST** *Y* when the source is active on the selected preset output of the selected ME.
- 6. Press HOME > Confirm.
To Set Up When a Tally is Triggered

By default, the highest number ME in the switcher is tallied as the program ME. Anything selected or re-entered on this ME is considered on-air.

- Press HOME > Setup > Installation > Output > ME / Aux Tally.
- **2.** Use the **Bus** knob to select the type of bus you want to tally.
 - **ME** select an ME
 - Aux select an aux bus
- **3.** Use the **ME/Aux** knob to select the ME or aux bus that you want to set up the tally for.

Tip: The **ME X B** selections represent the B-side of a split ME.

- 4. Use the **Tally Path** knob to select how sources selected on the bus are tallied.
 - **On Air** sources on the bus are only tallied when they are selected or re-entered on the program ME.
 - **PGM X (Always)** sources on the bus are always tallied and tagged with PGM Calculation Path *X*.

Tip: PGM Calculation Paths are combined with Tally Bit Slots (**Communications** menu) to encode the path information in the TSL output.

Video Output Setup

Switcher outputs are routed to destinations in the router matrix and can't be controlled from the switcher directly.

ME Outputs to the Router

Each ME has 18 video outputs to the router matrix. Of these, 8 are dedicated to UltriScape PiPs, and 4 are user configurable. Each ME has similar outputs.

Tip: Refer to *Video Routing in Ultrix* on page 17 for information on assigning switcher outputs to router destinations.

Note: User Output 1 and User Output 2 must be assigned to **EXT DVE1** and **EXT DVE2**, respectively, to perform 3D DVE Warp transitions.

Output	Video Signal	PiP
1	ME1 PGM A	PiP 1
2	ME1 PVW A	PiP 2
3	ME1 PGM B	PiP 3
4	ME1 PGM C	PiP 4
5	ME1 User Out 1	PiP 5
6	ME1 User Out 2	PiP 6
7	ME1 User Out 3	PiP 7
8	ME1 User Out 4	PiP 8
9	ME1 PVW B	n/a
10	ME1 PGM D	n/a
11	ME1 Media-Store CH1	n/a
12	ME1 Media-Store CH1 Alpha	n/a
13	ME1 Media-Store CH2	n/a
14	ME1 Media-Store CH2 Alpha	n/a
15	ME1 Media-Store CH3	n/a
16	ME1 Media-Store CH3 Alpha	n/a
17	ME1 Media-Store CH4	n/a
18	ME1 Media-Store CH4 Alpha	n/a

Table 6: ME 1 Outputs

To Set the User Outputs to the Router

Each ME has 4 configurable outputs to the router matrix.

1. Press HOME > Setup > ME Out Config.

Tip: Press *ME Outs* to view a list of all the video signals assigned to the switcher outputs.

Tip: You can also reach this menu by pressing the *SEL* button on the control panel and pressing *ME Out Config.*

- 2. Press User Out Assign.
- **3.** Press the **ME** button for the ME that you want to configure the outputs for.
- **4.** Press the **User Out Assign** button for the output that you want to assign a different video signal to.
- 5. Press the **ME Out** button for the video signal that you want to assign to the user output.

Tip: If you want to perform 3D DVE Warp transitions on this ME, **User Output 1** and **User Output 2** must be assigned to **EXT DVE1** and **EXT DVE2**, respectively.

Configurable Program Outputs (MultiFeed)

Each ME can have multiple program and preview outputs that can be configured to include only select keys or replace the background and preset buses with the utility buses.



Figure 5: Configurable Program Output Example

Including or excluding a key from a program output does not change the on-air status of the key, only whether the key is included in a particular output when the key is on-air. The key must still be transitioned on or off-air from the transitions area.

To Configure a Program Output

Tip: To configure a program output that is set to FlexiMode, press the **SEL** button for the ME that you want to configure an output for and press **Program Assignment**. Individual keys can be included or excluded from each program output from this menu.

- Press HOME > Setup > Installation > Program Assignment.
- In the Select ME area, press ME X for the ME that you want to configure the output for.
 All the outputs for the selected ME are listed to the right.

3. Select **FlexiMode** for an output to allow it to be configured from outside of the **Installation** menu.

Tip: Including or excluding keys for a program output from the **Installation** menu is stored in the Installation register and becomes the default state of that output.

- **4.** Select the keys that you want included in each output for the ME.
- **5.** Select the buses to use for the background of each output.
 - **Bkgd/Pst** sources selected on the background and preset buses of the ME are used.
 - **U1/U2** sources selected on utility bus 1 and utility bus 2 of the ME are used.

Note: You cannot override the Program A output or any of the Preview outputs.

Tip: Assign **Program B** to use the utility buses **U1/U2** to enable Split ME functionality. This can also be done from the **Program Assignment** menu when **Program B** is set to **FlexiMode**.

6. Press HOME > Confirm.

Split ME Functionality

The Split ME functionality allows you to take advantage of the configurable program outputs feature to create two semi-independent MEs (Program A and Program B) in a single ME.

Note: To set up the split ME, you must assign the Program B program and preset outputs to the Utility 1 and 2 buses. This gives the B-side of the ME independent outputs. Refer to Configurable Program Outputs (MultiFeed) on page 38 for setup information.

Program A	Bkgd /PSt Key 1 Key 2 Key 3)
Preview A	Bkgd /Pst Key 1 Key 2 Key 3)
Program B	U1/U2	Key 4 Key 5 Key 6
Preview B	U1/U2	Key 4 Key 5 Key 6

Figure 6: Split ME Configuration Example

The configurable program output functionality also allows you to further split the MEs by separating the keyers to one program output or the other, or have them applied to both MEs.

Keep the following in mind:

Keep the following in mind when working with a split ME.

- Sources selected on the background and preset buses of the A-side or B-side are independent of each other.
- You can transition the A-side separately, the B-side separately, or both together.
- Keys are independent of the A-side or B-side and appear in the output of either side depending on whether they are included in the configurable program output.
- The A-side and B-side can have different ME transition rates. If both sides are selected and a transition is performed, the A-side and B-side will use their set transition rates.
- If the A-side and B-side are both performing a sequence they must start transitioning at the same time.
- Both the A-side and B-side tally independently when re-entered on-air. However, only the A-side can tally sources selected on it.
- The utility buses and B-side are included with the A-side for TSL tallies. You can select to have the B-side/utility buses not included with the TSL tallies.
- The B-side uses the User Colors (ME 1 = User 1, ME 2 = User 2 and so on) for the glow color.

To Exclude the B-Side from TSL Tallies

Note: This feature only applies to split MEs using TSL tallies. Internal tallies and standard MEs are not affected.

- Press HOME > Setup > Installation > Output > More > More > Utility Bus Tally.
- Use the Utility Bus 1 / Program B or Utility Bus 2 / Preview B knobs to select whether the buses are included with the A-side for TSL tallies.
 - **Include** the B-side and utility bus are included for TSL tallies.
 - **Exclude** the B-side and utility bus are not included for TSL tallies.

Fade to Black

Fade to Black allows you to have one, or all, of the ME outputs fade to black with a single button press. Pressing the button again returns the ME output from black to the previous state.

In an MultiPanel configuration, the fade to black only affects the ME outputs that are assigned to the control panel that the fade to black is performed on, and that fade to black is turned on for. Each control panel has a unique fade to black rate, but which ME outputs that fade to black is turned on for is common across all control panels.

To Set Fade to Black

- 1. Press HOME > Setup > Installation > Output > Fade To Black.
- 2. Press **ME** *X* to turn fade to black on (**On**) or off (**Off**) for each ME.
- **3.** Press **HOME** > **Confirm**.

Personality

There settings allow you to configure the switcher for your own work-flow or personal preferences. Personality settings are stored in the personality register and can be stored and recalled without changing other aspects of the switcher setup.

Personality Options

All personality options are stored in the Personality Setup register and can be stored and recalled independently.

0dB Audio Fader Location

Allows you to set the 0dB location for audio faders. This is the point where the you want the slider to signal the audio mixer that it is at 0dB.

Press HOME > Setup > Personality and use the Option knob to select 0dB Audio Fader Location.

• Use the **Current Position** knob to select the 0dB point that you want to use.

Assign ME

Allows you to disable the ability to assign a control panel row to a different ME. The control panel row will be locked to the currently assigned ME.

Press HOME > Setup > Personality and use the Option knob to select Assign ME.

- **On** allows a panel row to be assigned to a different ME.
- **Off** disables the ability to assign a different panel row to an ME. The Assign ME button on the **ME Selection** menu is grayed out.

Audio Cut Only

Sets whether audio transitions occur at the same rate as the video transition, or whether the audio transitions cut. Note that this is not a true cut as the speed that one channel is taken off-air and the next channel is take on-air depends on the Audio Mixer.

When **Editor Remote Enable** is Enabled, and OverDrive[®] is controlling the switcher, the audio transition rate for the PGM ME is set from OverDrive[®].

Press HOME > Setup > Personality and use the Option knob to select Audio Cut Only.

- **On** audio transitions cut, regardless of the type or rate of the video transition.
- Off audio transitions at the same rate as the video or at the Audio Fade rate. (used with OverDrive[®])

Audio Transition

Depending on how you want audio transitions to be performed, you can set up the switcher so that it will either perform an audio transition when a transition is performed on any ME, or only when a transition is performed on an on-air ME.

If OverDrive[®] is controlling the switcher, this is locked to **All**.

Press HOME > Setup > Personality and use the Option knob to select Audio Transition.

- **All** the switcher performs an audio transition when any ME is transitioned.
- **PGM** the switcher performs an audio transition only when an on-air ME is transitioned. An ME is considered to be on-air when it is re-entered onto the Program/Preset ME.

Auto Key Alpha

Allows you to select how the switcher treats the alpha when the internally generated Black is assigned to an auto key.

Press HOME > Setup > Personality and use the Option knob to select Auto Key Alpha.

- **Relaxed** the switcher treats the alpha as if it is white (The key is not transparent.)
- **Strict** the switcher treat the alpha as if it is black. The key is fully transparent.

Auto Recall

Sets whether or not the switcher includes switcher settings, such as Keys Only, Effects Dissolve, on or off and DVE wipe settings, with the memory.

Press HOME > Setup > Personality and use the Option knob to select Auto Recall.

- **Off** memories do not recall Keys Only, Effects Dissolve and DVE Wipe settings with the memory. These attributes must be turned on manually before the memory is recalled.
- **On** memories also recall the Keys Only, Effects Dissolve, and DVE Wipe settings stored with the memory from the Global Memory Module.

Auto Remove Key

Allows you to have the switcher remove a Keyer from the Next Transition after that keyer has been transitioned off-air from the Keyers Module. For example, Key 2 is on-air and it is selected as part of the next transition on the Transition Module. If you cut or dissolve key 2 off-air from the Keyers Module, key 2 will be de-selected for the next transition on the Transition Module. If key 2 was the only selected item for the next transition, the background will be selected instead.

Press HOME > Setup > Personality and use the Option knob to select Auto Remove Key.

- **Off** not remove the keyer from the next transition selection if it has just been transitioned off-air from the Keyers Module.
- **On** remove the keyer from the next transition selection if it has just been transitioned off-air from the Keyers Module.

Aux Bus Names

Allows you to select whether the switcher uses the aux bus number or name in the menu system and bus map.

Press HOME > Setup > Personality and use the Option knob to select Aux Bus Names.

- Aux N:M use the number of the aux bus (for example, Aux 4:3).
- **Name** use the name of the aux bus.

Aux Bus Row Follow

Allows the key bus on a control panel row to automatically switch to aux bus control when an aux is selected on an Auxiliary Control Panel assigned to the same internal panel row.

Press HOME > Setup > Personality and use the Option knob to select Aux Bus Row Follow.

- **On** key bus changes to aux bus control when an aux is selected on Auxiliary Control Panel.
- Off key bus does no change when an aux is selected on the Auxiliary Control Panel.

Aux Bus Source

Allows you to select whether the switcher uses the aux bus name and source, or only the name.

Press HOME > Setup > Personality and use the Option knob to select Aux Bus Source.

• **Name** — use only the name of the aux bus.

• Name & Source — use the name of the aux bus and the source on the aux bus.

Bank 0 Lit

Sets whether or not the **BANK** button on the Memory Modules is lit when bank 0 is selected.

Press HOME > Setup > Personality and use the Option knob to select Bank 0 Lit.

- **Off** the **BANK** button is not lit when bank 0 is selected.
- **On** the **BANK** button is lit when bank 0 is selected in the Memory Module, or Global Memory Module.

BKGD Double Press

Allows you to have a double-press of the **BKGD** or **KEY** *X* button on a Transition Module set up the next transition to take the keys off-air. Double-press the **BKGD** button to select background and all on-air keys as part of the next transition. Double-press any **KEY** *X* button to select all on-air keys as part of the next transition, and not include background.

Press HOME > Setup > Personality and use the Option knob to select BKGD Double Press.

- **Off** not include the on-air keys with the next transition when the **BKGD** or **KEY** *X* button is double-pressed.
- **On** include all on-air keys with the next transition when the **BKGD** or **KEY** *X* button is double-pressed.

CC/Macro Attachments

Sets whether or not custom controls that are attached to control panel buttons using the Attach Custom Controls Menu are run when the button is pressed.

Press HOME > Setup > Personality and use the Option knob to select CC/Macro Attachments.

- **Off** custom controls attached to control panel buttons are not run when the button is pressed.
- **On** custom controls attached to control panel buttons are run when the button is pressed.

CB1/2 Panel Enable

Sets whether or not the FTP server required to connect to the Carbonite Black control panel connection is enabled.

Press HOME > Setup > Personality and use the Option knob to select CB1/2 Panel Enable.

- **Off** connection to the Carbonite Black control panel is disabled.
- **On** connection to the Carbonite Black control panel is enabled.

CC Global Recall

Sets whether or not the **RECALL CLIP/CC** button on the Global Memory module can be used to run a custom control.

Press HOME > Setup > Personality and use the Option knob to select CC Global Recall.

- **Off** only allow clips to be recalled from the Global Memory module using the RECALL CLIP/CC button.
- **On** only allow custom controls to be run from the Global Memory module using the RECALL CLIP/CC button.

CC Held/Paused Display

Sets whether the mnemonic of a custom control show Held or Pause when the custom control is at that state (**Held/Paused**), only shows the name of the custom control (**CC Name**), or shows both the Held or Paused and the name of the custom control (**Both**).

Press HOME > Setup > Personality and use the Option knob to select CC Held Display.

- Held/Paused shows Held or Paused in the mnemonic for a custom control that is at a held or paused state.
- **CC Name** shows the name of the custom control when the custom control is at a held or paused state.
- **Both** shows both the name of the custom control and Held or Paused when the custom control is at a held or paused state.

CC Memory State

Sets whether the Effects Dissolve and Keys Only settings of a memory are used when the memory is recalled with a custom control. Recalling the memory directly is not affected. This allows the custom control to recall a single memory and override the Effects Dissolve and Keys Only on or off settings of how the memory was stored. This setting overrides the Auto Recall personality option.

Press HOME > Setup > Personality and use the Option knob to select CC Memory State.

- **Off** Effects Dissolve and Keys Only are recalled how they are stored in the memory.
- **On** Effects Dissolve and Keys Only can be overridden in a custom control that recalls the memory.

Chroma Key Mem Use

Sets whether the Key Memory (**KEY MEM**) function will recall the chroma key settings or just the key source.

Press HOME > Setup > Personality and use the Option knob to select Chroma Key Mem Use.

- **Off** Key memory recalls only the key source selection.
- **On** Key memory recalls the chroma key settings as well as the source selection.

Clear Bus Hold on All-All

Sets whether or not the Bus Hold selection on a bus is cleared when a soft-reset is performed.

Press HOME > Setup > Personality and use the Option knob to select Clear Bus Hold.

- **Off** Bus Hold feature not cleared when a software reset is performed.
- **On** Bus Hold feature cleared on every bus when a software reset is performed.

DD Key Delegation

Sets how the keys on the key bus of an Acuity[®] Double-Down panel are configured.

Press HOME > Setup > Personality and use the Option knob to select DD Key Delegation.

- **Even On Top** Even numbered keyers (2,4,6,8) are on the top row and odd numbered keyers (1,3,5,7) on the bottom row of the key bus.
- Odd On Top Odd numbered keyers (1,3,5,7) are on the top row and even numbered keyers (2,4,6,8) on the bottom row of the key bus.
- **On Top** The top row of the key bus follows the key selection and the bottom row must be set manually.
- **On Bottom** The bottom row of the key bus follows the key selection and the top row must be set manually.

Default Trans Active

Allows you to set a default transition rate for switcher transitions, effects, and sequences.

Press HOME > Setup > Personality and use the Option knob to select Default Trans Active.

- **Off** use the video format based default transition rates when you default an ME or the entire switcher.
- **On** use the selected default transition rates when you default an ME or the entire switcher.

Default Trans Eff Rate

Allows you to set a default effects dissolve rate.

Press HOME > Setup > Personality and use the Option knob to select Default Trans Eff.

Note: This rate is only used if the Default Trans Activefeature is on.

• Use the **Rate** knob to set a default rate, in frames.

Default Trans FTB Rate

Allows you to set a default fade to black rate.

Press HOME > Setup > Personality and use the Option knob to select Default Trans FTB.

Note: This rate is only used if the Default Trans Activefeature is on.

• Use the **Rate** knob to set a default rate, in frames.

Default Trans Key Rate

Allows you to set a default keyer transition rate.

Press HOME > Setup > Personality and use the Option knob to select Default Trans Key.

Note: This rate is only used if the Default Trans Activefeature is on.

• Use the **Rate** knob to set a default rate, in frames.

Default Trans ME Rate

Allows you to set a default ME transition rate.

Press HOME > Setup > Personality and use the Option knob to select Default Trans ME.

Note: This rate is only used if the Default Trans Activefeature is on.

• Use the **Rate** knob to set a default rate, in frames.

Default Trans Sequence Rate

Allows you to set a default sequence rate.

Press HOME > Setup > Personality and use the Option knob to select Default Trans Seq.

Note: This rate is only used if the Default Trans Activefeature is on.

• Use the **Rate** knob to set a default rate, in frames. If you set the rate to 1, the sequence uses the duration set in the sequence.

Double Press Rate

Sets the length of time that you have to press a button a second time in order for the switcher to treat it as a double-press.

Press HOME > Setup > Personality and use the Option knob to select Double Press Rate.

• Use the **Value** knob to select the amount of time, in frames, that you are given to press a button again for the switcher treat it as a double-press.

DSK Auto Cut

Sets whether or not the DSKs are cut off-air when a source is selected directly on the main Program Bus of the switcher.

Press HOME > Setup > Personality and use the Option knob to select DSK Auto Cut.

- **Off** DSK not affected by selections made directly on the Program Bus of the Program/Preset ME.
- **On** DSK automatically taken off-air when any source is selected directly on the Program Bus of the Program/Preset ME.

Editor Pattern Codes

Sets whether or not the GVG100, GVG100/200, or GVG4000 editor pattern codes are displayed on the pattern buttons. When active for a particular editor protocol, the plain or hexadecimal pattern code is shown on the pattern buttons on the **Pattern Selection** menu.

Press HOME > Setup > Personality and use the Option knob to select Editor Pattern Codes.

- **None** no pattern code numbers on the pattern buttons.
- **GVG100 Bttn#** GVG100 button number, for the pattern, displayed on the pattern button.

- **GVG100 Bttn#H** GVG100 button number, for the pattern, displayed in hexadecimal on the pattern button.
- **GVG100/200** GVG100/200 pattern code displayed on the pattern button.
- **GVG100/200 H** GVG100/200 pattern code displayed in hexadecimal on the pattern button.
- **GVG4000** GVG4000 pattern code displayed on the pattern button.
- **GVG4000 H** GVG4000 pattern code displayed in hexadecimal on the pattern button.
- **OverDrive** Ross pattern code displayed on the pattern button. Use this number to select a pattern in OverDrive[®].

Editor Trans Rates

Sets whether transition rates that are set from an external editor are doubled or not.

Press HOME > Setup > Personality and use the Option knob to select Editor Trans Rates.

- **Normal** transition rates that are set from an external editor not changed.
- **Double** transition rates that are set from an external editor doubled.

ExCamMoveOnTrans

Allows you to select whether the camera move will be triggered with a transition or not.

Press HOME > Setup > Personality and use the Option knob to select ExCamMoveOnTrans.

- **Off** camera move does not execute on a transition.
- **On** camera move executes on a transition.
- **Roll Clip** use the Roll Clip functionality to have a camera move execute on a transition. The set Preroll time is be used.

Fixed Memories

Allows you to select whether memories are recalled on the MEs that they were recorded on, or whether they are recalled on MEs relative to the PGM ME.

Press HOME > Setup > Personality and use the Option knob to select Fixed Memories.

• **Off** — memories are recalled on MEs that are the same relative distance from the PGM ME as they were recorded. For example, if ME 4 is the Program ME and you store a memory on ME 2. If you change the Program ME to ME 8, the memory is recalled on ME 6.

• **On** — memories are recalled on same ME they were recorded on.

Global Mem Num Entry

Sets whether the keypad on the Global Memory module on the Acuity[®] panels, or the Memory area on the highest numbered ME on the TouchDrive panels can be used to enter punchpad values.

Press HOME > Setup > Personality and use the Option knob to select Global Mem Num Entry.

- **Off** cannot use the keypad on the memory module to enter Punchpad values.
- **On** can use the keypad on the memory module to enter Punchpad values.

Grab Camera Time

Allows you to have the switcher select the first camera on the preview bus a set amount of time (in seconds) after a transition has been performed. This allows you to automatically have menu and positioner control over the camera when OverDrive[®] prepares the next shot. A duration of 0 seconds turns this feature off.

Press HOME > Setup > Personality and use the Option knob to select Grab Camera Time.

This feature is only active when Editor is turned on.

• Use the **Time** knob to set the time (in seconds) after a transition that the switcher selects the camera.

GUI Scroll Controls

Sets whether the menu system uses graphical knobs for selections or up and down buttons.

Press HOME > Setup > Personality and use the Option knob to select GUI Scroll Controls.

- **Buttons** use up and down arrow buttons instead of the virtual knobs on the menus.
- VKnobs use the virtual knobs on the menu system.

Key Cut Then Fade

Change the behavior of the **CUT** button on the Keyers module. When this feature is active, the **CUT** button on the Keyers module will cut a key on-air, but dissolve, or fade, the key off-air. This allows you to use the same button to cut a key on-air and then transition it off-air.

Press HOME > Setup > Personality and use the Option knob to select Key Cut Then Fade.

If you press **CUT** as the key is being transitioned off-air, a cut is immediately performed to take the key off-air.

- **Off** the **CUT** button on all Keyers modules operate normally.
- **On** the **CUT** button on all Keyers modules will cut keys on-air, but dissolve them off-air.

Keypad Clip IDs Entry

Sets whether the Global Memory or Effects Memory keypads allow you to select a clip on a video server.

Note: This option is not supported on TouchDrive control panels.

Press HOME > Setup > Personality and use the Option knob to select Keypad Clip Entry.

- **None** keypads do not allow you to load a clip on the selected video server.
- **ME** only the Effects Memory keypad allows you to load a clip on the selected video server.
- **Global** only the Global Memory keypad allows you to load a clip on the selected video server.
- **Both** all keypads allow you to load a clip on the selected video server.

Keypad DVE Num Entry

Sets whether the Global Memory or Effects Memory keypads allow you to select a DVE wipe pattern for a transition.

Note: This option is not supported on TouchDrive control panels.

Press HOME > Setup > Personality and use the Option knob to select Keypad DVE Entry.

- **None** keypads do not allow you to load a DVE wipe.
- **ME** only the Effects Memory keypad allows you to load a DVE wipe.
- **Global** only the Global Memory keypad allows you to load a DVE wipe.
- **Both** all keypads allow you to load a DVE wipe.

Keypad Still Num Entry

Sets whether the Global Memory or Effects Memory keypads allow you to load a still in a Global-Store or ME-Store.

Note: This option is not supported on TouchDrive control panels.

Press HOME > Setup > Personality and use the Option knob to select Keypad Still Entry.

- None keypads do not allow you to load a still.
- **ME** only the Effects Memory keypad allows you to load a still.
- **Global** only the Global Memory keypad allows you to load a still.
- **Both** all keypads allow you to load a still.

Keypad Wipe Num Entry

Sets whether the Global Memory or Effects Memory keypads allow you to select a wipe pattern for a wipe transition.

Note: This option is not supported on TouchDrive control panels.

Press HOME > Setup > Personality and use the Option knob to select Keypad Wipe Entry.

- **None** keypads do not allow you to load a wipe transition.
- **ME** only the Effects Memory keypad allows you to load a wipe transition.
- **Global** only the Global Memory keypad allows you to load a wipe transition.
- **Both** all keypads allow you to load a wipe transition.

Key Priority Display Order

Allows you to select the order that the keys are shown in the display on the panel row.

Press HOME > Setup > Personality and use the Option knob to select Key Priority Display.

- Left to Right keys are displayed in order from lowest to highest numbered.
- **Right to Left** keys are displayed in order from highest to lowest numbered.

Knob List Expansion

Allows the knob list you are scrolling to expand to the full size of the area for a period of time. This allows you to see more of the list at one time.

Press HOME > Setup > Personality and use the Option knob to select Knob List Expansion.

• **Rate** — select the amount of time, in frames, that the knob list stays expanded. Select **0** to have the list not expand.

Log Level

Select the level of logging you want the switcher to use. Only adjust these settings if asked to do so by Ross Video Technical support. High logging levels can impact switcher performance.

Press HOME > Setup > Personality and use the Option knob to select Log Level.

- Value select the level of logging that you want to use.
 - Log Emergency only emergency events are logged.
 - Log Alert only alert and emergency events are logged.
 - Log Critical only critical or higher events are logged.
 - Log Error only error or higher events are logged.
 - Log Warning only warning or higher events are logged.
 - Log Notice only notice or higher events are logged.
 - Log Info only info or higher events are logged.
 - Log Debug all listed events are logged.

Tip: Refer to *Frame Logs* on page 102 for more information on logs.

Matte Limit

Sets whether or not the matte generators on the switcher are limited to the RGB color space or not.

Press HOME > Setup > Personality and use the Option knob to select Matte Limit.

- **Off** the color range of the matte generators is not limited.
- **On** the color range of the matte generators is limited to the RGB color space.

ME B-Side Color

Sets the glow color for the B-Side of a split ME.

Press HOME > Setup > Personality and use the Option knob to select ME B Side Color.

- 1. Use the **ME** knob to select the ME that you want to set the B-Side color for.
- **2.** Use the **Color** knob to select the color that you want to apply to the selected B-Side.

Refer to *Color Schemes* on page 59 for information on the specific colors.

Memory Bank Cycle

Sets the maximum number of memory banks that you will cycle through when pressing the Bank button on a Memory Module.

Press HOME > Setup > Personality and use the Option knob to select Memory Bank Cycle.

Note: This feature is disabled if Quick Bank Select is set to on.

• Use the **Value** knob to select the maximum number of memory banks you want to cycle through, starting from Bank00. By repeatedly pressing the **BANK** button on the keypad of the Effects Memory modules or Global Memory module, you can jump from bank to bank.

Menu Module Indicator

Adds an icon (**On**) to the upper left corner of the upper or lower menu region to indicate which menu the Menu Module is showing.

Press HOME > Setup > Personality and use the Option knob to select Menu Mod Indicator.

Note: This setting applies to the 3-knob menu on the TouchDrive control panel.

Menu Numbers

Adds a menu number (**On**) to the left of the menu title on each branch of the menu system. Click the menu number to enter a new menu number to navigate to. Only the first page of a menu has a number.

Press HOME > Setup > Personality and use the Option knob to select Menu Numbers.

Mouse Sensitivity

Set the speed that the mouse pointer moves around the screen when you move the mouse.

Press HOME > Setup > Personality and use the Option knob to select Mouse Sensitivity.

• Use the **Value** knob to select a sensitivity, or speed, for the mouse.

Multiple Customs

Set whether the switcher can run multiple custom controls simultaneously or only one at a time.

Press HOME > Setup > Personality and use the Option knob to select Multiple Customs.

Note: If OverDrive[®] is controlling the switcher, this feature is locked to off.

- **Off** allow multiple custom controls to run simultaneously. Starting a custom control while a custom control is running does not stop the other custom control and the currently selected one starts.
- **On** allow only one custom control to run at a time. Starting a custom control while a custom control is running stops the running custom control and starts the new one.

Use Old DVE Color

Set whether the switcher uses the old or new color converter for DVE borders. The new color converter is similar to the one used by the matte color generator.

Press HOME > Setup > Personality and use the Option knob to select Use Old DVE Color.

- **Off** use the OLD color converter for 2D and 3D DVE borders.
- **On** use the NEW color converter for 2D and 3D DVE borders.

Open Shortcut on Top

Forces the menus launched from the quick navigation bars on the left of the menu to open in the top menu region.



Important: Forcing the *Installation* menu to open in the top menu region does not lock out the menu system when the *Installation* menu is open. This can cause unexpected behaviour and is not recommended.

Press HOME > Setup > Personality and use the Option knob to select Open Shortcut on Top.

- **Off** menus open in the bottom menu region.
- **On** menus open in the top menu region.

Panel Sleep Time

Sets the length of time before the switcher goes into sleep mode.

Press HOME > Setup > Personality and use the Option knob to select Panel Sleep Time.

Note: An Audio Control Module that is installed on an external panel row will not go into sleep mode, and using the module will not wake the rest of the panel.

• Use the **Value** knob to select the amount of time, in minutes, that the control panel will go without being use before entering sleep

mode. Selecting a sleep time of 0 prevents the control panel from entering sleep mode.

Pbus Memory

Allows you to store or recall memories on a Pbus device when you store or recall memories on the switcher.

Press HOME > Setup > Personality and use the Option knob to select Pbus Memory.

- **No Send** the switcher does not tell the Pbus devices to store or recall memories.
- **Send** the switcher tells all connected Pbus devices to perform a memory store or recall when one is performed on the switcher. The memory number is the same as the one used on the switcher.

Quick Bank Select

Allows you to select a memory bank by either holding the **BANK** button and selecting the bank, or by pressing the **BANK** button, and then selecting the bank.

Press HOME > Setup > Personality and use the Option knob to select Quick Bank Select.

Note: You can always select a bank by pressing and holding the **BANK** button and selecting the bank.

- **Off** select a memory bank by pressing and holding the BANK button, and selecting the bank.
- **On** select a memory bank by pressing and releasing the BANK button, and selecting the bank.

Recall Empty Memory

Sets whether you can recall a memory that has no content, has been deleted, or has been marked as Don't Recall.

Note: This personality option is disabled when $\mathsf{OverDrive}^{\circledast}$ is active as an editor.

Press HOME > Setup > Personality and use the Option knob to select Recall Empty Memory.

- **On** memories will be recalled even if they are empty or marked as Don't Recall.
- **Off** memories that have no content, have been deleted, or are marked as Don't Recall are not recalled.

Tip: You can mark a memory as Don't Recall from the Memories Setup menu (Press HOME > Attributes > Memories Setup).

Recall ME-Store

Sets whether the Media-Store settings are included with memory recalls always, only when turned on from the ME Memory Attributes menu, or never.

Press HOME > Setup > Personality and use the Option knob to select Recall ME-Store.

- **Never** Media-Store settings are never included during memory recalls. The stills loaded in the Media-Store channels are not replaced with those included in the memory.
- Always Media-Store settings are always included during memory recalls. The stills loaded in the Media-Store channels are replaced with those included in the memory.
- Attributes Media-Store setting are included during memory recalls if the Media -Store channel is turned on from the ME Memory Attributes menu.

Recall WhiteFlash

Sets whether the WhiteFlash settings are included with memory recalls always, only when turned on from the ME Memory Attributes menu, or never.

Press HOME > Setup > Personality and use the Option knob to select Recall Whiteflash.

- **Never** WhiteFlash settings are never included during memory recalls.
- **Always** WhiteFlash settings are always included during memory recalls.
- **Attributes** WhiteFlash setting are included during memory recalls if the Transition Area option is turned on from the ME Memory Attributes menu.

Re-entry Depth

Allows you to have the switcher either prevent or allow re-entry chains of more than 4 MEs. For example, ME 1 -> ME 2 -> ME 3 -> ME 4.

Press HOME > Setup > Personality and use the Option knob to select Re-entry Depth.

Note: Re-entry chains of more than 4 MEs can cause line drops.

- **Prevent** can only create re-entry chains up to 4 MEs deep.
- Warn can create re-entry chains over 4 MEs deep, but a pop-up is displayed.
- Allow can create re-entry chains over 4 MEs deep.

Re-entry Loops

Allows you to have the switcher either prevent or allow an ME re-entry feedback loop. If Re-entry Loops is set you On, you are able to re-enter ME 1 into ME 2, and re-enter ME 2 into ME 1.

Press HOME > Setup > Personality and use the Option knob to select Re-entry Loops.

- **Off** the switcher blocks re-entry loops. If a crosspoint is selected that would cause a re-entry loop, a popup is displayed and the crosspoint is not selected. If the crosspoint selection is contained in a memory, Black is selected instead.
- **On** the switcher does not block re-entry loops. A popup is displayed.

Roll Clip Mode

Determines how the **ROLL CLIP** button behaves when a server is selected on the preview bus. This setting is applied to all MEs on the switcher.

Press HOME > Setup > Personality and use the Option knob to select Roll Clip Mode.

Note: The option is locked to **Arm** if OverDrive[®] is controlling the switcher.

- **Play** allows you to play a server clip directly by pressing the **ROLL CLIP** button on the Transition module. Once pressed, the clip will start to play and will have to be taken on-air manually with a transition.
- **Arm** allows you to have the server play the clip with the next transition performed in the Transition module that the **ROLL CLIP** button is on, or lit, in. This can be used to roll multiple servers if they are re-entered. Once pressed, the clip will only start to play when a cut or auto transition is performed. You can also play the clip by double-pressing the crosspoint button on the same ME.
- Armed Always locks the switcher in Arm mode and does not allow the **ROLL CLIP** button to be turned off.

Roll Clip On-Air Only

Determines how to play a clip based on the ME On-Air status.

Press HOME > Setup > Personality and use the Option knob to select Roll Clip On-Air.

• **Always** — always play a server clip even if the ME is not On-Air.

• **On-Air Only** — play a server clip only when the ME is On-Air.

Router Name on MV

Set whether the MultiViewer shows the router mnemonic names or the switcher names for video sources.

Press HOME > Setup > Personality and use the Option knob to select Router Name on MV.

- Router Name MultiViewer uses router mnemonic names.
- Set Name MultiViewer uses switcher source names.

Shift All Buses on a Row

Sets whether all buses on a panel row are shifted when a **SHIFT** button on that row is pressed.

Press HOME > Setup > Personality and use the Option knob to select Shift All Buses.

- **Off** the shift button only affects the bus it is pressed on.
- **On** the shift button affects all the buses on the same panel row. All the buses are shifted.

Shift Locking

Sets whether double-pressing the **SHIFT** button on a crosspoint bus toggles shift on.

Press HOME > Setup > Personality and use the Option knob to select Shift Locking.

Note: If shift lock is active on an ME, the mnemonics for that ME switch to a two-line format.

- **Off** the shift button function normally.
- **On** the bus remain shifted when the shift button is double-pressed. Pressing the shift button again returns the bus to unshifted.

Show Attached CCs

Allows you to light all buttons that have a custom control attached to them.

Press HOME > Setup > Personality and use the Option knob to select Show Att'd Macros.

- **Off** buttons with attached custom controls are not lit.
- **On** buttons with attached custom controls are lit with the **Attached Macros** color scheme color.

Show CCs on Key Bus

Sets whether or not custom controls that are attached to crosspoint buttons on the keyer bus are shown on the keyer mnemonics.

Press HOME > Setup > Personality and use the Option knob to select Show CCs on Key Bus.

- **Off** show the source name in the source mnemonics.
- **On** show the name of the custom control attached to a source button on the mnemonic.

Show Last CC Pressed

Allows you to keep the last pressed custom control button lit after the custom control has finished. The button remains lit until another custom control is pressed or the switcher is reset. This is shown for each custom control bank independently.

Press HOME > Setup > Personality and use the Option knob to select Show Last CC Pressed.

- 1. Use the **Value** knob to turn the feature on or off.
 - **Off** do not continue to light the custom control button after the custom control has finished.
 - **On** continue to light the custom control button after the custom control has ended.
- **2.** Use the **Color** knob to select the color you want the custom control button to be lit with.

Show Last Memory Recalled

Allows you to keep the last pressed memory number lit after you have recalled a memory on the same bank. The button remains lit until another memory is recalled or the switcher is reset. This is shown for each effects memory module independently.

Press HOME > Setup > Personality and use the Option knob to select Show Last Mem Recall.

- **Off** do not light the last memory number you have recalled.
- **On**—light the last memory number you have recalled, if the memory is in the same bank.

Split Row

Allows you to split the source buttons of a panel row on the TD3, x3, 4, or x4 between the A-Side and B-Side of an Split ME.

Press HOME > Setup > Personality and use the Option knob to select Split Row.

Note: This personality option is only available for the TD3, x3, 4, and x4 panels.

- **Off** the entire row is assigned to the A-Side or the B-Side of the Split ME.
- **On** the left side of the row (first 15 source buttons) is assigned to the A-Side and the right side (next 15 source buttons) is assigned to the B-Side. The 5 shift buttons on the right apply to both the A-Side and B-Side. The Key bus follows the same split with the left side being assigned to one keyer and the right side assigned to another.

Store Mode

Sets whether or not a memory module remains in store mode after a memory has been stores, or switch to recall mode.

Press HOME > Setup > Personality and use the Option knob to select Store Mode.

- Hold Global Memory module or the Effects Memory module stay in store mode after a memory has been stored.
- **1-Time** Global Memory module or the Effects Memory module switch to recall mode after a memory has been stored.

Swap Keyer Cut & Auto

Allows you to swap the behavior of the **CUT** and **AUTO TRANS** buttons on the Keyers module. When this feature is set to swap, the **CUT** button performs an auto transition, and the **AUTO TRANS** button performs a cut.

Press HOME > Setup > Personality and use the Option knob to select Swap Keyer Cut&Paste.

- **Swap** CUT and AUTO TRANS buttons on all keyers modules swap their functions. The CUT button performs an Auto Trans.
- **Normal** transition buttons on the keyers modules keep their original functions.

Swap PGM/PST Buses

Allows you to swap the functions of the Program bus to the Preset bus on all MEs. When this feature is turned on, the sources that you select on the preset bus act as if they are being selected on the program bus, and the sources selected on the program bus act as if they are being selected on the preset bus.

Press HOME > Setup > Personality and use the Option knob to select Swap PGM/PST Buses.

- **Swap** Program and Preset buses on all MEs swapped.
- Normal Program and Preset buses keep their original functions.

Swap Trans Cut & Auto

Allows you to swap the behavior of the **CUT** and **AUTO TRANS** buttons on the Transition module. When this feature is set to swap, the **CUT** button performs an auto transition, and the **AUTO TRANS** button performs a cut.

Press HOME > Setup > Personality and use the Option knob to select Swap Trans Cut&Auto.

- Swap CUT and AUTO TRANS buttons on all Transition modules swap their functions. The CUT button performs an Auto Trans.
- **Normal** transition buttons on the Transition modules keep their original functions.

Time Clock Source

Allows you to set the source for the Preview Overlay Time Clock. This source can either be internally generated, or generated from an external UMD device.

Press HOME > Setup > Personality and use the Option knob to select Time Clock Source.

Note: An external UMD device must be set up on a Remote port in order for the switcher to receive time clock data.

- **Internal** switcher use the internally generated time clock data.
- **UMD Input** switcher use data from an external UMD device for the time clock. You must use the Time Clock UMD Number feature to set which UMD Address that the time clock data should come from.

Time Clock UMD Number

Allows you to set the specific address of the UMD input that you want to get the time clock data from.

Press HOME > Setup > Personality and use the Option knob to select Time Clock UMD Num.

• Use the **Value** knob to select the address, or UMD input number, that you want to get the time clock data from.

UltraChrome Dflt Color

Allows you to set the default color that the UltraChrome will be set to when the keyer has been defaulted. Once a different color is set for the UltraChrome, that new color remains until the keyer is defaulted, or until a different UltraChrome color is set manually.

Press HOME > Setup > Personality and use the Option knob to select UltraChrome Color.

• Use the **Value** knob to select the default color you want to use for UltraChrome.

Virtual Panel Enable

Allows you to specify whether users can access the virtual panel hosted from the current panel. When enabled (**On**) a user can connect to the control panel from a web browser and control the panel remotely.

Press HOME > Setup > Personality and use the Option knob to select Virtual Panel Enable.

- **On** a user can connect to the panel remotely and control it.
- **Off** a user cannot connect to the panel remotely (default).

Virtual Panel Positioner Reset

Allows you to specify whether the positioner on the virtual panel returns to the neutral position automatically (**On**), or if you have to click the positioner to have it return to the neutral position (**Off**).

Press HOME > Setup > Personality and use the Option knob to select Virtual Posn'r Reset.

- **On** positioner returns to the neutral position after 0.5 seconds.
- **Off** you must click on the positioner to have it return to the neutral position.

Wake Up On Command

Allows you to specify whether the control panel will wake from sleep mode when it receives a command from OverDrive[®].

Press HOME > Setup > Personality and use the Option knob to select Wake Up On Command.

• **On** — control panel wakes up when it receives a command from OverDrive[®].

• **Off** — control panel does not wake up when it receives a command from OverDrive[®].

VNC Enable

Allows you to specify whether the VNC server for remote access is enabled or disabled on the panel you are using.

Press HOME > Setup > Personality and use the Option knob to select VNC Enable.



Important: If you are using the VNC interface to connect to the panel, disabling VNC will close the connection.

- **On** the VNC server is enabled for the current panel.
- **Off** the VNC server is disabled for the current panel.

Default ME Map

You can specify the default ME that each row on the switcher, and external row, is assigned to.

To Set Up a Default ME Map

The default ME map assignment is only applied after a restart or **ALL+ALL** software reset.

- 1. Press HOME > Setup > Personality > ME Maps.
- Use the Panel Row knob to select the internal control panel row (Row X) or external row (Ext Row X) that you want to assign an ME to.
- **3.** Use the **Mapped to ME** knob to select the ME that you want to assign to the selected row to.

Auto Follow

You can set parts of an ME or Aux Bus to follow the operation of another part. For example, you can have one Transition module follow another, a Keyer bus follow another Keyer bus, or have an entire ME or Aux Bus follow another. Both parts of the auto follow must be of the same type, a crosspoint bus can only follow another crosspoint bus.

Operations, such as crosspoint selection or transitions, that are performed on one part are repeated on the other part.

Module	Action
	Memory Recall
Memory	Memory Store
	Reset ME (Store+Recall)
	Cut and Auto Transitions
Keyer	Next Transition Selection on same ME only
	Next Transition Selection
	Transition Type
	Cut, Auto, Fader Transitions
Transition	Preset Black
Transition	Key Priority
	Transition Limit
	Roll Clip
	Transition PV
Bus	Source Selection

Auto follow actions only echo commands, and do not echo the state. For example, if a transition is performed on an ME, the auto follow ME also performs a transition, regardless of what is currently on-air on that ME. If key 1 is on-air on ME 1 but off-air on ME 2, the transition takes key 1 off-air on ME 1, but on-air on ME 2.

If a memory register contains different setting on each ME, the local settings will be used. Auto Recall for memories only ensures that the same memory register is recalled on the **Echo To ME**. For example, if memory register 09 is recalled on the **Echo From ME**, memory register 09 is also recalled on the **Echo To ME**. These two memory registers may contain different settings.

To Turn On Auto Follow

- 1. Press HOME > Setup > Personality > Autofollow Setup > Config.
- Turn on auto follows for custom controls (Auto Follow CustCtrl), editor commands(Auto Follow Editor), or control panel button presses(Auto Follow Panel).
 - Auto Follow CustCtrl includes custom control events in command echoing. Events for ME, buses, or transitions are echoed.
 - Auto Follow Editor includes external editor commands in command echoing.

• Auto Follow Panel — includes control panel button presses in command echoing. Events for memory recalls, transitions, and source selections are echoed. Custom control or editor based commands are not included.

To Set Up An ME Auto Follow

- Press HOME > Setup > Personality > Autofollow Setup.
- 2. Press ME and use the Echo From and Echo To knobs to select which ME you want to follow another ME.
 - Echo From the ME to be followed. This is the ME that actions will be performed on.
 - **Echo To** the ME that is following the selected ME. Actions performed on the other ME are echoed on this ME.
- 3. Press Set.

Tip: Press *Clear* to clear the currently selected auto follow.

To Set Up An Individual Auto Follow Component

- 1. Press HOME > Setup > Personality > Autofollow Setup > More.
- 2. Press Buses, Keyers, Transition, or Mem Stores/Recalls to select the individual component that you want to set up an auto follow for.
 - **Buses** echo the source selections from one bus to another. The buses include aux buses, utility buses, ME, and Keyer (video and alpha) buses.
 - **Keyers** echo the settings from one keyer to another. Keys on the same ME will follow selections in the next transition area of the Transition module.
 - **Transition** echoes the settings on one transition module to another.
 - Mem Stores/Recalls echoes the memory stores and recalls from one ME to another.
- **3.** Press **Set Bus/Keyer/Trans/Mem Follow** to store each auto follow.

Auto follows that are already set up are listed on the menu.

Tip: Press *Clear All Bus/Keyer/Trans/Mem Follows* to clear all of the currently selected auto follow.

User Wipes

User wipes allow you to select from the pre-loaded additional wipes and assign them to the user wipe buttons. The user wipe buttons are essentially presets that can be programmed to your favorite patterns. Once set up, the user wipe button operates in the same manner as any of the other wipe pattern buttons.

To Assign a User Wipe

Note: Pattern modifiers cannot be applied to user wipes. You must use memories to store pattern modifiers with the user wipe.

- Press HOME > More > Effects > Pattern Selection > Modify Pattern > Pattern Options > User Wipes.
- **2.** Use the **User Wipe** knob to select the user wipe button that you want to assign a wipe to.
- **3.** Use the **Category** knob to select the category of wipe you want assign to the button.
- **4.** Use the **Pattern** knob to select the wipe you want to assign to the button.

User Buttons (TouchDrive Only)

The user buttons on the TouchDrive control panel allow you to assign bus, memory, or CC selections, as well as switcher functions, to a button on the panel. User buttons are located on the panel row as well as the Transition and Memory areas of the TouchDrive panels.

Note: If you change the function of a user button, you will have to change the insert in the button cap to match the new function. Pre-printed inserts are available in the documentation kit for your panel. A blank template is also available for you to print your own.

To Set a User Button

- 1. Press HOME > Setup > Personality > More > User Button Assignment.
- 2. Select the user buttons you want to edit.
 - User Button Area the buttons along the top of each crosspoint row.
 - **Trans/Mem Area** the buttons on the Transition and Memory area.
- **3.** Use the **Row** knob to select which row on the panel you want to set the user buttons for. The user buttons on each panel row are independent.

Tip: The current function assigned to a button is shown below the button number.

- **4.** Press the button that you want to assign a new function to.
- 5. In the **Group** area, select the type of function you want to assign to the button.
 - Mem Bank (0-49) memory banks 00 to 49. This assigns the key bus on the row to the selected memory bank. Press a source button on the bus to recall that memory.
 - Mem Bank (50-99) memory banks 50 to 99. This assigns the key bus on the row to the selected memory bank. Press a source button on the bus to recall that memory.
 - **CC Bank** custom control banks. This assigns the key bus on the row to the selected custom control bank. Press a source button on the bus to run that custom control.
 - Aux Bus (Bank 1-4) aux bus on bank 1 to 4. This assigns the key bus on the row to the select aux bus.
 - Aux Bus (Bank 5-8) aux bus on bank 5 to 8. This assigns the key bus on the row to the select aux bus.
 - **Keyers** provides access to a number of key related functions. These include key selection, assigning key types, borders, and masks.
 - **Other** provides access to a number of other functions. These include key priority, transition limit, ME selection and more.
- 6. Press **Confirm** to assign the selected function to the button, or **Quit** to cancel the changes.

GPI Control

General Purpose Interface (GPI) is a high/low voltage signalling protocol that allows the switcher to send simple commands to an external device, or receive commands from a device. Each pin on the GPI is set as either high (+5 Volts), or low (0 Volts), and it is the switching between high and low that sends commands to the external device, or to the switcher.

Each SDPE blade has 24 GPIs that can be assigned as inputs or outputs.

GPI Trigger Types

There are four trigger types supported by the switcher. These can be either output triggers, or input triggers.

Trigger	Descriptio	n
Pulse Low	The output level is set high, and momentarily goes low for the trigger.	Duration
Pulse High	The output level is set low, and momentarily goes high for the trigger.	Duration Te B B J L
Level Low	The output level toggles from the base high level to the low level. The output signal remains at this level until reset.	Trigger
Level High	The output toggles from the base low level to the high level. The output signal remains at this level until reset.	Trigger

To View the Status of a GPI

- 1. Press HOME > Setup > Installation > GPI Input/Output > More.
- 2. Press View GPI Inputs or View GPI Outputs to view the status of the GPI inputs or outputs.
- **3.** Use the middle knob to scroll the list.

Tip: Double-tap an item on the list to edit it.

To Name a GPI

- 1. Press HOME > Setup > Installation > GPI Input/Output > Name GPI.
- **2.** Use the bottom knob to select the GPI output you want to name.
- **3.** Press **Name** and enter the new name in the **New Name** field.
- 4. Press Accept New Name.
- 5. Press HOME > Confirm.

To Set the Direction of a GPI

- 1. Press HOME > Setup > Installation > GPI Input/Output > GPI Direction.
- **2.** Use the **GPI** knob to select the GPI that you want to set as an input or output.
- **3.** Use the **Control** knob to select **Individual**.

Tip: Use the *Control* knob to select *All Input* or *All Output* to switcher all the GPIs on all blades to that direction.

- 4. Use the **Direction** knob to set the GPI as an **Input** or an **Output**.
- 5. Press HOME > Confirm.

GPI Inputs

GPI inputs can be used to trigger a number of events on the switcher from a GPI I/O device. An example of a commonly used GPI input is the small, hand-held, trigger a weather forecaster uses to advance though the different backgrounds in the weather forecast.

When the switcher receives a trigger on the selected GPI input, it runs the events that have been assigned to the GPI input.

To Set Up a GPI Input

- 1. Press HOME > Setup > Installation > GPI Input/Output > Inputs.
- **2.** Use the **GPI Input** knob to select the GPI input that you want to assign an event to.
- **3.** Use the **Function** knob to select the type of event that you want to assign to the selected GPI input.

Tip: The **Cut** and **Auto** event start a transition in the transition area of the selected ME. Use a memory recall to set up the transition area with the keys and/or background that you want transitioned before the GPI input occurs.

- **Off** no event is triggered.
- **Auto** an auto transition is performed on the selected ME or Fade To Black

module. Use the **Area** knob to select where you want to transition performed.

- **Cut** a cut transition is performed on the selected ME or Fade To Black module. Use the **Area** knob to select where you want to transition performed.
- **Cust Ctrl** a custom control is run. Use the **Cust Ctrl** knob to select the custom control you want to run.
- Mem Recall a memory is recalled. Use the Memory knob to select the memory you want to recall.
- **4.** Press **GPI Level** and use the **Level** knob to select the trigger signal level that you want to use.
 - **Low** the GPI input is triggered when a low signal is received. The GPI input should be receiving a constant high signal. When the signal goes low (0 Volts), the GPI input will respond to the trigger.
 - **High** the GPI input triggered when a high signal is received. The GPI input should be receiving a constant low signal. When the signal goes high (+5 Volts), the GPI input will respond to the trigger.
- **5.** Press **HOME** > **Confirm**.

GPI Tallies

You can have a GPI input trigger a tally, assign a GPI output to tally a video source, or have a GPI input tally an aux bus.

- **GPI Input Tally Override** toggle a tally on or off when a GPI input signal is received, even if the tally is associated to a BNC that is not on-air.
- **GPI Input Aux Tally** have a high or low GPI input tally an aux bus. This is useful if the aux bus video is being used downstream by a device that can then tally the aux when needed.
- **GPI Output Tally** have a GPI output trigger when a video source is taken on a selected bus or is on-air.

To Set Up a GPI Input Tally Override

Force a tally or GPI output on when a GPI input signal is received.

- 1. Press HOME > Setup > Installation > GPI Input/Output > Tally on GPIs.
- **2.** Use the **Tally Location** knob to select the tallies that you want to configure.

- **3.** Use the **Tally** knob to select the tally that you want to assign to a GPI input.
- **4.** Use the **GPI Input** knob to select the GPI input that you want to use to turn on the selected tally.

The tally remains on as long as the GPI input is triggered.

5. Press HOME > Confirm.

To Set Up a GPI Input Aux Tally

Use a GPI input to tally an aux bus.

- 1. Press HOME > Setup > Installation > Aux Bus > GPI Tally Assign
- **2.** Use the **Aux Bus** knob to select the aux bus that you want to use the GPI to tally.
- **3.** Use the **GPI** knob to select GPI input that you want to use to receive the tally signal on.
- 4. Use the **Polarity** knob to select whether the tally triggers when the GPI input goes high (**High**) or low (**Low**).

To Set Up a GPI Output Tally

Use a GPI output as a tally.

Note: A GPI must be set to an output to be used as a tally. Refer to **To Set the Direction of a GPI** on page 55 for information on setting a GPI as an output.

- 1. Press HOME > Setup > Installation > Source Configuration > Tally > ME GPOs.
- **2.** Use the **ME GPO** knob to select the GPI output that you want use as a tally.
- **3.** Use the **Source** knob to select the video source that you want to tally.
- 4. Use the **Mode** knob to select when you want to trigger the GPI output.
 - **On Air** when the source is on-air. The source is on-air when it is included in the program output of an ME that is tallied.
 - **Preview** when the source is on preview.
 - **BnkXAuxY** when the source is active on the selected aux bus.
 - Any Aux Bus when the source is active on any aux bus.
 - **Preset** when the source is active on the preset of any ME.
 - **ME** *X* **PGM** *Y* when the source is active on the selected program output of the selected ME.

- **ME** *X* **PST** *Y* when the source is active on the selected preset output of the selected ME.
- **5.** Press **HOME** > **Confirm**.

GPI Outputs

You can trigger events on an external GPI I/O device from the switcher. An example of would be the use of an GPI output to trigger a transition on a Character Generator. Refer to the documentation that came with your device for more information on what commands you can trigger on your device.

To Set Up a GPI Output

- 1. Press HOME > Setup > Installation > GPI Input/Output > Outputs.
- **2.** Use the **GPI Output** knob to select the GPI output that you want to set up.
- **3.** Use the **Trigger** knob to select the type of trigger signal you want to use.

Refer to *GPI Trigger Types* on page 55 for information on trigger types.

- **4.** For pulse triggers, use the **Pulse Dur'n** knob to set the length of time, in frames, that the GPI pulse output remains triggered.
- 5. Press HOME > Confirm.

To Name a GPI

- 1. Press HOME > Setup > Installation > GPI Input/Output > Name GPI.
- **2.** Use the bottom knob to select the GPI output you want to name.
- **3.** Press **Name** and enter the new name in the **New Name** field.
- 4. Press Accept New Name.
- 5. Press HOME > Confirm.

GPI Device Control

You can assign a GPI output to a video source for basic external device control. When a video source is taken on-air, the switcher can be set to trigger a GPI output, with a pre-delay. The external device can be set up to cue a clip, or load a page when it receives the GPI input trigger.

To Assign a GPI Output to a Video Source

- 1. Press HOME > Setup > Installation > Source Configuration > More > More > GPIs.
- **2.** Use the **Input** knob to select the input source that you want to assign a GPI output to.

If you are using the GPI to control the device, the video source should be video output coming from the device.

- **3.** Use the **GPI Output** knob to select the GPI output that you want to assign to the video source.
- **4.** Use the **Preroll** knob to select the pre-delay time, in frames, you want to use with the GPI output.

When you transition a video source with a GPI assigned to it, and the Roll Clip feature is active, the switcher triggers the GPI output, and then waits the pre-delay time before performing the transition. The length of the pre-delay is usually the length of time your video server requires to start playing a clip or your character generator requires to load a page.

5. Press HOME > Confirm.

MultiPanel

You can connect one main panel and up to eight satellite panels to a single frame. Each of the control panels can control some, or all, of the MEs. Only the Main Panel supports all device control or OverDrive[®].

MultiPanel Setup

To set up a MultiPanel system, you must configure the network settings on each of the control panels and switcher. Refer to *Control Panel Network Setup* on page 25 for more information. Once the switcher and control panels are able to communicate, you must assign MEs to the control panels and set up permissions.

The ME assignment sets which MEs a specific control panel has access to, and can control. The highest number ME assigned to a control panel is the program ME for that control panel. This ME is tallied for the control panel. The highest number ME assigned to a control panel in the entire switcher is the Program ME for the switcher.

The Program and Preview outputs for the switcher are locked to the highest ME assigned to the switcher. If you are using different Program MEs for different control panels, you must assign an output BNC to the ME Program and ME Preview outputs for that ME.

To Assign an ME to a Panel.

- 1. Press HOME > Setup > Installation > More > MultiPanel.
- 2. Press the Main Panel or Satellite X button for the control panel that you want to assign MEs to.
- **3.** Next to **ME Permissions**, press the **ME** *X* button for each ME that you want to assign to the selected control panel.

The main panel (**MP**) or satellite panels (**PX**) that are already assigned to MEs are shown on the buttons.

- Next to Virtual Program ME, press the ME X button for the ME that you want to use as the program ME for the selected control panel.
- 5. Press HOME > Confirm.

To Set Up Menu Permission

Tip: Only one control panel can be in the **Installation** or **Custom Control - Recording** menus at a time. Press **HOME > Setup > More > Exclusive Panel Menu Status** to see which control panel is currently in the menu. Press **Force Inst Menu Change** or **Force CC Menu Change** to force the other control panel out of the **Installation** menu or out of recording a custom control.

- 1. Press HOME > Setup > Installation > More > MultiPanel > System Permissions.
- 2. Press the **Satellite** *X* button for each satellite panel that you want to allow to access the **Installation** menu (on). Toggle the button off for the satellite panels that you do not want to allow to access the **Installation** menu.

MultiPanel Operation

Keep the following in mind when working with a MultiPanel configuration:

- If you want the Program ME of a panel to tally, and it is not the highest numbered ME, then you must set that ME to tally on that panel. Control panel tallies are control panel specific.
- The fade to black only affects the MEs that are assigned to the control panel that the fade to black is performed on, and that fade to black is turned on for. Each control panel has a unique fade to black rate, but which MEs that fade to black is turned on for is common across all control panels.
- The highest number ME assigned to each panel is tallied as the Program ME by default.
- Custom controls only record actions for the MEs that are assigned to the control panel that the custom control is being recorded on. If that custom control is run on a different control panel, with different MEs assigned to it, the custom control still performs actions on the MEs that were assigned to the original control panel.

Color Schemes

The switcher can be customized for menu appearance, button colors, and mnemonic colors.

Menu Skins

The appearance of the menus, including colors and icons, can be customized by using one of the skins provided with your switcher.

To Select a Menu Skin

- 1. Press HOME > Setup > Personality > Color Scheme > More > Select Skin.
- 2. Use the **Monitor Skin** knob to select the skin you want to use.
- 3. Press Select This Skin.

Control Panel Button Colors

You can change the glow color for MEs and on-air crosspoints, or apply a specific color to an input. The color of the control buttons on the control panel modules can also be edited.

To Select a Button Color

- 1. Press HOME > Setup > Personality > Color Scheme > Select Buttons.
- **2.** Use the **Color** knob to select the item you want to change the color for.

Note: The B-side of a split ME uses the User Color 9.

3. Press **Modify Color** and use the color picker to select the color you want to use.

To Set Button Colors

- 1. Press HOME > Setup > Personality > Color Scheme.
- 2. Press Color Settings.
- **3.** Use the **Option** and **Use** knobs to select how the buttons are colored.

Button	Color	
Selected Xpts	The color used when a source button is selected.	
	 Item On Color — use the Item On Color. ME Color — use the ME Glow color. 	

5	A.
Button	Color
Selected Bttns	 The color used when a non-source button is selected. Item On Color — use the Item On Color. Item On Color — use the Item On Color.
Custom Controls	 The color used for custom control buttons. CC Color — use the CC Glow color. ME Color — use the ME Glow color.
Re-entry Glow	 The color used for ME re-entry. No — use the ME Glow color for the ME that the ME is re-entered on. Yes — use the ME Glow Color for the ME that is being re-entered.
ME Glow	 The color used for an ME. MEs Use Own Glows — use the ME Glow color for each ME. All MEs Use Glow 1 — use the ME Glow 1 color for all MEs.
Xpt Colors	 The color used for source buttons. No — use the ME Glow color. Yes — use Xpt Color assigned for each video source.
Keyer Colors	 The color used for each key. Same as ME — use the ME Glow color. User Colors — use the user colors for the keys. For example, Key 1 gets User Color 1, Key 2 gets User Color 2, etc. ME Colors — use the ME glow colors for the keys. For example, Key 1 get ME Glow 1, Key 2 gets ME Glow 2, etc. Split ME Colors — use the B-side color for the keys on the B-side of a split ME (User Color 9). If a keyer is assigned to both the A and B side it uses the color assigned to the A-side (ME Glow color).

Button	Color
Attached Macros	The color used to show that a custom control is attached to a button. Use the Show Attached CCs Personality option to apply this color to buttons with a custom control attached to them.
	 ME Glow X — use the ME X glow color. Aux Glow — use the aux glow color. CC Glow — use the custom control glow color. Item On Color — use the item on color. User Color X — use one of the user colors.

To Set Source Button Colors

- Press HOME > Setup > Personality > Color Scheme > Setup Xpt Colors.
- **2.** Use the **Input** knob to select the source that you want to assign a custom color to.
- **3.** Use the **Color** knob to select the user color, or default, for the input.

To Load a Button Color Scheme

- 1. Press HOME > Setup > Personality > Color Scheme > Load Color Scheme.
- **2.** Use the **Scheme** knob to select the color scheme you want to load.
- 3. Press Select This Scheme.

To Save a Button Color Scheme

- Press HOME > Setup > Personality > Color Scheme > More > More > Save Color Scheme.
- **2.** Enter a name for the new color scheme.
- 3. Press Accept Name.

Mnemonic Color Schemes

You can select the default color for all the mnemonic displays on the panel.

To Set the Mnemonic Colors

- 1. Press HOME > Setup > Personality > Color Scheme > More > Fixed Mnemonics.
- **2.** Adjust the brightness of the individual color LEDs in the mnemonic.

- Press **Red** and use the **Red Gain** knob to adjust the gain of the red LED in the mnemonics.
- Press **Green** and use the **Green Gain** knob to adjust the gain of the green LED in the mnemonics.
- Press **Blue** and use the **Blue Gain** knob to adjust the gain of the blue LED in the mnemonics.
- Press **Orange** and use the **Orange Gain** knob to adjust the gain of the orange LED in the mnemonics.
- Press **Yellow** and use the **Yellow Gain** knob to adjust the gain of the yellow LED in the mnemonics.
- Press **Purple** and use the **Purple Gain** knob to adjust the gain of the purple LED in the mnemonics.
- **3.** Adjust the brightness of the displays
 - Acuity[®] Press Panel Mnemonic Bright/Contrast and use the Mnemonic Brightness and Mnemonic Contrast knobs to adjust the brightness and contrast of the mnemonic displays on the control panel.
 - TouchDrive Press Display Bright/Contrast and use the Touch Display Backlight to adjust the brightness of the backlight behind the mnemonic displays.
- 4. Press Ext. Mnemonic Bright/Contrast and use the Mnemonic Brightness and Mnemonic Contrast knobs to adjust the brightness and contrast of the mnemonic displays on the external modules, such as a Auxiliary Control Panel or a SideBox.

To Set the Default Mnemonic Appearance for Acuity[®] Panels

- 1. Press HOME > Setup > Personality > Standard Mnemonics > Acuity Mnemonics.
- **2.** Press **Font** and select the size and layout of the font you want to use on the mnemonic displays.

Tip: Select *Standard* to use the standard mnemonic settings.

In 001 Small	In 001 Small Invert	In 001 Medium	In 001 Medium Invert	In	Large Invert
[shft] In 001 Inv Shift Unshift	[shft] In 001 Shift Inv Unshift	In 001 [shft] <u>Unshift</u> Inv Shift	In 001 [shft] Inv Unshift Shift	None	

Tip: Use the *Router/Int* or *Router Only* setting to show both the router and switcher names for a source, or only the router names.

- **3.** Press **Color** and select the color you want to use for the mnemonics. This can be the background or text color, depending on whether you have selected an invert font.
 - Acuity Colors use a standard mnemonics color.
 - **ME Colors** use a ME Glow color.
 - **User Colors** use a User Color.

Tip: Select *Standard* under *Acuity Colors* to use the standard mnemonic color.

Tip: Select *None* to not use a color for the mnemonic.

4. Press HOME > Confirm.

To Set the Default Mnemonic Appearance for TouchDrive Panels

- 1. Press HOME > Setup > Personality > Standard Mnemonics > TouchDrive Mnemonics.
- 2. In the **Default** areas press the button for the type of mnemonic displays you want to set the default for.
 - **Standard Mnemonics** default mnemonic color and font size for video sources.
 - CC Bank Mnemonics default mnemonic color and font size for custom control banks.
 - Memory Bank Mnemonics default mnemonic color and font size for memory banks.
 - AUX Mnemonics default mnemonic color and font size for aux buses.
- **3.** Press **Font** and select the size and layout of the font you want to use on the mnemonic displays.

Tip: Select *Standard* to use the standard mnemonic settings.



Tip: Use the **Rtr Only**, **Rtr Top/Int Bot**, or **Rtr Bot/Int Top** setting to show both the router and switcher names for a source, or only the router names. The router name is the name of the source assigned to that switcher input from $Ultrix^{\mathbb{M}}$.

- **4.** Press **Background** or **Foreground** and select the color you want to apply to that component of the mnemonics.
 - Acuity Colors use a standard Acuity[®] mnemonics color.
 - **ME Colors** use a ME Glow color.
 - User Colors use a User Color.
 - **TouchDrive Colors** use a standard TouchDrive mnemonics color.

Tip: Select *Standard* under *Acuity Colors* to use the standard mnemonic color.

Tip: Select None to not use a color for the mnemonic.

5. Press HOME > Confirm.

Control Panel Display Brightness

You can adjust the brightness of the control panel displays. These displays include all the module displays found on the control panel, but not the Touchscreen display.

Tip: Lower brightness settings will prolong the life of the displays.

To Set the Brightness of the Displays

- 1. Press HOME > Setup > Personality > Color Scheme > More > Display Bright/Contrast.
- **2.** Adjust your display as required. The available adjustments depend on the control panel you have.
 - Acuity[®] use the **Display Brightness** and **Display Contrast** knobs to adjust the brightness and contrast of the displays on the control panel.
 - TouchDrive use the **Touch Display Backlight** knob to adjust the brightness of the backlight in the displays on the control panel.

Device Control

The switcher can interface with a number of peripheral devices, such as video servers, audio mixers, routers, character generators, and robotic cameras. These devices interface with the switcher using either serial or ethernet communication. Devices that use serial communication can only be connected to the control panel directly, or a serial to ethernet converter is required. Ethernet devices must be connected to the same network as the switcher.

Some devices, or classes of devices, can only be controlled from the control panel or frame. The following table is a guideline for the classes of devices supported from either the control panel or frame. For information on a particular device, refer to the *Acuity Device Setup* website (http://help.rossvideo.com/acuity-device/index.html).

Note: * Only a subset of devices are supported from the frame.

Basic Serial Communications

The switcher supports both the RS-232 and RS-422 transmission standards on all of the serial ports on the control panel. This section provides a general overview of the steps for setting up the switcher to communicate with a device. For specific information on setting up the switcher to communicate with a particular device, refer to the device setup sheets for your device.

To Set Up Basic Serial Communications

Note: Devices should always be set up on the same communications port (remote, pan/frm net) in different switcher sets. If different devices are set up on the same communications port in different sets and you load one of those sets, messages for one device can be sent to the other resulting in invalid messages or unexpected behavior.

1. Press HOME > Setup > Installation > Com Setup.

Tip: You can rename a port by pressing *More* > *Rename Com Port* and entering the new name. This new name is used when referencing the port on the menus.

- 2. Press **Type** and use the **Com Port** knob to select the port that you want to set up for your device.
 - **REMOTE X** DB9 ports on the back of the control panel
 - ExtLnk 2-4 RJ-45 ports on the back of the control panel

- **3.** Use the **Device** knob to select the class of device you want to set up on the selected port.
- 4. Press Select Device and use the Device knob to select the particular device or protocol you are using to interface with your device.

Note: If you are setting up a VTR or Video Server, use the **VTR Preroll** knob to set the time the switcher will wait before performing a transition. This time can be used for a tape machine to get ready, or a video server to load a clip.

- Press Com Type and use the Type knob to select the communications standard (RS-232 or RS-422) that your device supports.
- 6. Press Com Settings and use the Baud and Parity knobs to select the settings that your device supports.
- **7.** Press **Extra Options** and set the options as indicated on the device setup sheet.
- 8. Press HOME > Confirm.

Basic Ethernet Communications

The switcher supports both the UDP/IP and TCP/IP transmission standards. This section provides a general overview of the steps for setting up the switcher to communicate with a device. For specific information on setting up the switcher to communicate with a particular device, refer to the device setup sheets for your device.

To Set Up Basic Ethernet Communications

Note: Devices should always be set up on the same communications port (remote, pan/frm net) in different switcher sets. If different devices are set up on the same communications port in different sets and you load one of those sets, messages for one device can be sent to the other resulting in invalid messages or unexpected behavior.

Press HOME > Setup > Installation > Com Setup.

Tip: You can rename a port by pressing *More* > *Rename Com Port* and entering the new name. This new name is used when referencing the port on the menus.

- 2. Press **Type** and use the **Com Port** knob to select the port that you want to set up for your device.
 - **REMOTE** *X* DB9 ports on the back of the control panel. Although these are serial ports, you can assign an ethernet device to them.

- **PAN NET** *X* ethernet connection on the control panel. All Net ports share the IP address of the panel, but different network ports.
- **FRM NET** *X* ethernet connection on the frame for Editor support. All Net ports share the IP address of the panel, but different network ports.

Note: Some ethernet devices must be assigned to Remote ports to be controlled properly. When an ethernet device is assigned to remote or ethernet port, that port is consumed and cannot be used for another device. You can use a port expander to increase the number of available ports.

- **3.** Use the **Device** knob to select the class of device you want to set up on the selected port.
- 4. Press Select Device and use the Device knob to select the particular device or protocol you are using to interface with your device.
- Press Com Type and use the Type knob to select the communications standard (Network UDP or Network TCP) that your device supports.
- 6. Press **Com Settings** and use the **Client/Server** knob to select whether the switcher acts as a client or a server.
 - **Client** Enter the IP address of your device in the **Remote IP Address** field and the port on your device that the switcher must connect to in the **Remote Port** field.
 - Server Select the IP address of the switcher in the Local IP Address field that you want to use to connect to your device and the port on the switcher that your device must connect to in the Local Port field.
- 7. Press HOME > Confirm.

Alternate Devices

You can have two identical devices and quickly switch to the alternate device, on the other IP address, without having to change your memories or custom controls. The alternate device is treated exactly as the primary device, only the IP address is changed. This feature is only available for ethernet devices.

Note: The Primary and Alternate devices must be identical.

To Set up an Alternate Device

The alternate device setting allows you to provide the IP address of an alternate device that you want switch to if the primary device is unavailable. This feature is only available for ethernet devices.

Note: The Primary and Alternate devices must be identical.

- Press HOME > Setup > Installation > Com Setup > Com Settings and use the Com Port knob to select the primary device that you want to set an alternate for.
- 2. Use the **Primary/Alternate** knob to select **Alternate** and enter the IP settings for the alternate device in the fields.
- **3.** Use the **Disable/Enable** knob to select whether the alternate device is available(**Enable**) or not (**Disable**).

Tip: You can view which primary or alternate devices are in use from the **Alternate Device Menu** (Press **HOME** > **More** > **Remote Enables** > **Alternate Device**).

To Switch to an Alternate Device

When an alternate device has been assigned to a device, you can quickly switch between the two if the primary device is not operable.

Note: You must have an alternate device assigned to be able to switch to it.

- Press HOME > More > Remote Enables > Alternate Device.
- **2.** Press the button for the port the primary device is assigned to.
- **3.** Select the action you want to take on the device:

Note: If a lock is shown next to the port name, the alternate device is not enabled on the **Communications** menu and you cannot switcher to it.

- **Primary** select the primary device.
- Alternate select the alternate device.
- **Toggle** toggle between the active device and the other.

Tip: Toggle swaps between the primary and alternate depending on which is active. If the alternate is active, the primary is selected. If the primary is active, the alternate is selected.

Disable/Enable Device

Communications with a device can be temporarily stopped. The switcher will not attempt to connect to the device when the device is disabled. This can be useful if a device is temporarily out of service and you don't want to remove the device. This prevents the switcher from repeatedly attempting to connect to the device and logging the failed connection event.

To Disable/Enable a Device

Disable a device to prevent the switcher from attempting to connect to a device that is unavailable.

- 1. Press HOME > Setup > Installation > Com Setup > More > Enable/Disable.
- **2.** Use the **Com Port** knob to select the device you want to disable or enable.
- **3.** Use the **Status** knob to enable **Enable** or **Disable** the device.

Note: When a device is disabled, the Status column shows Disabled.

Extra Options

Extra options are device type specific when setting up communications. For the specific settings for your device, refer to the device setup sheet for the device you are connecting to the switcher.

Audio Mixer Extra Options

Option	Value	
ABMs	Set the number of 1RU Audio Breakout Units connected to Graphite.	
Channel Label	 Select where the switcher gets the names for audio channels. Switcher — name stored on the switcher. Channel ID — channel ID from the audio mixer. User Label — user assigned channel name from the audio mixer. Fixed Label — input channel number from the audio mixer. InheritedLabel — source signal name from the audio mixer. 	
Converter	 Select the MIDI to Serial converter that you are using to connect to the audio mixer. MIDIator — MIDIator[™] Systems MS-124W SMC — GearLite SMC-9901 	
Delay	Set the length of time, in fields, after a fader is set from the switcher that the switcher ignores movements of that fader from the audio mixer.	

Option	Value
Freq	Select the length of time, in fields, that the switcher will wait between polling the audio mixer for status information.
Max Channels	Select the maximum number of channels installed on your audio mixer.
Mixers	Select the number of audio mixers you are connecting together and controlling from the same communications port. You can connect up to two audio mixers together to a single serial communications port.
OD Main	Select the main level on the audio mixer that the switcher, and the OverDrive Production Control System, should be controlling.
Pairing	Select whether the audio channels are paired horizontally (Horizontal) or vertically (Vertical).
PGM Output	Select the main level control the switcher is assigned to.
SDI Inputs	Set the number of video inputs on your Graphite system.
Version	Select the version number of the audio mixer you are connecting to the selected communications port.
XPression Ch	Set the number of channels coming from the XPression subsystem in Graphite.

Audio Server Extra Options

Option	Value
Bus Address	Select the Remote Control Address that the audio server is set to.

Automation Extra Options

Option	Value
Clip Lists	Select whether the switcher updates/retrieves the clip list data from the video servers when Automation is enabled (Yes), or not (No).

Aux Panel Extra Options

Option	Value
RCP Model	Select the model of RCP panel you are connecting to.
Level	Select the level you want to assign the switcher to. Level is used to identify the switcher that the RCP is controlling. When you assign a Level to a switcher, you must select that Level on the RCP to control that particular switcher.

Option	Value
Index Type	Select whether to use the source/destination mapping from before Acuity [®] 7.1a (Pre-V7.1a) or from 7.1a and later (Post-V7.1a default).

Character Generator Extra Options

Option	Value
BackToBack	Have the switcher pre-load the second CG page if OverDrive [®] has back-to-back CG pages in a rundown (Yes), or pause to load the second CG page in a back-to-back rundown (No).
Def Chan Name	Select whether the default channel name (Yes), or the input source name (No) is used as the mnemonic name.
Display Mode	Select whether a CG template is taken on-air as soon as the Take command is sent (Immediately), or the template is hidden until the Play command is sent (On Trigger).
PlayTime	Select the maximum duration for playing an animation, in seconds.
Show On PV	Have a CG page shown on the preview of the CG when it is prepped by OverDrive [®] (Yes), or have it not shown on preview when it is prepped (No).
Software Ver	Select the version of software being used on your CG. The options depend on the CG you are using.
Timeout	Set the length of time that the switcher will wait for a response from a CG before reporting communication lost.

Editor Extra Options

Option	Value
Bus Mapping	Select either the original GVG4000 bus mapping (Normal), or the current direct one-to-one bus map of the switcher (Simple).

Option	Value
CustCtrl ME	Select whether memory recalls on a particular ME perform a custom control rather than recalling the memory. The specific custom control that is run is based on the memory that is being recalled. Memories 1-19 correspond to Bank 1, Custom Controls 1-20; memories 20-39 correspond to Bank 2, Custom Controls 1-20; and so on.
	 Any — memory recalls for any ME run a custom control rather than recall a memory. Pgm-Pst — memory recalls for the main program ME run a custom control rather than recall a memory. MEX — memory recalls on ME X run a custom control rather than recall a memory.
Editor Type	Select the type of editor you are connecting to the selected communications port.
Pattern	Select wipe patterns using wipe pattern numbers (Pattern #) or wipe button numbers (Wipe Button).
Use Break	Select whether the switcher must receive a break command and an address before going into active mode (Yes), or the switcher goes into active mode without receiving a break command (No).

Pbus Extra Options

Option	Value
Query Cmd	Select the type of query commands supported by the Pbus device.
	Relaxed — control all devices connected to the Pbus device whether they respond to the query command or not.
	• Strict — control only devices connected to the Pbus device that respond to query commands.
	 Silent — control all devices connected to the Pbus device, without using query commands. The switcher does not sent guery commands.

Robotic Camera Extra Options

Option	Value
Base	Select whether the camera controller starts counting connected camera heads at 0 or 1.

Option	Value
Cam Reselect	Select whether the switcher sends out a select camera command when the camera is already selected (ON), or the switcher doesn't send out the command when the desired camera is already selected (OFF)
Check timeout	Select whether the switcher checks for a device timeout (Yes) or ignores the timeout (No).
CmdDelay	Select the length of time, in 16ms increments, that the switcher waits between sending commands to the camera.
Command	Select the type of move commands (Trace Memory or TecnoPoint) that are sent to the camera.
Focus Speed	Select the maximum focus speed.
Iris Control	Select whether you want the iris of the camera controlled by the lens (Lens), or the camera controller (Camera).
Iris Mode	Select whether the size of the iris opening is changed by the velocity at which the iris ring is turned (Velocity), or incrementally by value (Incremental).
Iris Res	Select the number of bits in the camera control signal. Different camera head controllers use different numbers of bits. Choose the value that gives you a 100% display when the iris is fully open.
Iris Speed	Select the speed at which the iris opens and closes.
Lens Type	Select whether the camera is using a Rainbow-CCTV lens (Rainbow), or a Fujinon/Canon Telcon lens (Fujinon).
Main Ped	Add (Yes) or remove (No) the Pedestal (Black) button from the Camera Head Control menu.
Model	 Select the make and model of camera head you are controlling using the VISCA protocol. Generic — camera head supporting VISCA but not listed below. Sony BRC-300 — select for a Sony[®] BRC-300 and BRC-300p camera heads. Sony BRC-700 — select for a Sony[®] BRC-H700 camera head. Sony BRC-900 — select for a Sony[®] BRC-900 camera head. Ross PIVOTCam — select for a Ross[®] PIVOTCam-20 camera head.
Pan/Tilt Damping	Select the amount of damping you want on pan and tilt movements. The higher the value, the more damping is applied.
Pan/Tilt Speed	Select the maximum pan and tilt speed. The higher the value, the faster the pan and tilt speed.

Option	Value
Panel ID	Select a unique ID that the camera uses to identify the switcher.
Pan Speed	Select the maximum pan speed for the camera head.
Poll	Select whether only the currently selected camera is polled (Selected), or all cameras are polled (All). We recommend that you only use Selected if instructed to do so by Ross Video Technical Support.
Protocol	 Select the protocol that is used by the positioner on your camera controller. Level 0 — disable joystick/positioner control. Level 1 — enable Pan, Tilt, Zoom, and Focus control. Level 3 — enable Pan, Tilt, Zoom, Focus, Iris, Mped (Black Level) and Elevation control. Level 4 — enable all for controls of Level 3, plus Shot Store.
Protocol	Select whether the camera is being controlled using a Serial or IP protocol.
RclTime	Select the amount of time that the switcher allows for a camera to recall a shot.
Select Delay	Select the length of time, in fields, that the switcher will wait after selecting a camera.
SerialSwitch	 Select the type of serial switch you are using to connect to your camera. STS-12 — assign an STS-12 Serial Control Transfer Switch to the selected port. CP-RMR-S — assign a CP-RMR-S Serial Receiver to the selected port. DS-4 — assign a DS-4 Device Server to the selected port.
ShotOffset	Select whether shots are indexed based on 0 or 1.
Tally	Select whether the tally light on the camera is controlled by the switcher (Yes) or not (No).
Tilt Speed	Select the maximum tilt speed for the camera head.
Toggle Cam	Select whether the switcher selects another camera before selected the desired camera (ON), or selects the desired camera immediately (OFF).
Zoom Speed	Select the maximum zoom speed.
i	

RossTalk Extra Options

Option	Value
Cmd Response	Select whether the switcher sends an acknowledgement after receiving a RossTalk command (ON) or not (OFF).
HTTP Protocol	 Select whether to send the RossTalk command wrapped with an http header. None — no HTTP method is used. POST — send commands using the HTTP POST method. GET — send commands using the HTTP GET method.
Ping	Select whether to send a ping to the device every 10 minutes (On) or not send a ping (Off).

Router Extra Options

Option	Value
Base	Select whether the router starts counting switcher sources at 0 or 1.
Connection	Select whether you are using the serial or ethernet protocol to connect to the router.
Dest Xpts	Select the number of destination crosspoints that are available on the router.
Level Base	Select whether the router starts counting levels at 0 or 1.
Num Levels	Select the number of levels that the router is using. This sets the number of levels that the router switches when the input BNC from the router is set to All levels.
Polling	Select whether the switcher scans only source or destination names, both, or neither.
Protocol	Select the GVG7000 or KUMO protocol.
Src & Dest Base	Select whether the router starts counting source and destinations at 0 or 1.
Src Xpts	Select the number of source crosspoints that are available on the router.

Serial Tally Extra Options

Table 8: Contrib Serial Tally Device

Option	Value
At Black	Select whether the switcher reports that nothing is on-air when the switcher is at black (All Off), or have the switcher not report anything different when it goes to black (Active On).
Data Txfr	Select the message size protocol for the tally device. You can select Minimal , Normal , or Complete .

Option	Value
Rate	Select the rate, in fields, between update messages sent by the switcher to the tally device.
Slot X	Select theME that you want to assign to ME slot <i>X</i> on the tally device.
Source Name	Select whether the switcher used the source names from the router (Router Src), or from the input BNC (BNC Name).
Start	Select whether the switcher sends None or Init as the start message for the tally device.

Table 9: TSLOut Serial Tally Device

Option	Value
Add Header	Select whether to include header data when communicating to a TCP device (Header) or not include the data for a serial device (No Header). If you are using a DeviceMaster [®] to communicate with a serial device
Screen	Select the address of the screen that you want to send the information to (0 to 65535).
Tally Bit	 Selects how tallies are displays and shows the active state of the keyer or send PGM Calculation Path information. Standard — tallies are displays with preview on the left and program on the right. Inverted — tallies are displays with preview on the right and program on the left. Bus Messages — tallies are displayed on the right only and the left tally bits are used to show the active state of the keyer. Bus Messages Inv — tallies are displayed on the left only and the right tally bits are used to show the active state of the keyer. Slot — the tally bit is used to send PGM Calculation Path information. Slot 1 uses the first bit, Slot 2 uses the second, and so on. This setting is used in combination with the Slot option.
Justify	Select how the mnemonic names are justified on the output (Left , Right , or Center).
Rate	Select whether the switcher sends 1 (Slow) or 70 (Fast) messages per field to the UMD device.
Brightness	Select the brightness value (0 to 3) that is sent to the UMD device.
Aux Re-entry	Select whether to send the tally data for the aux (No) or the sources selected on the aux (Yes).

Option	Value
Panel Select	Select the control panel that you want to use for bus selection data.
Output Format	Select what tally information is sent based on the source of that data.
	 Acuity — TSL IDs 0-279 represent switcher inputs 1-280. Ultrix — TSL IDs 0-3999 represent router sources, including Black, Auxes, and ME-Stores. The TSL information now passes the router source that is on the switcher input.
	Note: If the same router source is selected on two or more switcher inputs, the TSL input colors will not be correct.
Slot	Assign a Tally Bit to a PGM Calculation Path (Outputs menu). The Tally Bit must be set to Slot . The PGM and PV of the same number use the same PGM Calculation Path. Slot 1 uses the first bit, Slot 2 the second, and so on.

Switcher Extra Options

Option	Value
Ping	Select whether the switcher sends a ping after 10 minutes of inactivity (On) or not (Off). This is designed to keep the connection active between the two devices so that network monitoring equipment don't close the connection. The ping message sent is NOOP <cr><lf>.</lf></cr>

UMD Extra Options

Option	Value
Add Header	Select whether to include header data when communicating to a TCP device (Header) or not include the data for a serial device (No Header). If you are using a DeviceMaster [®] to communicate with a serial device
Brightness	Select the brightness value (0 to 3) that is sent to the UMD device.
Clear Spaces	Remove all leading and trailing spaces on the labels.

Option	Value
Invert	Selects how tallies are displays and shows the active state of the keyer.
	• Standard — tallies are displays with preview on the left and program on the right.
	• Inverted — tallies are displays with preview on the right and program on the left.
	• Bus Messages — tallies are displayed on the right only and the left tally bits are used to show the active state of the keyer.
	• Bus Messages Inv — tallies are displayed on the left only and the right tally bits are used to show the active state of the keyer.
Justify	Select how the mnemonic names are justified on the output (Left , Right , or Center).
MV Names	Select whether the switcher shows the mnemonic names from the UMD device on the MultiViewer (ON) or the internal source names (OFF). The labels for the MultiViewer boxes must be turned on to see the names.
Rate	Select whether the switcher sends 1 (Slow) or 70 (Fast) messages per field to the UMD device.
Screen	Select the address of the screen that you want to send the information to (0 to 65535).
Version	Select the version of the TSL protocol you want to use.

Video Server Extra Options

Option	Value
Clip List	Associate a video server with either Clip List A or Clip List B , or use the Floating list. Clip lists A and B are cached for fast access when the associated video server is selected. Each clip list can only be associated with one physical device.
Cmd Queuing	Select whether the switcher requires a confirmation message from the video server for each command (Strict), or not (Relaxed). For Strict, the switcher will re-send a command (as set by the Send Tries value) until it receives a confirmation message from the video server.
Cue & Pause	Select whether the switcher sends a pause command immediately after a cue command (Yes), or not (No). This allows you to have the video server cue a clip and advance it so that you can preview the first frame of the clip.

Option	Value
Eject Clip	Select whether the video server ejects the current clip before it cues the next clip (Yes), or not (No).
ExtendedChar	Select whether the switcher allows non-printing characters (extended character set) for clip IDs (Yes), or replaces the characters with spaces (No).
Frame Rate	Select the framerate that the server is currently operating in.
LoopMinLength	Select the minimum length of a clip, in seconds, that can be looped. The minimum length is three (3) seconds.
LoopRecueTime	Select the amount of time, in frames, before the end of a clip that the switcher sends a loop command.
MediaIDLength	Select whether the video server uses clip IDs of up to 8 characters (Short IDs), or up to 32 characters (Long IDs).
Panel	Select the control panel, in a MultiPanel system, that the device is connected to.
Playback Mode	 Select the playback mode that your video server is using. PB — your device does not go to Electronic-to-Electronic (EE) mode. PB/EE — if your device does go to EE mode. If you select this option, you enable the serial device to automatically go into PB/EE mode. If a stop command is issued, the device enters EE mode. If
	a pause command is issued, the device stays in Playback mode.
Play Skip Q	Select whether the switcher sends a play command immediately, skipping all other commands in the queue (Yes), or puts the play command at the end of the command queue (No).
Play w/Alpha	Select whether the switcher plays both the video and alpha channels from a video server (Yes), or only the video channel (No). Both the video and alpha input BNCs must have the video server assigned to them, and must be set up as an auto key to associate the video with the alpha. When set to yes, the switcher does not check the status of the video server channels before sending the play command.
Port Cmds	Select whether the video server supports (Yes), or does not support (No) the Open Port, Select Port, and Close Port commands.
Protocol	Select whether the switcher communicates with the video server using the serial protocol (Serial), or the ethernet (TCP_CHN) protocol (IP).
Record Time	Select the maximum number of minutes that the Video Server will record for when it received the Record custom control command.

Option	Value
RicRoll	Select the amount of time you want the video server to wait after receiving the play command before starting to play the clip. This can be used to emulate the preroll time required by a VTR.
Send Loop	Select whether the switcher sends loop commands to the server (On) or if the server handles the loop status (Off).
Send Tries	Select the number of times that the switcher will try to send the same command to the video server if the switcher has not received a confirmation response.
StatusInterval	Select the amount of time that the switcher waits between status check requests of the video server.
Status Tries	Select the number of times that the switcher will send a status check request to a video server without getting a ready response.
TargetMachine	Select the video server that you are assigning to the selected communications port.
TimeOut	Select the length of time, in fields, that the switcher will wait for a reply from the Video Server before trying to send a command again.

VTR Extra Options

Option	Value
Decode NAKs	Select whether the switcher decodes the NAK messages sent from the VTR to the switcher (Yes), or not (No). The NAK messages must be decoded for the switcher to act on them. You should only select no if you are encountering problems using the Play command with your device or as advised by Ross Video Technical Support.
NPlayRetries	Select the number of times the switcher attempts to send a Play command to the VTR.
Request TC	Select whether the switcher request timecode information from the VTR (Yes), or not (No). If the timecode information is returned from the VTR, it is displayed on the Remote Control menu and preview overlay.
TargetMachine	Select the video server that you are assigning to the selected communications port.
Wait nFields	Select the length of time the switcher waits before assuming that a Play command failed, or was not received by the VTR.

Clip Setup

To recall clips on the VTR or Video Server from the switcher, you must store the clips you want to use to Clip Registers on the switcher. These clip registers store the location, or timecode, on the device for the clip, and the name of the clip.

Note: The switcher supports a maximum of 31,837 clips in the clip list from a video server. If there are more than 31,837 clips on your video server, the switcher will only report 31,837.

To Assign a Clip to a Clip Register

- Press HOME > Clips > Assign Clips > Clip type.
- **2.** Use the **Clip** knob to select the clip register that you want to store clip information to.
- **3.** Press **Name Clip** and apply a name to the clip register.
- 4. Use the **Device** knob to select the video input that the clip will play on. When you set up the device, you associated a device and channel to a video input on the switcher.

Tip: Select NONE to disable a clip.

- 5. Use the Looping knob to select if you want the clip to loop (Enable), or only play once (Disable).
- Press Refresh Choose ID and use the x1, x10, and x100 knobs to select the clip on the device that you want to assign to the clip register.

Tip: If you know the name of the clip, press *Enter ID* and enter the name of the clip directly from the *Enter Clip ID* menu. Only clip names up to 96 characters long are supported.

7. Press Inpoint/Outpoint.

Tip: If you select different start and end points to use on-air, the original inpoint and outpoint for the clip will remain unchanged on the device. This allows you to create sub-clips from a longer main clip directory on the switcher.

- 8. Press **Enabled** to use the default start and end point of the clip from the server (**No**), or set a custom inpoint and endpoint (**Yes**).
- 9. Press Edit to select whether you are setting the inpoint (In), or the endpoint (Out).

Tip: If you do not know the timecode for the inpoint or outpoint you want to use, press **Next** and use the transport buttons to preview the clip to the location you want to use. Once you have the timecode position selected, press **Next** and **Grab Timecode**.

- **10.** Press **Hours/Minutes** and use the **Hours** and **Minutes** knobs to select the hours and minutes components for the new inpoint or outpoint.
- **11.** Press **Second/Frames** and use the **Seconds** and **Frames** knobs to select the seconds and frames components for the new inpoint or outpoint.

Tip: Press *Cue to Inpoint/Cue to Outpoint* to preview the new inpoint or outpoint of the clip.

12. Press **Grab Timecode** to store the new inpoint and outpoint for the clip.

Audio Channel Setup

Audio from an audio mixer can be configured as individual channels or grouped together, with up to three channels per group. When you set up the audio channels, you also set the Default Levels for the individual channels. These default levels are the ones that the switcher will set the channels to when you perform an audio reset custom control.

To Set Up an Audio Source

For some audio mixers, each audio source needs to be assigned to an audio channel that is controlled by the switcher. This allows you to select specific audio sources to be controlled when there are more audio sources than input channels on the Audio Mixer.

- 1. Press HOME > Setup > Installation > More > Audio > Assign Source.
- 2. Use the Audio Channel knob to select the audio channel on the switcher that you want to assign an audio source from the mixer to.

The number of channels listed is the number of channels selected for the **Max Channels** extra option for your audio mixer.

- **3.** Use the **Audio Source** knob to select the audio source from the audio mixer you want to assign to the selected audio channel.
- 4. Press Name Channel and use the Audio Src knob to select the audio source that you want so name.
- 5. Press Name and enter the new name in the New Name field.
- 6. Press Accept New Name.
- 7. Press HOME > Confirm.

To Assign an Audio Channel to a Video Source

- 1. Press HOME > Setup > Installation > Source Configuration > Audio.
- 2. Use the **Input** knob to select the input source that you want to assign an audio channel to.

Tip: The *STIL X* sources at the bottom of the *Input* list are to allow OverDrive[®] to map the Media-Store audio sources to channels for mixer control.

3. Use the **Audio** *X* knob to select the audio channel, or group, that you want to assign to the selected input.

If you have programmed Audio Assign custom controls, the **Audio X** knobs will display the custom control that the channel has been assigned to.

4. Press HOME > Confirm.

To Set Audio Channel Level

Each audio channel can be set with a custom audio level that is used when the channel is taken on-air. This level can be adjusted manually using the sliders on the Audio Mixer, or by selecting the level on the menu.

- Press HOME > Setup > Installation > More > Audio > Audio Level.
- 2. Use the Audio Channel knob to select the audio channel that you want set up.

If you have programmed **Audio Assign** custom controls, the Audio Channel knob will display the custom control that you assigned the channel to.

- **3.** Use the **Level** knob to select the default audio level for the selected channel.
- Use the Include to select whether the channel is controlled by the switcher (Yes), or not (No).
- 5. Press HOME > Confirm.

To Set Up an Audio Group

Up to three audio channels, or groups, can be grouped together. This allows you to assign multiple audio channels to a single Input BNC. Assigning audio channels will not change the default audio levels that have been set for each of the channels. When the group is taken on-air, each audio channel is taken up to the level set for that particular channel.

- 1. Press HOME > Setup > Installation > More > Audio > Audio Groups.
- 2. Press **Group** *X* for the audio group you want to set up.
- **3.** Use the **Audio Channel** *X* knobs to assign up to three audio channels, or groups, to the group.

Note: If you have programmed Audio Assign custom controls, the custom control names will be displayed.

4. Press HOME > Confirm.

To Name an Audio Channel

Each audio channel can have a unique name. This name appears on the mnemonic above the audio fader on the Audio Control module. The color of the mnemonic indicates the status of the audio channel. Orange for an on-air channel, and yellow for an off-air channel. Refer to *Audio Control Module* on page 78 for more information on audio fader mnemonics.

- 1. Press HOME > Setup > Installation > More > Audio > Name Channel.
- **2.** Use the **Channel Name** knob to select the channel you want to name.
- **3.** Press **Name** and enter the new name in the **New Name** field.
- 4. Press Accept New Name.

To Set an Audio Fade Rate

Each audio channel can be set to use either the video transition rate, or a unique fade-in and fade-out rate when the audio channel is transitioned on, or off, air.

Note: If the Audio Cut Only personality option is set to On, any audio fade rate settings are ignored.

- Press HOME > Setup > Installation > More > Audio.
- 2. Press Fade Rate to select whether audio transitions use the video transition rate (Video), or a set audio transition rate (Audio).
- **3.** Use the **Audio Channel** knob to select the audio channel you want to set the audio transition rate for.
- 4. Use the **Fade-in Rate** knob to set the length of time, in frames, that it will take for the audio channel to come up to the on-air level.
- 5. Use the Fade-out Rate knob to set the length of time, in frames, that it will take for the audio channel to go down to the off-air level.

6. Press HOME > Confirm.

To Set Auto Mute

You can have the switcher mute an audio channel when the audio level is set to 0. When the audio level is raised again the channel is un-muted. This setting is applied to all audio channels.

- 1. Press HOME > Setup > Installation > More > Audio > More > Auto Mute.
- 2. Use the Auto Mute Control knob to set whether all channels are muted when their level is set to 0 (All Yes) or if the channel remains un-muted when set to 0 (All No).
- **3.** Press **HOME** > **Confirm**.
Auxiliary Control Panels

An auxiliary control panel provides an extra row of source buttons that can be assigned to an aux bus. This single row of buttons can be used to select sources on the aux output, or to visually follow what is selected on an aux bus.

AP-AUX2RU Series Auxiliary Control Panels

The V-159 series and AP-AUX2RU series of auxiliary control panels are available in various sizes to match the number of source buttons on your control panel. The panels can be installed either on the back of the control panel or into the desk. The V-159 auxiliary control panel can also be installed into a 19-inch rack frame.

To Assign an AP-AUX2RU Series Auxiliary Control Panel to a Panel Row

Refer to the documentation than came with your auxiliary control panel for information on cabling and physically connecting it to the switcher.

- 1. Press HOME > Setup > More > Panel Modules.
- 2. Press Yes.
- 3. Press Quick Configuration.
- **4.** Press **Internal Rows** or **External Rows** to assign the auxiliary control panel to an internal or external panel row.
 - **Internal Rows** if you need menu follows and double press actions. Actions such as double-pressing a crosspoint button to assign a color corrector to that video source must be done on an internal panel row.
 - **External Rows** if you do not need menu follows or double press action.
- 5. Press the **Start Row** *X* button for the row that you want to start assigning modules to. If you are using internal panel rows, it is recommended that you select a row that is not used on the control panel (row 5, for example) so that the module assignment for the control panel is not affected.
- **6.** Starting on the far left side, press a button on each module on the auxiliary control panel.

- 7. Press Exit.
- 8. Press HOME > Confirm.

V-053B Auxiliary Control Panels

The V-053B auxiliary control panel must be set up on one of the External Link ports on the back of the control panel. This includes the range of aux buses that you want to make available to all the V-053B auxiliary control panels connected to that port. You can daisy-chain a number of panels together.

To Set Up a V-053B Auxiliary Control Panel

Refer to the documentation that came with the V-053B for information on cabling and power connections.

- Press HOME > Setup > Installation > Com Setup > Type.
- Use the Com Port knob to select the ExtLnk X port that the auxiliary control panel is connected to.
- 3. Use the **Device** knob to select **Remote Aux**.
- 4. Use the **Aux Buses** knob to select the range of aux buses that you want to make available to the remote aux panels connected to the selected port.
- 5. Press HOME > Confirm.

To Assign an Aux Bus to a V-053B Auxiliary Control Panel

 Press HOME > Setup > Installation > Aux Bus > Remote Panels > Remote Panel Setup.

This places all the V-053B panels connected to the switcher into programming mode. The On-Air indicators on the panels flash.

- 2. Press the source buttons that correspond to the aux buses you want to assign to the auxiliary control panel. Each auxiliary control panel can be assigned to one or all aux buses. Press the button repeatedly to assign a different mode to that aux bus on the panel.
 - **Off** the aux bus is not assigned to the auxiliary control panel.
 - **On** the aux bus is assigned to the auxiliary control panel, allowing you full control to select sources on the aux bus.
 - **Flashing** the aux bus is assigned to the auxiliary control panel, allowing you to

only view what is being selected on the aux bus. You will not be able to change the source selections for this aux bus from this auxiliary control panel.

Starting from the top left, the first 12 source buttons on the control panel correspond to the 12 aux buses that were assigned to the External Link port. For example, if aux buses 1:1 to 2:4 were assigned to the External Link port, button 1 on the auxiliary control panel will assign the panel to aux bus 1:1.

- 3. Press Accept.
- 4. Press HOME > Confirm.

Auxiliary Control Panel CCU Joystick Control

Once the auxiliary control panel GPIs have been set up, and the panels have been set up with the proper group, you can assign each GPI to an aux bus and an input BNC, as well as setting the trigger type.

To Set Up a CCU Joystick Control

- 1. Press HOME > Setup > Installation > Aux Bus > Remote Panels > Remote GPI Assignment.
- 2. Use the **Remote** knob to select the auxiliary control panel GPI input that you want to assign an aux bus to.
- **3.** Use the **Aux Bus** knob to select aux bus that you want to assign to the selected GPI.
- 4. Use the **Source** knob to select the video source that you want to be selected on the aux bus when the GPI is triggered.
- 5. Press Remote GPI Type.
- **6.** Use the **Remote** knob to select the auxiliary control panel GPI input that you want to set the trigger type for.
- **7.** Use the **Type** knob to select the type of trigger signal that you want to use.
 - Low-Override set the trigger as a temporary override when the circuit is closed (high to low signal). When the circuit opens again (low to high signal), the aux bus output returns to the selected video signal.
 - Low-Toggle set the trigger as a toggle when the circuit closes (high to low

signal). Every time the circuit closes, the override state will toggle.

- **High-Toggle** set the trigger as a toggle when the circuit opens (low to high signal). Every time the circuit opens, the override state will toggle.
- Latch set the trigger to latch when the circuit opens or closes. Once latched, the trigger cannot be released except by selecting a different source on the Auxiliary Panel itself.
- **Off** disable GPI trigger.
- 8. Press HOME > Confirm.

Acuity[®] Panel Modules

The Acuity[®] control panel supports a number of different modules installed into blank slots on the control panel or a SideBox or SideBoxNet connected to the switcher.

For information on installing a module into the control panel, SideBox, or SideBoxNet, refer to the documentation that came with your module.

Installing or Replacing a Module

To install a module, you must first remove the existing module, or blank cover plate, that is installed in the module opening. After the module has been removed, you must install and cable the new module into the empty module opening.

To Remove a Module

- **1.** Lift up the control panel lid and turn off all power supplies in the control panel.
- **2.** Disconnect the power supplies from mains power.
- **3.** Identify the module or blank cover plate that you want to remove.
- **4.** If you are removing a module, you must disconnect the cables to the module.



Figure 7: Module Cables

a) Disconnect the 4-conductor Module Power Cable from the module.

This cable delivers power to all of the modules in the row. When unplugging the cable, ensure that you do not accidentally unplug it from any neighbouring modules.

- b) Disconnect both the CAT5 Module Control Link Cables from the module.
 This cable delivers all of the command signal to and from the module, as well as other modules in the same row.
- 5. Use a 1/4 inch hex driver to remove the four Retaining Nuts located at each corner of the module.

Front of Control Panel

Figure 8: Remove Module Cover Plate

6. Remove the module or blank cover plate from the control panel.

To Install a Module

- 1. Lift up the control panel lid and turn off all power supplies in the control panel.
- **2.** Disconnect the power supplies from mains power.
- **3.** Install the module into the control panel.
- **4.** Use a 1/4 inch hex driver to install the four Retaining Nuts located at each corner of the module.



Figure 9: Install Module

5. Connect the cables to the module.



Figure 10: Module Cables

a) Connect the 4-conductor Module Power Cable to the module.

This cable delivers power to all of the modules in the row. When connecting the cable, ensure that you do not accidentally unplug it from any neighbouring modules.

 b) Connect both of the CAT5 Module Control Link Cables to the module.
 This cable delivers all of the command signals to and from the module, as well as other modules in the same row.

To Upgrade a PMC

The Panel Module Controllers (PMCs) may need to be upgraded if you perform a software upgrade or replace a module. If PMCs need to be upgraded, the message PMCs need to be upgraded; please go to Panel Modules menu is displayed on the main menu.

- 1. Press HOME > Setup > More > Panel Modules.
- 2. Press Yes.
- 3. Press Upgrade PMCs.

Module Setup

Modules must be mapped to an internal or external control panel row. This allows the switcher to apply color schemes to the module, as well allow modules to be assigned to MEs or aux buses.

If you are using an external module, such as a SideBox, or SideBoxNet, you must set up communications with that module before you can configure it.

To Set Up Communication to a SideBox Module

The SideBox must be set up on an external link on the Acuity[®] control panel.

- Press HOME > Setup > Installation > Com Setup > Type.
- Use the Com Port knob to select the port (ExtLnk X) on the switcher that the external module is connected to.
- 3. Use the **Device** knob to select **Ext Module**.

If the OverDrive[®] production control system is set up with the switcher, you cannot assign **ExtLnk 2** to **Ext Module**.

4. Press **HOME** > **Confirm**.

To Set Up Communication to a SideBoxNet Module

You can connect up to 15 unique SideBoxNet enclosures to a switcher. The number of each SideSlideNet, SideShotNet, and SideStick modules depends on the type of module you are connecting.

Note: You cannot have more than one SideShotNet, SideSlideNet, and SideStick on the same external row. For example, you cannot have two SideStick modules on the same row, but you can have a SideShotNet and a SideStick on the same row.

- Press HOME > Setup > Installation > Com Setup > Type.
- 2. Press **Type** and use the **Com Port** knob to select the Remote or PanelNet port that you want to use to connect to the SideBoxNet.
- 3. Use the **Device** knob to select **OGP**.
- 4. Press Select Device and use the Device knob to select ePCH.
- 5. Press Com Type and use the Type knob to select Network TCP.
- 6. Press Com Settings and use the Client/Server knob to select Client and enter the IP address of the device in the Remote IP Address field and 5253 in the Remote Port field.
- 7. Press Extra Options.

Option	Value		
Unit ID	Each SideBoxNet must be assigned to a different number (1-15).		
Row	Select the panel row that you want to assign the SideBoxNet to. The panel row corresponds to the SideStick or SideBoxNet in that the module assigned to row 1 is numbered 1 in the menus (SideStick1 for example). You can only assign the SideStick to an internal panel row.		
First Fader	Assigns the number, or position, of the first audio slider on the SideSlideNet module. Each audio module has 8 sliders, so the first slider on module 1 is 1, the first slider on module 2 is 9, and so on.		

8. Press HOME > Confirm.

To Manually Map Modules to a Row

Modules are mapped to rows so that the system can identify where the hardware is located on the panel.



Important: Do not manually map SideShotNet, SideSlideNet, or SideStick modules to the panel. Panel mapping for these modules is done from the communications menu when you set them up.

1. Press HOME > Setup > More > Panel Modules.

- 2. Press Yes.
- **3.** Press a button on the module that you want to assign to a row. This sets the **Link/Node** knob to that module.

Note: The term Virtual after the link/node indicates that it is a virtual module on a Acuity Virtual Panel or TouchDrive Virtual Panel.

- 4. Press Panel Row & Crosspoint.
- 5. Use the **Panel Row** knob to select the panel row that you want to assign the module to.
- 6. Use the **First Crosspoint** knob to select the number, or position, of the first source button on the module. Only the source button modules have this knob.

Note: On Acuity[®] panels, each source button module on the control panel has 8 buttons, so the first button on module 1 is 1, the first button on module 2 is 9, and so on. On TouchDrive panels, the source button modules come in different sizes, depending on the control panel. Count the number of source buttons on a module to determine the first button on the next module.

Tip: On Acuity[®] panels, if you are assigning a module with custom control buttons, press **Custctrl & GPI Group** and use the **First Custctrl** knob to select the number, or position, of the first custom control button on the module. This is usually the same as the **First Crosspoint** selection.

7. Press HOME > Confirm.

To Automatically Map Modules to a Row

Modules are mapped to rows so that the system can identify where the hardware is located on the panel.



Important: Do not manually map SideShotNet, SideSlideNet, or SideStick modules to the panel. Panel mapping for these modules is done from the communications menu when you set them up.

- 1. Press HOME > Setup > More > Panel Modules.
- 2. Press Yes.
- 3. Press Quick Configuration.
- 4. Select whether you want to assign modules to an internal panel row (Internal Rows), or an external panel row (External Rows).
 - Internal Rows rows inside the control panel, or connected to the touchscreen display on Acuity[®] panels.
 - **External Rows** rows outside the control panel, such as on an auxiliary control panel, SideBox, not including the touchscreen display on Acuity[®] panels.

5. Press the **Start Row** *X* button for the row that you want to start assigning modules to.

Note: Any module assignments to the selected row are lost.

6. Press a button on all the modules that you want to assign to the selected row starting with the first source button/crosspoint module on the left. Remember to include memory and transition modules as well.

The order that source button modules are assigned to a row sets the order that the switcher maps to the buttons.

Note: The Flex Control modules on the TouchDrive panels must be mapped manually.



7. Repeat for each additional row you want to assign modules to.



8. Press Exit.

Custom Control Shot Box Module

The Custom Control Shot Box Module allows you to map custom controls from various banks to any of the 28 buttons on the Shot Box. Each custom control is mapped to a position on a Shot Box page that corresponds to a button on the Shot Box. When the button on the Shot Box is pressed, the corresponding custom control is run. Additional commands such as selecting other pages can also be assigned to buttons on a page.

Shot Box pages can be assigned to control buttons on the V-159/AP-AUX2RU auxiliary control panel when it is in Aux Bus mode.

To Create a Page

 Press HOME > Custom Controls > More > Setup Shot Box Pages.

- 2. Use the **Page** knob to select the page that you want to assign custom controls to buttons on.
- **3.** Select the button on the page that you want to assign a custom control to.

Tip: If you want to be able to switch between different pages, you must leave some buttons blank so that you can map the pages to them. Refer to To Assign a Page to a Shot Box on page 78 for information on assigning a page to a Shot Box.

4. Use the **Bank** and **Button** knobs to select the custom that you want to assign to the selected button.

To Name a Page

Inv Shift

Unshift

Shift

Inv Unshift

- Press HOME > Custom Controls > More > Setup Shot Box Pages.
- **2.** Use the **Page** knob to select the page that you want to name.
- 3. Press Modify Page Name.
- 4. Press Name and enter the new name in the New Name field.
- 5. Press Acuity Mnemonic.
- 6. Press Font and select the size and layout of the font you want to use on the mnemonic displays.



Unshift

Inv Shift

Tip: Use the *Router/Int* or *Router Only* setting to show both the router and switcher names for a source, or only the router names.

Inv Unshift

Shift

None

- 7. Press **Color** and select the color you want to use for the mnemonics. This can be the background or text color, depending on whether you have selected an invert font.
 - Acuity Colors use a standard mnemonics color.
 - **ME Colors** use a ME Glow color.
 - User Colors use a User Color.

Tip: Select *Standard* under *Acuity Colors* to use the standard mnemonic color.

Tip: Select *None* to not use a color for the mnemonic.

8. Press Accept New Name.

To Assign a Page to a Shot Box

Assigning pages to buttons allows you to switch between pages by pressing the button on the Shot Box module, just like switching between custom control banks on the bus.

Note: If more than one Shot Box module is assigned to the same panel row, both modules will mirror each other. You cannot have two Shot Box modules operate independently if they are assigned to the same panel row. The A1S Acuity Virtual Panel is the exception where the second Shot Box is assigned to row 2 (the row of the first module +1).

- Press HOME > Setup > Installation > More
 > Custom Controls > Setup Shot Box Modules.
- 2. Use the **Module Row** knob to select the row that the Shot Box or auxiliary control panel is assigned to.
- **3.** Use the **Set Current Module Page** knob to select the shot box page that you want to assign to the modules on the selected row.
- 4. Use the **Set Link on Button** knob to select the button that you want to assign the selected page to or select **None**.

Only buttons 1 through 14 are available on the auxiliary control panel.

5. Press HOME > Confirm.

To Copy or Move a Page

- Press HOME > Custom Controls > More > Setup Shot Box Pages > Copy/Move Pages.
- **2.** Use the **Source** knob to select the page you want to copy or move.
- **3.** Use the **Destination** knob to select the page that you want to paste to source page to.
- 4. Press **Copy** or **Move** to copy or move the selected source page to the destination page.

All the content of the destination page are replaced with the contents of the source page. In the case of a move, the source page is left empty after the move.

Audio Control Module

The Audio Control module allows you to map audio channels, or groups, from an audio mixer to any of the audio fader on the Audio Control module.

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8	ŏΰ	ø	ê	â	ê	ø

Figure 11: Audio Control Module

When an audio channel, or group, is assigned to a slider, the source name for that audio channel is shown in the mnemonic above the audio fader. Audio channels, or groups, can be dynamically assigned to audio faders with a custom control.

The color of the mnemonic above each audio fader indicates the state of the audio channel, or group, assigned to the fader

- **Orange** Indicates that a channel assigned to that fader is on-air.
- **Yellow** Indicates that all channels assigned to that fader are off-air.

Note: The switcher supports a maximum of four (4) Audio Control modules connected to a control panel. Two can be installed inside the control panel, and two outside the control panel.

To Map an Audio Control Module to a Panel Row

Note: The SideSlide and SideSlideNet are net set up in the same way. Refer to the To Set Up Communication to a SideBoxNet Module on page 76 section for information on setting up communications with a SideSlideNet.

- 1. Press HOME > Setup > More > Panel Modules.
- 2. Press Yes.
- **3.** Press a button on the module that you want to assign to a row. This sets the **Link/Node** knob to that module.
- 4. Press Panel Row & Crosspoint.
- 5. Use the **Panel Row** knob to select the panel row that you want to assign the module to.
- 6. Press Audio Fader.
- 7. Use the **First Fader** knob to select the number, or position, of the first audio slider on the module.

Each audio module has 8 sliders, so the first slider on module 1 is 1, the first slider on module 2 is 9, and so on.

8. Press HOME > Confirm.

To Assign Audio Channels to an Audio Fader

- Press HOME > Setup > Installation > More > Audio > Assign Source.
- 2. Use the **Fader** knob to select the audio fader that you want to assign an audio channel to.
- **3.** Use the **Audio Source** knob to select the audio source that you want to assign to the selected fader.
 - **NONE** no audio channel is assigned to the fader.
 - **Chan X** assign an audio channel to the fader.
 - **Group** *X* assign an audio group to the fader.
 - **Floating** have the switcher dynamically assign the audio channel, or group, that is on-air to the fader. Audio channel assignment starts with the lowest number channel that is on-air.
 - **Main** assign the main level to the fader.
- 4. Press HOME > Confirm.

To Unassign an Audio Channel

Each audio channel can be prevented from being assigned to a fader on the Audio Control module. This is useful if you only want a single channel from a stereo pair to be assigned to the Audio Control module. The single fader will control both channels in the stereo pair, or all channels in the group.

- 1. Press HOME > Setup > Installation > More > Audio > More > On Fader Module.
- 2. Use the Audio Channel knob to select the audio channel you do not want assigned to the Audio Control module.
- **3.** Use the **On Fader Module** knob to select whether the channel can be assigned to the Audio Control module (**Yes**), or not (**No**).

SideStick Module

The SideStick module allows you to have a dedicated module for camera control that is separate from the control panel.



Figure 12: SideStick Module

Tip: When you connect your SideStick module to the switcher, you may have to calibrate the positioner. Refer to To Calibrate the Fader and Positioner on page 94 for information on calibration.

Keep the following in mind:

Keep the following in mind when using the SideStick:

- Navigating between cameras requires that the SideStick module be assigned to a camera first.
- Press the hold the **Page SEL** button and use the other buttons to select a specific page or camera.
- The **NEXT** and **Prev** buttons cycle through the cameras assignable to the SideStick module. If you have locked the module to on-air or preview cameras only, the buttons cycle through only those cameras.
- The **On Air** button selects the first camera that is tallied as on-air. A C: appears before the camera name on the display.
- The **Preset** button selects the first camera that is tallied on preview. A C: appears before the camera name on the display.
- Double-press the **On Air** or **Preset** button to have the SideStick module follow whichever camera is on-air or preview. As you perform transitions and select sources the SideStick module jumps to controlling whichever camera is on-air or preview. A F: appears before the camera name on the display.

To Set SideStick Mnemonic Brightness

The mnemonics on the SideStick module have enhanced and dimmed brightness levels that apply to all SideStick modules connected to the switcher.

- Press HOME > Setup > Personality > More
 > SideStick Settings and press Global SideStick Setup.
- Use the Options knob to select Enhanced Brightness and use the Value knob to select the level of brightness for selected buttons.

3. Use the **Options** knob to select **Dimmed Brightness** and use the **Value** knob to select the level of brightness for unselected buttons.

To Configure a SideStick Module

Each SideStick module can be configured for how it follows camera selections on the switcher and preferences for the sensitivity of the positioner.

- Press HOME > Setup > Personality > More
 > SideStick Settings > Individual SideStick Setup.
- 2. Press the **SideStickX** button for the SideStick module you want to configure.
- **3.** Use the **Options** and **Value** knobs to configure the selected module.

Option	Value		
InvertTilt	Invert the direction that the camera moves when using the positioner (Inverted), or not (Normal).		
InactiveDelay	Select the amount of time, in seconds, that the switcher will wait after the positioner is last moved before allowing the SideStick module to be assigned to another camera.		
CameraFollow	Select whether the SideStick module is automatically assigned to the camera selected on program (Follow On Air), on preview (Follow Preview), or whether it must be manually assigned to each camera (None).		
PageFollow	Select whether mnemonic button pages on the SideStick module are automatically selected based on the camera that is selected (Follow Camera), or whether pages must be manually selected (Don't Follow).		
X DeadZone	Select the amount that the positioner can be moved from the rest/zero position in the x-axis before the switcher acts on the movement. This can help prevent drift when the positioner is at rest/zero.		
Y DeadZone	Select the amount that the positioner can be moved from the rest/zero position in the y-axis before the switcher acts on the movement. This can help prevent drift when the positioner is at rest/zero.		

Option	Value
Z DeadZone	Select the amount that the positioner knob can be twisted from the rest/zero position in the z-axis before the switcher acts on the movement. This can help prevent drift when the positioner is at rest/zero.

To Configure SideStick Buttons/Pages

The mnemonic buttons on the SideStick module can be assigned to various functions. The button functions are presented on pages. Each page can have custom functions assigned to each button with the exception of some global functions. Global functions are the same across all pages. All assignments are specific to the selected SideStick module

1. Press HOME > Setup > Personality > More > SideStick Settings > Set Button Type.

The buttons on the menu represent the mnemonic buttons on the SideStick module.

- 2. Press the **SideStickX** button for the SideStick module you want to configure.
- **3.** Select the mnemonic button that you want to configure and use the **Type** knob to assign a function to that button.
 - **None** no function is assigned to the button.
 - **Page Select** put the SideStick module into selection mode where some of the remaining buttons can be used to switch to another page or assign the SideStick module to a specific camera.
 - **On Air** assign the SideStick module to the camera that is tallied as on-air.
 - **Preset** assign the SideStick module to the camera that is tallied as on preset.
 - **Configurable** allow the button to have a different function on each page.
- 4. Press Configure Pages.

Note: Only those buttons that were assigned an **Configurable** can be assigned a different function.

- **5.** Select the button that you want to assign a camera to and use the **Page Type** knob to select functionality you want to assign.
 - **None** the button remains as a page selection button.

• **Camera** — use the **Params** knob to select **Camera** and the **Camera** knob to select the camera you want to assign the button to.

Tip: You can assign a custom control to a page or camera button. When the button is pressed, the custom control is run at the same time as the assigned function.

6. Press Configure Buttons.

Note: Only those buttons that were assigned an **Configurable** can be assigned a different function.

7. Use the **Page** knob to select the page that you want to set up and use the **Params** knob to assign functions to the buttons on the page.

Param	Туре	Description		
Type None		Assign to a button that you want use to select a different page. The button will use the page selection from Configure Pages .		
Camera		Assign to a button that you want use to select a different camera. The button will use the camera selection from Configure Pages .		
	Next	Select the next camera in the list.		
	Previous	Select the previous camera in the list.		
CustCtrl		Use the CustCtrl knob to select the custom control that you want to assign to the selected button.		
Go to page		Use the Go to page knob to select the page that you want to jump to.		
Camera		Use the Camera knob to select the camera that you want to assign to the selected button		
Mode		Use the Mode knob to select how the positioner is used to control the active camera.		
Shot		Use the Shot knob to select the shot on the camera that you want to recall. The camera must support shot recalls.		
Duration		Use the Duration knob to select the length of time, in seconds, that it takes for the camera to move to the recalle shot. The camera must suppor shot duration.		

To Name a SideStick Button

- 1. Press HOME > Setup > Personality > More > SideStick Settings > Configure Buttons > Config Button Label.
- **2.** Use the bottom knob to select the button that you want to name.
- **3.** Press **Name** and enter the new name in the **New Name** field.
- 4. Press Acuity Mnemonic.
- **5.** Press **Font** and select the size and layout of the font you want to use on the mnemonic displays.



Tip: Use the **Router/Int** or **Router Only** setting to show both the router and switcher names for a source, or only the router names.

- 6. Press **Color** and select the color you want to use for the mnemonics. This can be the background or text color, depending on whether you have selected an invert font.
 - Acuity Colors use a standard mnemonics color.
 - **ME Colors** use a ME Glow color.
 - User Colors use a User Color.

Tip: Select *Standard* under *Acuity Colors* to use the standard mnemonic color.

Tip: Select *None* to not use a color for the mnemonic.

7. Press Accept New Name.

TouchDrive Panel Modules

The 4882AR series of TouchDrive control panel supports the replacement of modules. This allows a damaged module to be replaced instead of the entire control panel.

For information on installing a module into the control panel, refer to the documentation that came with your module.

To Manually Map Modules to a Row

Modules are mapped to rows so that the system can identify where the hardware is located on the panel.

Important: Do not manually map SideShotNet, SideSlideNet, or SideStick modules to the panel. Panel mapping for these modules is done from the communications menu when you set them up.

- 1. Press HOME > Setup > More > Panel Modules.
- 2. Press Yes.
- **3.** Press a button on the module that you want to assign to a row. This sets the **Link/Node** knob to that module.

Note: The term Virtual after the link/node indicates that it is a virtual module on a Acuity Virtual Panel or TouchDrive Virtual Panel.

- 4. Press Panel Row & Crosspoint.
- 5. Use the **Panel Row** knob to select the panel row that you want to assign the module to.
- 6. Use the **First Crosspoint** knob to select the number, or position, of the first source button on the module. Only the source button modules have this knob.

Note: On Acuity[®] panels, each source button module on the control panel has 8 buttons, so the first button on module 1 is 1, the first button on module 2 is 9, and so on. On TouchDrive panels, the source button modules come in different sizes, depending on the control panel. Count the number of source buttons on a module to determine the first button on the next module.

Tip: On Acuity[®] panels, if you are assigning a module with custom control buttons, press **Custctrl & GPI Group** and use the **First Custctrl** knob to select the number, or position, of the first custom control button on the module. This is usually the same as the **First Crosspoint** selection.

7. Press HOME > Confirm.

To Automatically Map Modules to a Row

Modules are mapped to rows so that the system can identify where the hardware is located on the panel.

Important: Do not manually map SideShotNet, SideSlideNet, or SideStick modules to the panel. Panel mapping for these modules is done from the communications menu when you set them up.

- 1. Press HOME > Setup > More > Panel Modules.
- 2. Press Yes.
- 3. Press Quick Configuration.
- 4. Select whether you want to assign modules to an internal panel row (Internal Rows), or an external panel row (External Rows).
 - Internal Rows rows inside the control panel, or connected to the touchscreen display on Acuity[®] panels.
 - **External Rows** rows outside the control panel, such as on an auxiliary control panel, SideBox, not including the touchscreen display on Acuity[®] panels.
- 5. Press the **Start Row** *X* button for the row that you want to start assigning modules to.

Note: Any module assignments to the selected row are lost.

6. Press a button on all the modules that you want to assign to the selected row starting with the first source button/crosspoint module on the left. Remember to include memory and transition modules as well.

The order that source button modules are assigned to a row sets the order that the switcher maps to the buttons.

Note: The Flex Control modules on the TouchDrive panels must be mapped manually.

Start Row 1	0 0 0	

7. Repeat for each additional row you want to assign modules to.

Start Row 2	

8. Press Exit.

To Map Flex Control Modules.

Map the button sections on the Flex Control modules to the module.

- 1. Press HOME > Setup > More > Panel Modules.
- 2. Press Yes.
- 3. Press More > Configure Flex Modules.
- **4.** Use the **Module** knob to select the module you want to map the buttons to.
- 5. Use the **Section** knob to select the side of the module that you want to map.
- **6.** Press a button on the module that you want to assign to the selected module and section.
- **7.** Repeat these steps for the other sections on the remaining modules.

Color Correction

Color correction is performed by either Processing Amplifiers (Proc Amps) in the HSL (Y-Cr-Cb) color space or by RGB Color Correctors in the RGB color space. Both Proc Amps and RGB Color Correctors allow you to apply color correction to video sources on the fly to input video signals, entire buses, or aux bus outputs.

- **ME Input Based Correction** color correction is applied to a video input on the ME. Color correction is only applied to the video signal when it is selected on an ME, and not when the same signal is selected on a MultiViewer or Aux. Color correction will follow the source from ME to ME.
- **ME Bus Based Correction** color correction is applied to the entire bus of the selected ME. Any source selected on that bus has the color correction applied to it. Unlike the other color correction types, bus-based color correction is stored and recalled with memories. This allows you to include a color correction element as part of an effects dissolve.

Color correction is additive, allowing you to apply any combination of Proc Amp and RGB Color Corrector based adjustment to a video signal on the input, as well as on the bus. If multiple color corrections are applied, the input-based correction is applied first, and the bus-based correction is applied after that.

Proc Amp Color Correction

The Proc Amp video correction allows you to adjust the gain, black level, and gamma of the video signal.

To Apply Proc Amp Video Correction to a Source

Both the **Input Proc Amp Mode** menu and **Bus Proc Amp Mode** menu work the same. The rest of this procedure shows the **Input Proc Amp Mode** menu, but the procedures apply to both.

Tip: You can revert the color correction back to the default settings by pressing the **Default** button.

- 1. Double-press the source button for the input video source, or bus, that you want to apply the Proc Amp to.
- 2. Press **Input Proc Amp** or **Bus Proc Amp** to select the type of proc amp that is applied.

- **Input Proc Amp** input-based color correction. The input BNC that is displayed on the menu is used.
- **Bus Proc Amp** bus-based color correction. The ME and bus that is displayed on the menu is used.
- 3. Press Gain and use the Gain, Chroma Gain, and Lum Gain knobs to adjust the gain.
 - **Gain** adjust the luminance and chrominance gain simultaneously.
 - **Chroma Gain** adjust only the chrominance gain.
 - Lum Gain adjust only the luminance gain.
- Press Cr Adjust and use the Cr Gain and Cr Offset knobs to adjust the red color difference component.
 - **Cr Gain** adjust the gain of the red color difference.
 - **Cr Offset** adjust the offset of the red color difference.
- Press Cb Adjust and use the Cb Gain and Cb Offset knobs to adjust the blue color difference component.
 - **Cb Gain** adjust the gain of the blue color difference.
 - **Cb Offset** adjust the offset of the blue color difference.
- 6. Press Hue/Black Level and use the Hue Rotate and Black Level knobs to adjust the hue and black levels.
 - **Hue Rotate** increasing the hue rotation turns the color wheel clockwise, and decreasing the hue rotation turns the color wheel counter-clockwise.
 - **Black Level** acts as a luminance offset and moves the line towards the top left or bottom right corner on the luminance graph.
- 7. Press Lum Gamma and use the Gamma Value and Gamma Offset knobs to adjust luminance gamma.
 - **Gamma Value** adjust the luminance gamma control point.
 - **Gamma Offset** adjust the luminance gamma offset of the control point.

RGB Color Correction

The RGB Color Correctors allow you to adjust the red, green, and blue component gain, offset, and gamma of the video signal.

To Apply RGB Color Correction to a Source

Both the **Input RGB Mode** menu and **Bus RGB Mode** menu work the same. The rest of this procedure shows the **Input RGB Mode** menu, but the procedures apply to both.

Tip: You can revert the color correction back to the default settings by pressing the *Default X* button for the component you want to default.

- 1. Double-press the source button for the input video source, or bus, that you want to apply the RGB color corrector to.
- 2. Press **Input RGB** or **Bus RGB** to select the type of RGB color corrector that is applied.
 - **Input RGB** input-based color correction. The input BNC that is displayed on the menu is used.
 - **Bus RGB** bus-based color correction. The ME and bus that is displayed on the menu is used.
- 3. Press Red Adjust, Green Adjust, or Blue Adjust to adjust an individual color component, or RGB Adjust to adjust all three simultaneously.
- **4.** Use the **Gain**, **Offset**, and **Lower Offset** knobs to adjust the selected color component(s).
 - **Gain** adjust the gain of the selected component(s).
 - **Offset** adjust the offset of the selected component(s). Offset moves the line towards the top left or bottom right corner of the graph.
 - Lower Offset adjust the lower offset, lift, of the selected component(s). The lower offset moves the minimum point on the graph along either the vertical axis or horizontal axis.
- 5. Press Red Gamma, Green Gamma, or Blue Gamma to adjust the gamma of an individual color component, or RGB Gamma to adjust all three simultaneously.
- 6. Use the Gamma Value and Gamma Offset knobs to adjust the gamma of the selected color component(s).

- **Gamma Value** adjust the gamma control point of the selected component(s).
- **Gamma Offset** adjust the offset of the gamma control point of the selected component(s). The gamma offset control point value moves the control point along the graph line and the gamma value alters how much perpendicular offset is applied to the control point.

Defaulting Color Correctors

You can default each color corrector element as you are adjusting them, or you can default all the inputs or buses that you have applied color correction to.

To Default a Color Corrector

- **1.** Double-press a source button for the color corrector that you want to default.
- 2. Press More.
- 3. Press Default Bus & Inputs or Default All Inputs to default the selected color corrects.
 - **Default Bus & Inputs** default the color correctors assigned to the current source or bus.
 - **Default All Inputs** default all color correctors.
- 4. Press Confirm.

Copying and Pasting Color Correctors

Once you have applied Proc Amp and RGB Color Corrector adjustments to a specific input or video bus, you can copy these settings to other inputs or buses.

To Copy and Paste a Color Corrector

- 1. Double-press a source button for the color corrector that you want to copy.
- 2. Press More.
- **3.** Press **Copy Input** to copy an input based color corrector, or **Copy Bus** to copy a bus based color corrector.
- **4.** Toggle **HOLD** to on. This locks the menu system to the current menu.
- **5.** Press a different source button to select the source or bus that you want to copy the color corrector settings to. The current

selection is shown in the upper left corner of the menu.

- 6. Press Paste Input or Paste Bus to paste the color corrector setting.A new color corrector is assigned if one was not already assigned to the input or bus.
- **7.** Toggle **HOLD** to off.

Status

Switcher status information helps to diagnose problems and communicate your current setup to technical support.

Version Information

Version information provides information on the software version that is running on the control panel, and switcher, as well as the IP addresses of the control panel and switcher, and the size of the Media-Store.

To View Software Version Information

Press HOME > Status > Version Info.

Switcher Status

The web interface provides an overview of all the boards, cards, and modules in the frame and control panel, as well as their current status.

To View the Switcher Status Pages

- 1. Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are **user** and **password**.
- 2. Click **Status**... and select the status page you want to view.
 - **Software Status** lists all the boards in the frame and the software status of the components on those boards.
 - **System Status** lists the current hardware status of the control panels and frame, including memory/disk/flash usage, power and temperature levels, as well as allowing you to download a status file.
 - Frame Boards lists all the boards in the frame, their part number, hardware revision, serial numbers, and current software version.

Software Status Overview

This page provides a list of all the functional components in the frame of the switcher. Components are identified by the slot in the frame they are installed in. For each of these components, the current version of software that is running on the it, the date of the software build, and the current status of the component are displayed.

- **Component** The name of the board or card that is installed in the frame.
- **Function** The function component on the board or card. These functional components can be chips, processors, or applications/processes running on the boards, cards or modules.
- **Slot** The slot on the front or rear of the frame that a particular board is installed in.
- Version The current software version and build number that is running on the component. If a component is running a different software version than the other components on the switcher, this may indicate a problem with that component.
- **Date** The date of the software that is running on the component. This is not the date that the software was upgraded, but the date that the software upgrade was created. This date, along with the version number, helps a Ross Video Technical Support person correctly identify the software you are running.
- **Status/Message** The status of the component upgrade.
 - **A Pending** requires upgrading and is in the queue to be upgraded.
 - **1** In Progress being upgraded.
 - A No Status has not reported a status. It could be rebooting, or there is a failure. If this message remains on for an extended period of time, contact Ross Video Technical Support.
 - **Failed** reporting a failure to upgrade. Contact Ross Video Technical Support.
 - **Initializing** being initialized.
 - **Done** has been upgraded successfully.

System Status Overview

The system status page provides information on various aspect of the health of the switcher. These are broken into storage (Frame Info), frame health (Frame Status), and panel health (Panel Status).

Tip: Click **Get Current System Status File** to download a file with a printout of the current status of the switcher.

Frame Info

This region provides a list of all the storage both used and available on the switcher. This includes the hard drive located on the Frame CPU board, as well as the flash memory located on the other boards and cards on the switcher.

Note: If the message Hard disk log contains errors! is displayed, contact Ross VideoTechnical Support for information on diagnosing this warning.

Note: A warning is displayed if the hard drive reaches 90% full. Consider clearing out some of the contents of the drive to improve performance.

Frame Status

This region provides a list of all the critical components in the frame and the health and status of them.

Panel Status

This region provides a list of all the critical components in the main and satellite control panels and the health and status of them.

Frame Boards

This page provides a list of all the boards in the frame along with their part number, slot they are installed in, and hardware version.

- **Slot** the slot in the router that the switcher blade is installed in, as well as the router backplane. Router IO blades are not listed here.
- **Board** the name and part number of the blade.
- Hardware Version the revision of the blade hardware.
- **Software Version** the version of the software running on the blade. This should be the same for every blade in the system.
- **Build Date** the date that the software was complied. This is used for debugging purposes.

Status and Warnings

The operational status of all the critical components in the switcher are monitored and reported. This provides information on operating temperatures, hard drive condition, fans, and power supplies.

Tip: If the Switcher Status button on the quick navigation region of the menu show a caution or failure symbol, you can press the menu to go directly to the **Status** menu.

To View the Status of the Switcher

Press **HOME** > **Status** and select the type of status information you want to view.

- **Complete Status** view the status of all components in the switcher.
- Warnings view the status of only the components that are indicating a warning.

Status Definitions

If a board, card, or power supply is not present in the system, it is not shown on the list.

T	able	10:	Status	Icons
-				

Icon	Definition
	Indicates that a component or condition is operating properly.
	Indicates that a condition is outside of the normal operating parameters. For example, the temperature inside the panel may be slightly above or below the safe operating temperature.
•	Indicates a major problem with a component or condition that the switcher is monitoring. For example, the temperature inside the control panel could be dangerously above or below the safe operating temperature. The fail icon will also indicate control panel modules that are not properly assigned to rows.

Table 11: Status Definitions

Component	Definition
Frame CPU Temperature	The temperature of the CPU on the Acuity CPU board.
Frame Fans	Are the cooling fans in the frame operating normally, or have a number of fans failed.
Frame FPGA Temperature	The temperature of the FPGA on the Acuity CPU board.
Frame Graphics Buffer FPGA Temperature	Is the graphics buffer FPGA operating in the normal temperature range. If the graphics buffer goes over temperature, it is shut down and a warning message is shown on the display.
Frame Power Supply	Are there enough power supplies in the frame, are they operating normally, or is one, or more, of them failing. If the status for the power supply is Temperature not available, the temperature sensor in the power supply is not functioning normally.

Component	Definition
Frame Present	A frame has been detected and is communicating with the control panel. If the message, Unsupported frame board configuration. is displayed, one or more of the boards in the frame is in the wrong slot.
Frame Uptime	The length of time that the frame CPU has been up and running.
I/O Card	The status of the various Ultrix [™] I/O blades in the router.
Panel and Frame Software Versions	Is the software version on the control panel the same as the software version on the frame. An upgrade must to be performed so that both the frame and the control panel are on the same software version.
Panel OS Version	What is the current version of the Operating System running on the control panel Control Panel CPU module and is up to date.
Reference	Is the current input reference format properly locked. If the reference is not locked, the time when reference was lost is noted.
SDPE Blade	Is the SDPE blade detected in a particular slot.
SDPE Blade Temperature	The temperature SDPE blade is operating at.
Ultrix Crosspoint	Is the Ultrix [™] crosspoint matrix being detected and is communicating with the switcher.
Ultrix Present	Is the Ultrix ^{\mathbb{T}} application being detected.
Ultrix Reference	Is the router passing reference information to the switcher.
Ultrix Trigger	The router trigger that the switcher is using and the video format it is set to. The trigger format must be the same format the switcher is operating in.

Bus Selection Status

You can view what is selected on every bus of every ME on the switcher. This can be useful for diagnosing switcher behaviour.

To View the Bus Selection Status

Press HOME > Status > More > ME XPT Status.

Tx/Rx Status

The switcher tracks the status of the communication ports on the control panel and frame and records errors.

To View the Tx/Rx Status of the Communication Ports

Press HOME > Status > More > Tx/Rx Status.

The menu shows the current status of the remote ports (R1-R8), the external link ports (L2-L4), the network ports (P1-P64), and the communication between the control panel and the frame (Panel/Frame).

Note: The Remote ports (R) and External Link ports (L) are not present on the TouchDrive control panel.

To View the Serial Tx/Rx Errors

1. Press HOME > Status > More > Tx/Rx Errors.

Tip: Press *Reset Count* to reset the error count. This will clear all the error counters on the control panel and frame.

- 2. Use the **Panel** knob to select the port on the control panel that you want to view the errors for. The errors for the selected port are listed in the Panel Errors area.
 - **Total Errors** view all errors for the ports on the control panel.
 - **ExtLnk** *X* view errors for the external link ports only.
 - **REMOTE** *X* view errors for the remote ports only.
 - **PAN NET** *X* view errors for the panel network ports only.

Note: The External Link and Remote ports are not present on the TouchDrive control panels.

- **3.** Use the **Frame** knob to select the port on the frame that you want to view the errors for. The errors for the selected port are listed in the Frame Errors area.
 - **Total Errors** view all errors for the ports on the frame.
 - **FRM2PAN** view errors for the panel port only.
 - **FMR NET** *X* view errors for the frame network ports only.

Running Custom Controls Status

The switcher provides a list of all running custom controls, including the panel they are running on and their current status.

To View the Custom Controls Currently Running

Press HOME > Status > More > Custom Controls Running.

The menu shows a list of all the custom controls that are currently running.

Options

Switcher options can be hardware or software based and are tied to the serial number of the switcher. You can view the installed options for your switcher, install new options, and backup the option codes for the software options installed on your switcher.

To Install a Serial Number

Note: A serial number can only be installed by contacting Ross Video Technical Support.

If the serial number of your switcher appears as 0000000, you need to install a new serial number.

- 1. Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are **user** and **password**.
- 2. Click Other... > Install Options
- **3.** Call Ross Video at the number shown on the menu.

Have the following information available when you call:

- Your name.
- The name of the facility that the switcher is installed in.
- The Ross Encrypt Code that is shown on the menu.

Note: The Encrypt Code is regenerated every time the switcher is powered on.

- 4. In the **New Serial** field, enter the code you are given by Ross Video Technical Support, including any leading zeros.
- 5. Press Submit.

Installed Options

Only the main control panel can access the **Installed Options** menu.

- 1. Press HOME > Setup > Installed Options > Software Options.
- **2.** Use the middle knob to scroll the list of options.
 - **Router** adds support for router control.
 - Character Generator adds support for character generator control.

- Small Audio Mixer adds support for small audio mixer control.
- Large Audio Mixer adds support for large audio mixer control.
- **Robotic System** adds support for robotic camera system control.
- **ME** *X* **HD** adds support for the selected ME in HD. May require additional hardware.
- **ME X UHD** adds support for the selected ME in UHDTV1.
- **XX 3D DVEs** adds support for up to XX 3D DVEs.

To Install a Software Option

- 1. Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are **user** and **password**.
- 2. Click Other... > Install Options
- **3.** Call Ross Video at the number shown on the menu.

Have the following information available when you call:

- Your name.
- The name of the facility that the switcher is installed in.
- The serial number of the switcher you want to install the option on.
- The name and code of the option you want to install.
- **4.** In the **Activation Code** field, enter the code you are given by Ross Video Technical Support, including any leading zeros.

Note: Temporary option codes are only valid for 72 hours, or until the switcher is powered down.

5. Press Submit.

To Backup Options Codes

The switcher uses the active disk type for storing and recalling option codes. You must set the disk and then perform the backup or recall.

- 1. Press HOME > Disk
- 2. Use the **Disk Type** knob to select whether you want to use the hard drive of the switcher (**Hard Drive**), or a USB drive (**USB**).

Note: You cannot store or recall files from the USB on the Acuity Rack Panel server. You must store or recall the files from the **Local Disk** and access it over the network. Point your file explorer to the **localdisk** folder on the server (\\##.##.##.\localdisk). The user name is **nobody** and there is no password.

- 3. Press HOME > Setup > Installed Options > More.
 - **Important:** The **Delete Selected SW Option** and **Delete All SW Options** commands allow you to delete selected, or all, installed software options. Do not attempt to delete your options unless instructed to by Ross Video Technical Support. Ensure that you have stored your option codes before attempting to delete the options.
- 4. Press Backup Codes To USB/Backup Option Codes.

To Recall Options Codes

The switcher uses the active disk type for storing and recalling option codes. You must set the disk and then perform the backup or recall.

- 1. Press HOME > Disk
- 2. Use the **Disk Type** knob to select whether you want to use the hard drive of the switcher (**Hard Drive**), or a USB drive (**USB**).

Note: You cannot store or recall files from the USB on the Acuity Rack Panel server. You must store or recall the files from the **Local Disk** and access it over the network. Point your file explorer to the **localdisk** folder on the server (\\##.##.##.\#Uocaldisk). The user name is NObody and there is no password.

3. Press HOME > Setup > Installed Options > More.

> **Important:** The **Delete Selected SW Option** and **Delete All SW Options** commands allow you to delete selected, or all, installed software options. Do not attempt to delete your options unless instructed to by Ross Video Technical Support. Ensure that you have stored your option codes before attempting to delete the options.

4. Press Recall Codes From USB/Recall Option Codes.

Calibration

Calibration allows you to reset the limits of the faders on the control panel, re-center the positioner with X, Y and Z limits, and align the touchscreen display.

Calibration can also be used to have the LEDs in the buttons of the control panel display in a calibrated, or uncalibrated mode. When the control panel is manufactured, the LEDs for each button are calibrated to a single standard so that all the buttons appear as a consistent color. This color offset is stored in each module.

To Calibrate the Fader and Positioner

- 1. Press HOME > Setup > Installation > More > Calibration > ADC Calibration.
- 2. Move a fader handle from one limit to the other and back again. Be sure not to pressure the fader into the stop. Doing so may make it difficult to end a transition, or cause the fader to accidentally start a new transition when it is released.
- **3.** Move the positioner forwards and backwards, left and right, and twist the positioner clockwise and counter-clockwise. This calibrates the positioner in all three directions.
- 4. Press Accept.

To Turn Button LED Calibration Off

- 1. Press HOME > Setup > Installation > More > Calibration.
- 2. Use the LED Calibration knob to turn the calibration of the LED buttons off (Yes), or use the calibration offsets (No).
 - **Yes** the factory installed calibration offset values are not used. The LED buttons may appear to be slightly different colors.
 - **No** the factory installed calibration offset values are used.
- **3.** Press **HOME** > **Confirm**.

Control Panel Diagnostics

The control panel supports a number of diagnostic tests that can be used to identify issues with your switcher.

These tests are designed to be used by Ross Video Technical Support and other qualified Ross Video personnel.

Installed Control Panel Boards

You can view the specifications of the Control Panel CPU module, the current Operating System (OS) version, and the status of the power supplies in the control panel.

To View the Installed Control Panel Boards

Press HOME > Setup > Installed Options > Panel Boards.

The Board column lists all the boards installed in the control panel, and their current status, as well as any USB devices connected to the panel.

Module Tests

These tests allow you to test the functionality of the knobs, buttons, faders, and positioner of the switcher, as well as test the color of the buttons. Additional tests are provided for the control panel displays and the memory for each module.

To Perform a Button Color Test

The button color test allows you to test the LEDs in each button on a module. Each Button LED on the module illuminates, and then transition to the next LED, cycling through the different colors. The brightness of the LEDs is also be cycled between max and min brightness.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > Module Test.
- 2. Press LED Test.
- **3.** Press the button that you want to test.

All buttons on the module should change at the same time, and the colors and brightness should be consistent.

To Perform a Button Function Test

The button function test allows you to test if the buttons on the control panel are working properly or not. This test requires you to press the button that you want to test and the switcher reports where and what that button is.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > Device Test.
- 2. Press the button that you want to test.

The name or function of the button is listed on the menu, as well as the module and hardware location of the button.

- **3.** Confirm that the button you pressed is the one that is shown on the menu.
- 4. Double-press Exit.

To Perform a Stuck Button Test

The stuck button test allows you to identify any and all buttons that the switcher reports as being stuck. A button is considered to be stuck when it is held for more than 30 seconds.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > Stuck Buttons.
- 2. Any buttons that the switcher reports as being stuck are listed on the menu. The button is identified by the module it is on, as well as the label of the button.

To Perform a Fader Test

The fader test allows you to test the functionality of the faders on the control panel. This test requires you to move the fader that you want to test from one limit to the other. The switcher reports where that fader is, and whether the fader has been moved from one limit to the other.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > Device Test.
- 2. Move the fader that you want to test.

The illustration of the fader handle moves as you move the fader on the control panel. The module and hardware location of the fader are displayed on the menu.

3. Double-press Exit.

To Perform a Positioner Test

The positioner test allows you to test the functionality of the positioner on the control panel. This test requires you to move the positioner left and right, up and down, as well as twist it. The switcher reports where that positioner is, and how it is being moved.

1. Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > Device Test. 2. Move the positioner forward and backward, left and right, and twist the knob.

An illustration of the positioner on the menus shows the movement of the positioner. As you move the positioner, the X, Y, and Z value for the positioner are displayed.

3. Double-press Exit.

To Perform an Acuity[®] Display Test

The Acuity[®] panel display test allows you to test the color pixel functionality of all the displays and mnemonics on the control panel. Each display and mnemonic on the control panel is illuminate, and then transitions to the next color, cycling through the different colors. The brightness of the displays and mnemonics is also cycled between max and min brightness.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > Display Test.
- **2.** Confirm that all displays and mnemonics are changing at the same time, and that the colors and brightness are consistent.

To Perform a TouchDrive Display Test

The TouchDrive panel display test allows you to test the color pixel functionality of all the displays on the control panel. Each display on the control panel is illuminated, and then transitions to the next color, cycling through the different colors.

- Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > More > TD Display Test.
- 2. Press **Display Test** to start a visual test of all the displays on the panel. Press the button again to stop the test.

Note: The **Link/Node** and **TD Display Index** knobs, and the **Capture Display** and **Capture Buffer** buttons should only be used if instructed to do so by Ross Video Technical Support.

To Perform a Knob Test

The knob test allows you to test the functionality of the knobs of the control panel.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > Knob Test.
- 2. Press Change Only.
- **3.** Rotate the knob that you want to test.

An illustration of the knob is shown on the menu and the position graph is updated as the knob is rotated.

4. Press the knob that you want to test.

The text below the illustration of the knob changes from Up to Down when the knob is pressed.

To Perform a Module Memory Test

The module memory test allows you to test the integrity of the button and mnemonic memory used in a module.

Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > Memory Test.

The switcher tests each module on the control panel, including the touchscreen display, and reports any errors on the menu.

To Perform an Audio Fader Test

The Audio Fader test allows you to test the functionality of the audio faders on the Audio Control module. This test moves the audio faders on the menu and on the module, and shows you which audio fader is currently being touched.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > More > Audio Fader Test.
- 2. Use the Link/Nodes knob to select the Audio Control module that you want to test.
- **3.** Move each audio fader on the Audio Control module and confirm that the menu shows the correct position of the slider. As you touch each audio fader, a finger icon appears below that fader on the menu.
- **4.** Press **Up**, **Down**, or **Wave** to run one of the automated tests.
 - **Up** all the audio faders on the module move to the top position.
 - **Down** all the audio faders on the module move to the bottom position.
 - Wave all the audio faders on the module move up and down in a wave pattern.

To Perform a TouchDrive DDR Memory Test

The TD DDR test allows you to test the DDR memory modules used in the TouchDrive control panel.

- Press HOME > More > Diagnostics > Panel Diagnostics > Module Test > More > TD DDR Test.
- 2. Press Run Test.

The switcher tests each DDR module and reports any errors on the menu.

Acuity[®] Control Panel Power Supply Failure

The Acuity[™] control panel can have a maximum of two power supply modules. Each power supply module can contain up to two power supplies. A failure of one of the power supplies in the power supply module requires the replacement of the entire module.

When a control panel power supply or cooling fan fails, the switcher identifies the failed component on the Status menu. Use this information to trouble-shoot the power supply module and replace it if required.

To Identify a Failed Power Supply

When the switcher reports that a power supply has failed, the failure could be in the power supply, or in the power distribution board for the control panel.

1. Press **HOME** > **Status** and identify which power supply is reporting a failure.

If you have the Redundant Power option installed, power supplies 1 and 2 are located in the Primary Power Supply module and power supplies 3 and 4 are located in the Secondary Power Supply module. If you do not have the Redundant Power option, only the Primary Power Supply module is present with power supplies 1 and 2.



Figure 13: Power Supply Modules

2. Check the AC power cords for the failed Power Supply module. Ensure that they are securely plugged into the control panel power supply, as well as the power outlet.

- **3.** If each Power Supply is connected to a separate circuit, check that there has not been an interruption to the AC power for the failed power supply.
- **4.** Lift up on the control panel lid to gain access to the control panel tub.
- **5.** Locate the Power Distribution board at the back of the tub above the Control Panel CPU module.
- 6. Using the Power Supply Indicators, identify the power supply that has failed. If a power supply is not providing power, or is not installed, the Power Supply Indicator is not lit.

If all the Power Supply Indicators are lit, check the cables between the power supplies and the Power Distribution board.



Figure 14: Power Indicators on Power Distribution Board

7. Remove the failed Power Supply module. Refer to *To Replace a Control Panel Power Supply* on page 107.

To Identify a Failed Cooling Fan

1. Press **HOME** > **Status** and identify which cooling fan is reporting a failure.

If you have the Redundant Power option installed, cooling fans 1 and 2 are located in the Primary Power Supply module and cooling fans 3 and 4 are located in the Secondary Power Supply module. If you do not have the Redundant Power option, only the Primary Power Supply module is present with cooling fans 1 and 2.



Figure 15: Power Supply Modules

- **2.** Place a small piece of paper in front of each cooling fan in the Power Supply Module to determine if the fan is moving air.
- **3.** If a cooling fan is not moving air, or is moving much less than the other fans, that Power Supply module must be replaced.

Refer to *To Replace a Control Panel Power Supply* on page 107.

If all the cooling fans appear to be moving air properly, check that the cables between the Power Supply module and the Power Distribution board are not damaged.

Panel Communications Hub Tests

The Panel Communications Hub (PCH) tests allow you to test the functionality of the PCH communication links with the various components of the switcher. Some of these tests require the use of a loopback adapter on the communications port.

To Perform a PCH Tx/Rx Test (Acuity[®] Only)

The PCH Tx/Rx test allows you to test the various serial communications ports on the control panel. This test helps to diagnose communication problems with external devices that you may be having on a particular serial communications port on the control panel.

A loopback adapter is required to be connected to the port you want to test.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > PCH Test > Tx/Rx Test.
- 2. Use the **Com Port** knob to select there serial port that you want to test.
 - **REMOTE** *X*—test one of the remote ports.
 - **ExtLnk** *X* test one of the external link ports.
- **3.** Use the **Mode** knob to select the transmission standard that you want to use to test the selected port.
 - **RS-422** use the RS-244 (TIA/EIA-422) transmission standard.
 - **RS-422 Null** use the RS-422 (TIA/EIA-422) transmission standard configured for a null modem cable.
 - **RS-232** use the RS-232 (TIA/EIA-232) transmission standard.
- 4. Press Test.

The outcome of the test is reported on the menu as passed or failed.

To Perform an LVDS Test

The Low Voltage Differential Signalling (LVDS) test allows you to test the various

communications between the Panel Communications Hub (PCH) and all the Panel Module Controllers (PMC) installed on the switcher. This test includes both internal and external modules.

Note: Some external devices contain multiple modules and will show up as more modules than devices connected to a link.

Note: The TouchDrive panels do not support external LVDS links.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > PCH Test > LVDS Test.
- 2. Press LVDS Links to select whether you want to test the link to an internal panel module (Intern), or an external panel module (Extern).

Tip: If you want to test an LVDS link without connecting a module to it, you must connect a loopback adapter to the port and set **Use Dongle** to **Yes**.

3. Press Run Test.

The switcher tests the integrity of the communications between the PCH and each of the PMCs connected on a link.

To Perform a Tally Test (Acuity[®] Only)

The tally test allows you to test the standard parallel tally system of the control panel. A Tally Test Box is required to ensure that the tally relays are operating properly. The number of tallies you have available to test depends on whether you have the Extended Tallies option installed.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics > PCH Test > Tally Test.
- 2. Press All On to turn all the tallies on, All Off to turn all tallies off, and **Prev** and **Next** to run through the tallies one-by-one.

The current tally is listed on the menu.

To Perform a PCI Bridge Test

The Peripheral Component Interconnect (PCI) Bridge test allows you to test the PCI bridge that is used to pass information between the control panel CPU and the PCH.

Press HOME > More > Diagnostics > Panel Diagnostics > PCH Test > PCI Test.

The outcome of the test is reported on the menu as Passed or Failed.

Touchscreen Tests

The touchscreen tests allow you to test the functionality and performance of the display. These tests include how well the display shows content, and if the touch sensor is properly calibrated.

To Perform a Pattern Test on the Touchscreen

The pattern test allows you to visually check the performance of the touchscreen as it cycles through a number of patterns and colors.

1. Press HOME > More > Diagnostics > Panel Diagnostics > Touch Screen > Test Pattern.

The touchscreen cycles through a number of test patterns of different colors.

2. Confirm that the touchscreen is showing the pattern correctly, and that the colors and brightness are consistent.

Tip: You can tap the screen to pause and resume the test.

Tip: You can exit the test early by pressing any key on an attached keyboard and pressing *Exit*.

The test will repeat three times and then exit.

To Perform a Draw Test on the Touchscreen

The draw test allows you to visually check the functionality of the touchscreen by having it feedback the location of where you touch with an X on the screen.

- 1. Press HOME > More > Diagnostics > Panel Diagnostics.
- **2.** Tap the screen to start the test.
- **3.** Trace the yellow line from the X to the O with your finger.
- 4. Press Quit.

To Perform the Burn Mode Test

The burn mode performs a number of tests on the control panel to ensure that all internal memory and communications ports are operating properly. To ensure that all external communications ports are operating properly, a loopback adapter must be installed on each serial port.

A loopback adapter is required to be connected to each of the serial ports on the control panel,

and any LVDS port that does not have a module connected to it.

1. Press HOME > More > Diagnostics > Panel Diagnostics > Burn Mode.

Tip: If you want to test an LVDS link without connecting a module to it, or a serial port, you must connect a loopback adapter to the port and set LVDS Dongles or RS422 Dongles to Yes on the Burn Mode menu 2-2.

2. Press Start Test.

The switcher cycles through the LED tests, Display and Mnemonics tests, LVDS tests, Memory tests, and all the Tx/Rx tests for the control panel. The test continues until stopped.

3. Press Stop Test.

Tip: The *View Summary* and *View Log* options allow you to view the outcome of the test on the menu. The Log can then be saved to a USB flash drive by pressing *Save Log to USB*.

Frame Diagnostics

The switcher supports a number of diagnostic tests that can be used to identify issues with your system.

These tests are designed to be used by Ross Video Technical Support and other qualified Ross Video personnel.

Installed Frame Boards

You can view information for all the boards that are installed into the switcher, including the slot they are installed in, the hardware and software version, and any specific build information for that board.

To View the Installed Frame Boards

Press HOME > Setup > Installed Options > Frame Boards.

The columns list what slot the board is installed in, the name of the board, the hardware and software versions of the board, and the specific compile date of the software.

Frame Diagnostic Tests

These tests allow you to test the functionality of various components of the switcher frame.

To Perform a GPI Test

The GPI test allows you to test the functionality of each GPI input and output on the switcher. A graphical representation of each GPI indicates whether a particular GPI is on or off.

- 1. Press HOME > More > Diagnostics > Frame Diagnostics > GPI Test.
- **2.** Use the **ME** knob to select the SDPE blade that you want to perform the test on.
- **3.** Press **All On** to turn all the GPIs on, **All Off** to turn all GPIs off, and **Prev** and **Next** to run through the GPIs one-by-one.

The current GPI is listed on the menu.

To Perform a Tally Test

The tally test allows you to test the standard parallel tally system of the frame. A Tally Test Box is required to ensure that the tally relays are operating properly.

1. Press HOME > More > Diagnostics > Frame Diagnostics > Tally Test.

- **2.** Use the **ME** knob to select the SDPE blade that you want to perform the test on.
- **3.** Press **All On** to turn all the tallies on, **All Off** to turn all tallies off, and **Prev** and **Next** to run through the tallies one-by-one.

The current tally is listed on the menu.

Port Monitoring and Logs

Port monitoring and log files allow Ross Video technical support to assist in diagnosing problems with your switcher, or studio setup. All the communications ports on the switcher can be set up to log the signals that are being passed back and forth from the switcher to an external device. The switcher can be set up to log various actions it has taken and any problems that were encountered.

Port Monitor Files

You can view and save the information that is being sent to or received by serial or ethernet communications ports.

To Monitor an Ethernet Port (Acuity[®] Only)

The ethernet port monitor collects packet information between the switcher and the device you are trying to communicate with.

Note: This feature is intended to be used for debugging purposes and should not be used during live productions.

- **1.** Insert a USB drive into the USB port on the control panel.
- 2. Press HOME > More > Diagnostics > Panel Diagnostics > PCH Test > Tx/Rx Test > eMonitor.
- **3.** Use the **Com Port** knob to select the port you want to monitor. The IP address and remote port set up for the external device on that port are shown on the menu.
- **4.** In the **Duration** field, enter the amount of time you want to capture for.
- **5.** Select the format of the captured data as required.
 - Add Hex Encoding adds hex encoding to the recorded data.
 - Wireshark Format records the data in a Wireshark[®] format.
- 6. Press Start.

Data will be recorded to the USB until you press **Stop** or the **Duration** completes.

To Download Port Monitor Data Files

After you have saved the port monitor data to the hard drive on the frame, you have to navigate to the frame to access the data file.

- On your computer, open your Web Browser and, in the address bar, type in the following address and press enter http://<frame IP>/cgi-bin/pmbrowser.
- 2. When the Login Dialog Box appears, enter your username (user) and password (password) and click OK.
- 3. Click on the file you want to view. Files are identified by where they come from, what port that are from, and whether they are transmit or receive data. For example, the file pan04tx.txt is from the control panel, remote port 4, transmit data.

Device Logging

The switcher can be set to log different types of events when communicating with an external device. This is used to debug problems communicating with the external device from the switcher.

Note: This feature should only be used if you are instructed to do so by Ross Video Technical Support.

To Set the Device Log Level

Tip: Press *Default Port Log Level* to set all layers on all the ports to Log Notice level.

- 1. Press HOME > Setup > Installation > Com Setup > More > Device Log Level.
- 2. Use the **Com Port** knob to select the communications port that you want to debug.
- **3.** Use the **Layer** knob to select the communications layer between the switcher and the device that you want to set the log level for.
 - **Driver** within the device driver layer.
 - **TagMsg** between the frame/panel application and the device driver.
 - **DevComm** between the device driver and the hardware.
- **4.** Use the **Log Level** knob to select the logging level you are instructed to use.
- **5.** Press **Reset Device Port** to reset the internal variables for the device driver on the selected port. This may re-initialize the device.
- 6. Press **Reset DevComm Port** to reset the low level hardware for the selected port. If the port is set to serial, the baud rate and parity

are reset. If the port is set to Ethernet, the port is closed and reopened.

Tip: You can also press *Reset All Devices* to perform a Reset Device Port and Reset DevComm Port on all ports.

Frame Logs

The frame stores up to a week worth of log data at any time on the frame. This log data is usually broken up into eight (8), 24-hour sets of log files.

To Collect Frame Logs

At any one time there is a current log file, and up to eight archived log files. When you collect the log files, you can either get all of the logs for the past week, or only the current log file that the switcher is writing to.

- 1. On your computer, open your web browser and go to the IP address of your frame.
- 2. When the Login Dialog Box appears, enter your username (user) and password (password) and click OK.

Tip: You can collect only the current log files by clicking on Get Current Logs and following the instructions. Only the logs that the switcher is currently writing to are copied and a new log is started.

- 3. Click Logs... > Get All Logs to display the Get All Switcher Log Files page.
- **4.** Click **Get All Switcher Log Files**. The switcher starts collecting all of the log files together into a single archive. This process may take several seconds to complete.
- 5. Click the stills/all-logs.tar.gz link to open or download the archive to your computer.

To Delete Frame Logs

You can delete all or only the archived log files from the switcher. This allows you to free up space on the switcher, or clean up the logs before starting to debug an issue for technical support.

- **1.** On your computer, open your web browser and go to the IP address of your frame.
- 2. When the Login Dialog Box appears, enter your username (user) and password (password) and click OK.

Tip: You can delete only the archived log files by clicking **Delete Old Logs** and following the instructions. Only the archived log files are deleted and the current log files are unaffected.

- 3. Click Logs... > Delete All Logs to display the Delete All Switcher Log Files Page.
- 4. Click Delete All Switcher Log Files.

To Cycle Frame Logs

You can manually have the switcher start a new set of current log files. The old set of log files are added to the archive, and the oldest set of archived log files are deleted.

- 1. On your computer, open your web browser and go to the IP address of your frame.
- 2. When the Login Dialog Box appears, enter your username (user) and password (password) and click OK.
- 3. Click Logs... > Cycle Logs to display the Cycle Switcher Log Files Page.
- 4. Click Cycle Switcher Log Files. The switcher archives the current set of log files and starts a new set of current log files.

Panel Logs

The panel stores log data independent of the frame. These logs can be easily copied to a USB drive inserted into the control panel.

To Collect Panel Logs

- **1.** Insert a USB drive into the USB port on the control panel.
- 2. Press HOME > More > Diagnostics > Panel Diagnostics > Copy Panel Logs to USB.

Sending Files to Ross Video

Log files can be quite large, making electronic transfer the easiest way to transfer them. Ross Video has a transfer application specially set up to send logs and setup files.

Note: It is recommended that when sending multiple log files that you ZIP the files together with a text file describing the situation and a detailed description of the surrounding conditions.

To Send Files To Ross Video

- 1. In your web browser, navigate to *http://transfer.rossvideo.com*.
- 2. Enter the username (customer) and password (guestwho) and click **Submit**.
- **3.** If a folder does not exist for your facility, please click by to create a new folder and name it after your facility.

- **4.** Click on the new folder and click **b** to upload a new file.
 - a) In the **File Number** box, select the number of files you want to upload.
 - b) In the **File** field, click **Choose File** and select the file you want to upload.
 - c) Click **Accept** to upload all the selected files.
- **5.** After all the files have been uploaded, send an email to your Ross Video support specialist with the folder path and a description of the problem.

Maintenance

There are a number of maintenance and support procedures that are performed to safeguard the proper operation of your switcher, as well as backup your setups.

Backup and Restore

The content of the hard drive in the switcher can be backed up for archiving, or if you are replacing the hard drive.

Note: The backup and restore should not be used as a method of copying setups between switchers.

Keep the following in mind:

Keep the following in mind when working with the restore and backup feature:

- The backup requires a Linux-compatible USB storage device with at least 4GB of available space. If the drive is not Linux-compatible, you will be prompted to format the drive.
- Backup and restore can only be performed from a main panel.
- All panels connected to the switcher during the backup will be unresponsive.
- Option codes and serial number are not stored with the backup.
- Only files that are different on the USB drive compared to the hard drive will be backed up or restored.

To Backup the Switcher Hard Drive

The backup requires a Linux-compatible USB storage device with at least 4GB of available space. If the drive is not Linux-compatible, you will be prompted to format the drive.

- **1.** Insert the USB drive into the main control panel or frame.
- 2. Press HOME > Disk > More > System Backup.
- **3.** Select how the backup handles existing backup files on the USB.
 - **Clean Up** any backup files on the USB that are not used by the switcher are deleted. All other backup files are replaced with the new backup.
 - **Don't Clean Up** any backup files on the USB that are not used by the switcher are not deleted. All other backup files are replaced with the new backup.

- **4.** If you selected **Clean Up**, press **Yes** to confirm the deletion of the files.
- 5. Press Continue.

The progress of the backup is shown at the top of the **System Info** page from the web interface.

Tip: Press **Abort Backup** to stop the backup at any time. The backup can be started again from where it left off.

To Restore the Switcher Hard Drive

- **1.** Insert the USB drive with the backup files into the control panel.
- 2. Press HOME > Disk > More > System Restore.
- **3.** Select how the restore handles existing files on the switcher.
 - **Clean Up** any files on the switcher that are not in the backup are deleted. All other files are replaced with the files from the backup.
 - **Don't Clean Up** any files on the switcher that are not in the backup are not deleted. All other files are replaced with the files from the backup.
- **4.** If you selected **Clean Up**, press **Yes** to confirm the deletion of the files.
- 5. Press Continue.

The progress of the restore is shown at the top of the **System Info** page from the web interface.

Configuration Files

The configuration files allow you to backup and restore the current configuration setting of your switcher. The configuration settings, as opposed to the switcher setups, are the working sets that your switcher has stored in flash. This includes the IP addresses and current software version running on each panel and the frame.

To Download Configuration Files

Configuration files can be stored as individual frame and panel files, or as a single archive of all the configuration files.

1. Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are **user** and **password**.

- 2. Click Files > Configuration.
- **3.** Click on a link to download that file to your computer or click **Download All** to download an archive of all the configuration files.

The file is downloaded by your browser to the default "downloads" folder on your computer.

To Upload Configuration Files

You can use individual or archived configuration files to restore your switcher configuration.

- 1. Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are **user** and **password**.
- 2. Click Files > Configuration.
- **3.** Click **Choose File** and use the window to select the configuration file you want to upload.
- 4. Click Upload Configuration.

A list of the configurations to be uploaded is shown. These configurations will overwrite the current configurations.

5. Click Restore.

Force Panel Upgrade

Ross Technical Support may require you to upgrade the control panel to fix an issue. This procedure upgrades the software on the control panel but not the frame.



Important: Do not upgrade the control panel using this method unless instructed to do so by Ross Technical Support.

To Force an Upgrade of the Control Panel

Press HOME > More > System Shutdown > Upgrade Panel.

Media-Store Permissions

Using a third-party application to upload, edit, or move media items or directories on the switcher can cause the permissions to those files or directories to be set incorrectly. This can cause problems working with the files or directories from the switcher. These permissions need to be cleaned up to restore proper access.

To Clean Media-Store Permissions



Important: Cleaning the permissions for the still-store can take a long time and cannot be stopped once started. The switcher may be unresponsive during this time.

- 1. Open a web browser and navigate to the IP address of the switcher frame. You are prompted to enter a user name and password. The defaults are **user** and **password**.
- 2. Click Other... > Media-Store Permissions.
- 3. Click Clean Media-Store Permissions.

Dusting Mode

Dusting mode allows you to clean the surface of the control panel, including the touchscreen display, without the switcher reacting to any accidental pressing of buttons. Dusting mode does not affect the operation of the switcher, but prevents the switcher from acting upon button presses.



CAUTION: Do not use water, or any other liquid cleaner, to clean the surface of the control panel. Doing so can cause personal injury and/or damage to the control panel itself. A dry duster, vacuum, or low pressure compressed air should be used to clean the surface of the control panel.

To Put the Switcher in Dusting Mode

- Press HOME > More > System Shutdown > More > Dusting.
- **2.** Dust the surface of the control panel as required. In dusting mode the switcher will not act upon any input from the control panel.
- **3.** Double press the **Exit** button to exit dusting mode.

Factory Default Settings

Each switcher comes pre-configured from the factory with a number of default settings. Recalling these default settings allows you to return the switcher to a known state for diagnostic purposes, creating new setups, or if advised to do so by Ross Technical support.

The recalling of factory default setting is performed on individual register types. Defaulting one of these register types will return all the entries stored in registers of that type to the factory installed state. Any entries in the registers are destroyed. **Note:** If the Installation menu is locked, you cannot recall the factory default settings for Installation, but all other registers will recall normally.

The following registers can be defaulted:

- **Personality** all the user interface settings. These registers contain items such as mnemonic settings, preview overlay positions and settings, and transition rates. As a rule, anything that is set up from the **Personality** menus is stored in these registers.
- **Memories** all the memories that are stored on the switcher.
- **Switcher** all keyer settings and ME settings.
- **Installation** all the external device setup and software configurations settings for the switcher. As a rule, anything that is set up from the **Installation** menus is stored in this register.



Important: Factory default does not support SDPE blades in custom slots. If you perform a factory default with SDPE blades not it their default slots, you must reconfigure the SDPE blades to regain ME functionality.

Note: Factory Default will not change the reference or video format. The reference and video format remain the same as they were before the factory default.

- **Custom Controls** all the custom controls that are stored on the switcher. Bank setting are stored in the Installation setup.
- **Default VTR Clips** all VTR and video server timecode and clip information on the switcher.
- **Default NV-RAM** all the information stored in the NV-RAM. Non-Volatile RAM on the switcher contains information such as active key effects and some personality settings.
- **Default DVE Sequences** all the sequences that have been stored on the switcher.
- **Default Bus Maps** all the bus maps on the switcher.
- **Default Shot Box Pages** all the Shot Box pages that have been stored on the switcher.
- **Camera File** all the stored shots for cameras that do not store shots on the camera itself.
- **CC/Macro Attachments** all the mappings of custom controls that are attached to buttons.

• **Default CC Variables** — all custom control variables.

To Recall Default Settings

- 1. Press HOME > Setup > Installation > More > More > Recall Factory.
- 2. Press the button for the register you want to default or press Factory Reset All to recall all factory default setting.
- 3. Press HOME > Confirm.

Locking Menus

You can lock both the Installation and Personality menus. Locking a menu makes it so that a password is required to make changes to the menus, or recall the installation or personality register.

To Lock a Menu

The same procedure is used to unlock a menu that has already been locked.

- 1. Navigate to the lock menu for the menu you want to lock.
 - Installation Press HOME > Setup > More > Lock/Unlock Installation.
 - Personality Press HOME > Setup > More > Lock/Unlock Personality.
- 2. Press Installation Lock or Personality Lock to select whether the menus are locked (On), or unlocked (Off).

Tip: Press *Clear Password* to delete the current password that is used to lock the menu.

- 3. Press Add/Change Password.
- 4. Enter the new password in the **New Password** field.
- 5. Press Accept New Password.
- 6. Press HOME > Confirm.

Power Supply Replacement

The power supplies in the control panel are designed to be easily replaced. The power supplies for the switcher are located in the Ultripower. Refer to the documentation that came with that equipment for information on replacing a power supply.

To Replace a Control Panel Power Supply

1. Toggle the Primary and, if installed, Secondary AC Power switches for the control panel to OFF.



- **2.** Disconnect the AC power cords from the back of the Power Supply module that contains the failed power supply.
- **3.** Label and remove the Power Supply Status cables and Power Supply cables for each power supply in the Power Supply module before you remove them. If there is only power supply in the module, you do not need to label the cables.
- **4.** Disconnect the Power Supply Status cables and Power Supply Power cables for the power supplies in the Power Supply module that you want to remove.
- **5.** Remove the 2 retaining screws along the front flange of the Power Supply module.
- **6.** Slide the failed Power Supply module out of the control panel tub and place on a clean, dry surface.
- **7.** Slide the new Power Supply module into the open slot in the control panel tub that you just removed the failed Power Supply module from.
- **8.** Replace the 2 retaining screws along the front flange of the Power Supply module.
- **9.** Reconnect the Power Supply Status cables and Power Supply Power cables for each power supply in the Power Supply module.
- **10.** Reconnect the AC power cords to the back of the Power Supply module.

SDPE Installation

The Software Defined Production Engine (SDPE) provides the hardware resources for a single ME in the Ultrix Acuity switcher. If you are installing a new SDPE blade into the system you must set up the slot and ME for that blade. Refer to *SDPE Slot* on page 109 for more information.

To install the SDPE blade you must power off the frame, remove any existing blade from the slot, install the SDPE blade, and power on the frame.



Important: Contact Ross Video Technical Support before moving a blade to a different slot.



Important: The Acuity CPU must be installed in the Ultrix FR5 for the switcher to operate.

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To Remove an SDPE Blade

To install the new blade you must power off the frame and remove the old blade or blank plate from the slot.



CAUTION: Before your set up or operate your switcher, see the "Important Safety Instructions" in your manual.

Important: Blades in the Ultrix[™] chassis are not hot-swappable. You must power off the frame and the SDPE blade before attempting to remove the blade. Failure to power off the frame could result in damage to the equipment.

 Power off the Ultrix[™] chassis according to the instructions that came with your Ultrix Acuity and unplug all the power cables.



CAUTION: The SDPE blade has a separate power connector on the faceplate. You must unplug the power cable from the SDPE blade before removing the blade from the frame. Failure to do so could result in injury.



Warning Hazardous Voltages: Hazardous voltages are present in this device as long as any of the power supplies are connected to the AC power.

- **2.** Locate the slot that corresponds to the ME you are installing the SDPE for or the existing SDPE blade you are replacing.
- **3.** Label and remove any cables connected to the blade you will be removing. There are no usable video input or output BNCs on the SDPE blade. If you are removing an Ultrix HDBNC IO blade, you will have to connect

these cables to different blades and update the router matrix accordingly.

4. Fully loosen the retaining screws at either end of the blade or blank plate that you are removing.

5. Using the supplied extracting tool, loosen the middle retaining bolt. The bolt is fixed to the faceplate and will help to extract the blade from the slot.



6. Grasp the blade by both ends and gently pull the blade out of the chassis.

To Install an SDPE Blade

With the old blade removed, and the power still off and disconnected, you can install the new blade.



ESD Susceptibility: Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling the circuit boards in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Touch the metal frame to dissipate static charge before removing boards and exercise proper grounding precautions when working on circuit boards.



Important: Blades in the Ultrix[™] chassis are not hot-swappable. You must power off the frame before attempting to install the blade. Failure to power off the frame could result in damage to the equipment.

1. Power off the Ultrix[™] chassis and unplug all the power cables.



Warning Hazardous Voltages: Hazardous voltages are present in this device as long as any of the power supplies are connected to the AC power.

2. Holding the blade by the sided, gently guide the blade into the proper slot in the chassis. This is the same slot that you previously removed the old blade from. Slide the blade into the slot until you feel it come up against the connectors at the back of the frame.



Important: Do not force the blade into the slot. If you experience resistance installing the blade before reaching the end, pull the blade back and try again.

3. Using the supplied tool turn the middle retaining bolt. If you don't feel any resistance push the blade in a little more until you can feel the threads on the middle retaining bolt catch.



- **Important:** You must fully tighten the middle retaining bolt before tightening the retaining screws at either end of the blade. Not doing this will damage the blade, the connectors on the backplane, or both.
- 4. Tighten the middle retaining bolt to fully seat the blade. You may have to push on the outer corners of the blade to ensure it is properly seating and not put undue stress on the middle retaining bolt.

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5. Tighten the retaining screws at either end of the blade to secure the blade in position.

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- **6.** Reconnect any cables that are appropriate for the blade.
- **7.** Reconnect and power on the system according the instructions that came with your Ultrix Acuity.

With the system powered up, the switcher will detect the new hardware and update the software as required. The SDPE should be listed on the web interface to the switcher for the slot and ME it was installed for.

SDPE Reconfiguration for Switcher Type

The Software Defined Production Engine (SWR-SDPE) can be used as either an Acuity[®] or Carbonite switcher. To switch between Ultrix Acuity and Ultrix Carbonite you must access the blade from the switcher you want to convert from. For example, if you have an SDPE in your Acuity[®] switcher that you want to convert to
Carbonite, you must use the Acuity[®] menus to convert the blade to Carbonite.

The following software versions are required to reconfigure the SDPE from the menus:

- Ultrix Carbonite 7.0.0 or higher
- Ultrix Acuity **11.0a** or higher

Note: You can only convert an SDPE blade to Carbonite from Acuity[®], or to Acuity[®] from Carbonite.

Important: When you reconfigure the SDPE as Carbonite it will boot up with the last software and IP address that was assigned to it as Carbonite. This may be the factory default settings. When you reconfigure the SDPE as Acuity[®] it will pull the latest software from the Acuity CPU.

To Configure the SDPE for Carbonite

To configure the SDPE blade for Carbonite you must use the Acuity[®] menus.

- Press HOME > Setup > Installation > More > More > SDPE Configuration > Set Carbonite Mode.
- **2.** Press **Convert to Carbonite** for the SDPE blade you want to convert to Carbonite.

Important: The ME and resources provided by that SDPE blade will no longer be available to the switcher. You may have to update your switcher configuration.

Important: This process cannot be undone from Acuity[®]. If you convert an SDPE blade to Carbonite you must connect to the Carbonite switcher on the SDPE blade to convert it back to Acuity[®].

3. Click **Yes** to confirm the conversion.

The SDPE blade reboots as a Carbonite switcher with the default IP address. The version of Carbonite depends on the software that was last installed on the SDPE blade.

To Configure the SDPE for Acuity[®]

To configure the SDPE blade for Acuity[®] you must use the Carbonite DashBoard menus.

Important: The router must have an Acuity CPU installed to operate as an Acuity[®].

Important: Ultrix Acuity v11.1 and earlier only supports SDPE blades in slots 1, 3, 5, and 7 in the Ultrix[™] 5RU frame. Ultrix Acuity does not support the Ultrix[™] 2RU frame

1. Click Navigation Menu > Configuration > System > Global.

2. Click Ultrix Acuity.



Important: This process cannot be undone from Carbonite. If you convert an SDPE blade to Acuity[®] you must connect to the Acuity[®] switcher to convert it back to Carbonite.

3. Click **OK** to confirm the conversion.

The SDPE blade reboots as part of the Acuity[®] switcher. You may have to reboot the system for the new blade configuration to be recognised.

SDPE Slot

The SDPE blades can be moved to different slots in the Ultrix[™] chassis or assigned different ME numbers.



Important: Contact Ross Video Technical Support before moving a blade to a different slot.

Important: Factory default does not support SDPE blades in custom slots. If you perform a factory default with SDPE blades not it their default slots, you must reconfigure the SDPE blades to regain ME functionality.

Note: If you change the position of an SDPE blade, you must update the router database for the new location of the inputs and outputs.

To Assign the SDPE to a Slot

Assign the SDPE blade to the slot it is installed in and the ME you want to use if for.

Important: SDPE blade assignments to slots in the Ultrix FR5 other than 1,3,5,7 are not supported by software versions before 11.2a. If you are downgrading to a software version before 11.2a you must have the SDPE blades installed in slots 1,3,5,7. Contact Ross Video Technical Support before moving a blade to a different slot.

 Press HOME > Setup > Installation > More > More > SDPE Configuration > ME to Slot Assignment.

The current ME and SDPE slot assignments are shown on the menu. If an ME is grayed out the SDPE blade in that slot is not available to the switcher and may be in Carbonite mode. If the IP is shown as not available there may not be an SDPE blade installed in the slot.

Tip: Use the *Slot Presets* to configure the switcher for SDPE blades installed in the slots listed.

- **2.** Use the **ME** knob to select which ME you want to assign to the SDPE blade installed in a particular slot.
- **3.** Use the **Card Slot Number** knob to select the slot that the SDPE blade is installed in.

Note: Ensure that an SDPE blade is installed in the slot before assigning an ME to it.

4. Press HOME > Confirm.

SDPE Reboot

Manually reboot an SDPE blade.

To Reboot an SDPE Blade

Reboot the SDPE blade without restarting the entire system.

- Press HOME > Setup > Installation > More > More > SDPE Configuration > Reboot SDPE Cards.
- **2.** Press the **Reboot SDPE** button for the SDPE blade you want to reboot.
- 3. Press **Yes** to confirm the reboot of the blade.

SDxE Installation

The Software Defined Accelerated Compute Engine (SDxE) provides the hardware resources for the 3D DVE Warp engine in the Ultrix Acuity switcher. If you are installing a new SDxE blade into the system the system will automatically detect and upgrade the blade.

To install the SDxE blade you must power off the frame, remove any existing blades from the slots, install the SDxE blade, and power on the frame.



To Remove an SDxE Blade

To make room for the new SDxE blade, you must power off the frame and remove the old blades or blank plates from the slot.

The SDxE takes two slots in the Ultrix[™] chassis. It is recommended that it is installed in the following slots:

- Ultrix FR12 Slot 8 or 9.
- Ultrix FR5 Flex and Slot 1.



CAUTION: Before your set up or operate your switcher, see the "Important Safety Instructions" in your manual.

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Important: Blades in the Ultrix[™] chassis are not hot-swappable. You must power off the frame and the SDxE blade before attempting to remove the blade. Failure to power off the frame could result in damage to the equipment.

- 1. Power off the Ultrix[™] chassis according to the instructions that came with your Ultrix Acuity and unplug all the power cables.
 - **CAUTION:** The SDxE blade has two separate power connector on the faceplate. You must unplug the power cables from the SDxE blade before removing the blade from the frame. Failure to do so could result in injury.

Warning Hazardous Voltages: Hazardous voltages are present in this device as long as any of the power supplies are connected to the AC power.

- 2. Locate the slots for the SDxE blade you want to remove.
- **3.** Label and remove any cables connected to the blade you will be removing. There are no usable video input or output BNCs on the SDxE blade. If you are removing an Ultrix HDBNC IO blade, you will have to connect these cables to different blades and update the router matrix accordingly.
- 4. Fully loosen the retaining screws at either end of the blade or blank plates that you are removing.



5. Using the supplied tool, loosen the middle retaining bolt. The bolt is fixed to the faceplate and will help to extract the blade from the slot.



6. Grasp the blade by both ends and gently pull the blade out of the chassis.

To Install an SDxE Blade

With the old blade removed, and the power still off and disconnected, you can install the new blade.



CAUTION: Before your set up or operate your switcher, see the "Important Safety Instructions" in your manual.

ESD Susceptibility: Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling the circuit boards in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Touch the metal frame to dissipate static charge before removing boards and exercise proper grounding precautions when working on circuit boards.



Important: Blades in the Ultrix[™] chassis are not hot-swappable. You must power off the frame before attempting to install the blade. Failure to power off the frame could result in damage to the equipment.

1. Power off the Ultrix[™] chassis and unplug all the power cables.



Warning Hazardous Voltages: Hazardous voltages are present in this device as long as any of the power supplies are connected to the AC power.

2. Holding the blade by the sides, gently guide the blade into the proper slot in the chassis. As the SDxE takes up two slots, this will be the lower (Ultrix FR5) or right-hand (Ultrix FR12) of the two slots. Slide the blade into the slot until you feel it come up against the connectors at the back of the frame.



Important: Do not force the blade into the slot. If you experience resistance installing the blade before reaching the end, pull the blade back and try again.

3. Using the supplied tool, turn the middle retaining bolt. If you don't feel any resistance push the blade in a little more until you can feel the threads on the middle retaining bolt catch.



Important: Do not use a ratchet or wrench to tighten the retaining bolt. The excess force these tool can produce will damage the retaining bolt or backplane.

- 4. Incrementally tighten the screws and retaining bolt in sequence to ensure the blade is properly aligned as it is installed. If the blade starts to bind, firm but gentle pressure can be applied to the blade to re-align it in the slot.



- **5.** Reconnect power to the system and the SDxE blade according the cabling instructions that came with your SDxE blade.
- 6. Power on the system. Take note of the order that the system components must be power on in.
 - **Important:** When powering on system, you must power on the SDxE blade at the same time or before the rest of the router. If the router is powered before the SDxE blade the SDxE blade will not be initialized properly.

With the system powered up, the switcher will detect the new hardware and update the software as required. The SDxE should be listed on the web interface to the switcher for the slot it was installed into.

Specifications

The information is this section is subject to change without notice.

Switcher Resources

The number of resources specific to your switcher depends on the options installed.

Resource	HD	UHDTV1
Custom Controls	2304 (48 Banks × 48 CCs)	
Custom Controls Running	96 (running at t	the same time)
Aux Buses	64 (8 Banks	s × 8 Buses)
Keyers per ME	6	6
Proc Amp/Color Correctors per ME	8	8
Chroma Keys per ME	2	2
2D DVE Channels per ME	14	6
3D DVE Channels per ME	4	1
3D DVE Channels per SDxE	16	8
3D DVE Warp Channels per SDxE	4	1
Maximum DVE Sequences	1000	
Maximum GPI Inputs or Outputs	24 per ME	
Maximum Frame Tallies	24 pe	er ME
Ethernet Ports (virtual)	6	4
UltriScape PiPs	8 pe	r ME
Maximum Video Inputs	8	0
Maximum Video Outputs	18	
Max MEs (Ultrix FR5)	4	
Max MEs (Ultrix FR12)	8	
Memories	1,000	
Media-Store Video Channels	4 per ME (Video + Alpha)	
Media-Store Audio Channels	2 pe	r ME
Media-Store RAM CACHE per ME	8 Giga	abytes

Table 12. Switcher	Resources in HI	and IIHDTV1	Modes
Tuble 12. Switcher	Resources III HL		woues

Resource	HD	UHDTV1
Clip Register List (VTR/Video Server)	31,83	37 Clips

Hardware Weights

Note: Refer to the documentation that came with your router for weight information.

Table 13: TouchDrive Panel Weights

Hardware	Weight
TD1C Panel	10 lbs (4.54 kg)
TD1 Panel	14 lbs (6.35 kg)
TD2 Panel	21 lbs (9.53 kg)
TD2S Panel	27 lbs (12.5kg)
TD3S Panel	54 lbs (24.5kg)

Table 14: Acuity[®] Panel Weights

Hardware	Weight
A1S Panel	48 lbs (21.8 kg)
A2M Panel	57 lbs (25.9 kg)
A2X Panel	62 lbs (28.1 kg)
A3 Panel	75 lbs (34.0 kg)
A3M Panel	74 lbs (33.6 kg)
A4 Panel	103 lbs (46.7 kg)

Network Ports

The switcher uses the following network ports:

- DashBoard (OGP) 5253
- DashBoard (JSON) 5254
- DashBoard Main 5253
- DashBoard Sat 1 5255
- DashBoard Sat 2 5256
- DashBoard SoftPanel 5257
- DashBoard
- FTP 21
- SFTP 2222
- NTP 123
- Panel 0 (frame) 9100
- Panel 0 (panel) 8500
- Panel 1 (frame) 9101
- Panel 1 (panel) 8501
- Panel 2 (frame) 9102
- Panel 2 (panel) 8502

- Panel 3 (frame) 9103
- Panel 3 (panel) 8503
- Panel 4 (frame) 9104
- Panel 4 (panel) 8504
- Panel 5 (frame) 9105
- Panel 5 (panel) 8505
- Panel 6 (frame) 9106
- Panel 6 (panel) 8506
- Panel 7 (frame) 9107
- Panel 7 (panel) 8507
- Panel 8 (frame) 9108
- Panel 8 (panel) 8508
- RossTalk 7788
- RSYNC 873
- RSYSLOG -514
- Samba (ARP) 445
- SLP 427
- SSH 22
- TFTP 69
- TSL 3.1 (TCP, Carbonite) 5727
- TSL 3.1 (TCP, Ultrix[™]) 5727
- TSL 3.1 (UDP, Ultrix^m) 4490
- TSL 5.0 (TCP, Carbonite) 5728
- TSL 5.0 (TCP, Ultrix[™]) 5729
- TSL 5.0 (UDP, Ultrix[™]) 4492
- VNC 1 5900
- VNC 2 5901
- VNC 3 5902
- VNC 4 5903
- Web Server 1 80
- Web Server 2 8001
- Ultritouch 5254
- SideShot-NG 5255

Power Rating

Table 15: TouchDrive Panel Max Power Consumption

	TD1C	TD1	TD2	TD2S	TD3S
Power (4880AR-xxx-03)	97W 6.4A 15V	102W 6.8A 15V	123W 8.2A 15V	138W 9.2A 15V	173W 11.53A 15V
Power (4880AR-xxx-02)	50W 3.33A 15V	73W 4.87A 15V	85W 5.67A 15V	107W 7.13A 15V	165W 11A 15V
Input Voltage	100 - 120V~, 220 - 240V~, 47-63Hz				

Table 16: Acuity[®] Panel Max Power Consumption

	A1S	A2M	A2X	A3M	A 3	A4
Power	159W	247W	289W	340W	379W	526W

	A1S	A2M	A2X	A3M	A3	A4
Input Voltage	1	00 - 120'	V~, 220	- 240V~,	47-63H	Ηz

Ports

Pinouts for all the ports on the control panel and frame.

Aux Power Ports (Acuity[®] Panels)

The aux power ports on the back of the control panel provide power for the touchscreen display and an auxiliary control panel.



CAUTION: Only use the cables provided to connect your Acuity Auxiliary Control Panel or Touchscreen display to the Auxiliary Power module.



Tip: The status LEDs just below the port indicate whether each port is ok (green), or if there is a fault (red). Specific faults are reported on the Status menu.

Table 17: Aux Power Rating

Specification	Value
Output Voltage	12VDC
Maximum Current	4A

Pin	Signal
1	GND
2	n/c
3	n/c
4	+12VDC

Serial Ports (Acuity[®] Panels)

The serial ports on the back of the control panel support the RS-232 (TIA/EIA-232) and RS-422 (TIA/EIA-422) transmission standards.

The serial ports use a female DB9 connector.



Table 18: Remote Port Pinouts

Pin	RS-232	RS-422
1	n/c	n/c
2	Тх	Rx-
3	Rx	Tx+
4	Ground	Ground
5	Ground	Ground
6	n/c	n/c
7	n/c	Rx+
8	n/c	Tx-
9	n/c	5V 1K Pull-up

External Link Ports (Acuity[®] Panels)

The external link ports use a female RJ-45 connector.



Table 19: External Link Port Pinouts

Pin	Signal
1	Rx+
2	Rx-
3	Tx+
4	PMC_SDI_Load+
5	PMC_SDI_Load-
6	Tx-
7	PMC_SDI_Latch+
8	PMC_SDI_Latch-

GPI Ports

There are GPI ports located on each SDPE blade. The GPI ports use a female DB25 connector.



Table 20: GPIO Port (SDPE) Pinouts

Pin	Signal
1	GPI I/O 1
2	GPI I/O 2

Pin	Signal
3	GPI I/O 3
4	GPI I/O 4
5	GPI I/O 5
6	GPI I/O 6
7	GPI I/O 7
8	GPI I/O 8
9	GPI I/O 9
10	GPI I/O 10
11	GPI I/O 11
12	GPI I/O 12
13	GPI I/O 13
14	GPI I/O 14
15	GPI I/O 15
16	GPI I/O 16
17	GPI I/O 17
18	GPI I/O 18
19	GPI I/O 19
20	GPI I/O 20
21	GPI I/O 21
22	GPI I/O 22
23	GPI I/O 23
24	GPI I/O 24
25	Ground

Tally Ports

There are tally ports on the Acuity[®] control panel and each SDPE blade. The tally ports on the SDPE blade are identified by the ME.

The tally ports use a female DB25 connector.



Table 21: Tally Rating

Specification	Value
Input Voltage	24VAC(rms)/40VDC
Maximum Current	120mA
Impedance	<15 ohm

Table 22:	Tally	Pinouts
-----------	-------	---------

Pin	Tally #
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	Common

LTC Input



USB Port (TouchDrive Panels)

Note: The panel software can only mount a single USB drive at a time. The remaining ports can be used for an external mouse and keyboard.

- File System: FAT32
- **USB 2.0:** Type-A located on the back of the panel.
- **USB 3.0:** Type-A located on the side of the backsplash on some panels.

AES Output

The AES ports each support a single 24-bit (20-bit in SD) stereo pair.



Glossary

Interlaced

An Interlaced video format starts at the top of the screen and draws all the odd number scan lines and then all the even number scan lines in sequence. This results in half the image being drawn in one pass and the other half of the image being drawn in the second. These two passes are called Fields, where the first pass is called Field 1 and the second pass is called Field 2. When both Field 1 and Field 2 have been drawn, resulting in a complete image, you have a single Frame.

Progressive

A Progressive scan video format draws each scan line in sequence, starting from the top of the screen and working to the bottom. Unlike Interlaced, with Progressive scan the entire image is drawn at one time, in a single pass. This means that there are no fields in a Progressive scan image.

Auto Key

A pairing of two video signals, a key video and a key alpha, to create a key. In the switcher, you associate the fill and alpha so that the switcher knows which alpha to use when the video is selected.

Auto Transition

An automatic transition in which the manual movement of the fader handle is simulated electronically. The transition starts when the **AUTO TRANS** button is pressed and takes place over a pre-selected time period, measured in frames.

Chroma Key

Chroma Key is a key in which the hole is cut based on a color value, or hue, rather than a luminance value or alpha signal. The color is removed and replaced with background video from another source.

Chroma Key Background

Background elements are those pixels in the source video that are the same color as the one you chose to key out. Note that the Shadow and translucent areas (see below) are completely contained within the Background area.

Chroma Key Edge Softness

Edge Softness lets you apply varying degrees of softening to the Foreground edges to help it blend in with the underlying background image that it is being keyed over.

Chroma Key Foreground

Foreground elements are those pixels that are not within the Background, Shadow, Translucency, or Transition ranges. This is the area with colors that will not be keyed out and will remain solid.

Chroma Key Luminance

Luminance allows you to control the overall brightness of Shadow, Translucency, and Transition areas as well as partial reflections to more closely match the Foreground brightness.

Chroma Key Shadow

Shadow elements are those pixels in the source video with colors that are within the Background range, but with lower luminance values, depending on the shadow range. You modify the Shadow range to cover darker areas of the background (e.g. where the foreground is casting a shadow on the background screen).

Chroma Key Spill Suppress

Spill Suppression elements are those pixels in the Foreground that have a noticeable tint of the Background color. This typically occurs around the edge of the foreground subject as glow from the background blue-screen or green-screen "spills" onto them.

Chroma Key Translucency

Translucent elements are those pixels in the source video that are in the Background range, but with higher luminance values than the Shadow range. You can control the upper-end of the Translucency range by setting a wider hue-range to constrain the area. You can also control the transparency of the Translucent area.

Chroma Key Transition

Transition elements are those pixels in the source video with colors that are not within any of the previous three ranges and are also not considered part of the Foreground area. These are typically the pixels near the edge of the foreground, where it blends into the background.

Cut

An instantaneous switch from one video signal to another.

Dissolve

A transition from one video signal to another in which one signal is faded down, while the other is simultaneously faded up. The terms mix or cross-fade are often used interchangeably with dissolve.

Dynamic Host Configuration Protocol

An Ethernet protocol where a device, such as the switcher, is given an IP address by the network host. This eliminates the need to manually enter the network parameters and IP address.

Field

One half of a complete picture (or frame) interval containing all of the odd, or all of the even, lines in interlaced scanning. One scan of a TV screen is called a field; two fields are required to make a complete picture (which is a frame).

Frame

One complete picture consisting of two fields of interlaced scanning lines.

File Transfer Protocol

A network protocol that is used to transfer files from one host computer to another over a TCP-based network.

Gain

Gain represents the range of signal values present in a video signal from a lowest to a highest point (from black to white for example). Increasing gain expands this range, while decreasing gain compresses this range. Clipping occurs if applied gain changes cause output signal values to fall outside the allowable range. Generally, increasing the gain for a specific color component causes the video signal colors to become increasingly saturated with that color. Similarly, decreasing the gain for a specific color component progressively removes that color component from the output video signal.

Gamma

Gamma corrections introduce non-linear corrections to a video signal. A gamma correction can be described as taking a point on the output versus input video signal line and pulling it perpendicularly away from the line. The result is a Bezier curve between the start, the new point, and the end point. Generally, increasing the gamma value adds more of the component to the video signal in the location of the gamma offset point. Decreasing the gamma value reduces the amount of the component in the video signal in the location of the gamma offset point. Moving the gamma offset point allows you to select which part of the input video signal receives the gamma correction. For example, if you increase the red gamma correction to the part of the video signal that has no red component you will add red to those areas while having little effect on areas that already contain a significant amount of red. This allows you to add a red tint to the image while minimizing the amount of red-clipping that occurs.

General Purpose Interface

A simple high/low signal that is used to trigger an action either on an external device or on the switcher. A GPI can be an input or an output to the switcher.

High Definition

A high definition (720p, 1080i, or 1080p/3G) video signal.

Hue

The characteristic of a color signal that determines whether the color is red, yellow, green, blue, purple, etc. (the three characteristics of a TV color signal are chrominance, luminance, and hue). White, black, and gray are not considered hues.

Hue Rotation

Hue rotate affects the color of the entire video signal by rotating the input video hues. This produces an output video signal with colors that are shifted from their original hues. By rotating colors around the wheel, hue values will shift. For example, a clockwise rotation where yellows become orange, reds become magenta, blues become green. The more rotation applied, the further around the wheel colors are shifted.

Interlaced

An Interlaced video format starts at the top of the screen and draws all the odd number scan lines and then all the even number scan lines in sequence. This results in half the image being drawn in one pass and the other half of the image being drawn in the second. These two passes are called Fields, where the first pass is called Field 1 and the second pass is called Field 2. When both Field 1 and Field 2 have been drawn, resulting in a complete image, you have a single Frame.

Key

An effect produced by cutting a hole in the background video, then filling the hole with video or matte from another source. Key source video cuts the hole, key fill video fills the hole. The video signal used for cut and fill can come from the same, or separate, sources.

Key Alpha

The video signal which cuts a hole in the background video to make a key effect possible. Also called Key Video or Source. In practice, this signal controls when a video mixer circuit will switch from background to key fill video.

Key Invert

An effect that reverses the polarity of the key source so that the holes in the background are cut by dark areas of the key source instead of bright areas.

Key Mask

A keying technique in which a pattern is combined with the key source to block out unwanted portions of the key source.

Key Video

A video input which is timed to fill the hole provided by the key source video. An example of key video is the video output of a character generator.

Linear Key

Linear keys make it possible to fully specify the transparency of a key from opaque, through transparent, to fully off. The transparency is specified by the key alpha that is associated with the key video. A keyer capable of a linear key converts the key signal voltage directly to the transparency effect on the screen.

Mnemonics

A multicolored display used to show the names of a source above or below the source button or used as a custom command or pattern button.

Offsets

Offsets shift the video signal by a set amount. Depending on the offset applied, different parts or all of the video signal may be affected. Clipping occurs if applied offsets cause output signal values to fall outside the allowable range.

Pre-Delay

A pre-delay is a delay that is inserted into a transition between the triggering of a GPI output and performing the transition. The length of the pre-delay is usually the length of time your video server requires to start playing a clip or your character generator required to load a page.

Progressive

A Progressive scan video format draws each scan line in sequence, starting from the top of the screen and working to the bottom. Unlike Interlaced, with Progressive scan the entire image is drawn at one time, in a single pass. This means that there are no fields in a Progressive scan image.

RossTalk

An ethernet based protocol that allows the control over Ross devices using plain english commands.

Standard-Definition

A standard definition (480i or 576i) video signal.

Self Key

A key effect in which the same video signal serves as both the key signal and key fill.

Shaped Key

An additive key where the Key Alpha cuts a hole based on the monochrome value of the alpha. Shades of gray are translated into either white or black, giving the key a hard edge. Shaped Key alphas are sometimes used with Character Generators to cut very precise holes for the fill.

Split Key

A Split key allows you to assign a different alpha source for a key than the fill/alpha associations that are set up during configuration or to use a separate alpha source for a Self key.

SuperBlack

In broadcast video, the legal color range is 7.5 IRE (black) to 100 IRE (white). However, if a graphic is coming from a computer, the legal color range on a computer is 0 IRE to 109 IRE. The color range from 0 to 7.5 IRE is called SuperBlack and the color range from 100 to 109 IRE is called SuperWhite.

Tally

An indicator which illuminates when the associated button, or control, is selected or is on-air.

Unshaped Key

A multiplicative key where the Key Alpha cuts a hole based on the gradient values of the alpha. Shades of gray are translated into transparency levels, giving the key a soft edge. Unshaped Key alphas can also be considered true linear alphas. Key alphas are set to unshaped by default.

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