Ultricore

User Guide

www.rossvideo.com

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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*.

David Ross
CEO, Ross Video
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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.)*

Ultricore CC · User Guide

- Ross Part Number: **2201DR-104-15**
- Revision: 2
- Release Date: November 19, 2024.
- Software Issue: **6.3**

The information contained in this Guide is subject to change without notice or obligation.

Copyright

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; GB 2,419,119 B; GB 2,447,380 B; and other patents pending.

Notice

The material in this manual is furnished for informational use only. It is subject to change without notice and should not be construed as commitment by Ross Video Limited. Ross Video Limited assumes no responsibility or liability for errors or inaccuracies that may appear in this manual.

Safety Notices

Refer to the "**Important Regulatory and Safety Notices**" document that accompanied your product.

Statement of Compliance

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.

EMC Notices

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 device complies with Canadian ICES-003 and part 15 of the FCC Rules.

Cet appariel numerique de la classe “A” est conforme a la norme NMB-003 du Canada.

Notice — *Changes or modifications to this equipment not expressly approved by Ross Video Ltd. 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 Labeling (Electromagnetic Compatibility) Notice 2008.

Korea

This equipment is in compliance with the provisions established under the Radio Waves Act.

Class A equipment (Broadcasting and communications service for business use).

This device is a business-use (Class A) EMC-compliant device. The seller and user are advised to be aware of this fact. This device is intended for use in areas outside home.

Type of Equipment	User’s Guide
A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
Class A Equipment (Industrial Broadcasting & Communication Equipment)	This equipment is **Industrial (Class A) electromagnetic wave suitability equipment** and seller or user should take notice of it, and this equipment is to be used in the places except for home.

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.

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.*

Warranty and Repair Policy

The Ultricore CC system is backed by a comprehensive one-year warranty on all components.

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

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.

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' notification of change of ownership.

Environmental Information

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.

Security and Privacy

If you would like more information on how Ross Video security and privacy practices have been applied to the Ultricore CC, what you should know about maintaining security of this product, and how we can partner with you to ensure security throughout this product's life-cycle, contact techsupport@rossvideo.com.

Ross Video has implemented reasonable administrative, technical, and physical safeguards to help protect against security incidents and privacy breaches involving a Ross Video product provided those products are used in accordance with Ross Video instructions for use. However, as systems and threats evolve, no system can be protected against all vulnerabilities and we consider our customers the most important partner in maintaining security and privacy safeguards. If you have any concerns, we ask that you bring them to our attention, and we will investigate. Where appropriate, we will address the issue with product changes, technical bulletins and/or responsible disclosures to customers and regulators. Ross Video continuously strives to improve security and privacy throughout the product life-cycle using practices such as:

- Privacy and Security by Design
- Product and Supplier Risk Assessment
- Vulnerability and Patch Management
- Secure Coding Practices and Analysis
- Vulnerability Scanning
- Access Controls appropriate to Customer Data
- Incident Response
- Clear paths for two-way communication between customers and Ross Video

If you would like to report a potential product related privacy or security issue (incident, breach, or vulnerability), contact techsupport@rossvideo.com.

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Contents

Introduction

This guide covers the installation, configuration, and use of the Ultricore CC in a routing system. The following chapters are included:

- "**Introduction**" summarizes the guide and provides important terms, and conventions.
- "**Getting Started**" provides an overview for creating a routing system with Ultricore CC, and general information to keep in mind before installing and configuring your Ultricore CC panel.
- "**Hardware Overview**" provides a basic introduction to the Ultricore CC front and rear panels.
- "**Physical Installation**" provides instructions for the basic physical installation of the Ultricore CC panel.
- "**Basic Configuration**" provides instructions for configuring the Ultricore CC network settings, displaying the Ultricore CC nodes in DashBoard, and setting up your first database for the routing system.
- "**Software License Keys**" provides instructions for enabling licensed features of your Ultricore CC.
- "**Ultricore Profiles**" provides an introduction to the Ultricore Profiles for your routing matrix and includes general information on managing those profiles.
- "**Device Communication Setup**" provides instructions for using Ultricore CC to establish connections with NK Series devices, Ross Ethernet devices, and third-party devices in your routing system.
- "**Database Configuration**" provides instructions for defining the elements of your routing system database such as matrices, levels, destinations, and sources.
- "**Tallies**" provides instructions on how to enable TSL UMD messages in the active database, and assign Tally IDs to your sources and destinations.
- "**Using Categories**" describes how to assign each destination, source, and level, to a specific category in the routing system database.
- "**Soft Panels in DashBoard**" provides instructions for creating virtual panels in Ultricore CC.
- "**Using Salvos**" describes how to create and recall a salvo using the options in DashBoard.
- "**Operation with Ross Devices**" provides general information for operating the Ultricore CC in a routing system that also includes Ross NK Series devices.
- "**System Integration Examples**" provides generalized examples of integrating Ultricore CC into existing routing systems.
- "**External Control**" lists the third-party protocol commands the Ultricore CC supports.
- "**Monitoring**" describes the alarms and status indicators in the DashBoard interface for the Ultricore CC. General information is also provided on the Ethernet port LEDs.
- "**DashBoard Interface Overview**" summarizes the functions, menus, and parameters of the Ultricore CC tabs and windows in DashBoard.
- "**Technical Specifications**" provides the specifications for the Ultricore CC.
- "**Software Licenses**" provides third-party software license information for your Ultricore CC.
- "**Glossary**" provides a list of terms used throughout this guide.

Related Publications

It is recommended to consult the following Ross documentation before installing and configuring your Ultricore CC:

- ***DashBoard User Guide***, Ross Part Number: 8351DR-004
- ***NK-NET User Guide***, Ross Part Number: 2201DR-002
- ***NK-IPS User Guide***, Ross Part Number: 9807DR-1020
- ***NK Series User Guide***, Ross Part Number: 9807DR-0100
- ***RCP-ME User Guide***, Ross Part Number: 2201DR-200
- ***RCP-QE User Guide***, Ross Part Number: 2201DR-201
- ***Ultricore CC Quick Start Guide***, Ross Part Number: 2201DR-102
- ***Ultrix and Ultricore Database Guide***, Ross Part Number: 2201DR-108
- ***ULTRIX-FR1, ULTRIX-FR2, and ULTRIX-FR5 Installation Guide***, Ross Part Number: 2101DR-003
- ***ULTRIX-FR1, ULTRIX-FR2, and ULTRIX-FR5 User Guide***, Ross Part Number: 2101DR-004
- ***Walkabout Application Note***, Ross Part Number: 2201DR-003

Documentation Conventions

Special text formats are used in this guide to identify parts of the user interface, text that a user must enter, or a sequence of menus and sub-menus that must be followed to reach a particular command.

Interface Elements

Bold text is used to identify a user interface element such as a dialog box, menu item, or button. For example:

In the **Edit** dialog, click **Insert Above**.

User Entered Text

Courier text is used to identify text that a user must enter. For example:

In the **Language** box, enter **`English`**.

Referenced Guides

Italic text is used to identify the titles of referenced guides, manuals, or documents. For example:

For more information, refer to the ***Ultrix User Guide***.

Menu Sequences

Menu arrows are used in procedures to identify a sequence of menu items that you must follow. For example, if a step reads "**File** > **Save As**," you would click the **File** menu and then click **Save As**.

Important Instructions

Star icons are used to identify important instructions or features. For example:

✶ Contact your IT department before connecting to your facility network to ensure that there are no conflicts. They will provide you with an appropriate value for the IP Address, Subnet Mask, and Gateway for your device.

Contacting Technical Support

At Ross Video, we take pride in the quality of our products, but if problems 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 is provided directly by Ross Video personnel. During business hours (Eastern Time), technical support personnel are available by telephone. After hours and on weekends, a direct emergency technical support phone line is available. If the technical support person who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. This team of highly trained staff is available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

- **Technical Support**: (+1) 613-652-4886
- **After Hours Emergency**: (+1) 613-349-0006
- **E-mail**: techsupport@rossvideo.com
- **Website**: http://www.rossvideo.com

Getting Started

Ultricore CC alleviates the burden typically placed up on the user to partition, offset, and assign to levels the inputs and outputs of the routers that will be part of the system. Ultricore CC's user-friendly, graphical interface provides the tools for easily handling those configuration issues and more at a system, rather than router, level.

If you have questions pertaining to the operation of Ultricore CC, please contact us at the numbers listed in "**Contacting Technical Support**". Our technical staff is always available for consultation, training, or service.

General Overview

Ultricore CC is the central system controller for Ross Video's routing systems. It allows the connection of Ethernet based routers and remote control panels, T-Bus based Ross NK Series routers and remote control panels, and third-party automation systems.

By collating the potentially complex aspects of a system's switching scheme, Ultricore CC allows for minimal out-of-the-box configuration of routers. This not only makes it easier to initially setup a system, but it also makes it easier to change configuration as needed.

The DashBoard client software enables you to monitor and control your Ross routing system components, including Ultricore CC from a computer. DashBoard communicates with the Ross routing system through ethernet, TCP, connections.

Features

Some features of the Ultricore CC include:

- SLP discovery or manual configuration of connection to DashBoard client software
- Client and server operation with client connection failover support
- Basic system crosspoint control and status monitoring via DashBoard
- Connections for redundant power supplies
- Alarm output with locking GP connector
- Dual Gigabit Ethernet interfaces
- T-Bus with looping connectors and power for native NK series connectivity
- Non-volatile memory for system recovery and logging
- Real-time clock
- Supports a maximum of 64 levels, with a maximum matrix of 4096 sources and 4096 destinations
- Dual configurable serial ports (RS-232 or RS-422)
- Front status display for system events
- Bi-directional Ethernet and Serial protocol support for the GVG Native protocol
- Supports the Probel SW-P-08 serial protocol
- Acts as a central system controller for up to 25 DashBoard clients and up to 50 hardware clients (routers, remote control panels, third-party control systems, etc.)
- Supports links from the NK-IPS for legacy installed systems
- Supports NK-IPS pass-through type connection for direct NK device support
- Supports Virtual Routing, Matrix Partitioning, and Mapping
- Label support[1]

Typical System Equipment

Use Ultricore CC in typologies where routers and remote control panels are distributed throughout a facility. In this scenario some of the routers and panel are physically located a great distance from the Ultricore CC. You would use Ethernet connections to the Ultricore CC.

✶ The Ultricore CC does not support the ULTRIX-FR12.

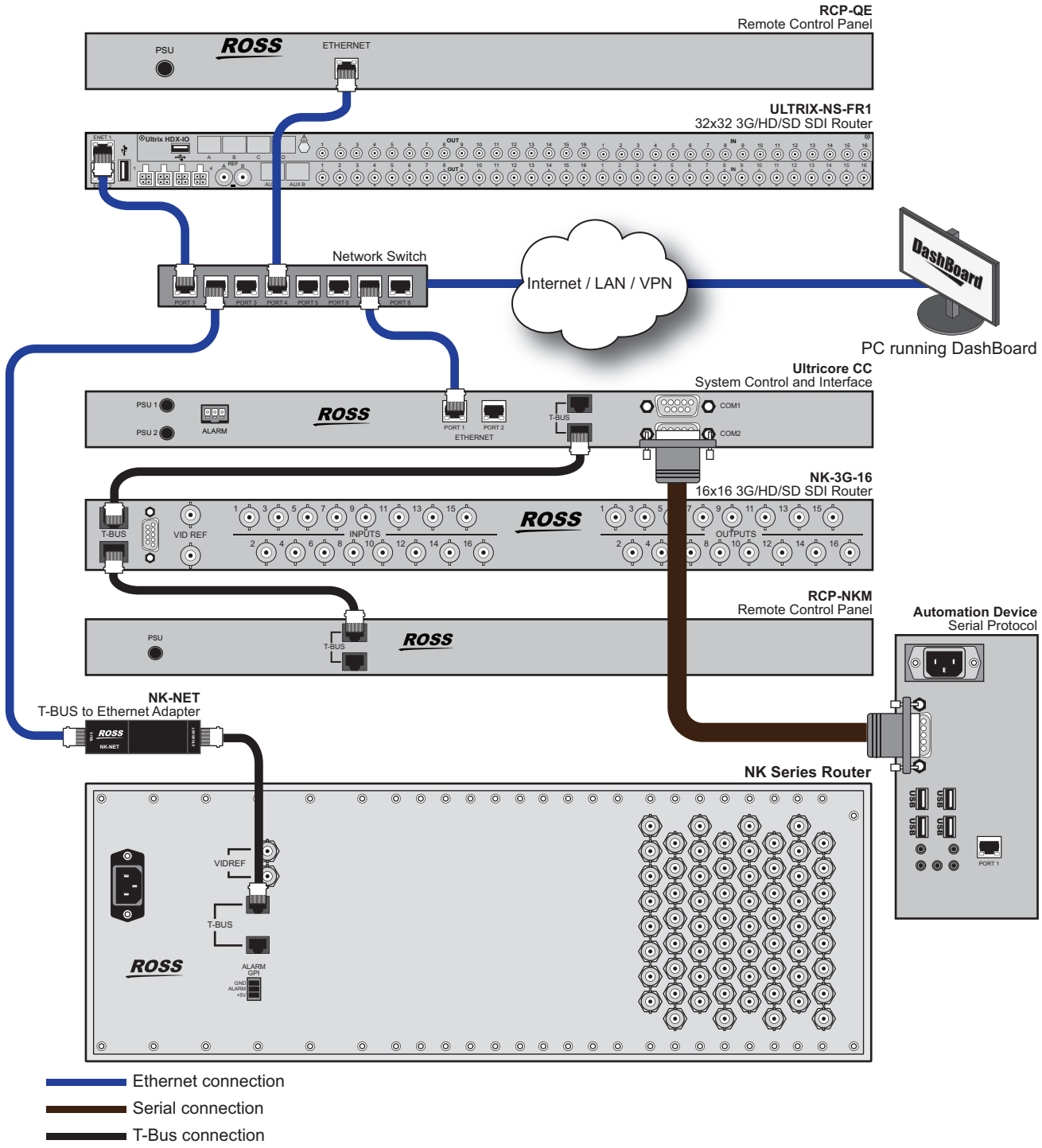


Figure 1 Example of a Possible Routing System with Ultricore CC

1. Ultricore CC does not support Unicode characters.

Before You Begin

Before configuring and operating the Ultricore CC, you must first:

1. Download and install the latest version of the DashBoard client software. The DashBoard software and user manual are available from our website.

✶ Contact your IT department before connecting to your facility network to ensure that there are no conflicts.

2. Connect your routers and panels to your facility network.
3. Launch DashBoard.
4. Ensure that your routers and remote control panels are available/visible in DashBoard.

✶ Ross Video recommends a Memory Allocation of at least 4GB in DashBoard to ensure reliable operation. Refer to the ***DashBoard User Guide*** for details on setting the Memory Allocation value.

For More Information on...

- downloading and installing DashBoard, refer to the ***DashBoard User Guide***.
- planning and installing your routing system, refer to the user documentation that accompanied your devices.
- configuring the NK-NET, refer to the ***NK-NET User Guide***.
- configuring the NK-IPS, refer to the ***NK-IPS User Guide***.

Installation and Setup Overview

The generalized workflow of installing and configuring your Ultricore CC is:

1. Implement your routing system plan by installing the devices and configuring their network settings.
2. Use Walkabout to establish communications between Ultricore CC and DashBoard.
3. Ensure that DashBoard discovers the routing system and all its devices.
4. Configure individual device settings in DashBoard.
5. Define the routing system database using the options in the Ultricore CC interfaces in DashBoard.
6. Set up control panels.

Implementing a System Plan

Once the topology of the system has been decided with respect to routers, panels, connecting devices (NK-NET, NK-IPS) etc. the components are connected and configured. Once all the Ross routing system components are configured for network communication, the required information is entered into the Ultricore CC's databases through its DashBoard interfaces.

An example use topology would be a broadcast facility or studio where there are routers and panels distributed throughout a building or a campus with the Ultricore CC collating the system's components.

✶ Ultricore CC acts as a central system controller for up to 10 DashBoard clients and up to 50 hardware clients (routers and/or remote control panels).

Establish Communications

Ultricore CC supports the Walkabout system for initial configuration of IP settings. Once you establish communications over Ethernet between the Ultricore CC panel and DashBoard, you can

proceed to use the interfaces in DashBoard that enable Ultricore CC to communicate with the other devices in your routing system.

For More Information on...

- establishing a network connection to Ultricore CC, refer to "**Using Walkabout to Assign an IP Address to the Ultricore CC Panel**".

Define the Routing System Database in Ultricore CC

The Database interface in DashBoard for Ultricore CC enables you to create system input and output lists, assign those signals to system sources and destinations, define multiple levels and matrices. You can create multiple databases, each one with unique parameters, that are saved to the Ultricore CC panel memory. This provides the flexibility of recalling a database and edit parameters as needed. You may wish to use the following process when defining the database for your routing system.

✶ Ultricore CC supports a maximum of 64 levels, with a maximum matrix of 4096 sources and 4096 destinations.

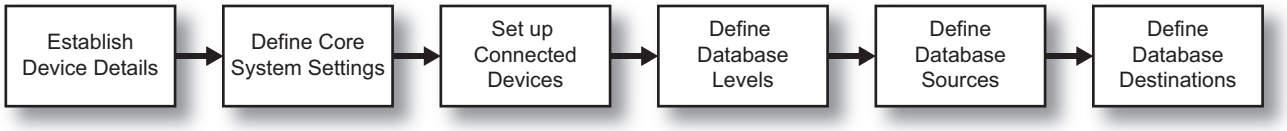


Figure 2 Process for Configuring an Ultricore CC

✶ Ultricore CC does not support Unicode characters.

For More Information on...

- defining a database, refer to "**Creating a New Database**" or the ***Ultrix and Ultricore Database Guide***.

Set up Virtual Control and Resource Management in Ultricore CC

Once your router connections are defined, and a database is established, you can start building a map of several different physical devices that become one virtual device. When a switch request is made for a virtual device, all the physical devices that are mapped to the virtual device are switched.

Ultricore CC enables you to map inputs and outputs from routers for control via any remote control panel. These parameters can be saved to a database, enabling you to change configurations easily and quickly, allowing devices to used in a number of different operating scenarios.

Configure the Soft Panels in Ultricore CC

There are seven types of soft panels available in the Ultricore CC interface:

- A Matrix panel displays the sources and destinations in a grid pattern, allowing you to quickly select a router, then select which crosspoints to switch from, and perform a Take transition between the crosspoints.
- A MultiBus panel arranges the sources and destinations in separate crosspoint buses, but provides similar controls as the Matrix panel.
- A Category panel displays the sources, destinations, and levels as defined by the CAT Index tags defined via the Categories interface.
- A Category Index panel provides an interface for classic category/index selection. The various categories and indexes are set via the Cat/Index category table within each database.
- A Group category panel provides a method of grouping dissimilarly named resources into functional selection groups. The group assignments are set via the Group categories table within each database.

- A Push Button panel provides a button-per-source style panel in a grid layout.
- An UltritouchPB panel provides a button-per-source grid of buttons scaled to support Ultritouch panels.
- An UltritouchMV panel provides specific Ultriscape Multiviewer controls scaled for display on Ultritouch panel.

Operation

Once configured, the Ultricore CC provides central controller functionality for the routing system, including:

- the storage and implementation of routing system configurations, which collect a series of routing matrices into a system and provide a logical database view of the whole system
- switching the physical crosspoints of the routers according to the system configuration
- the control and system database interface for devices that control and/or display routing status (e.g. remote control panels, switchers, master control, automation systems, multi-viewers, and tally systems)
- virtual routing, matrix partitioning, and mapping
- label support for protocols supporting labels
- system control through DashBoard
- connection and status logging
- client and server operation with client connection fail-over support

Hardware Overview

This chapter presents information on the Ultricore CC front and rear panels.

Front Panel Overview

The Ultricore CC front panel provides LEDs for monitoring the communication activity and power supply status of the panel. An LCD display is also included for monitoring purposes.

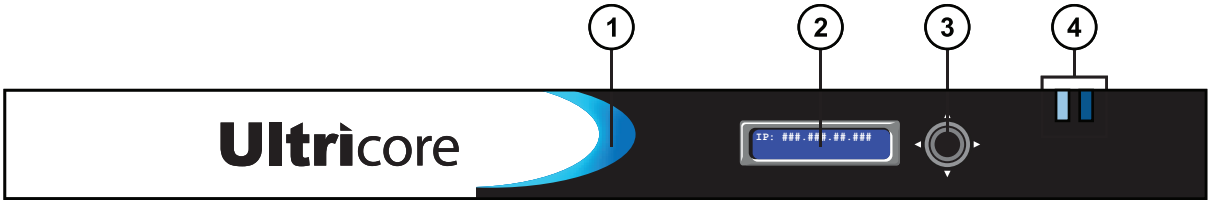


Figure 3 Ultricore CC — Front Panel

1. Front Panel Wave Light

The front panel provides various system status indication via the 'wave light'. The concave section of the black front panel bezel emits light of various colors to indicate system function.

Table 1 Front Panel Wave Light

Status	Description
Blue pulsing to White	When lit blue, this indicates normal operation.
Red	When lit red, this indicates a serious issue that requires immediate attention.

2. LCD Display

The LCD display reports on the overall system status, IP address of the panel, and current fault conditions. During normal operations, the display reports the Device Name (user assigned) and the active IP address of the panel. Under some conditions, fault conditions are reported such as: device boot status, Walkabout locate mode indication, SRAM battery warnings, and firmware upgrade states. The information on the display alternates between normal operation and the error messages.

3. Navigation Positioner

The front panel includes a five-direction joystick that is used to navigate the Ultricore CC on the LCD Display. Refer to "**Monitoring via the Front Panel**" for details.

4. ETHERNET Port LEDs

Table 2 describes the Ultricore CC front panel LEDs that are used to monitor ethernet communication activity of the Ultricore CC panel. When facing the front panel, the left LED reports the status of **ETHERNET PORT 1** while the right LED reports the status of **ETHERNET PORT 2**.

Table 2 Front Panel LEDs

LED	Status	Description
ETH# - ACT	Bright Blue	A valid physical ethernet connection is established, and the port is active. There is data transfer activity on the indicated ETHERNET port.
	Dim Blue	A valid physical ethernet connection is established, but the port is not the active one. There is no data transfer activity on the indicated Ethernet port.
	Off	No valid ethernet link to the indicated Ethernet port.

Rear Panel Overview

The Ultricore CC rear panel provides communication ports, two power supply ports, and an alarm condition general purpose output.

For More Information on...

- the pinouts for the Ultricore CC rear panel connections, refer to "**Technical Specifications**".
- the power specifications, refer to "**Power**".

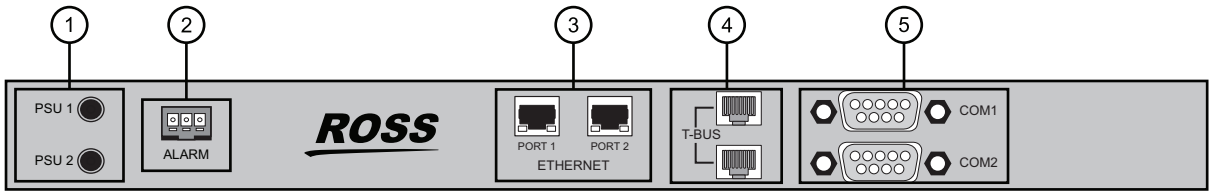


Figure 4 Ultricore CC — Rear Panel

1. PSU Ports

Two +15V DC power supply connections (PSU1, PSU2) are provided to connect to external brick power supplies to the Ultricore CC panel.

Notice — *The Ultricore CC automatically powers on when power is applied.*

2. ALARM GPO

This contact closure connector is used to report an alarm where closed is a system fault, and open when the system is running without errors.

3. ETHERNET Ports

Ultricore CC communicates over an Ethernet connection to routers, and other devices. PORT 1 is the primary Ethernet connection for Ultricore CC. PORT 2 is the redundant (backup) Ethernet connection. The exact steps for connecting to your facility via an ethernet network depends on the requirements defined by your IT Department.

4. T-BUS Ports

Each port provides a loop-through connection for Ross NK series communication. This enables communication to legacy routers and remote control panels as part of the routing system.

5. COM Ports

There are two female DB-9 serial ports used to connect to third-party automation devices. Each port can be configured for RS-232 or RS-422 serial communication. Uses these ports to connect to third-party automation devices that will control the routing system.

Physical Installation

If you have questions pertaining to the installation of Ultricore CC, please contact us at the numbers listed in "**Contacting Technical Support**". Our technical staff is always available for consultation, training, or service.

Before You Begin

These installation guidelines assume the following:

- The relevant Ross equipment is installed into a ventilated rack frame. The relative humidity in the environment of the equipment should be <70% (non-condensing). The ambient temperature of the air entering the front panel should not exceed 40°C (104°F), and should not fall below 0°C (32°F).
- The install location of the router should be accessible, dry, and dust-free.
- The socket/outlet should be installed near the equipment and be easily accessible.
- Valid IP addresses are assigned to the equipment.

Static Discharge

Throughout this chapter, please heed the following cautionary note:

ESD Susceptibility — *Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling circuit boards in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Always exercise proper grounding precautions when working on circuit boards and related equipment.*

Mounting Requirements

The Ultricore CC panel is designed for installation into a standard 19" equipment rack. It has integrated rack ears, allowing it to be screwed in using standard screws and cage nuts.

The Ultricore CC panel mounts in the rack frame by means of four rack screws fastened through the front mounting ears. This should normally be sufficient to carry the load, including the weight of accompanying cables.

Under some conditions, the ambient air temperature inside rack-mount cabinets can be greater than the ambient temperatures within a room. For safe long term reliability, ensure the ambient air temperatures at the router front intake are within the router's specified operating temperature range. Adequate ventilation within a rack frame must also be maintained.

For More Information on...

- the technical specifications for the Ultricore CC, refer to "**Technical Specifications**".

Connecting the Ultricore CC to a Network

Each Ethernet port is a standard 10/100/1000 RJ45 Ethernet connector and is used to exchange data and communicate with other devices in your router system.

✶ Contact your IT department before connecting to your facility network to ensure that there are no conflicts. They will provide you with an appropriate value for the IP Address, Subnet Mask, and Gateway for your device.

The Ultricore CC is connected directly to your network so that it can interface with the devices and the computer running the DashBoard client. After a physical connection is established, DashBoard is used to configure the network settings for the Ultricore CC.

For More Information on...

- downloading and installing DashBoard, refer to the ***DashBoard User Guide***.

✶ If difficulties or problems are experienced when connecting the Ultricore CC to a network hub, or with assigning IP addresses, please contact your network administrator.

To establish a physical connection to the network

1. To connect the primary network connection for the Ultricore CC panel:
   a. Connect one free end of the straight through CAT5/5e/6 cable to a free port of the network hub.
   b. Connect the other end of the same cable to Ethernet **PORT 1** on the Ultricore CC rear panel.

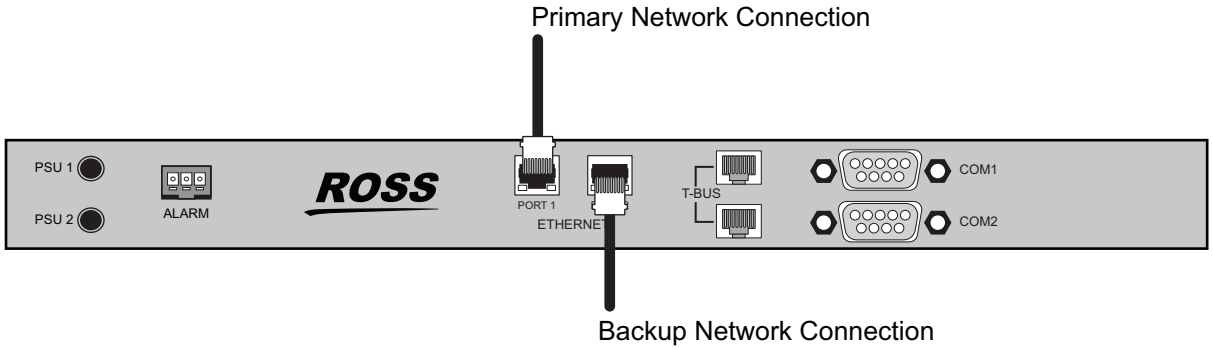


Figure 5 Ultricore CC — Network Connections

2. If required, connect the redundant network connection for the Ultricore CC panel:
   a. Connect one free end of a second straight through CAT5/5e/6 cable to a free port of the network hub.
   b. Connect the other end of the same cable to Ethernet **PORT 2** on the Ultricore CC rear panel.

Connecting the Ultricore CC to Ross NK Series Devices

Ross NK Series devices, such as routers and remote control panels, communicate within the routing system via the Ross T-BUS protocol. The Ultricore CC panel includes two T-BUS ports that can be used to cable an NK Series router or other legacy device that uses the T-BUS protocol.

For More Information on...

- the T-BUS port pinouts, refer to "**T-Bus Ports**".
- establishing T-BUS protocol communications between Ultricore CC and an NK Series router, refer to "**Connecting to Ross NK Series Devices**".

To connect the Ultricore CC to a NK Series device via T-BUS

1. Connect a T-BUS Interface cable to one of the **T-BUS** RJ-45 ports on the Ultricore CC rear panel.

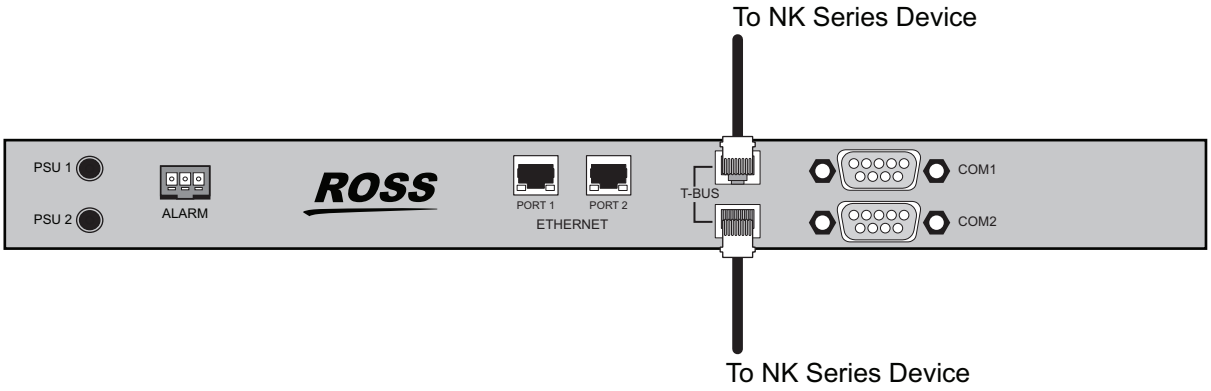


Figure 6 Ultricore CC — Cabling to Legacy NK Series Devices

2. Connect the other end of the same T-BUS Interface cable to either of the RJ-45 ports of the device. Most Ross NK Series devices are equipped with two RJ-45 ports for looping or daisy chaining configurations.

Connecting the Ultricore CC to a Serial Device

Each **COM** port is a DB9 female port on the Ultricore CC rear panel that accepts RS-232 or RS-422 connection. These ports can be used to connect a third-party device or automation system that uses a supported serial protocol for communications.

For More Information on...

- the COM port pinouts, refer to "**Serial Ports**".
- the pinouts required by your device, refer to the user documentation that accompanied your device.
- the serial protocols and commands the Ultricore CC supports, refer to "**External Control**".

To connect the Ultricore CC to a serial device

1. Connect a **Serial Interface** cable to the **COM 1** port on the Ultricore CC rear panel.

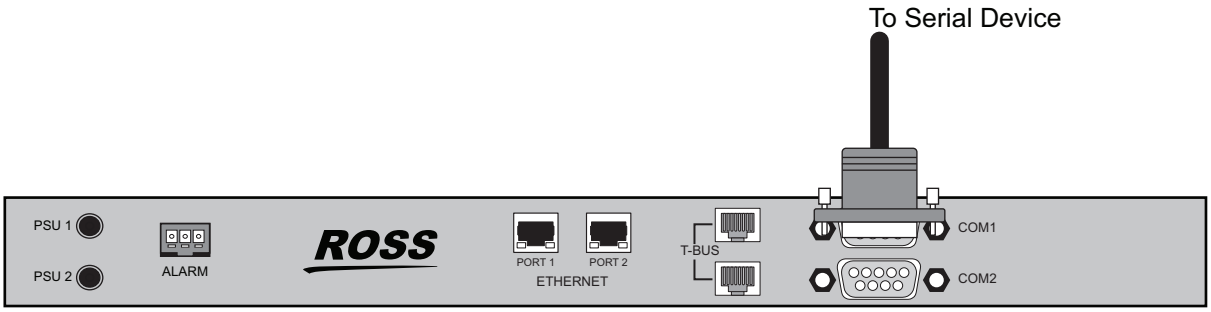


Figure 7 Ultricore CC — Serial Cabling to Third-Party Device

2. Connect the other end of the same **Serial Interface** cable to the applicable serial port on the device.

Connecting to a Power Supply

The Ultricore CC panel is powered by one +15V DC, 30W PSU, with an optional PSU available to provide redundancy and load sharing.

For redundancy, each power cord should be connected to a separate power source for protection against failure of the A/C power circuit. In the event of one power supply failure, the panel load is seamlessly transferred to the other connected redundant power supply.

Warning Hazardous Voltages — *The safe operation of this product requires that a protective earth connection be provided. This protective earth is provided by the ground conductor in the equipment's supply cord. To reduce the risk of electrical shock to operator and service personnel, this ground connector must be connected to an earthed ground.*

Warning — *In some countries it may be necessary to supply the correct mains supply cord. Use only certified cords for the country of use.*

To connect the power cables to the Ultricore CC panel

1. Connect the male end of the provided power cable into the socket marked **PSU1** on the Ultricore CC rear panel.

   Note: It is recommended that you always connect the Power Supply Unit to the Ultricore before connecting to Mains Power.

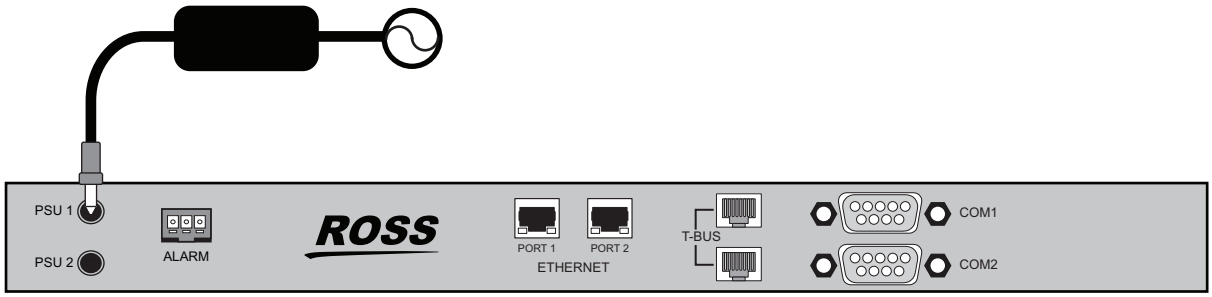


Figure 8 Ultricore CC — Primary Power Connection

Notice — *The Ultricore CC automatically powers on when power is applied.*

2. Connect the remaining power cable into the **PSU2** power supply socket if redundancy is required.
3. Connect the supplied AC power cable into the power modules.
4. Connect the supplied power cable's three-prong male connector to an AC outlet.

Configuring the Loss of Power Alarm

The ALARM connector on the Ultricore CC rear panel is used when the panel loses power so that DashBoard cannot interrogate a non-powered device. Under normal operation, the Center pin (2) is open. An alarm condition connects this pin to ground. Refer to "**ALARM Connector**" for pinout details.

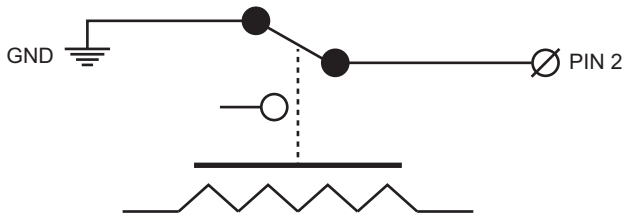


Figure 9 De-energized or Alarm State Equivalent Circuit

Basic Configuration

The Ultricore CC system controller with the DashBoard client software allows configuration and control of the Ultricore CC and other routing system devices, enhancing the capability of any installed Ross products by providing access to the entire range of functions. Ultricore CC provides a basic platform operation with SLP discovery and manual configuration of connection to DashBoard.

This chapter provides instructions on basic set up that includes launching DashBoard, establishing network connections for the Ultricore CC panel, and creating your first database. This includes:

- Launching DashBoard
- Using Walkabout to Assign an IP Address to the Ultricore CC Panel
- Adding the Ultricore CC to the Tree View in DashBoard
- Accessing the Ultricore CC Interfaces in DashBoard

✶ The procedures in this chapter assume that the Ultricore CC is running software v6.1 or higher.

Getting Started

Figure 10 summarizes the basic steps in configuring the Ultricore CC system.

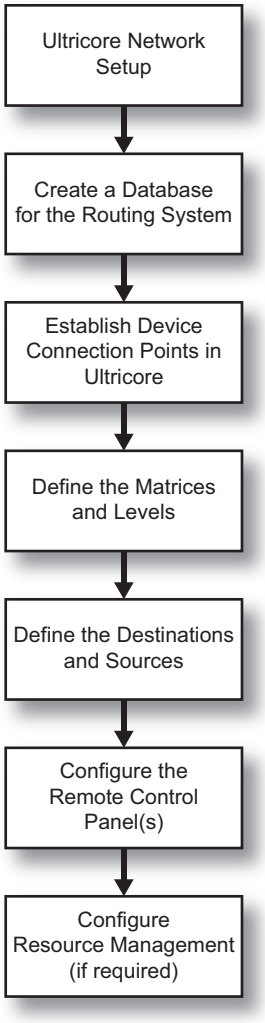


Figure 10 Workflow for Configuring the Ultricore CC

Launching DashBoard

DashBoard must be run on a computer that has a physical wired Ethernet connection. Wireless connections do not allow device discovery.

For More Information on...

- downloading and installing the DashBoard client software, refer to the ***DashBoard User Guide***.
- the Ultricore CC interfaces in DashBoard, refer to "**DashBoard Interface Overview**".

To launch DashBoard

1. Ensure that you are running DashBoard software version 9.10 or higher.
2. Launch DashBoard by double-clicking its icon on your computer desktop.

Using Walkabout to Assign an IP Address to the Ultricore CC Panel

Once the Ultricore CC panel is physically installed and cabled to your facility network, you will need to assign it a static IP Address to enable DashBoard to locate it on your network. Establishing an IP Address enables DashBoard to communicate with the Ultricore CC and update the Basic Tree View with the Ultricore CC nodes.

To assign a static IP address to the Ultricore CC panel

1. Launch DashBoard.
2. From the DashBoard client main toolbar, select **File** > **Show Walkabout**.

   The DashBoard window displays the **Walkabout** table.
3. Click **Refresh**, located at the bottom of the **Walkabout** tab, to ensure the list in the **Walkabout** table is current.
4. In the **Walkabout** table, find the entry for the Ultricore CC you want to configure.
5. Use the **Name** field to assign a unique identifier to the Ultricore CC panel. This will be the name displayed in the Tree View of DashBoard.

✶ After editing a cell in the **Walkabout** table, press **Enter** to confirm your edits. To verify your changes, wait up to 30 seconds, then click **Refresh**.

6. Use the **Address** field to specify the IP Address supplied by your IT Department for this device.
7. Ensure the **Netmask** field is set to match your network requirements.
8. Use the **Gateway** field to specify the IP Address for connection outside of the local area network (LAN).
9. Click **Reboot** in the row of the **Walkabout** table for the Ultricore CC to reboot the device.

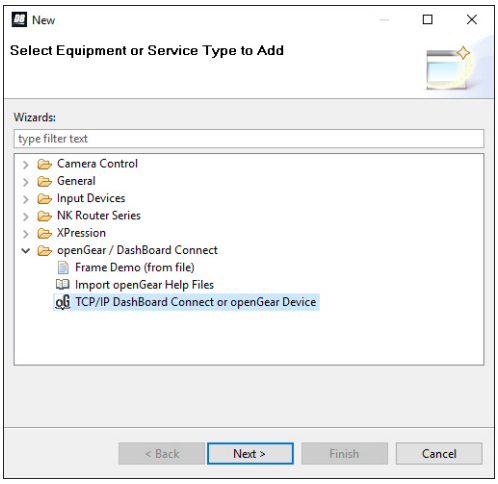
Adding the Ultricore CC to the Tree View in DashBoard

Once you have assigned the Ultricore CC panel to a static IP Address via Walkabout, you can then manually add it to the Tree View in DashBoard. Manually adding the Ultricore CC panel displays its node in the Tree View, granting you access to the interfaces described in "**DashBoard Interface Overview**".

To manually add the Ultricore CC to the Tree View in DashBoard

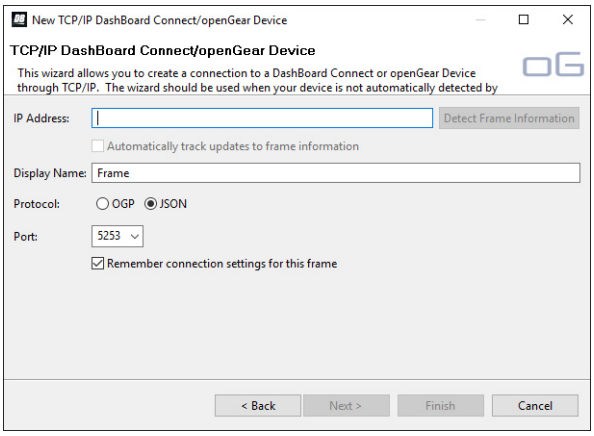
1. In the **Basic Tree View** toolbar of DashBoard, click ✚.

   The **Add New Connections** dialog opens.
2. Expand the **openGear/DashBoard Connect** node.



3. Select **TCP/IP DashBoard Connect or openGear Device**.
4. Click **Next >**.

   The **TCP/IP DashBoard Connect/openGear Device** dialog opens.
5. Select the **JSON** radio button as the **Protocol**.



6. Enter the IP Address for the Ultricore CC in the **IP Address** field assigned in "**To assign a static IP address to the Ultricore CC panel**".
7. Perform one of the following steps:
   - In the text fields provided, enter the display name and port of the Ultricore CC you wish to add; or
   - Click **Detect Frame Information** to automatically retrieve the connection details.
8. Click **Finish**.

   The Ultricore CC panel displays in the **Tree View**.

Accessing the Ultricore CC Interfaces in DashBoard

The interfaces are accessed by expanding the Ultricore CC node in the DashBoard Tree View.

To access the Ultricore CC interfaces in DashBoard

1. Locate the **Ultricore CC** node in the Tree View of DashBoard.
2. Expand the **Ultricore CC** node.
3. Expand the **Ultricore Controller** node to display a list of sub-nodes in the Tree View.

Each sub-node is an Ultricore CC interface.

4. Expand a sub-node to access the functions of the interface.

   For example, expand the Database node to list the options available for configuring a database for the Ultricore CC.

5. Double-click a node to display its tab in the right-side of the DashBoard window.

   For example, double-click the Salvos node to display the Salvos interface (as seen in the example below).

✶ The selected interface may be blank or missing some data if the database is new and is not configured yet.

Specifying the Time Source

The Ultricore CC requires an external time source in order to accurately report the time-of-day. The options in the Frame Configuration interface enable the selection of time/date source via an NTP Server in your facility, or you can set the device time to match the computer which is running the current DashBoard client.

Using an NTP Server as the Time Source

✶ Before proceeding, contact your IT Department to learn the IP address(es) of the NTP server(s) in your facility.

To specify an NTP Server as the time source for the Ultricore CC

1. Expand the Ultricore CC node to display a list of sub-nodes in the Tree View.
2. Expand the **System** sub-node.
3. Expand the **Configuration** sub-node.
4. Double-click the **Ultricore CC** node.

   The **Device Configuration** interface opens.

5. Locate the **NTP Servers** table.
6. If you are using one NTP server, enter the IP address in the **Address** field of the **Server 1** row.
7. If using a backup NTP server:

a. Enter the IP address of the first NTP server in the **Address** field of the **Server 1** row.

b. Enter the IP address of the backup NTP server in the **Address** field of the **Server 2** row.

8. Select the **NTP Enabled** box.
9. Verify that the **Status** field(s) in the **NTP Servers** table report a valid connection to the listed IP address(es). You may need to refresh the interface as follows:

   a. Close the **Device Configuration** interface.

   b. Re-open the **Device Configuration** interface by repeating steps 1 to 4 to update the **Status** field(s).

Using the DashBoard Client Computer as the Time Source

This section outlines how to set the Ultricore CC to the local time without using an NTP Server. Instead, you will set the time to the values reported by the DashBoard client computer you are using.

✶ The time the Ultricore CC reports is not linked to this computer. It is a once off setting of the time to match the computer time when the **Set to PC Time** button is selected on the Ultricore CC interface. If the DashBoard client computer time changes, you will need to update the time reported on the Ultricore CC by repeating the procedure below.

To specify the DashBoard client computer as the time source for the Ultricore CC

1. Expand the Ultricore CC node to display a list of sub-nodes in the Tree View.
2. Expand the **System** sub-node.
3. Expand the **Configuration** sub-node.
4. Double-click the **Ultricore CC** node.

   The **Device Configuration** interface opens.
5. Locate the **NTP Servers** table.
6. Click **Set to PC Time**. This button is located above the **NTP Servers** table.

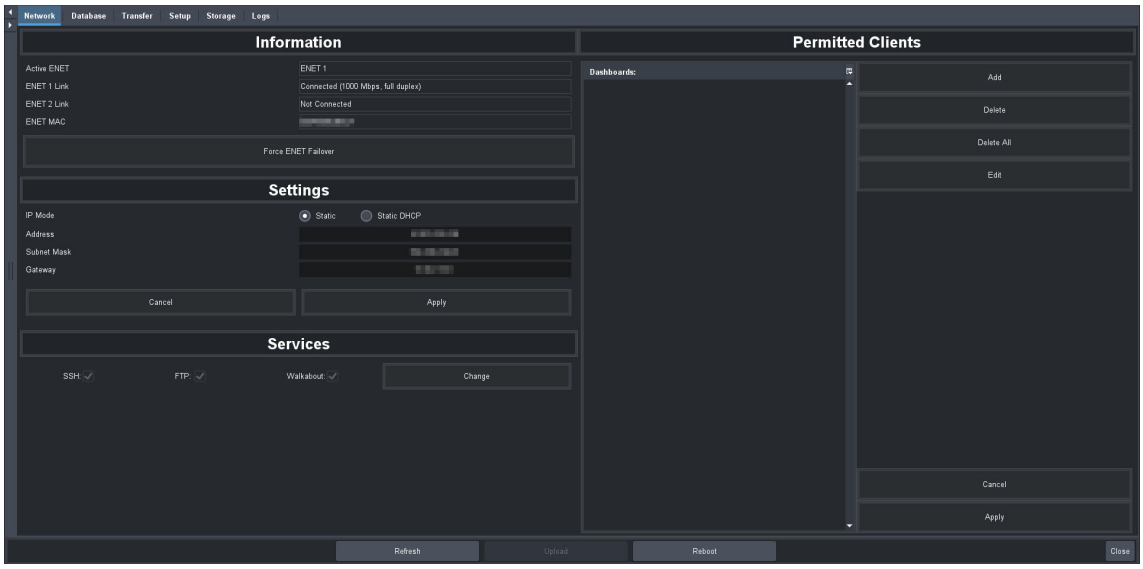
Reviewing the Network Settings for the Ultricore CC Panel

Once you establish initial communications with the Ultricore CC panel, and it displays in the DashBoard Tree View, you may wish to alter the network settings according to your facility network requirements.

To update the network settings for the Ultricore CC panel

1. In the Tree View of DashBoard, double-click the **Product Info** node.

   The **Product Info** interfaces display in the DashBoard window.
2. Select the **Network** tab.



3. Locate the **Settings** area of the tab.
4. Use the **Address** field to specify the new static IP Address for the Ultricore CC panel.
5. Use the **Subnet Mask** field to specify the subnet mask for your network.
6. Use the **Gateway** field to specify the gateway for communications outside of the local area network (LAN).
7. Click Network Settings **Apply**.

Updating the Network Settings for the Ultricore CC

Once you establish initial communications with the Ultricore CC, and it displays in the DashBoard Tree View, you may wish to review or change the IP Address and other settings according to your facility network requirements.

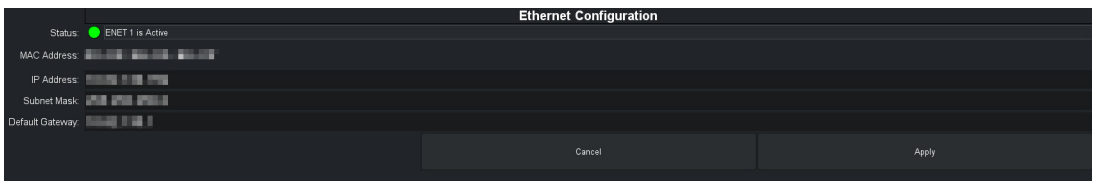
✶ This section is not applicable if your Ultricore CC is already set to the correct IP Address.

To update the network settings for the Ultricore CC

1. Locate the Ultricore CC in the Tree View of DashBoard.
2. Expand the Ultricore CC node to display a list of sub-nodes in the Tree View.
3. Expand the **System** sub-node.
4. Expand the **Configuration** sub-node.
5. Double-click the **Ultricore CC** node.

   The **Device Configuration** interface opens.
6. Click **Communication Settings**.
7. Locate the **Ethernet Configuration** area.

   The **Ethernet Configuration** area reports the status of the active ENET port on the Ultricore CC rear panel, and the network settings for the Ultricore CC.



8. Use the **IP Address** field to specify the new static IP Address for the Ultricore CC.
9. Use the **Subnet Mask** field to specify the subnet mask for your network.
10. Use the **Default Gateway** field to specify the gateway for communications outside of the local area network (LAN).
11. Click **Apply** to apply the new settings.

Re-naming the Ultricore CC

Each Ultricore CC can be given a unique name that is used on internal menus and as the identifier in the tree views of DashBoard.

✶ Changing the Ultricore CC name *after* database configuration takes time to propagate through the system, and for DashBoard to reconnect, resuming stable system operation. Sufficient time must be allowed when making this change before attempting to use the system. This time will vary depending on features, matrix size, and configuration. In the case of a system with an ULTRIX-1RU and ULTRIX-2RU, the worst case will be 3-4 minutes. In the case of a system with an ULTRIX-5RU, the worst case is 10 minutes. The Ultricore CC name is typically assigned during initial commission and very rarely ever changed again.

To re-name the Ultricore CC in DashBoard

1. In the Tree View of DashBoard, double-click the **Product Info** node.

   The **Product Info** interfaces display in the DashBoard window.
2. Select the **Setup** tab.
3. Use the **Device Name** field to specify the new name for the Ultricore CC.
4. Press **Enter** to apply the new name.

Configuring Access for DashBoard Clients

You can specify which DashBoard clients on your network can access and connect to your Ultricore CC. By default, the **Permitted Clients** list is blank, allowing all DashBoard clients on your network to connect to your Ultricore CC.

To enable access for a DashBoard client

1. In the Tree View of DashBoard, double-click the **Product Info** node.

   The **Product Info** interfaces display in the DashBoard window.
2. Select the **Network** tab.
3. Locate the **Permitted Clients** area of the **Network** tab.
4. Click **Add** in the Permitted Clients area of the **Network** tab.

   The **Add Address** dialog opens.
5. Use the **IP Address** field to specify the IP Address of the DashBoard client you wish to grant access to your Ultricore CC.
6. Click **Apply**.

   The **Add Address** dialog closes.

   The **Dashboards** list in the Permitted Clients area updates to display the specified IP Address.
7. Repeat steps 4 to 6 for each DashBoard client you want to allow access.

✶ Ensure that the IP Address for your DashBoard client machine is also added.

8. Click **Apply** in the **Permitted Clients** area to apply the change.

To disable access for a DashBoard client

1. In the Tree View of DashBoard, double-click the **Product Info** node.

   The **Product Info** interfaces display in the DashBoard window.

2. Select the **Network** tab.
3. From the **Dashboards** list, select the IP Address for the DashBoard client you want to disable access for.

✶ Do not delete the IP Address for your DashBoard client machine.

4. Click **Delete** in the Permitted Clients area of the **Network** tab.
5. Click **Apply** in the Permitted Clients area to apply the change.

Software License Keys

The Ultricore CC has software options that license functions and features. This chapter outlines the available software licensed features, and how to install a software key for a licensed feature on your Ultricore CC.

✶ This chapter assumes the Ultricore CC is running software version 6.1 or higher.

Before You Begin

When installing a software license key on the Ultricore CC:

- You must have the DashBoard client installed and communicating with the Ultricore CC that you wish to install the key for.
- Ensure that you are using DashBoard version 9.10 or higher. This information is available by selecting **Help** > **About DashBoard** from the DashBoard main toolbar.

License Keys Overview

Table 3 provides a brief summary on the types of licensed features available for the Ultricore CC

Table 3 List of Ultricore CC Licensed Features

License	Description
Ultricore-EMBER+	A license that enables the use of the EMBER+ protocol for video and audio streaming via an ULTRIX-IP-IO blade.
Ultricore-NVISION	A license that enables the use of the NVISION protocol on the Ultricore CC.
ULTRICORE-PRO	A licensed that provides full Ultricore Profiles support.
Ultricore-SNMP	A license that enables basic SNMP monitoring on Ultricore CC.

Installing a License Key

Ross Video uses license keys to control user access to specific Ultricore CC features. You can obtain a key for an Ultricore CC licensed feature from Ross Video Technical Support.

To install an Ultricore CC license key

1. Launch the DashBoard client.
2. Locate the Ultricore CC node in the Tree View.
3. Expand the Ultricore CC node to display a list of sub-nodes in the Tree View.
4. Expand the **System** sub-node.
5. Expand the **Configuration** sub-node.
6. Double-click the **Ultricore CC** node.

   The **Device Configuration** interface opens.
7. Click **Licenses**.

8. Make a note of the character string in the **Request Code** field for the feature you wish to enable.
9. Contact Ross Video Technical Support using the information found in "**Contacting Technical Support**".
   a. When you speak to your Technical Support representative, tell them your name, your facility name, and the **Request Code** from the **Licenses** table.
   b. You will be given a License Key that must be entered in the applicable field in the **Licenses** table.
10. Enter the provided License Key in the applicable **License Key** field in the **Licenses** table.

✶ You can also right-click on the row for the License Key you are installing, and copy the Request Code to or paste the License Key from the Microsoft® Windows® clipboard.

11. Click **Apply** in the row for the License Key you entered in step 10.
12. Verify that the **Count** field is updated to report each installed License Key.

Removing a License Key

✶ Removing a License Key also removes user access to all of the Ultricore CC features associated with that License Key.

To remove a Ultricore CC license key

1. Launch the DashBoard client.
2. Locate the Ultricore CC node in the Tree View.
3. Expand the Ultricore CC node to display a list of sub-nodes in the Tree View.
4. Expand the **System** sub-node.
5. Expand the **Configuration** sub-node.
6. Double-click the **Ultricore CC** node.

   The **Device Configuration** interface opens.
7. Click **Licenses**.

   Each row represents a type of licensed feature.
8. Click in the cell for the slot and licensed feature you want to remove.

   A drop-down menu displays.
9. Select **Disable** to remove the license.

Ultricore Profiles

This chapter provides an introduction to the Ultricore Profiles for your routing matrix and includes general information on managing those profiles.

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide*** for details on configuring databases.

Overview

A DashBoard client has the ability to detect devices on a subnet and can enable complete control of all settings on all devices. Ultricore Profiles are designed to enable administrators to assign and manage user permissions and determine the level of access for those users. For example, one user is only responsible for monitoring the video sources is given access only to control panels, while another user who manages the input and outputs of the routing matrix is also given access to manage the databases.

The Ultricore Profiles operate as a form of hierarchical database where user permissions are organized into a tree-like format. A profile determines which groups and pages that a user can access.

Any number of profiles may be created and can be used in the following ways:

- **Group/Role** — This profile type is not specific to any user or machine. Once created they can be referenced or used by any number of users or machines. For example, a Graphics Editor profile can be created and referenced by a team of graphics editors. When a new control panel is added to that profile, all graphics editors are updated with the new panel automatically.
- **User** — A user profile identifies a specific username and can either reference an existing role as above or copy an existing role then modify, add, or remove items to allow total customization as required. This allows a user that has a specific profile to have the same capabilities on any DashBoard system regardless of where they log in.
- **Location** — This profile is defined by a specific location (user station) and assigns a consistent function regardless of who is logged in that suits the operation in that location. In this way the DashBoard instance in front of, for example, the audio operator in a specific control room will only have the optimize functionality for that role. A location profile can also reference or copy and modify role profiles.

Profiles can also be created that identify a specific user at a specific user station to further optimize the user interface in different locations. If no profile exists for the combination of user and location, the system default profile is used.

When there are multiple possible profiles the one used is chosen as follows:

1. A **User** profile has the highest priority. This means that an administrator can log in anywhere and execute Administrator level functions or an operator can login anywhere and have an optimized UI for their function.
2. A **Location** profile is used for all users at a specific location unless the user logged in has a profile. This allows more or different functionality for users logged into a specific location even if they do not have a specific profile themselves.
3. The system default profile is used in all other scenarios.

Modes of Operation

The Ultricore Profiles feature consists of three sub-functions or modes of operation.

✶ The ULTRICORE-PRO license is required to upgrade from the basic, non-configurable profiles on the Ultricore CC chassis to full, customizable configurations. The ULTRICORE-PRO license is standard on the Ultricore-BCS.

Creation and Management of User Credentials

User profiles can reference the operating system username of the individual currently logged into the workstation.

Enabling User Credentials in the Setup tab of the status page engages the Ultricore User Credentials feature which allows an independent definition of usernames and passwords specifically for the Ultricore Profiles feature.

Creation and Management of User Profiles via the Default Role Profiles Only

User and Location profiles are created and function as above but only reference one of the three default profiles:

- **Engineer Admin** (default profile) can access all features;
- **Operator Admin** (default operator profile) has full database and configuration capability but not engineering configuration and admin functions; or
- **Operator** (default minimum profile) can access all soft panels for normal day to day operations.

Full Creation, Customization and Management of User Profiles

In addition to the above mode included with Ultricore-BCS and optional for Ultrix and Ultricore-CC is the ability to create and customize group and role profiles as well as create custom profiles on a user or location basis as appropriate. In addition, the order of items within these profiles can be set to fully optimize the operational environment for a specific user or group as needed.

Ultricore Profiles Interface

The options for configuring and managing the Ultricore Profiles are organized as individual panes within a single interface of a DashBoard window. The available options, and the number of panes, depends on whether the ULTRICORE-PRO license is installed.

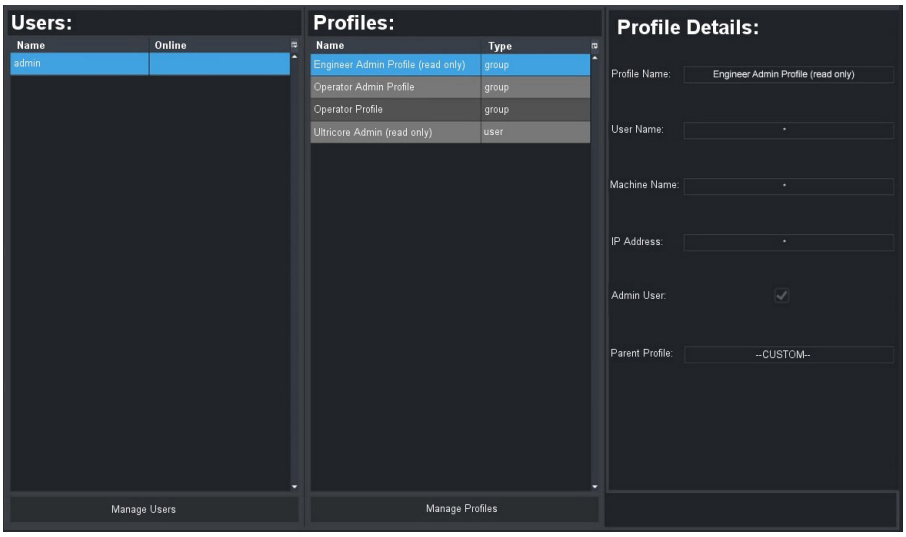
Accessing the Ultricore Profiles Interface

You display the Ultricore Profiles interface by selecting its node in the DashBoard Tree View for the Ultricore CC in your system. By default, all nodes are displayed and accessible by any user or DashBoard client machine.

To display the Ultricore Profiles interface

1. Launch DashBoard on your desktop.
2. Locate the Ultricore CC in the Tree View of DashBoard.
3. Expand the **Ultricore CC** node to display a list of sub-nodes in the Tree View.
4. Expand the **Database** sub-node.
5. Double-click the **Ultricore Profiles** sub-node.

   The Ultricore Profiles interface displays in the DashBoard window. The following example shows the default interface (the ULTRICORE-PRO license is not enabled).



Overview

When the ULTRICORE-PRO license is enabled, the Ultricore Profiles interface is organized into five distinct areas. **Figure 11** Each area is briefly described in this section starting with the leftmost area of the DashBoard window.

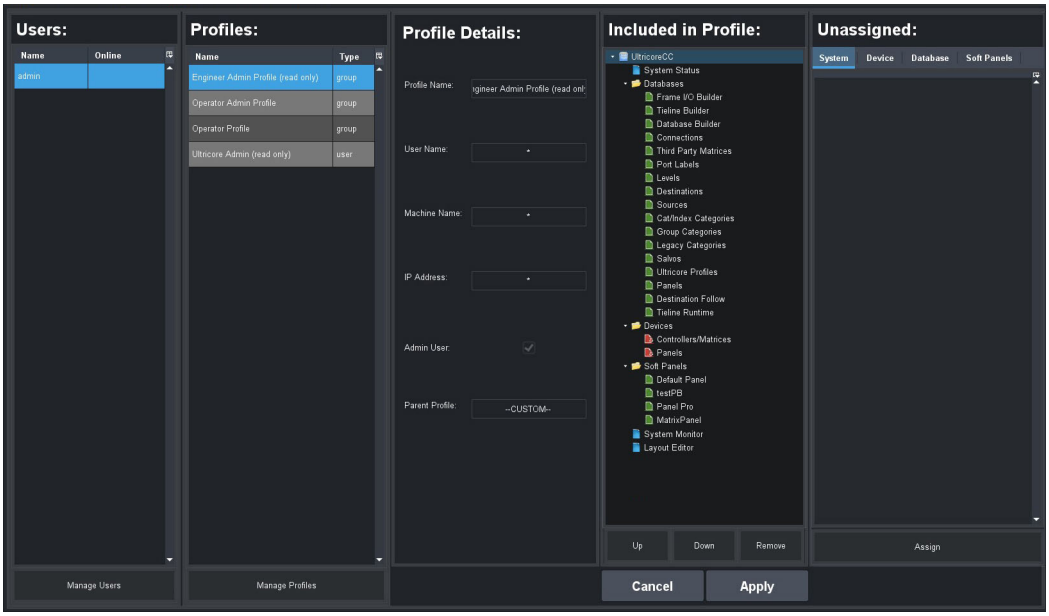


Figure 11 Example of the Ultricore Profiles Interface with the ULTRICORE-PRO license

Users

When the system is configured to use the user login mechanism, a list of all currently configured usernames along with their current online status displays in this area.

Profiles

A list of all currently configured profiles. Selecting a profile (row) in this area automatically updates the items displayed in the Profile Details, Device Tree, and Options areas.

Profile Details

This area displays the details of the profile showing the conditions under which the tree in the following section will be applied.

Tree Nodes

A visual representation of the tree view that is defined in the Profile Details. Note that certain entries that are specific to licenses or other conditions may be visible but not in the actual tree view. Should conditions change that enable those entries, they will appear as shown in this display. A profile also maintains the position of items in groups allowing the most relevant items to be the easiest to reach.

The tree nodes are organized in a hierarchy where the top level (blue icons) list system specific options, and secondary levels (yellow icons) list specific functions.

✶ This area only displays when the ULTRICORE-PRO license is enabled.

Group Tabs

This area displays all the available items that have not yet been assigned to the currently selected profile but are available to define.

✶ This area only displays when the ULTRICORE-PRO license is enabled.

Creating a Database of Users

If you wish to use the User Profile feature, the first step is to create a new user account. Once this account is created, all users will default to the **Operator Profile** (the default minimum profile) unless or until they have a profile created that allows them appropriate access for their role.

✶ When creating users and profiles, ensure that the system is not in use. Any currently active DashBoard instances will require users to login and features may be blocked.

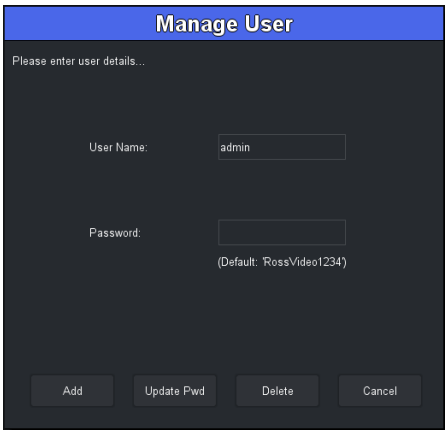
You can create as many users as required by your system.

To create a new user account

1. Display the Ultricore Profiles interface as outlined in "**To display the Ultricore Profiles interface**".
2. Click **Manage Users**.

   The **Manage Users** dialog opens.

✶ Users can change their own password at the login screen, the **Update Password** button allows an Administrator to reset a forgotten password. A user name change requires the deletion of the current user and the creation of a new one with the new user name.



3. Click **Add**.
4. Use the **User Name** field to assign a unique identifier for the user account.
5. Use the **Password** field to define the password the user will need to enter when logging in with this account.
6. Repeat this procedure for every new user you wish to create.

Once all the user accounts are created, you can proceed to create profiles and assign users to these profiles.

Creating a Profile

✶ The User Profiles features offers a significant flexibility to optimize the tools in front of individual operators which, if inadvertently mis-configured could lead to administrators being locked out. As such, it is a good idea for the administrator to ensure that no users are actively working within the system prior to making significant changes to users and profile settings.

Four profiles are created automatically:

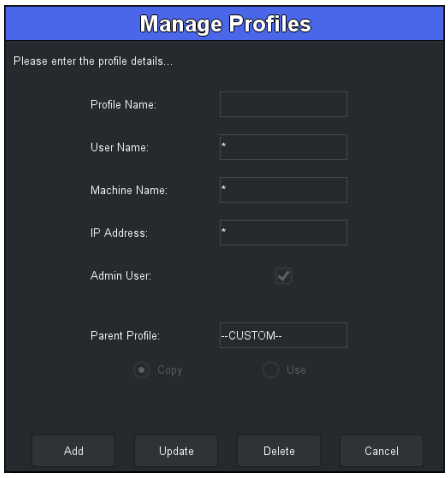
- **Engineer Admin Profile** — a group profile giving access to all features and functions as has been available prior to the Ultricore Profiles feature. This profile is read-only by default.
- **Operator Admin Profile** — a group profile giving access to all non-engineering features and functions. This allows an operational Administrator the ability to configure and use all operational functions and databases of the systems.
- **Operator Profile** — a group profile giving access to only the soft control panels. This allows users that are registered but either have no defined profile on a system or only require basic operational access the ability to control pre-configured operational functions of the systems.
- **Ultricore CC Admin Profile** — a user profile which allows the “Administrator” user mentioned above to have full admin and engineering capabilities by using the Default Profile. This profile is read-only by default.

✶ All users default to the Default Tree Profile with no System Login required. In other words, until specifically enabled, the Ultricore Profiles feature is not engaged, and the systems will all behave as in previous versions. It should be noted that while the Ultricore Profiles feature is not engaged, the default user profile can be modified should the tree for all users need to be modified.

To create a profile

1. In the **Profiles** area, click **Manage Profiles**.

   The **Manage Profiles** dialog opens.



2. Click **Add** to create the new profile.
3. Use the **Profile Name** field to assign a unique name for the profile.

   Since the profile could be either specific to a user, a workstation or a group of users, it is recommended to create a name that reflects its purpose. For example, John Doe (a specific user), Graphics Operator (a group of users), or PCR1-TD (a workstation).
4. Use the **Username** field to assign a specific user to the profile.

   An asterisk (*) indicates the profile applies to all users subject to the other profile detail entries.
5. Use the **Machine Name** field to specify the OS/DNS machine name for a workstation.

   This allows the identification of a specific workstation in an environment where DHCP means the IP address may change over time.
6. Use the **IP Address** field to specify the IP address for a workstation.

   This allows identification of a specific workstation in a statically addressed system.
7. Use the **Admin** box to enable/disable (selected/cleared) access to admin functions.

   For example, upload, reboot, refresh and other tasks that are not normal operational functional requirements.
8. Use the **Parent Profile** to assign any of the currently configured profiles as a parent or reference profile for the profile being created or edited.
9. Use the **Use** and/or **Copy** options to determine if the parent profile tree configuration is used directly by the profile being created or edited or copied into this profile allowing customization of the tree for the specific needs of the user.

✶ If another profile tree is used rather than copied, changes to the tree need to be performed on the parent profile tree and will affect all users that “use” that parent profile and that the same change would need to be executed individually on all users that copied the parent profile tree.

10. Repeat this procedure for every new profile you wish to create.

Defining the Permissions for a Profile

Once a profile is created, the remaining two areas of the Ultricore Profiles interface allow display and/or modification of the tree structure that will be enabled for the user or users of the selected profile.

✶ This section only applies if the ULTRICORE-PRO license is enabled.

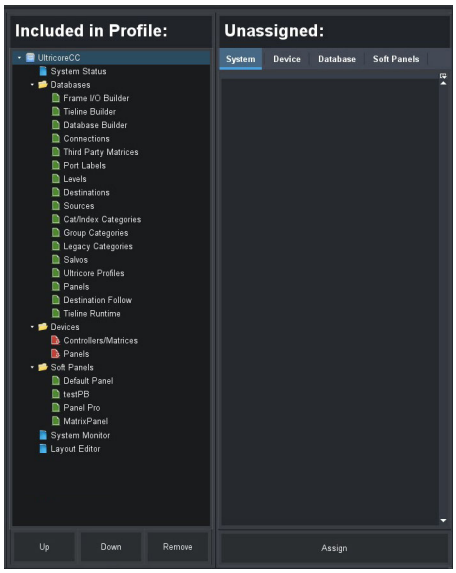


Figure 12 Example of the Tree Nodes and Tabs for a Selected Profile

Overview

This section provides a brief overview of each area and their options.

Tree Nodes

The tree (the leftmost area) displays all the assigned options and their desired order in the tree structure much like the tree view in DashBoard for an Ultricore CC. The nodes in Ultricore Profiles tree view are determined by your system configuration and any licenses installed for your system. Buttons at the bottom of this area (**Up**, **Down**, **Remove**) allow entries to be moved up and down in the tree within the group to which the item belongs or removed if they are not required for the selected profile. When removed, the item is returned to the list of available items in the appropriate group tab.

Group Tabs

The group tabs (the rightmost area) contain all items available in the group in question that are not included in the selected profile's tree currently. If an item is not in the tree currently but required, the appropriate group tab is selected, the item required is selected and the Assign button is clicked moving it to the bottom of the appropriate group of the tree. The **Up** and **Down** buttons can then be used to order the tree items specific to the needs of the profile.

When any changes are made to the tree structure(s), the changes are captured locally but are not recorded in the database until the **Apply** button on the bottom row is clicked. Clicking **Apply** records all the pending changes in the system database. Clicking **Cancel** will discard any unsaved changes. There are no pending changes if the **Apply** and **Cancel** buttons are not highlighted.

Enabling the Ultricore Profiles Feature

Once you created the profiles and groups for your system, you can proceed to enable the Ultricore Profiles feature. Enabling the feature requires you to disable the current user credentials and settings and apply the profiles and groups you defined in previous sections.

- ✶ Before proceeding, ensure that you created a new Administrator profile that has full access to your system. This is a separate profile from the default Ultrix Admin profile (which is read-only).
- ✶ This procedure requires a reboot of the Ultricore CC.

To enable the Ultricore Profiles feature

1. In the Tree View of DashBoard, double-click the **Product Info** node.

   The **Product Info** interfaces display in the DashBoard window.
2. Select the **Setup** tab.
3. Locate the **Ultricore Profile Settings** area.

   You may need to scroll down the tab to view this area.
4. Clear the **User Credentials** box.

   A dialog opens to confirm the selection.
5. Select the **User Profiles** box.

   A dialog opens to confirm the selection.
6. Click **Reboot**.

Application of the Ultricore Profiles

Once the Ultricore Profiles function is enabled, all users from that point forward will initially receive a tree that only has a System Login entry. Once the user is created with either the default or a specific password by the Administrator, the user can login through a login page displayed in the DashBoard window.

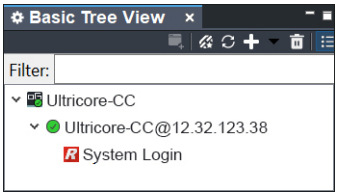


Figure 13 Example of the System Login Sub-node

To log in

1. In the **Basic Tree View**, locate the device you wish to access.
2. Expand the device nodes to display the System Login sub-node.
3. Double-click the **System Login** sub-node.

   The **System Login** page displays in the DashBoard window.
4. Enter the credentials for the profile assigned to you.
5. Click **Login**.
   - The login information is confirmed by the system, and the appropriate tree with all assigned pages and functions are immediately available for use in the DashBoard window.
   - The **Login** page updates to the **Logout** page.

✶ When you log out, the Basic Tree View returns to the System Login tree view. See **Figure 13**.

To change the password

- Click **Change Pwd** on the **System Login** page.

✶ The old password is required for the user to change the password and the new password needs to be confirmed to ensure the new password is as the user expects. If the old password is forgotten or lost the admin can force an update to the user password through the Manage Users dialog in the Users area of the Ultricore Profiles interface.

User Data Import/Export

Due to the need to maintain different permutations of user data to system data, the Import/Export database functions now includes the ability to import databases with and without the user data (user accounts and profiles). In addition, the user files can be imported and exported independently to any chosen database. This allows for instance a different show configuration to be loaded while maintaining the same staff and location configuration or for a truck for instance, allows a new crew configuration to be loaded without changing system configurations.

Device Communication Setup

Ultricore CC functions as a central controller for the Ross routing system. From Ultricore CC, you can store and implement routing system configurations into a system while providing an overview of your entire routing system.

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide*** for details on setting up communications.

Ultricore CC Communications Overview

A connection point is how the Ultricore CC is connected to routing system components such as routers (matrices), and remote control panels. A connection point defines the interface and the protocol to be used for communications. Once defined, Ultricore CC retrieves the information of any device on that connection point.

✶ Third-party device information is not automatically retrieved. These devices must be added manually.

Ultricore CC provides bi-directional protocol translation to facilitate the control of third party or legacy routers as part of a Ross routing system. You can also integrate control over a Ross routing system by a third-party automation system. **Table 4** lists the important communication ports for Ultricore CC.

Table 4 Communications Ports

Device	Protocol	Port
NK Routers	TCP	5000
Ultrix Routers	TCP	15000
Walkabout Discovery	UDP	5555

Device Discovery in DashBoard

When DashBoard is launched, devices such as openGear frames and Ross NK routers, are listed and made available in the Tree View. DashBoard uses the open SLP protocol to locate devices on the same network as the computer running the DashBoard client software. There are two methods for adding a device to the Tree View in DashBoard: using the auto-connect feature of DashBoard or manually adding a device by specifying the IP address of the device. Both methods are described in more detail in the ***DashBoard User Guide***.

Communications between Ultricore CC and the Devices in a Routing System

The Ultricore CC Connections interface enables you to use DashBoard to locate devices in your network. To enable Ultricore CC to function as the 'master' of the routing system, you must establish communications with the devices it is connected to and define how they are connected. Each router must have a connection point defined. For those devices that are not directly connected to your network, such as Ross NK Series routers, you must supply their connection information (NK-NET/NK-IPS) in the Connections interface. Once this information is entered into the interface, the Ultricore CC panel can communicate directly with the device.

Connecting to an Ultrix Router

Ultricore CC may act as a master controller for one or more Ultrix routers as well and legacy Ross NK series devices. A connection is made from the controlling (primary) Ultricore CC panel to the (client) Ultrix router(s). The controlling Ultricore CC panel contains the full database configuration for the entire operation of the system.

✶ Ultricore redundancy is only available when using Ultricore BCS panels. Refer to the ***Ultricore BCS User Guide*** for more information.

For More Information on...

- configuring the Ultrix router, refer to the ***Ultrix User Guide***.

General Work Flow

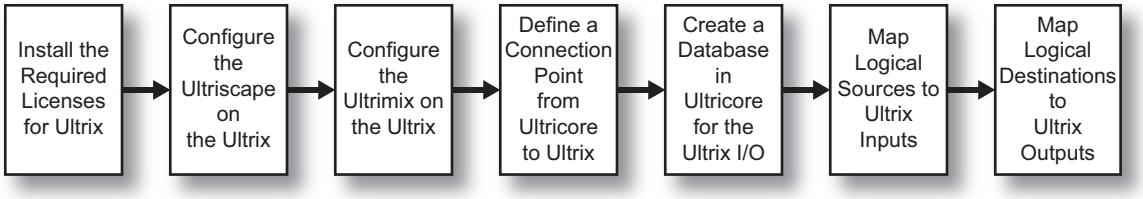


Figure 14 Work Flow for Setting up a Connection Point between Ultrix and Ultricore CC

Configuring the Ultriscape

The Ultriscape PiP and head destination mapping is required in the Ultricore CC 'master' database for each Ultriscape head in use by the Ultrix router. The procedure is the same as the Ultriscape configuration for a stand-alone Ultrix router.

Mapping Logical Sources and Destinations

The physical inputs and outputs the Ultrix provides will display in the **Port Labels** tab of the Ultricore CC database. These input and outputs ports are now ready for re-naming (if required) and mapping to logical source and destinations.

Setup Notes

Keep the following mind when establishing a connection point from an Ultricore CC to an Ultrix router:

- Ensure unique device names for each Ultrix router. This allows identification of each individual router throughout the setup process. You can edit the name via the Ultrix front panel interface as outlined in the ***Ultrix User Guide***.
- Ensure that the Remote Controller Mode is enabled for each client Ultrix router. Refer to the ***Ultrix User Guide*** for details.
- Client hardware configuration (licensing, port configuration, etc.) is achieved via its own device node within the DashBoard tree.
- Client Ultriscape Multiviewers are configured via the Ultriscape node within the DashBoard tree of the client Ultrix that physically hosts that Multi-Viewer.
- Routing commands are issued to the primary device via remote control panels, external protocols or DashBoard soft panels[1]. Any client router will ignore routing commands not originating from the primary while in this connected mode.
- The ULTRIX-FR12 requires connection to an Ultricore BCS.

1. Only the soft panels defined within the database of the Ultricore CC may control the system.

Adding a Connection Point

Before defining a connection point between the Ultricore CC and an Ultrix router, you must verify that the router is listed in the Walkabout utility.

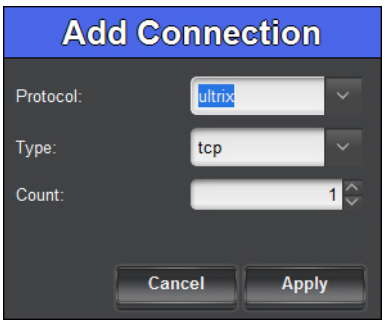
Once a connection point is established between the Ultricore CC and its client routers, the physical inputs and outputs the clients provide will display in the **Port Labels** tab of the primary Ultricore CC database. These input and outputs ports are now ready for renaming (if required) and mapping to logical source and destinations.

To add an Ultrix connection point

1. Ensure each router is installed, configured, and listed in the Basic Tree View of your DashBoard client.
2. Launch the Walkabout utility in DashBoard as follows:
   a. Expand the **NK Utilities** node in the Tree View.
   b. Double-click **Show Walkabout** to open the Walkabout utility in the DashBoard window.
   c. Verify that the Ultrix router is listed in the table of the Walkabout utility.
   d. Make a note of the router name and IP address.
3. Display the **Connections** tab in DashBoard for Ultricore CC as follows:
   a. Expand the **Database** node in the Tree View.
   b. Double-click the **Connections** node.

      The **Connections** tab opens that lists the current database connection points.
4. Click **Edit** > **Add**.

   The **Add Connections** dialog opens.
5. In the **Add Connections** dialog, perform the following:
   a. Use the **Protocol** menu to select **ultrix**.
   b. Use the **Type** menu to select **tcp**.
   c. Use the **Count** menu to specify the number of new connection entries (rows) to make in the **Connections** table. For example, to connect to three Ultrix routers you would enter a value of **3**.



   d. Click **Apply** to create the new device row(s) in the **Servers** table.

      The **Add Connection** dialog closes.
6. In the **Name** column of the **Servers** table, click the cell of the new **Ultrix** row to display the drop-down menu.
7. From the drop-down menu, select the Ultrix router you which to establish a connection to.
8. If the Ultrix router is not listed in the drop-down menu:

a. Close the **Connections** tab.

b. Launch Walkabout to detect the on-line devices in your system.

c. Double-click the **Connections** node for the Ultricore CC to display its **Connections** tab.

d. Repeat steps 4 to 7.

9. In the **Enabled** column of the new row, select **Enable**.
10. Repeat steps 6 to 9 for each additional Ultrix router.
11. Click **Apply** at the bottom of the **Connections** tab to save the new settings.

Deleting a Connection Point

✶ Once a connection point is deleted from the Ultricore CC database, the Ultricore CC panel and the Ultrix router will need to be re-configured as per the new requirements. This will require you to update the database(s) on each device.

To delete a connection point between Ultricore CC and an Ultrix router

1. Display the **Connections** tab for Ultricore CC as follows:

   a. Expand the **Database** node in the Tree View.

   b. Double-click the **Connections** node.

   The **Connections** tab opens that lists the current database connection points.

2. In the **Servers** table, select the Ultrix connection to be deleted.

   The row is now highlighted in the **Servers** table.

3. Click **Edit** > **Delete**.
4. Power cycle the Ultrix router to re-establish its own internal database.
5. Re-configure Ultricore CC and the Ultrix router as per the new requirements.

Connecting to Ross Ethernet Devices

A router must be defined for Ultricore CC to utilize it. A router or remote control panel may be defined using the auto-populated fields in the Connections tab in the Ultricore CC interface, or, in the case of third-party devices, with connection settings added manually to the fields.

For More Information on...

- establishing communications with a third-party device, refer to "**Connecting to Third-Party Devices**".

To establish communication between Ultricore CC and a Ross ethernet device

1. Launch the Walkabout utility in DashBoard as follows:

   a. Expand the **NK Utilities** node in the Tree View.

   b. Double-click **Show Walkabout** to open the Walkabout utility in the DashBoard window.

   c. Verify that your Ross Ethernet device is listed in the table of the Walkabout utility. Make a note of its name and IP Address.

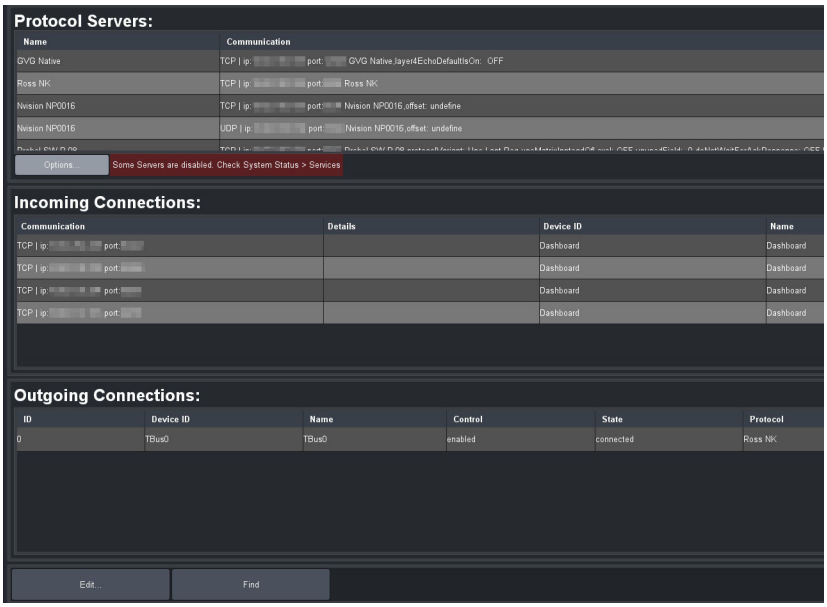
✶ If the device you want to connect to the Ultricore CC is not detectable in Walkabout, you can still establish communications with it in Ultricore CC using the **Connections > Settings** menu to manually enter/edit the device settings.

2. Display the **Connections** tab for Ultricore CC as follows:

a. Expand the **Database** node in the Tree View.

b. Double-click the **Connections** node.

The **Connections** tab opens that lists the current database connection points.



3. Click **Edit** > **Add**.

The **Add Connections** dialog opens.

4. In the **Add Connections** dialog, perform the following:

a. Use the **Protocol** menu to specify the ethernet protocol the device uses to communicate with the Ultricore CC.

b. Use the **Type** menu to select **tcp**.

c. Use the **Count** menu to specify the number of new connection entries to make in the **Servers** table.

d. Click **Apply** to create the new device row(s) in the **Servers** table.

5. In the **Name** column, click the cell of the new row to display the drop-down menu.

6. From the drop-down menu, select the device you which to establish a connection to.

✶ Ross Video devices detected by Walkabout will auto-populate this menu. Third-party devices will require a chosen name to be typed into this field.

7. In the **Enabled** column of the new row, select **Enable**.

8. Click the **[...]** button to verify the IP Address and TCP port values for the device.

9. Click **Apply** at the bottom of the **Connections** tab to save the new settings.

Connecting to Ross NK Series Devices

Ross NK routers and remote control panels are linked via the T-Bus Control System, a multi-drop RJ-45 control system. These T-Bus devices can communicate over Ethernet via a Ross NK-IPS or NK-NET.

A connection point between the Ultricore CC and an NK-IPS or NK-NET is defined using the auto-populated fields in the Connections tab of the Ultricore CC interface. Once a connection point

is established, the Ultricore CC gains control over those Ross NK devices connected to the NK-IPS or NK-NET.

To establish a connection point between Ultricore CC and an NK-IPS or NK-NET

1. Launch the Walkabout utility in DashBoard as follows:
   a. Expand the **NK Utilities** node in the Tree View.
   b. Double-click **Show Walkabout** to open the Walkabout utility in the DashBoard window.
   c. Verify that your the NK-NET and/or NK-IPS device is listed in the table of the Walkabout utility. Make a note of its name and IP Address.

✶ If the device you want to connect to the Ultricore CC is not detectable in Walkabout, you can still establish communications with it in Ultricore CC using the **Connections > Settings** menu to manually enter/edit the device settings.

2. Display the **Connections** tab for Ultricore CC as follows:
   a. Expand the **Database** node in the Tree View.
   b. Double-click the **Connections** node.

   The **Connections** tab opens that lists the current database connection points.
3. Click **Edit** > **Add**.

   The **Add Connections** dialog opens.
4. In the **Add Connections** dialog, perform the following:
   a. Use the **Protocol** menu to select **Ross NK**.
   b. Use the **Type** menu to select **tcp**.
   c. Use the **Count** menu to specify the number of new connection entries to make in the **Servers** table.
   d. Click **Apply** to create the new device row(s) in the **Servers** table and close the **Add Connections** dialog.
5. In the **Name** column, click the cell of the new row to display the drop-down menu.
6. From the drop-down menu, select the device you which to establish a connection to.

✶ Ross Video devices will auto-populate this menu.

7. In the **Enabled** column of the new row, select **Enable**.
8. Click the **[...]** button to verify the IP Address for the device.
9. Click **Apply** at the bottom of the **Connections** tab to save your settings.

Connecting to Ross NK Series Devices via T-Bus

The Ultricore CC hardware contains a loop-though **T-BUS** port for direct communication with Ross NK Series devices. A connection point for this **T-BUS** port is defined by default in Ultricore CC.

To establish a connection between Ultricore CC and a Ross NK Series Device via T-Bus

1. Physically connect the Ross NK series to the **T-BUS** port on the Ultricore CC rear panel as outlined in "**To connect the Ultricore CC to a NK Series device via T-BUS**".
2. Follow the instructions in "**Integrating Ross NK Series Devices with Ultricore CC**".

   Ultricore CC will load the information from the Ross NK series devices for further database configuration.

Connecting to Ross Remote Control Panels

An Ultricore CC can communicate with external remote control panels such as the Ross RCP-NK series, RCP-ME, and RCP-QE. Communication with Ethernet enabled panels is direct from the panel to Ultricore CC. Refer to the panel user manual for specific configuration details.

RCP-NK Series Panels

Communication with RCP-NK series panels is via an established connection point with either an NK-IPS or NK-NET network bridge. Refer to the ***RCP-NK User Guide*** for details.

✶ RCP-NK series control panels do not automatically receive the active database labels. The database labels must be replicated on the each RCP-NK series device.

RCP-ME and RCP-QE Panels

The connection from the remote control panel to Ultricore CC is configured on the panel's DashBoard interface.

1. Display the **RCP Connection Editor** in DashBoard for your remote control panel. Refer to the user guide for your remote control panel for details.
2. Locate the **Servers to Connect** table.
3. In the first row of the table, use the **IP address** column to specify the IP address of the Ultricore CC that the remote control panel will communicate with.
4. Send the current configuration file to the remote control panel. Refer to the user guide for your remote control panel for details.

   The remote control panel will connect to the Ultricore CC router and receive a copy of the current database labels.

Connecting to Third-Party Devices

Ultricore CC provides bi-directional Ethernet and Serial protocol support with labels to facilitate control of:

- third party and legacy routers as part of the Ultricore CC routing system
- an Ultricore CC routing system by third party control or automation system

✶ Before proceeding, ensure that your third-party device is installed and configure according to its documentation.

Overview

Ultricore CC provides bi-directional translation of the following third-party protocols:

- GVG Native serial and Ethernet protocols
- Probel SW-P-08 serial protocol

Connection to third-party devices may be categorized into two broad groups: controller and controllee.

- Controllers are devices that will control the Ultricore CC and connect via what may be termed an incoming connection.
- Controllees are devices to be controlled by Ultricore CC router and connect via what may be termed an outgoing connection.

For More Information on...

- the protocols and ports for configuring third-party communications on Ultricore CC, refer to **Table 5** and **Table 6**.
- the commands that Ultricore CC supports, refer to "**External Control**".
- connecting a third-party device to the serial port on the Ultricore CC rear panel, refer to "**Connecting the Ultricore CC to a Serial Device**".

Incoming Ethernet Connections

The Ultricore CC can communicate with third-party external devices via a TCP connection. By default, Ultricore CC runs a server process for the following Ethernet protocols:

Table 5 Supported Protocols — Ethernet Connection

Protocol	Default Port
GVG Native Series 7000	TCP: 12345
Probel SW-P-08	TCP: 8910
RossTalk	TCP: 7788
TSL UMD v3.1	TCP: 5727 UPD: 4490
TSL UMD v4.0	TCP:5728 UDP: 4491
TSL UMD v5.0	TCP: 5729 UDP: 4492

These Ethernet servers are always running. No further configuration is required — simply configure your client device to match the Ultricore CC's TCP/IP address and port number.

Outgoing Ethernet Connections

This section outlines how to configure a client connection (out-going control) interface to the external system.

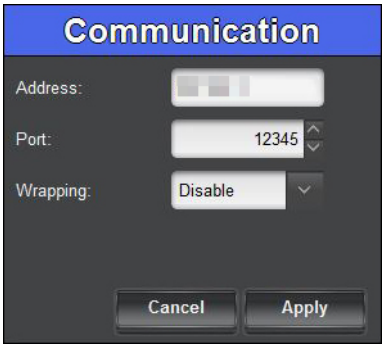
To set up a connection over Ethernet between Ultricore CC and a third-party device

1. Expand the **Database** node.
2. Double-click the **Connections** node located under the Database node.

   The **Connections** tab opens that lists the current database connection points.
3. Click **Edit** > **Add**.

   The **Add Connections** dialog opens.
4. In the **Add Connections** dialog, perform the following:
   a. Use the **Protocol** menu to select the Ethernet protocol the device uses to communicate with the Ultricore CC. Refer to **Table 5** for a list of options.
   b. Use the **Type** menu to select **tcp** or **udp** as required by the external device.
   c. Use the **Count** menu to specify the number of new connection entries to make in the **Servers** table.
   d. Click **Apply** to create the new device row(s) in the **Servers** table.

5. In the **Name** field, type a unique identifier for the third-party device. This name is used to identify the specific device within the Ultricore CC database.
6. Click the **[...]** button in the new row to display the **Communication** dialog.



7. Use the **Communication** dialog to further define the server to connect to:
   a. Use the **Address** field to specify the IP Address assigned to the third-party device.
   b. Use the **Port** field to specify the Port Number assigned to the third-party device that the Ultricore CC will try to connect to.
   c. Use the **Wrapping** field to specify the TSL UMD v5.0 TCP wrapping is enabled or disabled. This setting is ignored for other protocol types.
   d. Click **Apply** to save your settings and close the dialog.
8. Edit the **Description** field to your requirements.
9. In the **Enabled** column of the new row, select **Enable**.

   The **Connected** field in the **Connections** tab reports "`Connect`" when communication is established between the third-party device and Ultricore CC.
10. Click **Apply** in the **Connections** tab to save the new settings.

Defining a Serial Connection

Ultricore CC may communicate directly with third-party devices using a native serial protocol. The same protocols may also be implemented via serial connections with the following settings:

✶ A serial connection point must be implemented on the **Connections** tab in the Ultricore CC database before communications can start. The settings may be changed from the protocol defaults to suit your requirements.

Table 6 Supported Protocols — Serial Connections

		Settings			
Protocol	**Type**	**Baud**	**Data Bits**	**Parity**	**Stop Bits**
GVG Native Series 7000	RS232 or RS422	38400	8	None	1
Probel SW-P-08	RS232 or RS422	38400	8	None	1
TSL UMD v3.1	RS422 or RS485	38400	8	Even	1
TSL UMD v4.0	RS422 or RS485	38400	8	Even	1
TSL UMD v5.0	RS422 or RS485	38400	8	Even	1

To set up a serial connection between Ultricore CC and a third-party device

1. Double-click the **Connections** node located under the **Database** node.

   The **Connections** tab opens.

2. Click **Edit** > **Add**.

   The **Add Connections** dialog opens.

3. In the **Add Connections** dialog, perform the following:

   a. Use the **Protocol** menu to select the protocol standard.

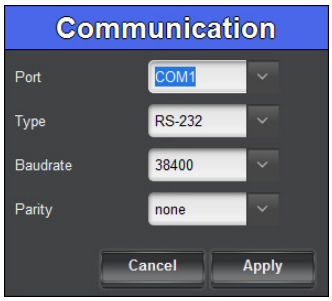
   b. Use the **Type** menu to select **Serial**.

   c. Use the **Count** menu to specify the number of new connection entries to make in the **Servers** table.

   d. Click **Apply** to create the new device row(s) in the **Servers** table.

4. In the **Name** field, type a unique identifier for the third-party device. This name is used to identify the device within the Ultricore CC system.

5. Click the **[...]** button in the new row to display the **Communication** dialog.



6. Use the **Port** field to specify the Port Number assigned to the third-party device that Ultricore CC will try to connect to.

7. From the **Type** menu in the **Communication** dialog, select **RS232** or **RS422**.

   The table in the **Communication** dialog updates to display the settings for serial communication.

8. Use the **Type** field to specify the serial transmission standard for the third-party device.

9. Use the **Baud Rate** field to specify the bit rate for the third-party device.

10. Use the **Parity** field to specify the parity for the third-party device.

11. Click **Apply** to save your settings and close the **Communication** dialog.

12. In the new row, select the **Enabled** box.

13. Click **Apply** to save your settings.

    The **Connected** field in the **Connections** tab reports "**`Connect`**" when communication is configured and enabled between the third-party device and Ultricore CC. The system does not poll or query the serial link to verify the validity of the setup.

Creating a Logical Matrix for an External Device

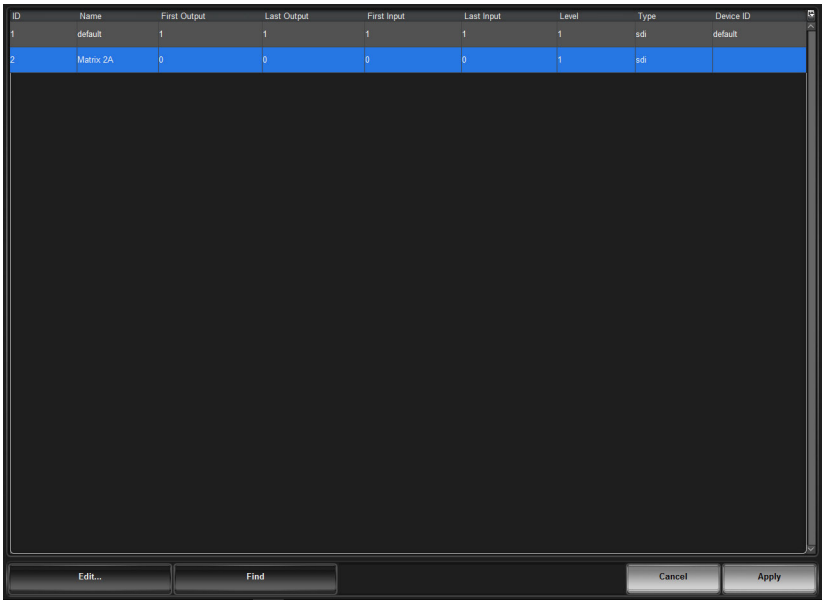
If the external device presents a matrix of crosspoint switches for routing, you can create logical matrices in an Ultricore CC database using the device inputs and outputs. Creating a logical matrix from the external device enables Ultricore CC to include the inputs and outputs for selection in the Sources and Destination tabs of the Ultricore CC database.

✶ The input/output range and level you specify in the Ultricore CC database must match the settings within the external matrix.

To create a logical matrix from an external device

1. Expand the **Database** node.
2. Double-click the **Third Party Matrices** node located under the **Database** node.

   The **Third Party Matrices** tab opens.
3. Click **Edit** > **Insert** to add a blank row to the **Third Party Matrices** table.



4. In the **Name** field, type a unique identifier for the third-party matrix. This name is used to identify the matrix within the Ultricore CC database.
5. From the **Device ID** drop-down menu, select the device you want to define the logical matrix for. This is the name given to the device when you established a connection point with it on the Connections tab.

✶ The **Device ID** menu lists only the third-party devices that have a valid connection point with the Ultricore CC router.

6. Define the matrix size as follows:
   a. Use the **First Output** and **Last Output** fields to define the range of destinations from the device within the Ultricore CC database.
   b. Use the **First Input** and **Last Input** fields to define the range of sources from the device within the Ultricore CC database.

✶ These created inputs and outputs will use the nomenclature ***DeviceID.Slot.Port.Type.Channel*** where ***DeviceID*** represents the Name assigned to the external device on the Connections tab.

7. Use the **Level** field to specify the number of levels for the device within the Ultricore CC database.
8. Use the **Type** field to specify the signal type for the matrix.
9. Click **Apply**.

   The new matrix is saved to the database and is added to the list of available matrices in the **Port Labels** tab.

Database Configuration

A database in Ultricore CC stores and implements a routing system configuration. Multiple databases can be configured using a different combination of devices, matrices, levels, sources, and destinations for the routings system. Procedures in this chapter assume that you have DashBoard launched and the Ultricore CC displayed in the Tree View.

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide*** for details on configuring databases.

How a Database Determines the Routing System

The various tables within an Ultricore CC router determine if a signal/route can be made from input to output.

For a given level, if there is a physical port mapped in both the Source and Destination tabs, and the controlling device has the level enabled, then a crosspoint switch can be issued and executed on the router(s). **Table 7** outlines a database with four levels. Level 1 has mapped valid Sources and Destinations, and the level is enabled on the controlling device.

Table 7 Example of a Multi-Level Database Setup

	Level 1	Level 2	Level 3	Level 4
Is a physical source assigned?	✓	X[a]	✓	✓
Is a physical destination assigned?	✓	✓	X[b]	X
Is the Level enabled on the Controller device?	✓	✓	✓	X
Can a switch be executed?	✓[c]	X[d]	X[d]	X[d]

a. An entry is not present in the corresponding Level column of the Source tab.
b. An entry is not present in the corresponding Level column of the Destinations tab.
c. A resulting switch will be executed.
d. A resulting switch will not be executed. Physical ports from the same logical matrix must be entered in the same control level before a connection can be made.

Configuration Overview

The generalized work flow of configuring a database for the Ultricore CC is:

1. Establish connection points to external devices. Refer to "**Device Communication Setup**".
2. Verify available I/O ports to ensure correct system connections. This default port naming convention of **frame.slot.port.type** nomenclature is to be overwritten (if required) at this stage.
3. Create a database as outlined in "**Creating a New Database**".

✶ Ultricore CC does not support Unicode characters.

4. Define a soft panel or establish a connection to a remote control panel (RCP).

Database File Management Overview

Each database consists of a collection of configuration files necessary for Ultricore CC operation. The database resides within the Ultricore CC storage system. Multiple databases may be saved and accessed at any time.

For More Information on...

- the **System Status** tabs and menus, refer to "**System Status Interfaces**".

Database management consists of the following tasks:

1. Use the **System Status** > **Database** tab to create, load, and delete databases.
2. Use the **System Status** > **Transfer** tab to backup and restore databases.

Creating a New Database

A database manages the configuration file and settings for your Ultricore CC. Ultricore CC may use a number of database configurations depending on its role in the routing system. Refer to "**Creating a New Database**".

Loading an Existing Database

Use the **System Status** > **Database** tab to load a configured database to your Ultricore CC. Refer to "**Loading a Database**".

Exporting a Database

Enables you to capture a database configuration in a *.uda file that is saved to a location on your network that you can specify. Refer to "**Exporting a Database**".

Importing a Database

Enables you to import a saved *.uda file and make it available in the **System Status** > **Database** tab. Refer to "**Importing a Database**".

Deleting an Existing Database

You can choose to permanently delete any configured database on your Ultricore CC. Refer to "**Deleting a Database**".

Creating a New Database

When you define a database, the information you enter into the Levels, Sources, and Destinations fields will auto-populate the applicable fields in the other interfaces for that Ultricore CC router. You can change the labels for the destinations and sources at any time using the options in the Destinations and Sources interfaces. There are two methods for creating a new database: using the Database Builder, or using the options in the System Status > Database tab. Both methods are described below.

Using the Database Builder

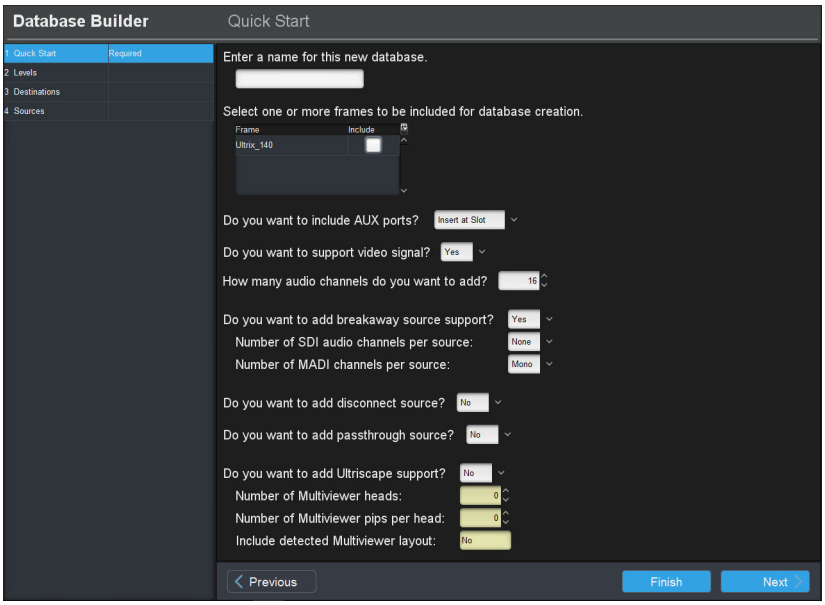
Use the Database Builder to quickly create a starting point database. Once you define the basic parameters of the new database using the settings in the Quick Start interface, you can then define the levels, destinations, and sources for the new database. This makes it very easy to build basic configurations as well as get a system up and running quickly.

✶ Before proceeding, ensure that the required license keys are installed for the device(s) the database will be saved to. Refer to "**Software License Keys**" for more information.

To create a new database using the Database Builder

1. Display the Database nodes as outlined in "**To access the Database interfaces in DashBoard**".
2. Double-click the **Database Builder** sub-node.

The **Database Builder** interface opens in the DashBoard window with the Quick Start page automatically displayed.



3. Use the **Provide a Name** field to type a unique identifier for the database.
4. Select the box(es) from the provided list of detected routers the routers to make the database available to.
5. If you wish to leave the remaining settings at their default values and quickly setup a database, you can click **Finish** and the database will be generated based on selected routers in step 4.

✶ Click **Next**, located at the bottom of the DashBoard window, to display the next page of options in the Database Builder interface.

6. If any AUX Ports are populated with SFP modules, use the **Include AUX ports** menu to specify how to label the I/O in the database.

✶ The default is Insert at Slot, which labels the I/O in each slot as 1-18 with the AUX Ports as 17 and 18.

7. Use the **Support Video Signal** and **Number of Audio Channels** menus to define the Levels in the database.
8. Use the **Breakaway Source Support** menus to implement audio shuffling. The options for SDI and MADI channels are as follows:
   - None — there are no audio channels of this type.
   - Mono — audio channels are applied to all levels
   - Stereo — audio channels are assigned by pair (1-2, 3-4, 5-6 etc.)
   - Quad — audio channels are assigned in groups of four (1-4, 5-8, 9-12 etc.)
   - Oct — audio channels are assigned in groups of eight (1-8, 9-16, 17-24 etc.)

✶ You must have SFP modules installed that support MADI.

9. Use the **Disconnect Source** menu to set unused audio channels to disconnect.
10. Use the **Passthrough Source** menu to route the sources without changes/edits.
11. If you have an UltriScape license installed, use the last set of menus to define the heads, including the number of Picture in Picture (PIPs) that new layouts can include.

✶ You can still create and edit layouts in a database with settings that differ from these.

12. Click **Next** to review the levels, destinations, and sources tables before completing the database builder.
    a. Use the **Levels** page to review or rename the level labels if required.
    b. Use the **Destination** page to review the destination label to physical port mapping. Renaming the labels is also possible from this page if required.
    c. Use the **Sources** page to review the source label to physical port mapping. Renaming the labels is also possible from this page if required.
13. Click **Finish** to create the new database and apply it to the routers selected in step 4.

✶ Click **Rename** to define multiple elements. For example, clicking Rename on the Sources page enables you to define a prefix (e.g. SRC) and apply from a starting point (input 4).

Using the Database Tab

You can use the Database tab in the System Status interface when only configuring a database for a single device.

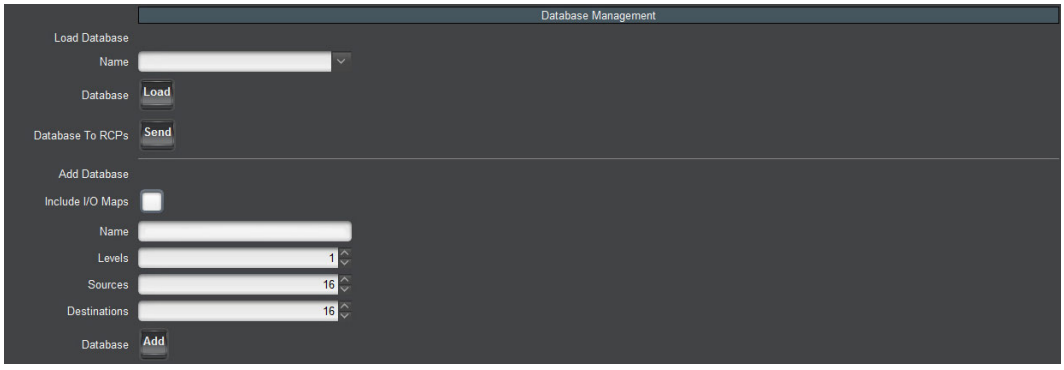
For More Information on...

- assigning destinations, refer to "**Defining the Destinations in a Database**".
- assigning sources, refer to "**Defining the Sources in a Database**".

To create a new database

1. In the Tree View of DashBoard, double-click the **System Status** node.

   The **System Interfaces** display in the DashBoard window.
2. Select the **Database** tab.
3. Locate the **Add Database** options in the **Database Management** area of the tab.



4. In the Add Database **Name** field type a unique identifier for the database. When the database is currently loaded in the system (in use), the Database node displays the database name in the tree view under the Ultricore CC node.
5. Select the **Include I/O Maps** box to create a database to match the quantity of BNC I/O ports available in the connected router.

✶ Each SDI IN/OUT ports will be mapped to the default labels of SRC# and DST# respectively for Level 1 only (SDI). The Destinations and Sources fields are ignored, but the Level field is applied.

6. Use the **Levels** field to specify the total number of levels available in the database.
7. Use the **Sources** field to specify the total number of inputs available in the database.
8. Use the **Destination** field to specify the total number of outputs in the database.
9. Click Database **Add** to create the new database and save it to the Ultricore CC file system.

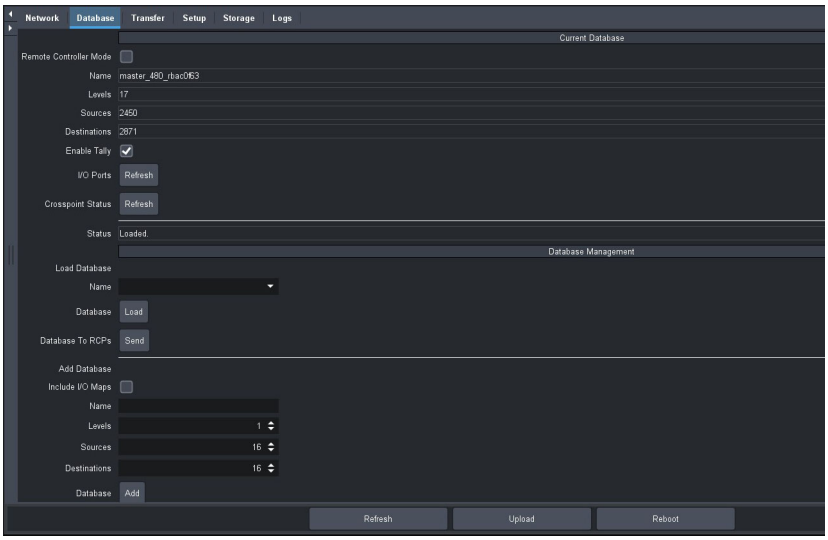
10. Load the database to ensure it is active before proceeding to customize it.

Loading a Database

Each active database includes a unique setup saved to the Ultricore CC file system. You must recall a database before you can configure the matrices, levels, sources and destinations, and soft panels for a particular setup. This also enables you to quickly recall a saved (configured) routing setup just by recalling a different database.

To load a saved database

1. In the Tree View, double-click the **System Status** node.
2. Select the **Database** tab.



3. From the **Name** menu in the **Load Database** area, select the database you want to load.
4. Click **Load**.
5. Verify the following to ensure the database was loaded:
   - The **Name, Levels**, **Sources**, and **Destination** read-only fields in the **Current Database** area in the **Database** tab report the correct values.
   - The **Database** node in the Tree View for the Ultricore CC now reports the correct Database name.

Defining the Levels in a Database

A level is a term used to describe a section or layer of the routing system (e.g. video level, audio level). Ultricore CC uses level definitions for easy identification and control of various routing matrices or parts of the system. The levels defined in the Levels tab have a direct relationship with the Level columns found in other database tabs.

Before You Begin

Determining the amount of levels needed requires a little planning.

Ultricore CC may operate with as little as a single level to define control of the Ultrix SDI switching matrix. Ultricore CC also allows independent routing of SDI embedded audio channels as well as

MADI channels. Using one single level of control will limit the independent selection of embedded audio and/or MADI streams.

Any Ross NK series routers or other third-party routers attached to the Ultricore CC system will require their own control level/s.

✶ The quantity of levels determines how many independent input/output ports (including embedded / MADI channels) may be grouped together as one source or destination selection.

Examples

A single control level can be used when there is limited independent embedded audio/MADI channel switching.

ID	Name
1	SDI

✶ If AFV (audio-follow-video) is desired on a single level database, the Audio Bypass must be enabled for each input and output port or disable the Ultrimix function.

A single level setup with NK-A64 analog audio router attached would require the following levels:

ID	Name
1	SDI
2	AnAud L
3	An Aud R

A setup using SDI with 4 embedded audio levels. This can allow independent switching of 4 of the embedded SDI channels and grouping of 4 MADI channels.The following levels would be required:

ID	Name
1	SDI
2	A1
3	A2
4	A3
5	A4

To define a level in the database

1. Double-click the **Levels** node located under the **Database** node.

   The **Levels** tab opens.

2. Verify the **ID** field to specify the priority of the level.

✶ The **ID** field is a row number automatically defined by the routing system. This ID value corresponds to level numbers when used in Remote Control Panel (RCP) configurations and third-party communications.

3. To re-name a level:

   a. In the **Name** column, type a unique identifier for the level. It is recommended to use words that describe the level such as 3G, Audio, etc.

   b. Click **Enter** to update the name.

4. To select a unique color that will represent the level in the soft panels:

a. In the **Color** column, click the cell for the level you want to configure to display the **Color Select** dialog.

b. Select the hue from the provided vertical color grid in the **Color Select** dialog.

c. Use the **Saturation** options to specify the depth of the color.

d. Use the **Lightness** options to specify the amount of white or black mixed with the selected hue.

e. Confirm that the field beneath the color grid displays the correct color for the level.

f. Apply your changes using one of the following options:

- Click **Live** to preview the color scheme and apply it but not close the **Color Select** dialog; or
- Click **OK** to apply the new color to the level and close the **Color Select** dialog.

5. To provide additional information about the level:

a. In the **Description** column, type a brief summary of the level or provide additional information about the level use or purpose. This column is for identification purposes only and not required for operation.

b. Click **Enter** to update the description.

✶ Inserting a level in a working database can have destructive effects. It is recommended to insert below the last row to minimize this effect.

6. Click **Apply** to save your changes.

To create additional levels

1. Select a row in the **Levels** tab.
2. Click **Edit**.

✶ You can also copy and paste an existing level by clicking **Copy** > **Paste** from the **Edit** dialog.

3. To add a single level, select **Add**.
4. To add multiple levels:

a. Select **Add Series** to display the **Add Rows** dialog.

b. In the **Prefix** field, type the phrase. For example, if you want to create levels as **`AUDIO 1`**, **`AUDIO 2`**, etc., you would type **`AUDIO`** into the **Prefix** field.

c. In the **Start Value** field, type the first number to be used in the series.

d. In the **End Value** field, type the last number to be used in the series.

e. Click **Apply**.

To delete an entry from the Levels table

1. Select the row for the destination to delete in the **Levels** tab.
2. Click **Edit** > **Delete**.

✶ Ensure the ID numbers are correctly sequenced when deleting and inserting entries in the **Levels** table by selecting **Edit** > **Reset All IDs**.

Defining the Destinations in a Database

Ultricore CC uses a database to assign inputs and outputs, as well as define levels and matrices. **Table 8** outlines the available outputs for mapping to the destinations in your database.

Table 8 Mapping Outputs to Database Destinations

Default Slot Label	Physical or Virtual Port?	Description
Slot**x**.out[**y**].sdi.ch1	P	Digital video output slot **x** port **y**
flex.out[**y**].sdi.ch1	P	Digital video output flex slot port **y** (ULTRIX-FR5 only)
Slot**x**.out[**y**].audio.ch**n**	P	Digital audio channel **n** of output slot **x** port **y**
flex.out[**y**].audio.ch**n**	P	Digital audio channel **n** of flex slot output port **y** (ULTRIX-FR5 only)
Slot**x**.head[**y**].sdi.ch1	V	Ultriscape video output slot **x** head **y**
Slot**x**.head**y**-pip[**z**].sdi.ch1	V	Video destination for PiP **z** of slot **x** Ultriscape Head **y**
Slot**x**.head**y**-pip[**z**].meter.ch**n**	V	Audio destination for meter **n** PiP **z** of slot **x** Ultriscape Head **y**
Slot0.mixer-in[**y**].audio.ch1	V	Audio destination mixer input port **y**
Slot0.virt-out[**y**].sdi.ch1	V	Acuity AUX BUS output port **y**

For More Information on...

- defining a database, refer to "**Creating a New Database**".

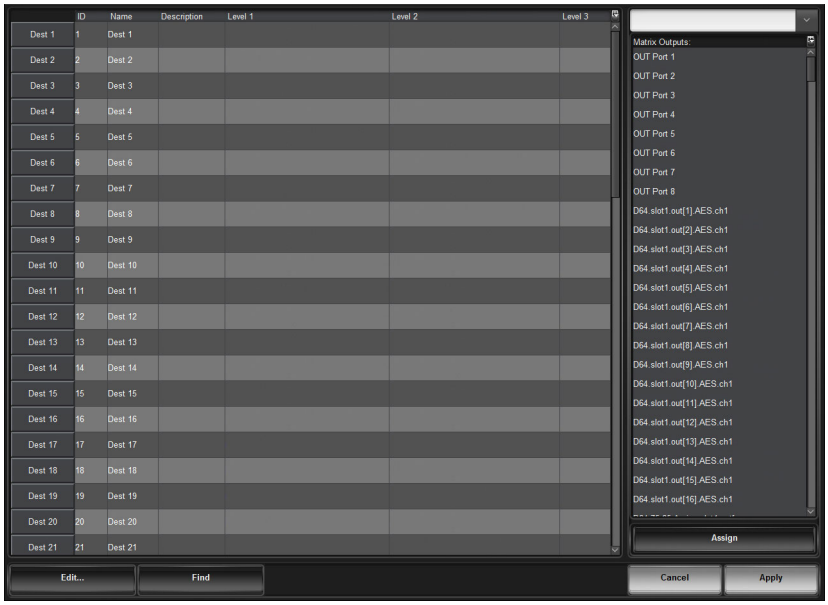
Specifying a Destination Label

The Destinations tab allows the definition of names (or labels) for your routing system outputs. When a database is initialized, default labels of `Dest #` are automatically filled in to the quantity specified by the database. These destination labels may be changed to suit your naming conventions.

To specify a label for a destinations

1. Double-click the **Destinations** node located under the **Database** node.

   The **Destinations** tab opens.



2. Select the cell in the **Name** column of the label to alter.
3. Type the required label.
4. Press **Enter** to apply the change.

✶ Take care to limit the amount of characters as these labels are displayed on Remote Control Panels (RCPs) which have a limited display area.

5. Repeat steps 2 to 4 for each destination you want to specify a virtual label for.
6. Click **Apply** at the bottom of the **Destinations** tab to save your changes.

Mapping an Output to a Destination

The Destinations tab is organized into a table with each row representing a Destination and each column representing a Level. The table cells are the output ports assigned to the Destination for that level. Initially, the table cells are empty (e.g. the destination labels are not assigned to physical output sockets). These may be populated as described in "**To map a physical output to a destination**", or, via the **Advanced Fill** tool.

The **Advanced Fill** tool is provided to create new destination labels that are automatically assigned to physical outputs depending on options set by the user. The audio routing features provided by Ultricore CC can result in an extensive source and destination definition map requiring some time to manually enter. The **Advanced Fill** tool will speed the assignment of physical ports greatly.

Various editing options are available from the editing menus, accessed via the **Edit** button located on the bottom toolbar of the tab.

✶ If you are defining the destinations in a database for use with UltriScape, it is recommended to first define the destinations using the Advanced Fill tool, then re-name the UltriScape Heads as required. Otherwise there may be duplicate assignments of channels in the database.

For More Information on...

- assigning Tally IDs to destinations, refer to "**Assigning the Tally IDs to the Destinations**".

To map a physical output to a destination

1. Double-click the **Destinations** node located under the **Database** node.
2. If desired, type a new name for the destination in the **Name** cell as outlined in "**To specify a label for a destinations**".
3. In the **Destinations** tab, locate the column for the level you wish to include in the destination definition.
4. To map a single output, perform one of the following:
   - Select the cell of the row in the table to display a list of available outputs; or
   - Choose an output from the available **Matrix Outputs** list and click **Assign**.

✶ Cell ranges may be horizontal as well as vertical. For example, a common operation would be to assign SDI embedded channels 1 to 16 to levels 2 to 17. The selected range would be horizontal across many levels but the selection would be vertical from the available outputs. The assignment operation will take the top most of the available outputs selection and assign it to the left most of the horizontal selection and so on through the selection range.

5. To map a range of outputs:
   a. Select the first cell in the table column.
   b. Press and hold **Shift**.
   c. Select the last cell in the table column.
   d. Select a range in the available **Matrix Outputs** list with the same click + shift-click method.

e. Click **Assign**.

6. Click **Apply** at the bottom of the **Destinations** tab to apply the changes to the database.

To map a series of outputs to the same level

1. In the table of the **Destinations** tab, select the first row in the series you want to define for the level.
2. Press and hold **Shift**.
3. Click the last row in the series to select a range of cells within a **Level** column.
4. Select a range of outputs as outlined in "**To map a physical output to a destination**".
5. Click **Assign**.
6. Click **Apply** at the bottom of the **Destinations** tab to apply the changes to the database.

To delete an entry from the Destinations table

1. Select the row for the destination to delete in the **Destinations** tab.
2. Click **Edit** > **Delete**.

✶ Ensure the ID numbers are correctly sequenced when deleting and inserting entries in the **Destinations** table. To re-order the Destinations ID numbers in the database, click **Edit** > **Reset All IDs** in the **Destinations** tab.

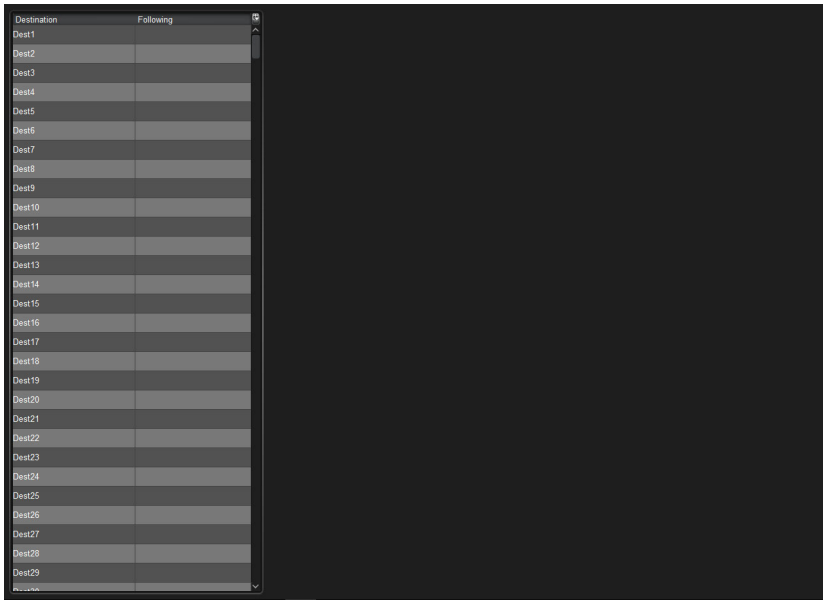
Configuring the Destination Follow Feature

The Destination Follow feature enables you to route a specific destination's source signal to another destination. For example, set **`Dest 1`** to follow **`Dest 6`** so when `Dest 6` is switched to a different source, **`Dest 1`** is also switched to that same source. You can set multiple destinations to follow another single destination, or each following their own unique destination.

To configure the Destination Follow feature

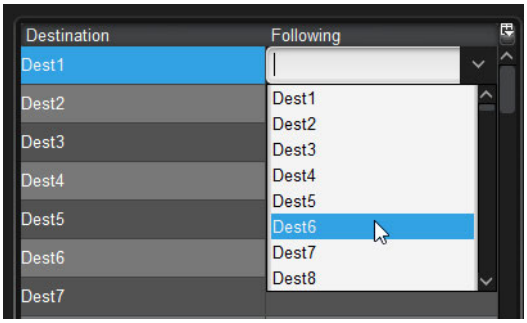
1. Double-click the **Destination Follow** node located under the **Database** node.

   The **Destination Follow** tab opens.



2. Locate the row for the destination to configure.
3. Use the **Following** menu to specify the output that the selected Destination will follow.

In the example below, the user is configuring `Dest1` to follow `Dest6`.



Defining the Sources in a Database

Ultricore CC uses a database to assign inputs, as well as define levels and matrices. **Table 8** outlines the available inputs for mapping to the sources in your database.

Table 9 Mapping Inputs to Database Sources

Default Slot Label	Physical or Virtual Port?	Description
Slot**x**.in[**y**].sdi.ch1	P	Digital video input slot **x** port **y**
flex.in[**y**].sdi.ch1	P	Digital video output flex slot port **y** (ULTRIX-FR5 only)
Slot**x**.in[**y**].audio.ch**n**	P	Digital audio channel **n** of input slot **x** port **y**
flex.in[**y**].audio.ch**n**	P	Digital audio channel **n** of flex slot input port **y** (ULTRIX-FR5 only)
Slot0.disconnect[1].sdi.ch1	V	A 'no signal/disconnected' video source
Slot0.disconnect[1].audio.ch1	V	A 'no signal/disconnected' audio source
Slot0.passthrough[1].audio.ch1	V	Audio on this channel will follow video regardless of audio matrix
Slot0.layout:name[**n**].mv.ch1	V	Ultriscape Head layout file name id **n** – route a layout to a head to change Ultriscape layouts
Slot0.mixer-out[**y**].audio.ch1	V	Audio source for mixer output port **y**
Slot0.mixerd-out[**y**].audio.ch1	V	Audio source for mixer channel strip direct output port **y**
Slot0.virt-in[**y**].sdi.ch1	V	Acuity AUX BUS Input port **y**

For More Information on...

- assigning Tally IDs to sources, refer to "**Assigning the Tally IDs to the Sources**".

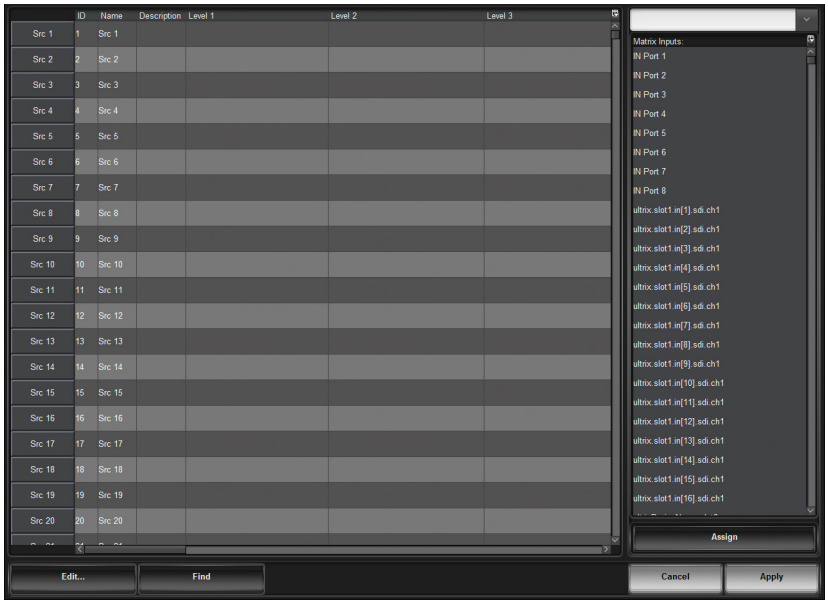
Specifying a Label for a Source

The Sources tab allows the definition of labels for your routing system inputs. When a database is initialized, default labels of `Src #` are automatically filled in to the quantity specified by the database. These source labels may be changed to suit your naming conventions.

To specify a label for a source

1. Double-click the **Sources** node located under the **Database** node.

   The **Sources** tab opens.



2. Select the cell in the **Name** column of the label to alter.
3. Type the required label.
4. Press **Enter** to apply the change.

✶ Take care to limit the amount of characters as these labels are displayed on Remote Control Panels (RCPs) which have a limited display area.

5. Repeat steps 2 to 4 for each destination you want to specify a virtual label for.
6. Click **Apply** at the bottom of the **Destinations** tab to save your changes.
7. Click **Apply** at the bottom of the **Sources** tab to save your changes.

Mapping an Input to a Source

The Sources tab allows the mapping of physical and virtual input ports to your routing system inputs. The tab is organized into a table with each row representing a Source and each column representing a Level. At the top of the column is the name of the Level. The table cells are the input ports assigned to the source for that level.

An **Advanced Fill** tool is provided to create new source labels that are automatically assigned to inputs depending on options set by the user. The audio routing features provided by Ultricore CC can result in an extensive source and destination definition map requiring some time to manually enter. The **Advanced Fill** tool will speed the assignment of ports greatly.

Various editing options are available from the editing menus, accessed via the **Edit** button located on the bottom toolbar of the tab.

To map a physical input with a source

1. Double-click the **Sources** node located under the **Database** node.
2. If desired, type a new name for the source in the **Name** cell as outlined in "**To specify a label for a source**".

3. In the table of the **Sources** tab, locate the column for the level you wish to include in the source definition.
4. To map a single input, perform one of the following:
   - Select the cell of the row in the table to display a list of available input sockets; or
   - Choose an input from the available **Matrix Inputs** list and click **Assign**.

✶ Cell ranges may be horizontal as well as vertical. For example, a common operation would be to assign SDI embedded channels 1 to 16 to levels 2 to 17. The selected range would be horizontal across many levels but the selection would be vertical from the available inputs. The assignment operation will take the top most of the available inputs selection and assign it to the left most of the horizontal selection an so on through the selection range.

5. To map a range of inputs:
   a. Select the first cell in the table column.
   b. Press **Shift**.
   c. Select the last cell in the table column.
   d. Select a range in the available **Matrix Inputs** list.
   e. Click **Assign**.
6. Click **Apply** at the bottom of the **Sources** tab to apply the changes to the database.

To map a series of inputs to the same level

1. In the table of the **Sources** tab, select the first row in the series you want to define for the level.
2. Press and hold **Shift**.
3. Click the last row in the series to select a range of cells within a **Level** column.
4. Select a range of inputs as outlined in step 5 of "**To map a physical input with a source**".
5. Click **Assign**.
6. Click **Apply** at the bottom of the **Sources** tab to apply the changes to the database.

To delete an entry from the Sources table

1. Select the row for the destination to delete in the **Sources** tab.
2. Click **Edit** > **Delete**.

✶ Ensure the ID numbers are correctly sequenced when deleting and inserting entries in the **Sources** table. To re-order the Sources ID numbers in the database, click **Edit** > **Reset All IDs** in the **Sources** tab.

Using the Advanced Fill Tool

The Advanced Fill operation is typically a tool used to initially set up an Ultricore CC database. Edits and customization may then be performed after the Advanced Fill tool has done the bulk of the work.

The following examples are shown on a new database with only database default settings loaded.

✶ Take care when determining label names. While a long name may be nice and descriptive for the Source and Destination tabs, many control devices have limited screen space and labels may be truncated.

For More Information on...

- the settings and menus available in the Advanced Fill tool, refer to "**Advanced Fill Tool**".

Create Source Labels with Assignments for SDI Video Levels

The objective of this example is to insert new labels and assignments for inputs for all routers on SDI Levels only.

To create source labels with assignments for SDI video levels

1. Define the levels as outlined in "**Defining the Levels in a Database**".
2. Select an entry point in the **Sources** tab from where the new labels and assignments will begin.
   a. Double-click the **Sources** node located under the **Database** node.

      The **Sources** tab opens.

   b. Select the cell of the row for the entry point. The new entries will be inserted *below* this row.

   c. Click **Edit** > **Fill**.

      The **Breakaway Fill** dialog opens.

3. If required, select **Fill** > **Entire Device**.
4. In the **Name** field, type a label prefix. Enter a trailing space to ensure a space between the prefix and the numerical counter.
5. From the **AUX Port** menu, define the router AUX ports.
6. From the **Slot** menu, select the first slot in the router. (e.g. Ultrix.slot1)
7. From the **Port** menu, select the first IN port. (e.g. Ultrix.slot1.in[1])
8. From the **Starting Channel** menu, select the first channel of the selected port. (e.g. Ultrix.slot1.in[1].sdi.ch1)
9. In the **Levels** table of the dialog, select the fully qualified Input assignment name from the **I/O Assignment** column.
10. Click **Apply**.

    The dialog closes, and the **Source** tab updates with the newly created and insert labels with assignments.

✶ The Ultrix AUX ports are defined in the list. In this case, these would only be usable providing an SFP module that includes an SDI video input was installed into the relevant AUX port on the Ultrix rear panel.

	Name	Description	Level 1
Input 1	Input 1		Ultrix.slot1.in[1].sdi.ch1
Input 2	Input 2		Ultrix.slot1.in[2].sdi.ch1
Input 3	Input 3		Ultrix.slot1.in[3].sdi.ch1
Input 4	Input 4		Ultrix.slot1.in[4].sdi.ch1
Input 5	Input 5		Ultrix.slot1.in[5].sdi.ch1
Input 6	Input 6		Ultrix.slot1.in[6].sdi.ch1
Input 7	Input 7		Ultrix.slot1.in[7].sdi.ch1
Input 8	Input 8		Ultrix.slot1.in[8].sdi.ch1
Input 9	Input 9		Ultrix.slot1.in[9].sdi.ch1
Input 10	Input 10		Ultrix.slot1.in[10].sdi.ch1
Input 11	Input 11		Ultrix.slot1.in[11].sdi.ch1
Input 12	Input 12		Ultrix.slot1.in[12].sdi.ch1
Input 13	Input 13		Ultrix.slot1.in[13].sdi.ch1
Input 14	Input 14		Ultrix.slot1.in[14].sdi.ch1
Input 15	Input 15		Ultrix.slot1.in[15].sdi.ch1
Input 16	Input 16		Ultrix.slot1.in[16].sdi.ch1
Input 17	Input 17		Ultrix.slot1.AUXA-in[1].sdi.ch1
Input 18	Input 18		Ultrix.slot1.AUXB-in[1].sdi.ch1

Create Destination Labels with Assignments for SDI Video Levels

The objective of this example is to insert new labels and assignments for Ultricore CC outputs for the SDI only level.

To create destination labels with assignments for SDI video levels

1. Define the levels as outlined in "**Defining the Levels in a Database**".
2. Select an entry point in the **Destinations** tab from where the new labels and assignments will begin.
   a. Double-click the **Destinations** node located under the **Database** node.

      The **Destinations** tab opens.

   b. Select the cell of the row for the entry point. The new entries will be inserted *below* this row.
   c. Click **Edit** > **Fill**.

      The **Fill** dialog opens.

3. If required, select **Fill** > **Entire Device**.
4. In the **Name** field, type a label prefix. Enter a trailing space to ensure a space between the prefix and the numerical counter.

5. From the **AUX Port** menu, define the router AUX ports.
6. From the **Slot** menu, select the first slot in the router. (e.g. Ultrix.slot1)
7. From the **Port** menu, select the first OUT port. (e.g. Ultrix.slot1.out[1])
8. From the **Starting Channel** menu, select the first channel of the selected port. (e.g. Ultrix.slot1.out[1].sdi.ch1)
9. In the **Levels** table of the dialog, select the fully qualified Output assignment name from the **I/O Assignment** column.
10. Click **Apply**.

    The dialog closes, and the **Source** tab updates with the newly created and insert labels with assignments.

✶ The AUX ports of the Ultrix router are defined in the list. These would only be usable providing an SFP module that includes an SDI video output was installed into the relevant AUX port on the router rear panel.

output 11	27	output 11		Ultrix.slot1.out[11].sdi.ch1
output 12	28	output 12		Ultrix.slot1.out[12].sdi.ch1
output 13	29	output 13		Ultrix.slot1.out[13].sdi.ch1
output 14	30	output 14		Ultrix.slot1.out[14].sdi.ch1
output 15	31	output 15		Ultrix.slot1.out[15].sdi.ch1
output 16	32	output 16		Ultrix.slot1.out[16].sdi.ch1
output 17	33	output 17		Ultrix.slot1.AUXA-out[1].sdi.ch1
output 18	34	output 18		Ultrix.slot1.AUXB-out[1].sdi.ch1
output 19	35	output 19		Ultrix.slot2.out[1].sdi.ch1
output 20	36	output 20		Ultrix.slot2.out[2].sdi.ch1

Create Source Labels with Assignments for SDI and Embedded Audio

The objective of this example is to create source labels and assignments for the SDI video and the first four embedded audio channels for an entire Ultricore CC enabled slot. The remaining twelve audio channels are not used.

To create source labels with assignments for the SDI video and embedded audio levels

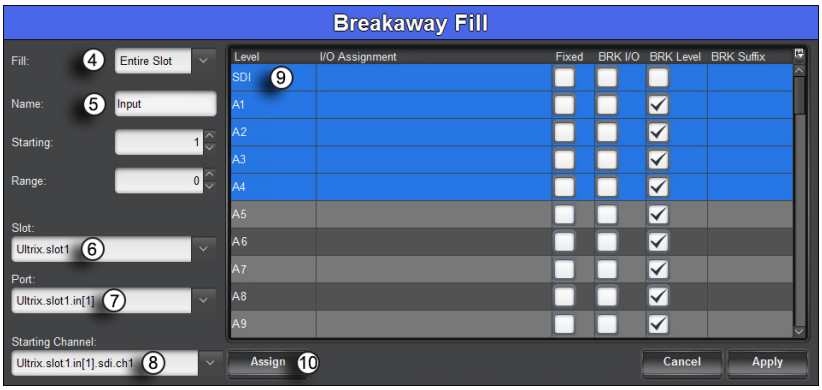
1. Ensure that you have the Ultrimix licensed feature enabled for the slot. Refer to the ***Ultrix User Guide*** for details.
2. Define one level for SDI Video and 16 levels for the embedded audio as outlined in the ***Ultrix User Guide***.
3. Select an entry point in the **Sources** tab from where the new labels and assignments will begin.
   a. Double-click the **Sources** node located under the **Database** node.

      The **Sources** tab opens.

   b. Select the cell of the row for the entry point. The new entries will be inserted *below* this row.

   c. Click **Edit** > **Fill**.

      The **Breakaway Fill** dialog opens.

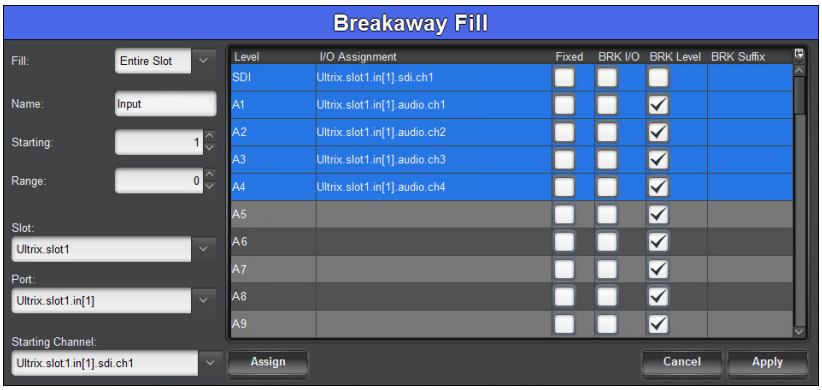


4. If required, select **Fill** > **Entire Slot**.
5. In the **Name** field, type a label prefix. Enter a trailing space to ensure a space between the prefix and the numerical counter.
6. From the **AUX Port** menu, define the router AUX ports.
7. From the **Slot** menu, select the Ultrimix enabled slot in the router. (e.g. Ultrix.slot1)
8. From the **Port** menu, select the first port of the Ultrimix enabled slot. (e.g. Ultrix.slot1.out[1])
9. From the **Starting Channel** menu, select the first channel in the series.
10. In the **Levels** table of the dialog, select a range of **Level** rows by clicking the first row level name, then holding the **Shift** button, click the last row level name.

✶ Ensure to select the SDI Video level and the first four embedded audio levels.

11. Click **Assign** to automatically fill the **I/O Assignment** column for the selected levels.

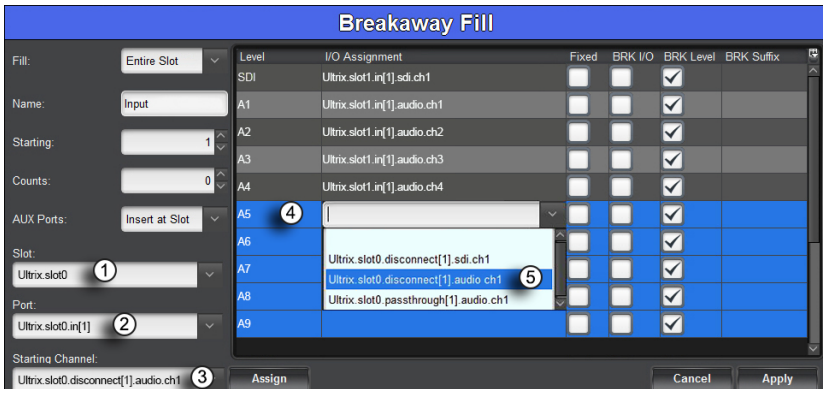
    The **Breakaway Fill** dialog updates but does not close.



To set the unused audio channels to disconnect

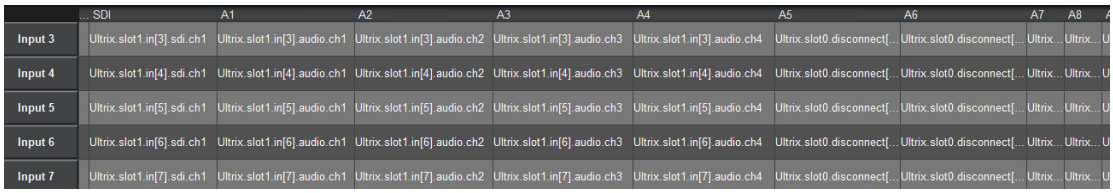
1. From the **Slot** menu in the **Breakaway Fill** dialog, select **Ultrix.slot0**.
2. From the **Port** menu, select **Ultrix.slot0**.
3. From the **Starting Channel** menu, select **Ultrix.slot0.disconnect[1].audio.ch1**.
4. In the **Levels** table of the dialog, select the remaining twelve audio levels (e.g. A5-A16) from the **I/O Assignment** column.
5. Select **Ultrix.slot0.disconnect[1].audio.ch1** from the **I/O Assignment** cell for the first selected row (e.g. A5).

   The disconnect[1].audio will be applied to all the selected rows[1].



6. Click **Apply**.

   The dialog closes, and the **Source** tab updates with the newly created and insert labels with assignments.



Creating Labels with Assignments for SDI and Embedded Audio, with Audio Breakaways

The objective of this example is to create and insert a series of labels with assignments for SDI video and embedded audio. Also, audio breakaway sources will be required to implement audio shuffling.

To enable the ability to shuffle audio (that is to take an audio channel and route into another stream in a different position within that stream), we need to define that audio channel as a source and assign it across all required levels.

For example, we may wish to take channel 3 audio from an input SDI stream, and route (just that individual channel) to channel 2 of an output SDI stream. To facilitate this, the following definitions are needed;

Table 10 Example 1

	SDI Level	Level A1	Level A2	Level A3	Level A4
Source Name					
SDI 1 ch3	<blank>	In[1].audio.ch3	In[1].audio.ch3	In[1].audio.ch3	In[1].audio.ch3
Destination Name					
SDI out1	Out[1].sdi.ch1	Out[1].audio.ch1	Out[1].audio.ch2	Out[1].audio.ch3	Out[1].audio.ch4

✶ If only four audio levels are defined as shown in **Table 10**, and assuming no other level definitions, the user can only route 'SDI 1 ch3' to any of the corresponding levels in the destination, i.e. cannot route 'SDI 1 ch3' to a destination stream channel 8 as Out[1].audio.ch8 is not defined in any of the destination levels.

1. Pass through may also be selected. Pass through has the effect of passing through any audio (silence or otherwise) on the channels A5 to A16. Disconnect effectively mutes those channels on the output stream.

To enact the previous example, the user selects the destination channel by selecting the appropriate level button on the control panel (in this case, the A2 level) before actuating the crosspoint switch (destination button SDIout1, then, source button SDI 1 ch1). The **Advanced Fill** tool can automate the creation of these audio breakaway sources saving a great deal of setup time.

To create source labels with assignments for SDI and embedded audio, with audio breakaways

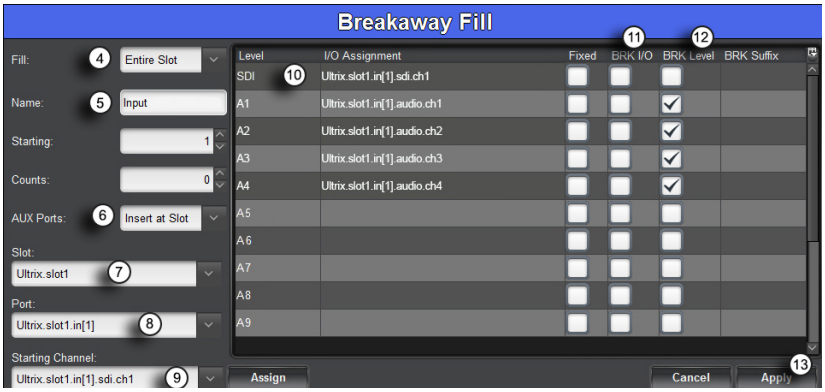
1. Define one level for SDI Video and 16 levels for the embedded audio as outlined in "**Defining the Levels in a Database**".
2. Select an entry point in the **Sources** tab from where the new labels and assignments will begin.
   a. Double-click the **Sources** node located under the **Database** node.

      The **Sources** tab opens.

   b. Select the cell of the row for the entry point. The new entries will be inserted *below* this row.

   c. Click **Edit** > **Fill**.

      The **Breakaway Fill** dialog opens.



3. From the **Fill** menu, select **Entire Slot**.
4. In the **Name** field, type a label prefix. Enter a trailing space to ensure a space between the prefix and the numerical counter.
5. From the **Slot** menu, select the Ultrimix enabled slot in the Ultrix router. (e.g. Ultrix.slot1)
6. From the **AUX Port** menu, define the router AUX ports.
7. From the **Port** menu, select the first port of the Ultrimix enabled slot. (e.g. Ultrix.slot1.out[1])
8. From the **Starting Channel** menu, select the first channel in the series.
9. In the **Levels** table of the dialog, assign physical ports to the levels.
10. Select the **BRK I/O** box for the Levels assignment to be broken out to a separate label/assignment definition.
11. Select the **BRK Level** box for each level to be included in that label/assignment definition.
12. Click **Apply**.

    The dialog closes, and the **Source** tab updates with the newly created and insert labels with assignments, and the audio breakaways definitions.

Input 1	Input 1	Ultrix.slot1.in[1].sdi.ch1	Ultrix.slot1.in[1].audio.ch1	Ultrix.slot1.in[1].audio.ch2	Ultrix.slot1.in[1].audio.ch3	Ultrix.slot1.in[1].audio.ch4
Input 2	Input 2	Ultrix.slot1.in[2].sdi.ch1	Ultrix.slot1.in[2].audio.ch1	Ultrix.slot1.in[2].audio.ch2	Ultrix.slot1.in[2].audio.ch3	Ultrix.slot1.in[2].audio.ch4
Input 3	Input 3	Ultrix.slot1.in[3].sdi.ch1	Ultrix.slot1.in[3].audio.ch1	Ultrix.slot1.in[3].audio.ch2	Ultrix.slot1.in[3].audio.ch3	Ultrix.slot1.in[3].audio.ch4
Input 4	Input 4	Ultrix.slot1.in[4].sdi.ch1	Ultrix.slot1.in[4].audio.ch1	Ultrix.slot1.in[4].audio.ch2	Ultrix.slot1.in[4].audio.ch3	Ultrix.slot1.in[4].audio.ch4
Input 5	Input 5	Ultrix.slot1.in[5].sdi.ch1	Ultrix.slot1.in[5].audio.ch1	Ultrix.slot1.in[5].audio.ch2	Ultrix.slot1.in[5].audio.ch3	Ultrix.slot1.in[5].audio.ch4
Input 6	Input 6	Ultrix.slot1.in[6].sdi.ch1	Ultrix.slot1.in[6].audio.ch1	Ultrix.slot1.in[6].audio.ch2	Ultrix.slot1.in[6].audio.ch3	Ultrix.slot1.in[6].audio.ch4
Input 7	Input 7	Ultrix.slot1.in[7].sdi.ch1	Ultrix.slot1.in[7].audio.ch1	Ultrix.slot1.in[7].audio.ch2	Ultrix.slot1.in[7].audio.ch3	Ultrix.slot1.in[7].audio.ch4

✶ Notice the **ch*x*** automatic suffix to the label. This may be overridden by placing text in the **BRK Suffix** cell of the **Breakaway Fill** dialog.

Input 16	Input 16	Ultrix.slot1.in[16].sdi.ch1	Ultrix.slot1.in[16].audio.ch1	Ultrix.slot1.in[16].audio.ch2	Ultrix.slot1.in[16].audio.ch3	Ultrix.slot1.in[16].audio.ch4
Input 17	Input 17	Ultrix.slot1.AUXA-in[1]....	Ultrix.slot1.AUXA-in[1].au...	Ultrix.slot1.AUXA-in[1].au...	Ultrix.slot1.AUXA-in[1].au...	Ultrix.slot1.AUXA-in[1].au...
Input 18	Input 18	Ultrix.slot1.AUXB-in[1]....	Ultrix.slot1.AUXB-in[1].au...	Ultrix.slot1.AUXB-in[1].au...	Ultrix.slot1.AUXB-in[1].au...	Ultrix.slot1.AUXB-in[1].au...
nput 1 CH1	Input 1 CH1		Ultrix.slot1.in[1].audio.ch1	Ultrix.slot1.in[1].audio.ch1	Ultrix.slot1.in[1].audio.ch1	Ultrix.slot1.in[1].audio.ch1
nput 1 CH2	Input 1 CH2		Ultrix.slot1.in[1].audio.ch2	Ultrix.slot1.in[1].audio.ch2	Ultrix.slot1.in[1].audio.ch2	Ultrix.slot1.in[1].audio.ch2
nput 1 CH3	Input 1 CH3		Ultrix.slot1.in[1].audio.ch3	Ultrix.slot1.in[1].audio.ch3	Ultrix.slot1.in[1].audio.ch3	Ultrix.slot1.in[1].audio.ch3
nput 1 CH4	Input 1 CH4		Ultrix.slot1.in[1].audio.ch4	Ultrix.slot1.in[1].audio.ch4	Ultrix.slot1.in[1].audio.ch4	Ultrix.slot1.in[1].audio.ch4

Creating Categories

You can assign each destination, source, and level to a specific category in the router database. Defining multiple categories enable you to filter the sources, destinations, and level and organize them into logical groups. Each database provides up to six categories that you can define.

For More Information on...

- managing the categories for your Ultricore CC database, refer to "**Using Categories**".

Managing your Databases

A database can be archived by saving it as a *.uda file to a specified location. This enables you to import and export an archived database which is useful for:

- creating a safe, off-frame copy of a default database configuration
- importing a copy of a reference database that can be tailored to a specific application
- restoring a known backup copy of a database to an Ultricore CC

✶ This feature requires DashBoard v8.2 or higher.

Overview

The following information is captured when you archive a database:

- Definitions of levels, sources, and destinations
- Salvos
- Category assignments
- Soft panels
- User assigned port labels
- Current crosspoint status

✶ The following information is not captured: hardware specifics, and license settings.

Exporting a Database

You create an archive of a database (as a *.uda file) using the options in the **System Status** > **Transfer** tab.

To export a database to the archive

1. In the Tree View of DashBoard, double-click the **System Status** node.

   The **System Interfaces** display in the DashBoard window.
2. Select the **Transfer** tab.
3. Locate the **Export** area on the tab.
4. Use the **Database** field to specify the database to export.
5. Click **Browse...** to specify the location to save the *.uda file to.

   The **Archive** read-only field updates with the selected path and database name.
6. Click **Apply**.

   The **Downloading Archive** dialog opens to report the status of the export.

Importing a Database

Once a database is imported from the archive to your system, you can select it from the list of databases to load in the **System Status** > **Database** tab.

✶ The database is not automatically loaded. You must follow the procedure "**Loading a Database**" to load the imported database.

To import a database to an Ultricore CC

1. In the Tree View of DashBoard, double-click the **System Status** node.

   The **System Interfaces** display in the DashBoard window.
2. Select the **Transfer** tab.
3. Locate the **Import** area on the tab.
4. Select the *.uda file you wish to import as follows:
   a. Click **Browse...**

      The **Open** dialog opens.
   b. Use the **Open** dialog to specify the *.uda file to import.
   c. Click **Open** to close the dialog and load the file.
5. Click **Apply**.

   The **Uploading Archive** dialog opens to report the status of the transfer.
6. Verify that the imported database is now available for selection in the **System Status** > **Database** tab.

Deleting a Database

✶ Ensure the database that you are about to delete is not currently loaded and in use by Ultricore CC.

To delete a database

1. In the Tree View, double-click the **System Status** node.

   The **System** interface displays in the DashBoard window.

2. Select the **Database** tab.
3. From the **Delete Database Name** menu, select the database you want to delete.
4. Click Database **Delete**.

Tallies

Ultricore CC accepts TSL UMD tally messages, and passes tally messages associated with a router source to the routed destination tally status.

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide*** for details on configuring tallies.

Tally Types

Tally information may be associated with either routing system sources or destinations. Below is a summary of the implementations.

✶ Ultricore CC does not support Unicode characters.

Source Association

Tally IDs associated with routing system sources may serve two purposes:

1. Trigger any Ultriscape Multiviewers to display tally status (this requires that the Ultrix router has at least one Ultriscape Head enabled and configured).
2. Enable the tally status to be mapped to other Tally IDs based on router crosspoint status (the destination must have Tally ID associated and **Tally Direct** enabled).

To associate Tally IDs to sources in the database

- Use the **Sources** tab in the Database interface to associate the Tally IDs with logical sources in the Ultricore CC database.
- Choose the UMD “Tally Level”.

Destination Association

A Tally ID may be associated with routing system destinations. This enables any tally status associated with router sources to map to a different Tally ID associated with a router destination, based on current router crosspoint status.

- Use the **Destinations** tab in the Database interface to associate Tally IDs with logical destinations.
- When a source is switched to a destination on the selected Tally Level, Ultricore CC forwards the tally status of the source that is active on the destination, but the outbound TSL message has its display ID re-mapped to the display ID that is associated with the destination (Tally Redirect is set to ON).

✶ Ensure the destination Tally IDs do not conflict with Tally IDs asserted by other devices.

- When the TallyID is associated with an Ultriscape PiP (**slotn.headx-pip[y]** or **slot0.pip[y]**), any assertion on this TallyID will directly control the PiP tally visual elements and over ride any Tally associated with the PiP video source (Tally Redirect is set to OFF).
- For switcher support, the label of the connected source to a destination is sent as TSL tally text (TSL v3.1 only and when Tally Redirect is set to OFF).

Tally ID Format

Table 11 summarizes the format that the TSL protocol defines Display IDs that are associated with the tally displays.

Table 11 TSL Protocol — Tally ID Format

TSL Protocol Version	Tally ID Format	Range
3.1	<displayID>	0 - 127
4.0	<displayID>	0 - 127
5.0	<screenID>:<displayID>	0 - 65535 : 0 - 65535

Keep the following in mind when using tally display IDs:

- TSL v3.1 and 4.0 protocol messages will always map to screen 0.
- When using TSL v5.0, the screen ID is assumed to be 0 if no screen ID is entered.
- If the controller is configured for either v3.1 or 4.0 protocol, it is not necessary to enter a screen ID.
- If the controller is configured for v5.0, it is only necessary to specify the screen ID if the tally controller is configured to send messages to tally displays on 'screens' other than the one with the screen ID of 0.

Router Tally Output Operation

Ultricore CC will track current Tally Status messages sent by a controller via Tally Display IDs associated with router sources. When a source (with a Tally ID) is routed to a destination (with a Tally ID), the router will emit Tally Status messages that reflect the current tally status of the Tally ID associated with the source, but that target the Display ID associated with the destination.

✶ An outgoing connection point must be defined for Ultricore CC to send the new status out.

Example

Consider the following source and destination configurations:

Table 12 Example of Sources and Destinations Assigned to Tally IDs

Name	Tally ID	Tally Status
Sources		
Src 1	5	T1:on
Src 2	10	T1:off
Destinations		
Dest 1	33	T1:xxx

For the above configuration settings, the following states are possible:

Table 13 Example of Sources and Destinations Assigned to Tally IDs

Router Status	Tally Status
Src 1 > Dest 1	TallyID 33 = TallyID 5 (on)
Src 2 > Dest 1	TallyID 33 = TallyID 10 (off)

Tally Routed Mode

The **Tally Routed** mode associates a tally with a specific router destination. Ultricore CC knows which input is routed to that output, and so can assert tally indicators wherever the input signal is displayed in an Ultriscape PiP. Refer to the ***Ultrix User Guide*** for details on this mode.

Router Status over TSL UMD v3.1 Operation

Ultricore CC can use the TSL UMD protocol version 3.1 to send the connected source database name as tally text. This requires you to:

1. Set up an outgoing TSL v3.1 connection.
2. Assign Tally ID numbers to the destinations you wish to track.
3. Ensure the Tally mode is set to None.

When a configured destination changes, the name of the new source will be sent as tally text. Ultrix will resend all the configured destinations every 1 minute, and immediately for any source change on a configured destination

Getting Started

You must first perform the following in the active database:

1. If RS-232 or RS-422 communication is required, add a serial connection point for either incoming or outgoing TSL protocol support.
2. Add an Ethernet connection point for outgoing TSL protocol support if not using the serial connection point described in step 1.
3. Enable Tally ID support.
4. Assign the Tally IDs to the sources.
5. Assign the Tally IDs to the destinations.
6. Set the Tally mode to None.

Adding a Serial Connection Point

Connections may be created via the Edit > Add menu on the Connections tab in the database interface. Refer to "**Defining a Serial Connection**" for details on adding a serial connection point to third-party devices.

Adding an Ethernet Connection Point

An Ethernet connection point must be added for outgoing TSL protocol support. Incoming Ethernet services are natively available. Refer to "**Incoming Ethernet Connections**" for details on adding an Ethernet connection point to third-party devices.

Enabling Tally ID Support

To enable tally ID configuration in an active database, you must select the **Enable Tally** box on the **System Status** > **Database** tab, and then define the Status Level for tally operation.

Enabling Tally ID Support in the Active Database

Once support is enabled, the **Source** and **Destinations** tabs display a **Tally** column which is used to assign Tally IDs to sources and/or destinations in the active database.

To enable tally ID support in the active database

1. In the Tree View, double-click the **System Status** node.

   The **System** interface displays in the DashBoard window.

2. Select the **Database** tab.
3. Verify that the active database is the one you wish to enable tally ID support for.
4. Select the **Enable Tally** box located in the **Current Database** area.

   The **Source** and **Destinations** tabs automatically update to display the **Tally** column.

Defining the Status Level for Tally Operation

The Status Level specifies which level in the routing system is used to determine the current source switched to a given logical destination.

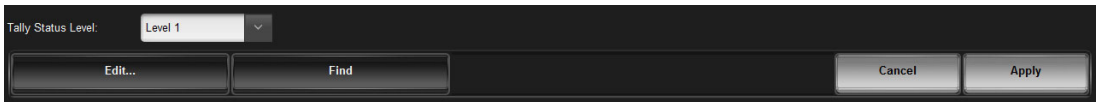
Generally this should be the main SDI Video level; which in most systems is the level to which the Ultriscape Head PiP and/or Router Video destinations are mapped in the system database.

To define the status level for tally operation

1. Double-click the **Levels** node located under the **Database** node.

   The **Levels** tab opens.

2. Use the **Tally Status Level** menu (located at the bottom of the **Levels** tab) to specify the Level in the active database that will determine the tally status.



Assigning the Tally IDs to the Sources

Assigning a Tally ID to an Ultricore CC source enables configured Ultriscape displays to show tally information.

TallyID 41 is associated with Src 1 in the Ultricore CC database. (TSL UMD v3.1 and v4.0)

Tally Screen 5, ID 41 is associated with Src 1 in the Ultricore CC database. (TSL UMD v5.0)

Figure 15 Example of Sources with Assigned Tally IDs

✶ Before proceeding, ensure you verify which TSL protocol you are using. The protocol determines how you must enter the information into the **Tally** cells of the **Sources** tab. Refer to **Table 11** for details.

To assign a Tally ID to a source in the database

1. Double-click the **Sources** node located under the **Database** node.

   The **Sources** tab opens.

2. Verify that the **Tally** column displays in the **Sources** tab. If it does not, refer to "**Enabling Tally ID Support in the Active Database**".
3. Select the cell in the **Tally** column of the **Sources** tab to assign the Tally ID to.

4. Type the Tally ID you wish to assign to that source.
5. Press **Enter** to apply the change.
6. Repeat steps 3 to 5 for each source you wish to assign a Tally ID.
7. Click **Apply** at the bottom of the **Sources** tab to save your changes.

Assigning the Tally IDs to the Destinations

Assigning a Tally ID to a standard Ultricore CC destination (e.g. not a PiP, audio mixer destination, etc.), enables currently routed source tally data to be output on a defined destination Tally ID, essentially routing the tally information along with the video.

✶ An outgoing connection point (either ethernet server or RS232/422 port) is required for Ultricore CC to emit tally information.

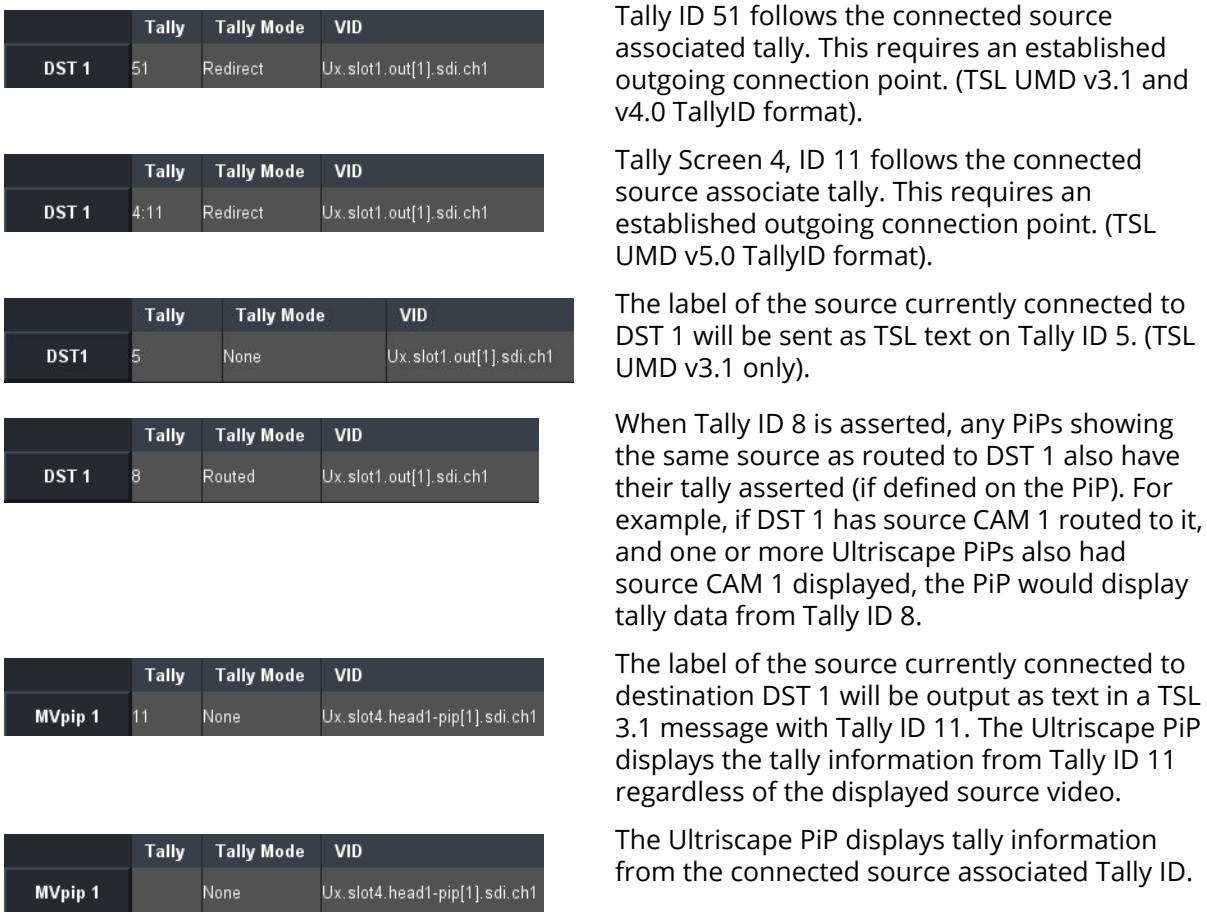


Figure 16 Example of Destinations with Assigned Tally IDs

✶ Before proceeding, ensure you verify which TSL protocol you are using. The protocol determines how you must enter the information into the **Tally** cells of the **Destinations** tab. Refer to **Table 11** for details.

To assign a Tally ID to a destination in the database

1. Double-click the **Destinations** node located under the **Database** node.

   The **Destinations** tab opens.

2. Verify that the **Tally** column displays in the **Destinations** tab. If it does not, refer to "**Enabling Tally ID Support in the Active Database**".
3. Select the cell in the **Tally** column of the **Destinations** tab to assign the Tally ID to.
4. Type the Tally ID you wish to assign to that destination.
5. Press **Enter** to apply the change.
6. Select the **Tally Redirect** box to enable the connected source Tally ID to be directed to this destination Tally ID.
7. Repeat steps 3 to 6 for each destination you wish to assign a Tally ID.
8. Click **Apply** at the bottom of the **Destinations** tab to save your changes.

Using Categories

Category navigation enables you to organize the sources, destinations, and/or levels in a router database to defined categories. There are three types of categories each with independent interfaces:

- **Group** — allows a user to organize database resources (sources, destinations, and levels) into folders and sub-folders with arbitrary group name. Resources may be assigned to multiple groups if required.
- **Cat/Index** — allows a user to piece together or build up the final resource name from category names and index identifiers.
- **Legacy** — allows compatibility with earlier RCP-QE models. Note that this is not available as a soft panel.

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide*** for details on using categories.

Group Categories Overview

✶ Group category mode is only available when running software version 2.0 or higher.

Group Category allows the user to organize database resources (sources, destinations, and levels) into folders and sub-folders with arbitrary group names. The group name is not required to match the resource names (it is similar to setting up file folders). This group categorization is useful when you need to group resources based on their operational regions, events, personnel credentials etc.

Example of a Group Category Setup

A user wants to arrange sources and destinations based on the types of sports the network broadcasts: baseball and football. The resources available are:

The resources need to be arranged into the following groups based on the sport type:

Baseball	Football
HD1	HD4
HD2	HD5
HD3	SAT4
SAT1	SAT5
SAT2	
SAT3	

The Group Category interface would be used to arrange the resources into group categories:

Figure 17 Example of Group Categories Arrangement Based on Sport Type

Once the group categories are defined, the user can perform switches, on a hard or soft panel, based on the group categories.

In the example below, the user uses RCP-QE18 to select the source labeled as **HD 3**.

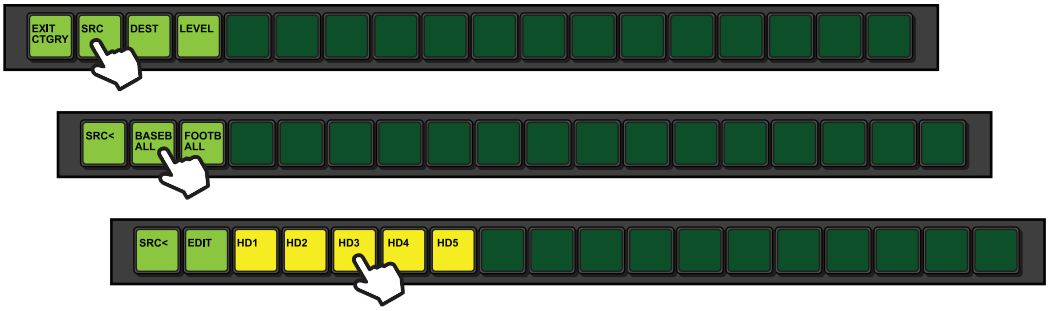


Figure 18 RCP-QE18 — Selecting HD 3 via Category Mode

In the example below, the user uses a soft panel to select the destination labeled as **SAT 1**.

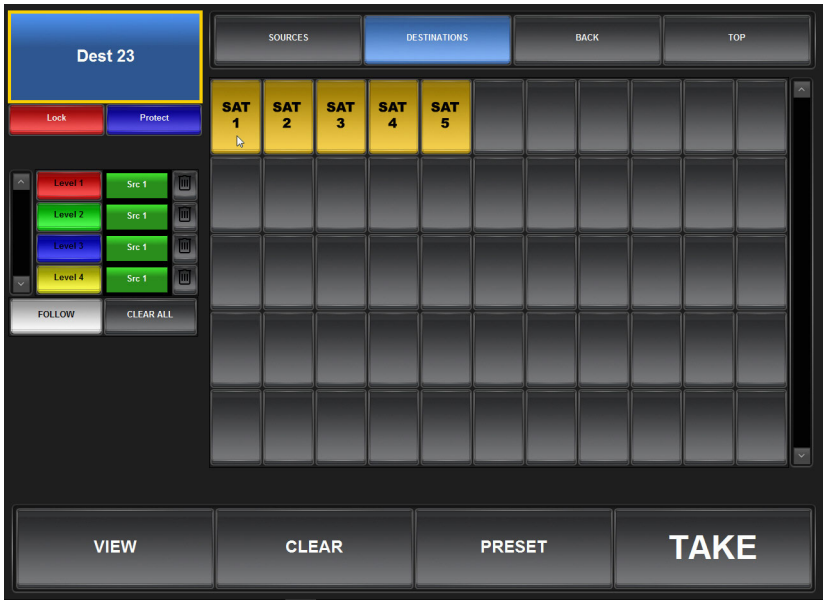


Figure 19 Ultricore CC — Selecting SAT 1 via a Soft Panel

Configuring Group Categories

Group categories are arranged in a hierarchy and displayed in a tree view. This is similar to the file system on your PC where each group is represented as a folder or node, and the resources included in that group are nodes. Each type of resource is represented within the hierarchy as follows: sources are green, destinations are blue, and levels are red. (**Figure 20**)

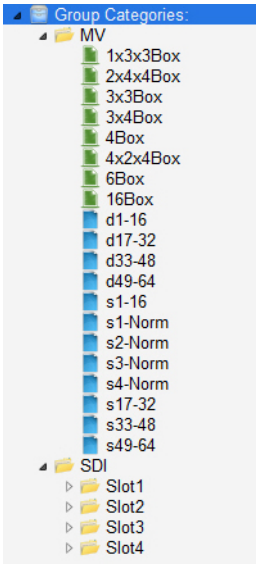


Figure 20 Example of Group Categories Tree View

Configuring group categories requires:

1. Creating group names
2. Assigning destinations, sources, and/or levels to groups
3. Configuring a soft panel or a hard panel for use

Creating Group Names

For each database, you can create multiple category groups and add sub-groups. For example, **Figure 20** shows two main groups (MV, and SDI) where the SDI group also has four sub-groups (Slot1, Slot2, Slot3, and Slot4). Once you create your groups, resources can be added.

✶ Ultricore CC does not support Unicode characters.

✶ By default, the groups are organized alphabetically in the tree view.

To create a category group

1. Double-click the **Group Categories** node located under the **Database** node.

   The **Group Categories** tab opens.
2. Select the **Group Categories:** node.
3. Click **Add**.

   The **Add Group** dialog opens.
4. In the **Name** field, type a unique identifier for the new group.
5. Click **Apply**.

   The **Add Group** dialog closes and the new group is added as a child of the selected node.

   In the example below, a new sub-group "**Studio 1**" was created below the **SDI** group.

6. Click **Apply** in the bottom right corner to apply your changes.

To create a category sub-group

1. In the **Group Categories** tree, select the group icon that you wish to add a sub-group to.
2. Click **Add**.

   The **Add Group** dialog opens.
3. In the **Name** field, type a unique identifier for the new sub-group.
4. Click **Apply**.

   The **Add Group** dialog closes and the new sub-group is added to the Group Categories tree view.

   In the example below, a new sub-group "**Cameras**" was created within the **Studio 1** group.

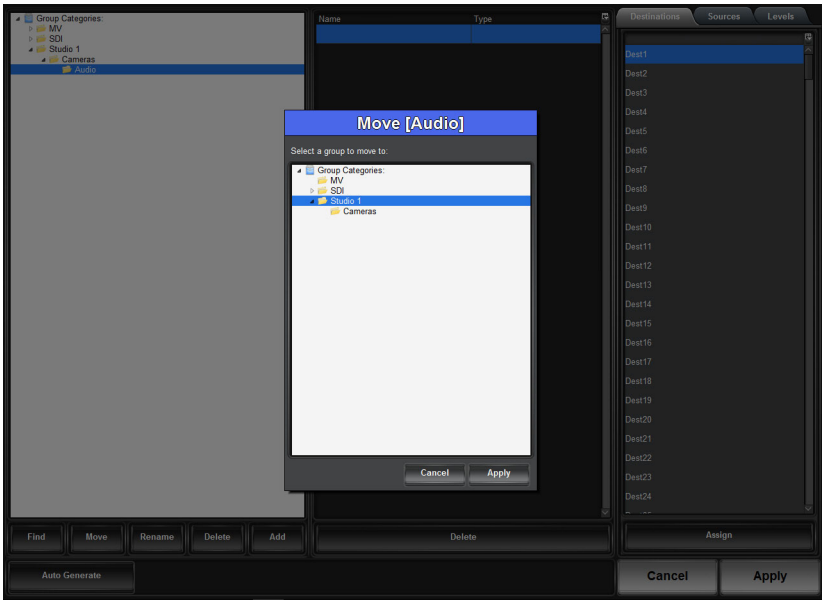
5. Click **Apply** in the bottom right corner to apply your changes.

To move a group within the tree view

1. In the **Group Categories** tree, select the group you want to move.

   The **Move** dialog opens. Notice that the dialog header displays the name of the selected group to move.
2. Use the tree view in the dialog to select where to move the group to.

In the example below the Audio sub-group was selected to move to the Studio 1 root.



3. Click **Apply**.

   The **Move** dialog closes and the group displays in the selected position of the tree view.

4. Click **Apply** in the bottom right corner to apply your changes.

Auto Generating the Groups

You can also choose to create a group based on the levels, sources, and destinations in your database or a combination. This requires the virtual labels for each resource to be consistent. For example, if all destinations are labeled as Dest x, a group will be created called “Dest” with each destination listed as a separate node.

✶ Auto generating a group will delete the groups currently listed in the Group Categories tree view.

To auto generate a group

1. Click **Auto Generate**.

   The **Auto Generate Groups** dialog opens.

2. Select the box to include the resources in the group.

3. Click **Apply**.

   The **Auto Generate Groups** dialog closes and the **Group Categories** tree updates.

4. Click **Apply** in the bottom right corner to apply your changes.

Assigning Resources to a Group

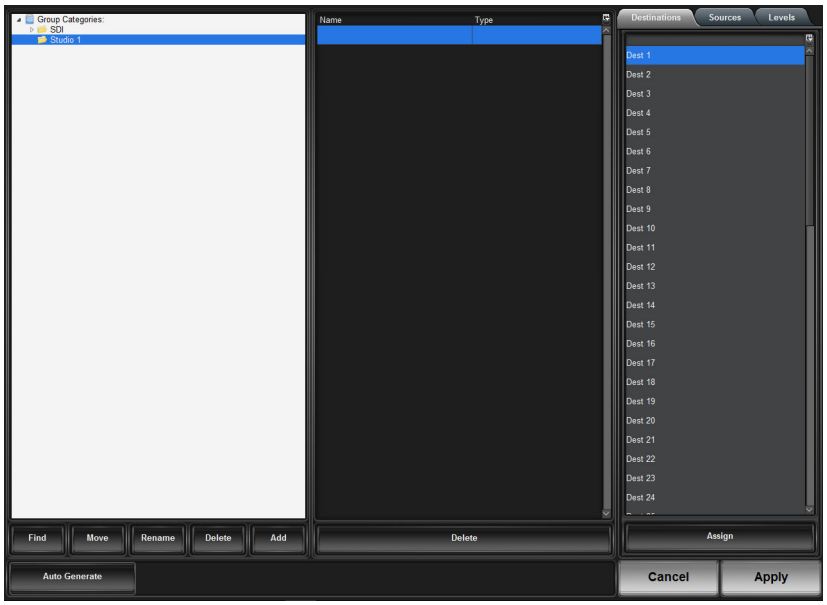
Once a group is configured, you can assign resources (destinations, sources, levels).

To assign a resource to a group

1. In the **Group Categories** tree, select the group you want to add a resource to.

   The middle pane of the Group Categories interface updates to list the sub-groups or resources assigned to it.

   In the example below the area is blank because nothing is assigned to the selected group.



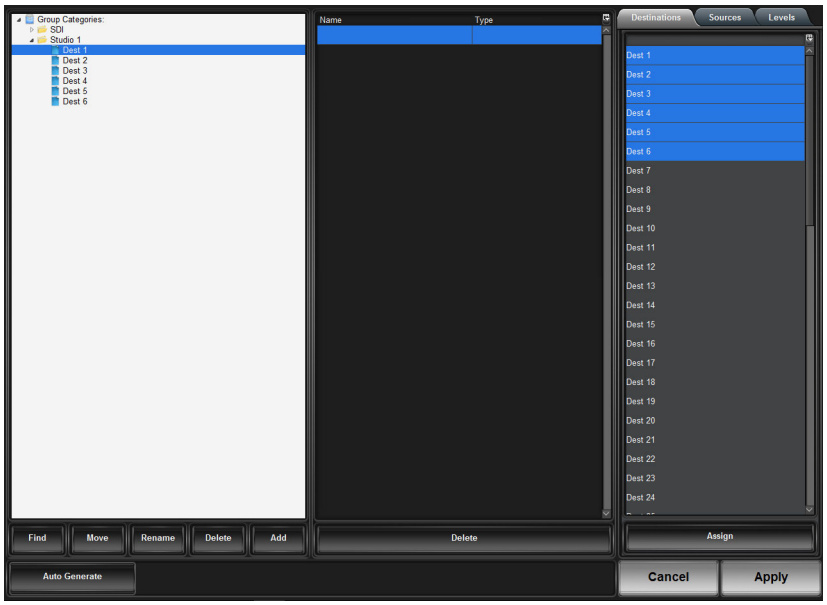
2. In the right pane, select the tab for the type of resource you wish to assign to the group.

   In the example above, the **Destinations** tab was selected.

3. To assign a single resource, select the resource from the tab.
4. To select a series of resources:
   a. In the selected tab, select the first resource in the series you want to assign.
   b. Press and hold **Shift**.
   c. Click the last row in the series.
5. Click **Assign**.

   The **Group Categories** tree updates to display the selected resources in the group.

   In the example below, **Dest 1** to **Dest 6** were assigned to the **Studio 1** group.



6. Click **Apply** in the bottom right corner to apply your changes.

To move a resource to another group

1. In the **Group Categories** tree, select the resource you want to move.
2. Click **Move**.

   The **Move** dialog opens.
3. Select the new location for the resource.
4. Click **Apply**.

   The **Move** dialog closes.

   The **Group Categories** tree updates to display the resource in the new location. Notice that the resource is now removed from the original group.
5. Click **Apply** in the bottom right corner to apply your changes.

To delete a resource from a group

1. In the **Group Categories** tree, select the specific resource you want to delete from the group.
2. Click **Delete**.

   The **Delete** dialog opens.
3. Click **Yes**.

   The **Delete** dialog closes.

   The **Group Categories** tree updates to no longer display the resource in the group.
4. Click **Apply** in the bottom right corner to apply your changes.

To delete a series of resources from a group

1. In the **Group Categories** tree, select the specific group you want to edit.

   The middle pane of the Group Categories interface updates to list the sub-groups or resources assigned to it.
2. In the middle pane, select the first resource in the series you want to delete.
3. Press and hold **Shift**.
4. Click the last row in the series.
5. Click **Delete**.

   The **Delete** dialog opens.
6. Click **Yes**.

   The **Delete** dialog closes.

   The **Group Categories** tree updates to no longer display the resource in the group.
7. Click **Apply** in the bottom right corner to apply your changes.

Managing the Groups

✶ You cannot rename resources using the options in the Group Categories interface.

To rename a group

1. In the **Group Categories** tree, select the specific group you want to rename.
2. Click **Rename**.

   The **Rename Group** dialog opens.
3. Use the **Name** field to enter a unique identifier for the selected group.

4. Click **Apply**.

   The **Rename Group** dialog closes.

   The **Group Categories** tree updates to display the new name for the group.

5. Click **Apply** in the bottom right corner to apply your changes.

To delete a group

1. In the **Group Categories** tree, select the group you want to delete.
2. Click **Delete**.

   The **Delete** dialog opens.

3. Click **Yes**.

   The **Delete** dialog closes.

   The **Group Categories** tree updates to no longer display the group.

4. Click **Apply** in the bottom right corner to apply your changes.

Cat/Index Categories Overview

Cat/Index category mode (also referred to as Category Index mode), allows alpha-numeric extensions to labels to 'build up' the final label selection. For example, VTR 1 - 6 may be expressed as a VTR label with numerical extensions 1 through 6. Similarly, alpha extensions may be used, for example, VTR A - E for VTRs A through E.

Destination and source names are split into substrings - the first substring traditionally referred to as the **category**, and subsequent substrings the **indexes** (e.g. Category VTR index 1 through 6). As source/destination names become more complex, an index may not be the final part of the selection name. For example, consider the source names CG TX 1 and CG TX 2; Cat/Index category mode may be configured so that a user selects CG, then TX, then either 1 or 2. This may be extrapolated to cover a large range of sources and destinations.

Example of a Cat/Index Category Setup

The resources available are:

Sources / Destination Names				
CAM 1	SAT A1	CG RX 1	EDIT A	VTR1
CAM 2	SAT A2	CG RX 2	EDIT B	VTR2
CAM 3	SAT A3	CG TX 1	EDIT C	VTR3
CAM 4	SAT B1	CG TX 2	EDIT D	VTR4
CAM 5	SAT B2	CG TX A	EDIT E	VTR5

The possible categories and indexes would be:

Categories	Indexes		
CAM_[a]	1	5	D
SAT_	2	A	E
CG_	3	B	RX_
EDIT_	4	C	TX_
VTR			

a. The "_" characters represents a blank space. This indicates the category will filter resources with a space in the name (e.g. the CAM_ category will allow resources named CAM 1, CAM 2 but not CAM3).

Once the Cat/Index categories are defined, the user can perform switches, on a hard or soft panel, based on the categories.

In the example below, a RCP-QE18 is used to select the source labeled as **CAM 1**. Notice that only the sources are available for the second button selection. In this example, the user would need to select **TAKE** to make the switch.

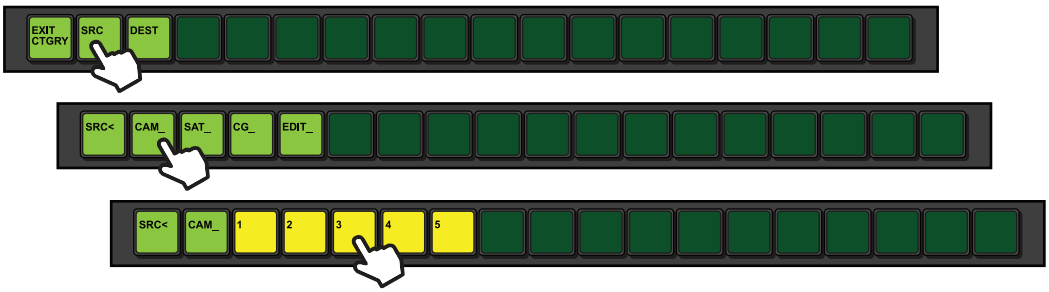


Figure 21 RCP-QE18 — Selecting CAM 1 via Category Mode

In the example below, an Ultricore CC soft panel is used to select the destination labeled as **CG RX 2**.

Figure 22 Ultricore CC — Selecting CG RX 2 via a Soft Panel

Configuring a Cat/Index Category Setup

Configuring Cat/Index categories requires:

1. Assigning categories
2. Assigning indexes
3. Configuring a soft panel or a hard panel for use

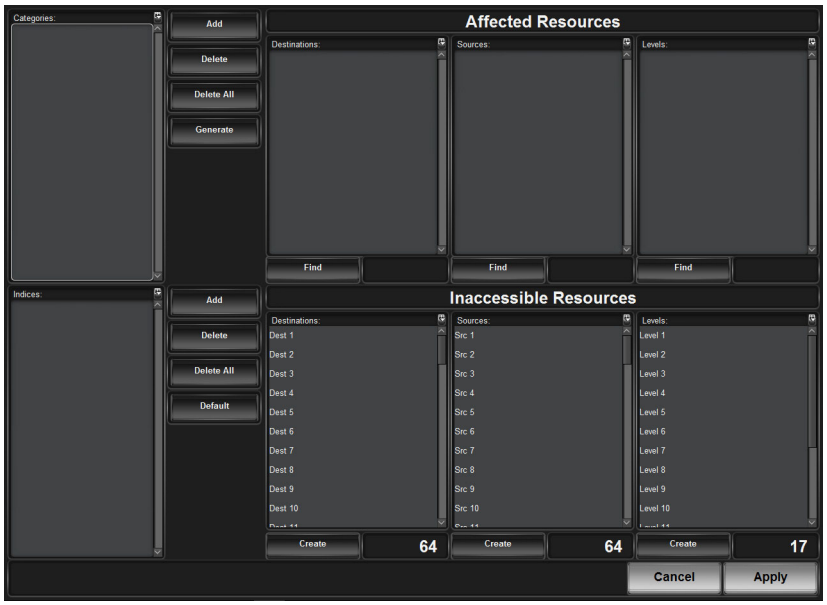
Assigning Categories

You can assign each destination to a specific category or multiple categories in a database. Using multiple categories enable you to filter the destinations, and organize them into logical groups. By default, categories are organized in alphabetical order.

To auto generate categories based on a database

1. Double-click the **Cat/Index Categories** node located under the **Database** node.

   The **Cat/Index Categories** tab opens.



2. Click **Generate**.

   The **Auto-Generate** dialog opens.

3. Click **Yes**.

   The **Auto-Generate** dialog closes.

   All previous categories are deleted from the **Categories** pane and new ones are listed based on the resource labels in your database.

4. Click **Apply**.

To manually create categories

1. In the **Cat/Index Categories** tab, click **Add**.

   The **Add Category** dialog opens.

2. Use the **Name** field to specify a unique identifier for the new category.

✶ The entry must match a resource name prefix.

Some example entries would be:

- "**CG_**" creates a category to categorize resources named **CG_xxxx** where **xxxx** is any index.
- "**CG**" creates a category to categorize resources named **CGxxxx** where **xxxx** is any index.
- "**cg**" will not categorize any resources as the category names are case sensitive.

3. Select the **Insert trailing space** box to represent a space character with the "_" symbol.
4. Click **Apply**.

   The **Add Category** dialog closes.

   The new category is listed in the **Categories** pane.
5. Click **Apply**.

Assigning Indexes

An index for a category enables you to filter resources. For example:

- "**TX_**" creates a sub-index of TX, meaning further entry is required on the control panel. This will filter resources named **<category name>TX_xxxx** where **xxxx** is any index.
- "**TX 1**" creates an 'end-point' index, meaning TX 1 is the last substring and no further entry is required on a control panel. This will filter resources named **<category name>**TX 1. You cannot create an index of "TX 1" and a sub-index of "TX_". You must choose one or the other.

As category names and indexes are entered, the affected Resources list in the interface will update to indicate which sources or destinations of a given category is accessible on a control panel. Select a category name in the categories list to see which source or destinations are in that category and filtered by the available Indexes list.

To manually create categories

1. Double-click the **Cat/Index Categories** node located under the **Database** node.

   The **Cat/Index Categories** tab opens
2. Click **Add** (located next to the **Categories** pane).

   The **Add Category** dialog opens.
3. Use the **Name** field to specify a unique identifier for the new category.

✶ The entry must match a resource name prefix.

   For example:

   - "**CG_**" creates a category to categorize resources named **CG_xxxx** where **xxxx** is any index.
   - "**CG**" creates a category to categorize resources named **CGxxxx** where **xxxx** is any index.
   - "**cg**" will not categorize any resources as the category names are case sensitive.
4. Select the **Insert trailing space** box to represent a space character with the "_" symbol.
5. Click **Apply**.

   The **Add Category** dialog closes.

   The new category is listed in the **Categories** pane.
6. Click **Apply**.

To create a category for a specific resource type

1. Double-click the **Cat/Index Categories** node located under the **Database** node.

   The **Cat/Index Categories** tab opens.
2. Click **Create** for the resource type you wish to filter.

The **Create Category/Index** dialog opens.

3. Use the **Category Name** field to specify the characters for the new index filter.

✶ The entry must match a partial resource name.

4. Select the **Insert trailing space** box if you wish to include trailing spaces in the filter.
5. Click **Apply**.

   The **Create Category/Index** dialog closes.

6. Click **Apply**.

Assigning Index Filters

An index for a category enables you to filter resources. As category names and indexes are entered, the **Affected Resources** pane in the interface will update to indicate which sources or destinations of a given category is accessible on a control panel. Select a name in the **Categories** pane to see which source or destinations are in that category and filtered by the available **Indexes** pane.

To assign an index filter

1. Double-click the **Cat/Index Categories** node located under the **Database** node.

   The **Cat/Index Categories** tab opens.

2. Click **Add** (located next to the **Indexes** pane).

   The **Add Index** dialog opens.

3. Use the **Name** field to specify a new index filter.

✶ The entry must match a partial resource name.

   For example:

   - "**`TX_`**" creates a sub-index of TX, meaning further entry is required on the control panel. This will filter resources named **`<category name>`TX_XXXX** where **XXXX** is any index.
   - "**`TX 1`**" creates an 'end-point' index, meaning TX 1 is the last substring and no further entry is required on a control panel. This will filter resources named **`<category name>`**TX 1.
   - Note that you would not create an index of "TX 1" and a sub-index of "TX_". You must choose one or the other.

4. Click **Apply**.

   The **Add Index** dialog closes.

   The new index filter is listed in the **Indexes** pane.

5. Click **Apply**.

To assign an index filter for a specific resource type

1. Double-click the **Cat/Index Categories** node located under the **Database** node.

   The **Cat/Index Categories** tab opens.

2. Click **Create** for the resource type you wish to filter.

   The **Create Category/Index** dialog opens.

3. Use the **Index Name** field to specify a unique identifier for the new index filter.

✶ The entry must match a partial resource name.

4. Select the **Insert trailing space** box if you wish to include trailing spaces in the filter.
5. Click **Apply**.

The **Create Category/Index** dialog closes.

6. Click **Apply**.

Legacy Categories Overview

Legacy Category mode allows some category functionality on older RCP-QE control panels (17 button). There is no soft panel for Legacy Category Mode. Legacy mode is similar in operation to Group category mode with some elements of the index functionality of the Cat/Index Category mode.

Legacy mode limitations;

- A destination or source cannot be in more than one category
- Only numerical indexes are supported

For More Information on...

- the legacy category mode, refer to the ***RCP-QE User Guide***.

Configuring Legacy Categories

Source and destination selection may be achieved in two ways: direct selection or numerical index entry. The setup of the Ultricore Category tables determines the operational functionality.

Category Direct Selection Mode

Figure 23 illustrates the Categories configured in the Ultricore database for direct selection mode.

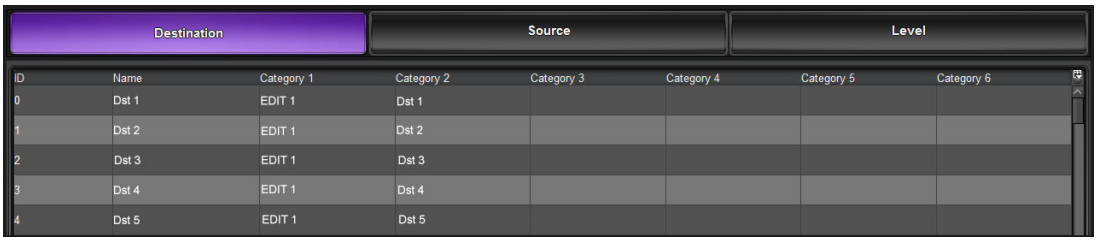


Figure 23 Ultricore — Entries in the Categories Tab

Figure 24 illustrates direct destination entries and the resulting available destinations in the selected category.

Figure 24 Ultricore CC — Resulting Operation

To set up direct selection in categories

1. Display the **Categories** tab in DashBoard for the Ultricore as follows:
   a. Expand the **Database** node in the Tree View.
   b. Double-click the **Categories** node.

2. Click **Destination** or **Source** as required.
3. Type the text for a category name in column 'Category 1' for each row that is required to be in that category.
4. Copy the items in the name column to the Category 2 column.

✶ You can use keyboard shortcuts such as **Ctrl**+**C** (copy) and **Ctrl**+**V** (paste) and **Shift**+click to select a range for ease of data entry.

This will result in those rows being within the category you named in column Category 1.

Numerical Index Entry Mode

Figure 25 illustrates the Categories configured in the Ultricore database for numerical entry mode.

Figure 25 Ultricore — Entries in the Categories Tab

Because we have set the VTRs numbered 6 through 10 in **Figure 25**, the Ultricore CC expects a two digit entry signified by the two underlines on the button next to the category name. As only numerals 1 or 0 are the only possible entries to make for the first digit, the Ultricore CC has blanked the invalid entry keys. (**Figure 26**)

To select VTR 6, press **0** then the remaining available numbers will become available, then press **6** to finish the selection.

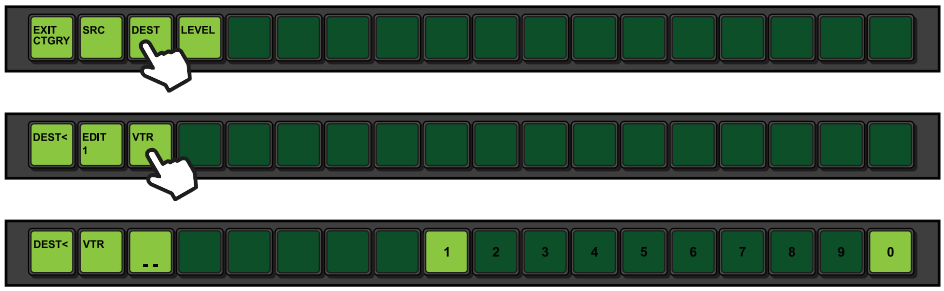


Figure 26 Ultricore CC — Resulting Operation

To set up numerical index selection in categories

1. Display the **Categories** tab in DashBoard for the Ultricore as follows:
   a. Expand the **Database** node in the Tree View.
   b. Double-click the **Categories** node.
2. Click **Destination** or **Source** as required.
3. Enter a category name in the **Category 1** column for each row that is required to be in that category. For example, in **Figure 25** the user entered "VTR".
4. Enter a number in the **Category 2** column.

   This will result in those rows being within the category you named in the Category 1 column. These destinations are accessible via entering the numerical extension of the required destination. For example, in **Figure 25** the user entered "6" for row 5.

Creating a Soft Panel with Categories

Once you have defined your categories and tags for each level of a database, you can create a custom soft panel using the category settings as a basic for arranging the sources, destinations, and levels.

For More Information on...

- managing your Category panels, refer to "**Using Category Panels**".

Soft Panels in DashBoard

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide*** for details on creating and using soft panels.

A soft panel is a software implementation of a physical remote control panel (RCP). The soft panel configurations are part of a database so any instance of DashBoard connecting to a given Ultricore CC has the defined soft panels available. You can customize a soft panel by defining the sources, destinations, levels, and/or salvos that will be available on the panel interface. Ultricore CC provides the following types of soft panels for control;

- **Matrix** — the destinations and sources are organized into a grid layout.
- **MultiBus** — the destinations and sources are organized into separate a rows (buses) of buttons.
- **Cat/Index Category** — the resources are defined using a defined set of search criteria (indexes).
- **Group Category** — the destinations and sources are grouped by pre-defined categories.
- **Ultritouch PB** — the resources are organized into a customized layout that is pre-sized for an Ultritouch hard panel. Refer to the ***Ultritouch + Ultricore CC User Guide*** for details.
- **Push Button** — similar layout and features of the Ultritouch PB panel but sized for use on a computer monitor.

Before You Begin

Keep the following in mind when managing your soft panels in DashBoard:

- Soft panels require the setup of the database source/destinations/levels and port assignment to be complete.
- If the database changes (source/destination/level/salvo addition or deletion), you will need to edit the soft panel configuration to ensure the correct sources/destinations/levels/salvos are visible.
- Ultricore CC does not support Unicode characters.
- By default, Take operations are blocked by locked destinations. However, the user can configure the Routing Behavior mode on the router to allow unlocked destinations to switch on a Take operation. Refer to the ***Ultrix User Guide*** for details on mode.

For More Information on...

- databases, refer to "**Database Configuration**".

Soft Panels Overview

A soft panel is created using the options in the Panels interface for your database. Soft panels are listed as sub-nodes under the Soft Panels node in the Tree View of DashBoard. Double-click a sub-node to display the corresponding soft panel in the DashBoard window. The hierarchy of the nodes in the tree is determined by their Panel ID which is assigned when the soft panel is created in the database. In **Figure 27** there are seven soft panels in the tree view.

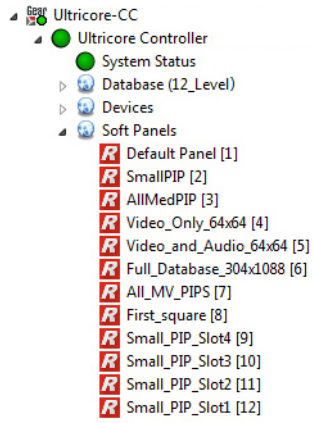


Figure 27 Example of a Soft Panels Tree View

A soft panel can be as simple or complex in its layout as you require. The Panels interface enables you to specify the number of destinations, sources, levels, and salvos displayed on your panel. You select a soft panel type and specify the elements of the soft panel including giving the panel a unique name.

For More Information on...

- Matrix panels, refer to "**Using Matrix Panels**".
- Multibus panels, refer to "**Using MultiBus Panels**".
- Category panels, refer to "**Using Category Panels**".
- Ultritouch PB panels, refer to the ***Ultritouch + Ultrix User Guide***.
- Push Button panels, refer to "**Using Push Button Panels**".

Enabling Machine Control

Typically, the ports on a data router (such as the NK-M series routers) are bi-directional where there is both a transmit (input to output) and reciprocal receive connection that is made for each port. For example, a switch from port 1 to port 2 involves a forward path (from port 1 input to port 2 output) and the reciprocal connection from (port 2 input to port 1 output).

In some cases however, there is a need to connect on the port's input to several ports' output (e.g. one device commanding many target devices) without making the reciprocal connection. This allows the commanding device to just broadcast commands and not receive from the many devices it communicates with.

When configuring a soft panel, you have the option to add a Machine Control button to the panel. When selected on the panel, this Machine Control button sends a Take request directed to an NK-M series data router to automatically make the reciprocal port switch. On a video router, the connection is all one way from an input port to an output port (e.g. such as from IN 1 to OUT 2).

Specifying the Routing Behavior for Locked Destinations

By default, Take operations are blocked by locked destinations. However, the user can configure the Routing Behavior mode on the router to allow unlocked destinations to switch on a Take operation.

To specify the routing behavior

1. Locate the Ultricore CC in the Tree View of DashBoard.
2. Expand the Ultricore CC node to display a list of sub-nodes in the Tree View.
3. Double-click the **System Status** node.
4. Select the **Setup** tab.

5. Locate the **Routing Behavior** area.

✶ You may need to scroll down the Setup tab to locate this area.

6. Use the **Salvo/Multi- Crosspoint Take Completion** options to specify the routing behavior for locked or protected destinations. Choose from the following:
   - **Require All Crosspoints** — The Take operation will fail entirely if any destinations are locked or protected.
   - **Best Effort** — The Take operation will be performed for any valid routes and fail for locked or protected routes.

Creating a Soft Panel

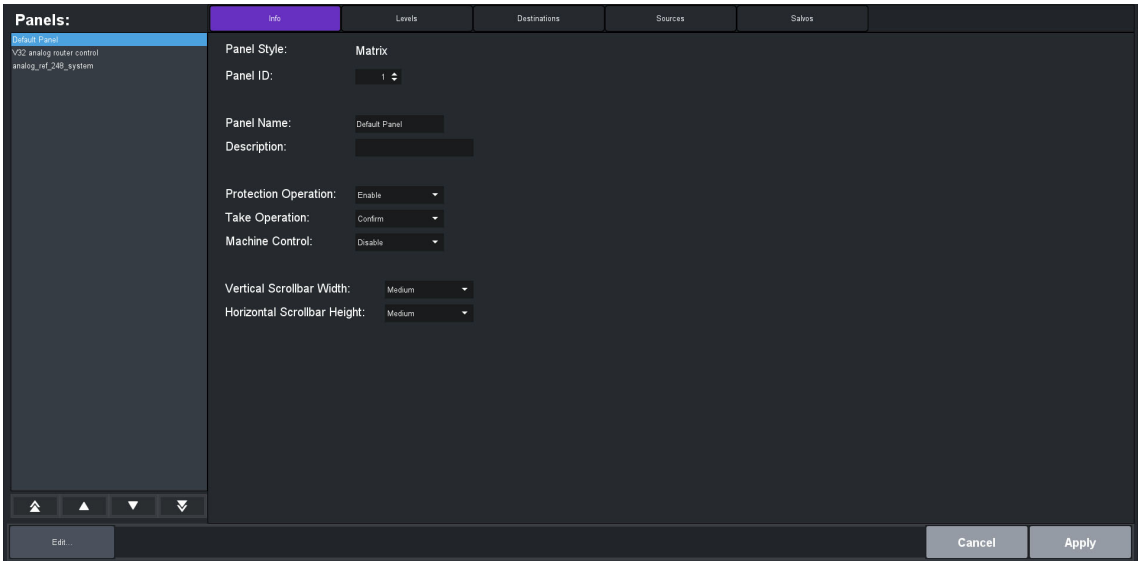
Soft panels are listed under the Soft Panels node in a hierarchy as determined by their Panel ID. When you create a new soft panel, you select from the three existing soft panel types: Matrix, MultiBus, and Categories. You then assign a Panel Name and ID to display in the tree view using the nomenclature "**`Panel Name [#]`**" where **`[#]`** is the Panel ID.

✶ A Default Panel is available that is a MultiBus style with 1 level, 4 destinations, and 4 sources.

To create a soft panel

1. Double-click the **Panels** node located under the **Database** node.

   The **Panels** tab opens.



2. Click **Edit** > **Add**.

   The **Add Panel** dialog opens.

3. Type a unique identifier in the **Name** field. This will be used to identify the panel in the tree under the Soft Panels node.

4. Use the **Style** menu to specify the type of panel to create. Choose from the following:
   - **Matrix** — Creates a soft panel that organizes the destinations and sources in a grid layout.
   - **MultiBus** — Creates a soft panel where destinations and sources are organized into separate buses.
   - **Category** — Creates a soft panel where destinations and sources are arranged as determined by the **Category** tab. Refer to "**Using Categories**" for more information.

- **Push Button** — Creates a soft panel that organizes the destinations and sources in a distinct vertical layout.
- **Ultritouch PB** — Creates a soft panel that is used on an Ultritouch hard panel. Refer to the ***Ultritouch + Ultricore CC User Guide*** for details.

5. Click **Apply** to save your settings and close the **Add Panel** dialog.

   The new panel name is added to the **Save Panels** list of the **Panels** tab and automatically selected in the tab for editing.

6. Select the **Info** tab.
7. Use the **Panel ID** menu to determine the position of the panel in the Soft Panels tree where a value of "1" is the highest priority (and listed at the top).

✶ Ensure that the new soft panel does not use the same **Panel ID** as a previously saved panel.

8. Use the **Description** field to provide a textual summary of the panel.
9. Use the **Protection Operation** menu to provides options for preventing crosspoint switches. Choose from the following:
   - **Enable** — The **Lock**, **Protect**, and **Free** buttons display on the soft panel. Refer to "**Using Matrix Panels**" or "**Using MultiBus Panels**" for a description of these buttons.
   - **Disable** — The **Lock**, **Protect**, and **Free** buttons do not display on the soft panel. These protection options are not available for the soft panel.
10. Use the **Take Operation** menu to configure the **Take** button for the soft panel. Choose from the following:
    - **Confirm** — Displays a **Take** button on the soft panel. You must select the **Take** button to perform a crosspoint switch.
    - **Direct** — The soft panel does not display a **Take** button. A crosspoint switch occurs automatically after each destination/source selection made by the user on the soft panel.
11. If you selected MultiBus in step 4, use the **Selection Operation** menu to enable multiple crosspoint/level selections and display the **Multi Select** button. Choose from the following:
    - **Single** — Disables this feature. The **Multi Select** button does not display on the soft panel.
    - **Multi** — The **Multi Select** button displays on the soft panel.
12. Use the **Machine Control** menu to control whether a Take request directed to an Ross NK-M series data router automatically makes a reciprocal port switch. Choose from the following:
    - **Enable** — Displays a **Machine Control** button on the soft panel. You must select the **Machine Control** button to enable the reciprocal port switch on the NK-M series router.
    - **Disable** — The soft panel does not display a **Machine Control** button. This is the default setting.
13. If you set the **Style** to **Push Button**, proceed to "**Configuring a Push Button Soft Panel**".
14. Click **Apply** to save your new soft panel.

    The new panel displays in the Soft Panels tree. In the example below, there are seven panels in the tree view. Note that the Priority ID is the value displayed in the [#] brackets.

15. Continue to the next sections to add levels, destinations, sources, and salvos to your soft panel as required.

Levels for the Soft Panel

You can specify the total number of levels available on the soft panel to the user. For example, if you set the Viewable levels to 6 but have assigned 8 levels to the panel, only the first six levels in the Assigned list are displayed.

To specify the levels for the soft panel

1. Double-click the soft panel name from the **Panels** list in the left toolbar of the **Panels** tab.
2. Select the **Levels** tab.
3. Use the **Viewable levels** field to specify the total number of levels for the soft panel.
4. To add a level to the soft panel:
   a. From the **Available** list, select the level(s) you wish to add to the soft panel.
   b. Click ▶.

   The **Assigned** list updates to include the selected level(s).
5. To assign all the available levels in the database to the soft panel, click ▶▶.
6. To assign multiple levels to the soft panel:
   a. From the **Available** list, select the first level you wish to add to the soft panel.
   b. Press **Shift**.
   c. From the **Available** list, select the other level(s) you wish to add to the soft panel.
   d. Click ▶.

   The **Assigned** list updates to include the selected levels.
7. Use the provided buttons beside the **Assigned** list to determine the order in which the levels are displayed on the soft panel.
8. Click **Apply** at the bottom of the Panels tab to save your settings.

Destinations for the Soft Panel

You can create a soft panel with a specified number of destinations and determine the order in which they are displayed in the crosspoint row of the panel. For example, the database may have 32 destinations but you only want to make the first 4 outputs selectable on the crosspoint row of your soft panel. You would then set the Viewable destinations to 4. You can also specify the order in which the destination buttons are displayed on the soft panel.

To specify the destinations for the soft panel

1. Double-click the soft panel name from the **Panels** list in the left toolbar of the **Panels** tab.
2. Select the **Destinations** tab.
3. Use the **Viewable destinations** field to specify the total number of destinations for the soft panel.
4. To add a destination to the soft panel:
   a. From the **Available** list, select the destination(s) you wish to add to the soft panel.
   b. Click ▶.

   The **Assigned** list updates to include the selected destination(s).
5. To assign all the available destinations in the database to the soft panel, click ▶▶.
6. To assign multiple destinations to the soft panel:
   a. From the **Available** list, select the first destination you wish to add to the soft panel.
   b. Press **Shift**.
   c. From the **Available** list, select the other destination(s) you wish to add to the soft panel.

d. Click ▶.

The **Assigned** list updates to include the selected destinations.

7. Use the provided buttons beside the **Assigned** list to determine the order in which the destinations are displayed on the soft panel.
8. Click **Apply** at the bottom of the Panels tab to save your settings.

Sources for the Soft Panel

You can create a soft panel with a specified number of sources and determine the order in which they are displayed in the crosspoint row of the panel. For example, the router may have 64 sources but you only want to make the first 12 inputs selectable on the crosspoint row of your soft panel. You could set the Viewable sources to 12 or assign only those 12 inputs to the soft panel. You can also specify the order in which the source buttons are displayed on the soft panel.

To specify the sources for the soft panel

1. Double-click the soft panel name from the **Panels** list in the left toolbar of the **Panels** tab.
2. Select the **Sources** tab.
3. Use the **Viewable sources** field to specify the total number of sources for the soft panel.
4. To add a source to the soft panel:
   a. From the **Available** list, select the source(s) you wish to add to the soft panel.
   b. Click ▶.

   The **Assigned** list updates to include the selected source(s).
5. To assign all the available sources in the database to the soft panel, click ▶▶.
6. To assign multiple sources to the soft panel:
   a. From the **Available** list, select the first source you wish to add to the soft panel.
   b. Press **Shift**.
   c. From the **Available** list, select the other source(s) you wish to add to the soft panel.
   d. Click ▶.

   The **Assigned** list updates to include the selected sources.
7. Use the provided buttons beside the **Assigned** list to determine the order in which the sources are displayed on the soft panel.
8. Click **Apply** at the bottom of the **Panels** tab to save your settings.

Salvos for the Soft Panel

Before you can add salvos to a soft panel, you must configure them as outlined in "**Creating Salvos**".

To specify the salvos available on the soft panel

1. Double-click the soft panel name from the **Panels** list in the left toolbar of the **Panels** tab.
2. Select the **Salvos** tab.
3. Use the **Viewable salvos** field to specify the total number of salvos for the soft panel.
4. To add a salvo to the soft panel:

a. From the **Available** list, select the salvo you wish to add to the soft panel.

b. Click ▶.

The **Assigned** list updates to include the selected source(s).

5. To assign all the available salvos in the database to the soft panel, click ▶▶.
6. To assign multiple salvos to the soft panel:

a. From the **Available** list, select the first salvo you wish to add to the soft panel.

b. Press **Shift**.

c. From the **Available** list, select the other salvo(s) you wish to add to the soft panel.

d. Click ▶.

The **Assigned** list updates to include the selected salvos.

7. Use the provided buttons beside the **Assigned** list to determine the order in which the salvos are displayed on the soft panel.
8. Click **Apply** at the bottom of the Panels tab to save your settings.

Copying a Soft Panel

✶ Ensure the soft panel is currently not in use.

To copy a soft panel

1. Double-click the **Panels** node located under the **Database** node.

   The **Panels** tab opens.
2. From the **Panels** list in the left toolbar, select the soft panel to copy.
3. Click **Edit** > **Copy**.
4. Click **Edit** > **Paste**.

   The **Panels** tab updates to display the settings for the selected soft panel. New soft panels are automatically named "**`New Panel #`**" where **#** is an auto-generated value.
5. Select the **Info** tab.
6. Type a unique identifier in the **Panel Name** field. This will be used to identify the panel in the tree under the Soft Panels node.
7. Click **Apply** at the bottom of the Panels tab to save the new soft panel. This also helps to ensure that you do not mistakenly edit the original panel that you copied.

Editing a Soft Panel

Once you edit a soft panel, you must re-load the soft panel if it was in use prior to the edit.

✶ Ensure the soft panel is currently not in use.

To edit a soft panel

1. Double-click the **Panels** node located under the **Database** node.

   The **Panels** tab opens.
2. From the **Panels** list in the left toolbar, select the soft panel to edit.

   The **Panels** tab updates to display the settings for the selected soft panel.
3. Edit the settings for the panel using one of the following procedures:

✶ You cannot edit the **Panel Style** of a soft panel.

- "**To specify the levels for the soft panel**"
- "**To specify the destinations for the soft panel**"
- "**To specify the sources for the soft panel**"
- "**To specify the salvos available on the soft panel**"

4. Click **Apply** at the bottom of the **Panels** tab to save the new settings.
5. If a dialog opens to remind you that the affected soft panel is currently in use:
   a. Click **OK** to close the dialog.
   b. Perform the procedure "**To re-load a soft panel**".

To re-load a soft panel

1. Close the newly edited soft panel as follows:
   a. Locate the tab for the soft panel in the DashBoard client window.
   b. Click  to close the tab.
2. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
3. Double-click the node for the newly edited soft panel.
   The tab for the selected soft panel opens.

Deleting a Soft Panel from the Database

✶ Ensure the soft panel is currently not in use.

To delete a soft panel from the database

1. Double-click the **Panels** node located under the **Database** node.
   The **Panels** tab opens.
2. Select the soft panel name from the **Panels** list in the left toolbar.
3. Click **Edit** > **Delete**.
4. Click **Apply** at the bottom of the **Panels** tab.

Using the Lock and Protect Features

Whether your soft panel includes the Lock and Protect features depends on the panel type. The Matrix and Category panels can include the **Lock**, **Protect**, and **Free** buttons. The MultiBus panels can include only the **Lock** button. Soft panels that have their **Protection Operation** set to **Enable** also display these buttons (depending on the panel type).

For More Information on...

- the **Protection Operation**, refer to **Table 60**.

Using a Lock

If your soft panel includes a **Lock** button, you have the option to protect source/level and destination/level pairs. When another control panel or DashBoard client attempts to switch that combination, the request will be denied.

To lock a source/level pair

1. Display the soft panel in the DashBoard window.
2. Select the source/level pairs from the soft panel interface.
3. Click **Lock**.

   The label on the button changes to **Unlock** and the button remains lit.

To lock a destination/level pair

1. Display the soft panel in the DashBoard window.
2. Select the destination/level pairs from the soft panel interface.
3. Click **Lock**.

   The label on the button changes to **Unlock** and the button remains lit.

To clear a lock

- Click the **Unlock** button.

  The label on the button changes to **Lock** and the button remains lit.

Using a Protect

A soft panel can be locked by clicking the **Protect** button. The button is lit until pressed again. A protect alarm message is displayed in the System Status tab when an output is protected.

This feature protects the currently selected destination/level pair from use by other sources, as well as from other linked panels. The **Protect** button is especially useful in instances where a destination must be held after a switch has been made.

To apply a protect

- Click **Protect**.

  The button is lit. Selecting crosspoints will not take effect and the panel does not update when buttons are pressed.

To clear a protect

- Click **Protect**.

  The button is no longer lit and crosspoint switches can be initiated.

Using Matrix Panels

Matrix panels enable you to perform direct take transitions, and local salvo definitions using a grid of sources and destinations.

Panel Interface Overview

Each level is represented as a button in the color defined in the current database. Notice that the crosspoints are represented in the same color as the applicable level.

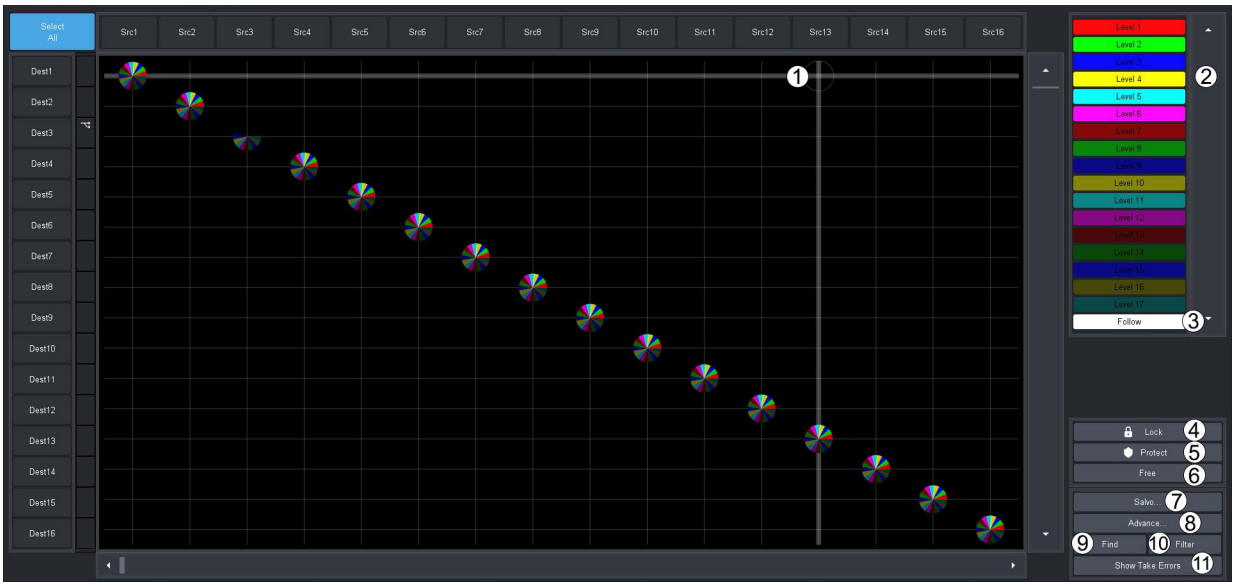


Figure 28 Example of a Matrix Panel

1. **Crosspoints**

   The number of Destinations and Sources available in the matrix is specified using the **Destinations** and **Sources** interfaces.Click within the matrix or click the Destination and Source buttons to select the crosspoints for switching the selected levels. In **Figure 28** crosspoints were selected using the **Advanced** > **Diagonal Presets** option.

2. **Levels Button**

   Click a level button to include the level in the next crosspoint switch. A lit button indicates that the corresponding level will be included in the next transition. The color and name of the button are specified using the **Levels** interface. **Figure 28** illustrates a Matrix panel with nine levels selected.

3. **Follow Button**

   Click this button to select all crosspoints in the matrix. Clicking **TAKE** after clicking **Follow** will then switch all crosspoints at the same time on all available levels.

4. **TAKE Button**

   Click this button to execute the switch between crosspoints. If you are using a soft panel with the **Take Operation** set to **Direct**, a **TAKE** button is not displayed because the transitions will occur automatically after a crosspoint switch is selected.

5. **Lock Button**

   Click this button to prevent switching of the selected crosspoints. If you are using a soft panel with the **Protection Operation** set to **Disable**, the **Lock** and **Protect** buttons are not displayed.

6. **Protect Button**

   Click this button to prevent switching of the selected crosspoints except in the DashBoard client session the Protect was initiated in.

7. **Free Button**

   Click this button to end a lock or protect on the selected crosspoints.

8. **Salvo Button**

   Click this button to display the Salvo menu. Refer to “**Salvo Menus**” for information on the menu options.

9. Advanced Button

Click this button to display the Advanced menu. Refer to "**Advanced Menus**" for information on the menu options.

10.Machine Control Button (not shown)

If you are using a soft panel with the **Machine Control** set to **Enabled**, the **MACHINE CONTROL** button is displayed. Refer to "**Enabling Machine Control**" for details on this button.

Crosspoint Switches via a Matrix Panel

Crosspoint selections can be made using the cross-hairs or clicking the required Destination and Source buttons on the panel. This section provides instructions using the cross-hairs for crosspoint selections.

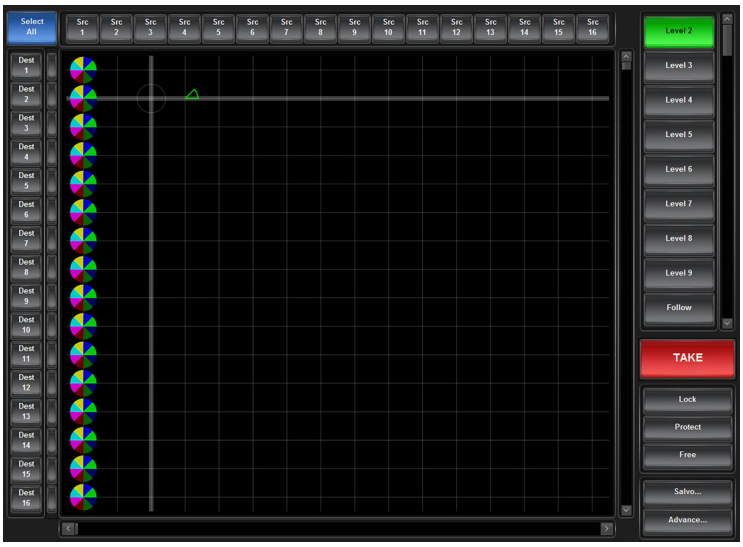
To make a crosspoint switch using a single level

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
2. Double-click the node for a matrix soft panel.

   The **Matrix Panel** tab opens.
3. Select a level from the left toolbar.

   The button is now lit.
4. Select the source and destination intersection inside the matrix.

   The selection is represented as an icon set in the color that matches the level. In the example below, **Level 2**, **Src 4** and **Dest 2** are selected. The **TAKE** button is now lit.



5. Click **Take**.

   The icon on the matrix is solid in the color that matches the level and the **TAKE** button is no longer lit.

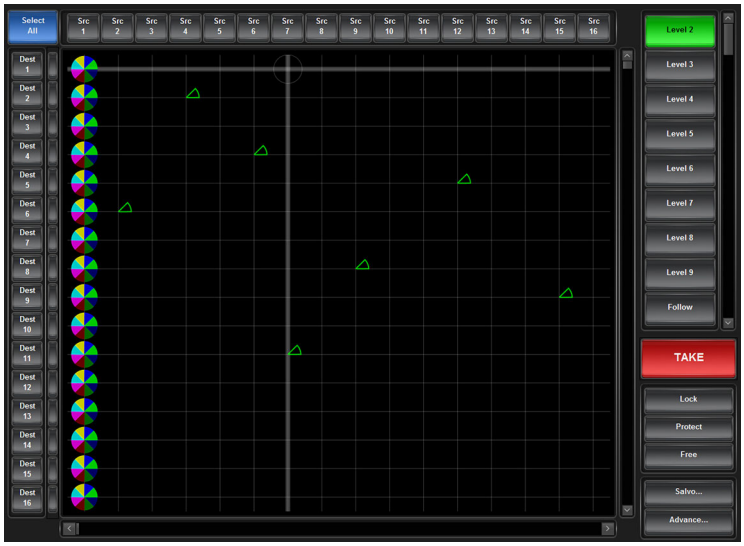
To make a crosspoint switch between multiple sources and destinations on a single level

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
2. Double-click the node for a matrix soft panel.

   The **Matrix Panel** tab opens.
3. Select a level from the left toolbar.

4. Select the first source and destinations inside the matrix.
5. Select the additional crosspoints to switch.

   In the example below, **Level 2** is selected but seven crosspoint switches are also selected (each is represented with a green icon on the matrix).



6. Click **TAKE**.

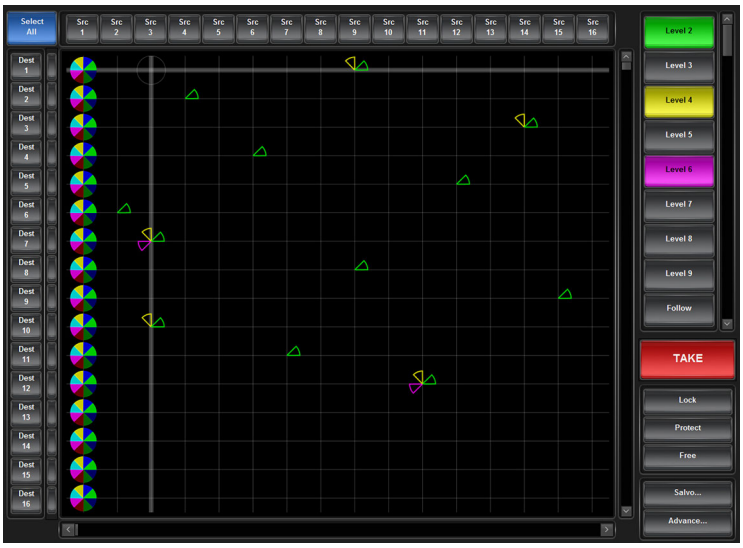
   The icons on the matrix is solid in the color that matches the level and the **TAKE** button is no longer lit.

To make a crosspoint switch on multiple levels

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
2. Double-click the node for a matrix soft panel.

   The **Matrix Panel** tab opens.
3. Select each level from the toolbar or select **Follow** to include all levels.
4. Select the first source and destination inside the matrix.
5. Select the additional crosspoints to switch.

   When multiple levels are selected, the circle on the crosspoint is divided into colored sections with each section representing a level. In th example below, Levels 2, 4, and 6 are selected with multiple crosspoint selections on the matrix.



6. Click **Take**.

   The icons on the matrix are solid in the color that matches the level and the **TAKE** button is no longer lit.

To perform a crosspoint switch on multiple destinations with a single source

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
2. Double-click the node for a matrix soft panel.

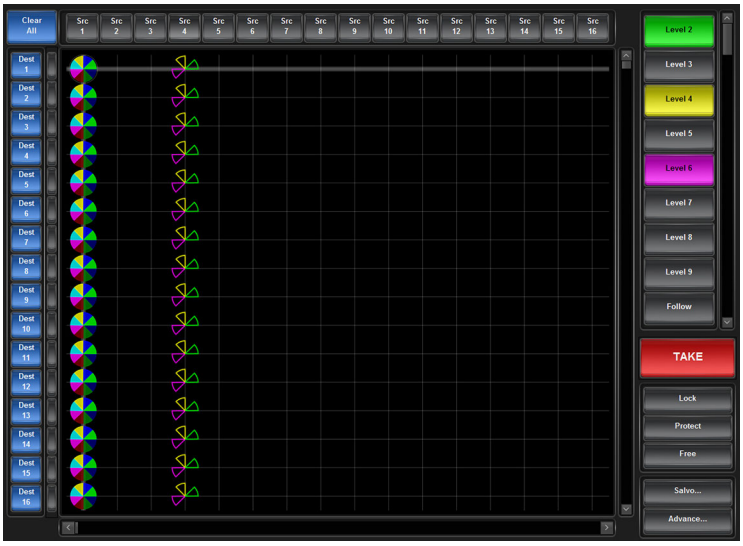
   The **Matrix Panel** tab opens.

3. Select each level from the toolbar or select **Follow** to include all levels.
4. Click **Select All** located at the top left corner of the interface.

   All the **Dest** buttons on the Matrix panel are now lit and selected. The **Select All** button is labeled **Clear All**.

5. From the top toolbar, select the **Src** button to switch.

   The matrix updates to indicate the crosspoint switches that will occur on the next transition to the same source. The **TAKE** button is now lit. For example, Levels 2, 4 and 6 are selected and all destinations switch to **Src 4**.



6. Click **TAKE**.

   The icons on the matrix are solid in the color that matches the level and the **TAKE** button is no longer lit.

Using a Default Preset

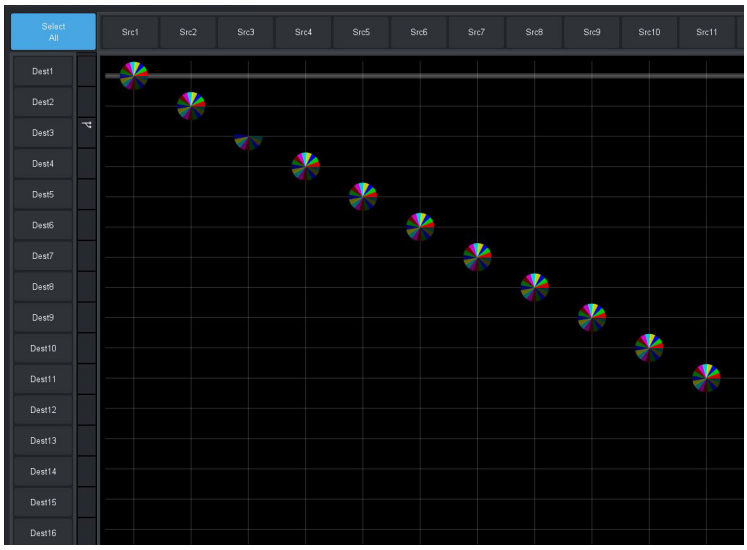
The **Advanced** menu provides two pre-configured presets: Diagonal and R-Diagonal.

Diagonal Presets

Crosspoint selection is organized into a diagonal line that starts with the top left corner of the matrix (e.g. **Src 1** and **Dest 1**), continues in single step intervals (e.g. **Src 2** and **Dest 2**, **Src 3** and **Dest 3** etc.) and ends with the bottom right corner of the matrix (e.g. **Src1 6** and **Dest 16**).

To use the Diagonal Preset

1. Select each level from the toolbar or select **Follow** to include all levels.
2. Click **Advanced** > **Diagonal Presets**.



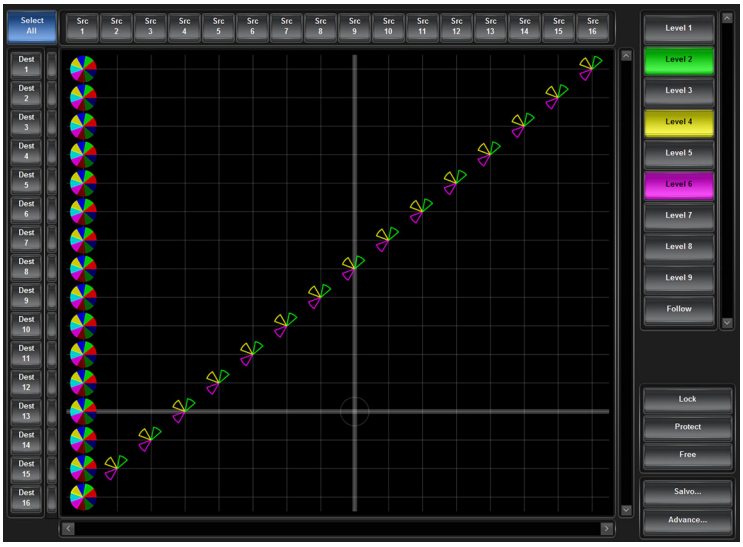
3. Click **TAKE**.

R-Diagonal Presets

Crosspoint selection is organized into a diagonal line that starts with the top right corner of the matrix (e.g. **Src 16** and **Dest 1**), continues in single step intervals (e.g. **Src 15** and **Dest 2, Src 14** and **Dest 3** etc.) and ends with the bottom left corner of the matrix (e.g. **Src 1** and **Dest 16**).

To use the R-Diagonal Preset

1. Select each level from the toolbar or select **Follow** to include all levels.
2. Click **Advanced** > **R-Diagonal Presets**.



3. Click **TAKE**.

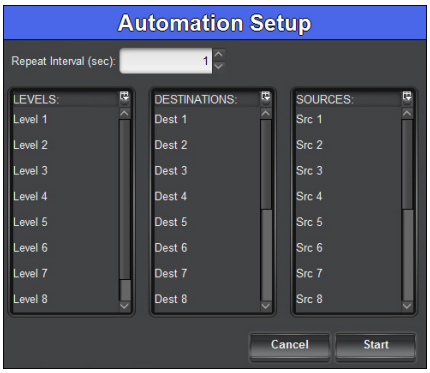
Creating an Automatic Switching Loop

The Automation feature enables you to set up a crosspoint and create a continuous switch loop using the specified crosspoints.

To set up an automated crosspoint selection loop

1. Click **Advanced** > **Setup Automation**.

   The **Automation Setup** menu opens.



2. Use the **Repeat Interval** field to specify the number seconds the crosspoint switch will continuously loop for.
3. Use the **Levels** menu to specify the levels the crosspoint will include.
4. Use the **Destinations** menu to select the outputs on the router.
5. Use the **Sources** menu to select the input signals to route to the output for the switch.
6. Click **Start**.

   The menu closes and the crosspoint switch begins. The loop continues for the length of time specified in step 2.

✶ To stop the loop, click **Advanced** > **Stop Automation**.

Clearing the Matrix Selections

You can choose to clear all the crosspoint selections, or only the selected Destinations.

To clear all crosspoint selections on the matrix

- Click **Advanced** > **Clear All Presets**.

To clear only the Destination selections on the matrix

- Click **Advanced** > **Clear Dest Presets**, or
- Click **Clear All**.

Using MultiBus Panels

The MultiBus panel provides breakaway control and status monitoring of several destinations simultaneously.

Panel Interface Overview

Use the MultiBus Panel to send a source to multiple destinations.

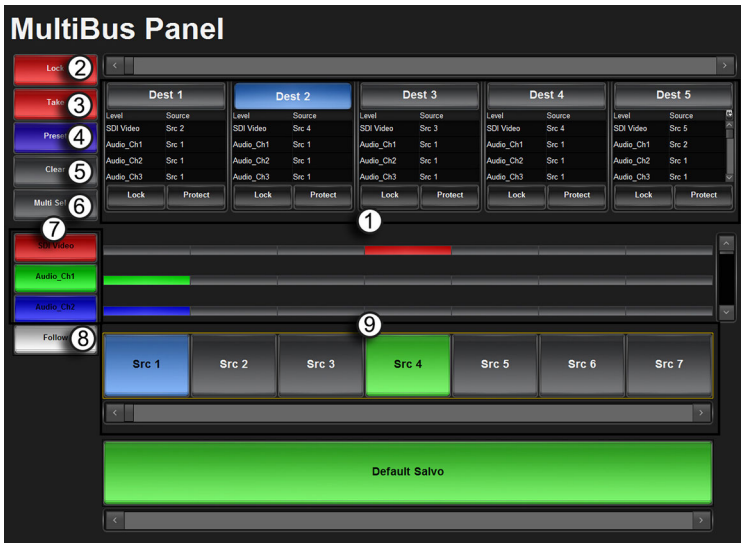


Figure 29 Example of a MultiBus Panel

1. Destination Bus

Each button in this crosspoint row represents a configured output for the selected router. Selecting a button includes the destination in the next crosspoint switch. The number of destinations and label for each button is defined by its entry in the Destinations interface. A destination selected to be included in the next crosspoint switch will have a lit button. For example, **Dest 2** is selected in **Figure 29**.

2. Lock Button

Click this button to prevent switching of the selected crosspoints. If you are using a soft panel with the **Protection Operation** set to **Disable**, the **Lock** button is not displayed.

3. Take Button

Click this button to execute the switch between the selected crosspoints. If you are using a soft panel with the **Take Operation** set to **Direct**, a **TAKE** button is not displayed because the transitions will occur automatically after a crosspoint switch is selected.

4. Preset Button

When this button is lit, a new crosspoint switch is set up on the soft panel. At least one source, once destination, and one level are selected on the interface (the **Dest** and **Src** buttons are lit blue to indicate their inclusion in the next switch).

✶ When this button is not lit, the crosspoint switch setup is still valid but is no longer indicated on the soft panel.

If you are using a soft panel with the **Take Operation** set to **Confirm**, the crosspoint switch will take effect the next time the **TAKE** button is selected. If you are using a soft panel with the **Take Operation** set to **Direct**, a **TAKE** button is not displayed because the transitions occurred automatically (hot-punch operation).

5. Clear Button

Clicking this button clears the selections made for the next crosspoint switch in the soft panel interface.

6. Multi Select Button

Clicking this button enables you to perform a switch on multiple crosspoint combinations. If you are using a soft panel with the **Selection Operation** set to **Single**, a **Multi Select** button is not displayed.

7. Level Button(s)

Click a level button to include the level in a crosspoint that you are configuring in the matrix. A lit button indicates that the corresponding level will be included in the next transition. The color and name of the button are specified using the **Levels** interface. **Figure 29** illustrates a MultiBus panel with three levels selected.

8. Follow Button

Click this button to select all levels in the matrix. If you are using a soft panel with the **Take Operation** set to **Confirm**, pressing **Take** after pressing **Follow** will then switch all crosspoints at the same time on all available levels.

9. Source Bus

Each button in this crosspoint row represents a configured input for the selected router. Selecting a button includes the source in the next crosspoint switch. The label for the button is defined by its entry in the Sources tab of the Database. A source selected to be included in the next crosspoint switch will have a lit button. For example, in **Figure 29** the **Src 1** is selected for the next transition while the **Src 4** is the current source in use.

10.Machine Control Button (not shown)

If you are using a soft panel with the **Machine Control** set to **Enabled**, the **MACHINE CONTROL** button is displayed. Refer to "**Enabling Machine Control**" for details on this button.

Crosspoint Switches via a MultiBus Panel

The layout of a MultiBus panel is similar to a production switcher layout where the destinations are organized into a horizontal row of buttons near the top of the panel and the sources are on the row near the bottom.

To make a crosspoint switch on a single level using a MultiBus Panel

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
2. Double-click the node for a MultiBus Panel.

   The **MultiBus Panel** tab opens.
3. From the left toolbar, select the button for the level you want to perform the crosspoint switch.

4. Select a **Src** button from the Source bus located at the bottom of the interface.

   The button is now lit.

5. Select the **Dest** button(s) from the Destination bus located at the top of the interface.

6. Select a **Dest** button from the Destination bus located at the top of the interface.

   The **Dest**, **Preset**, and **Take** buttons are now lit.

   In the example below, **Level 2** is selected and **Dest 4** will switch with **Src 6**. The **Src 1** button is lit green to indicate that Source 1 was used in the last crosspoint switch.

7. Click **Take**.

To make a crosspoint switch using multiple levels

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.

2. Double-click the node for a MultiBus Panel.

   The **MultiBus Panel** tab opens.

3. Select each level from the toolbar or select **Follow** to include all levels.

   When multiple levels are selected, the center row of the panel reports the level status using a horizontal bar to represent the level.

4. Select a **Src** button from the Source bus located at the bottom of the interface.

   The button is now lit.

5. Select the **Dest** buttons for the outputs to include in the crosspoint switch.

   The **Dest**, **Preset**, and **Take** buttons are now lit. In the example below, **Follow** is selected and **Dest 5** will switch with **Src 4** on all levels.

6. Click **TAKE**.

Using the Multi Select Function

A MultiBus panel displays a **Multi Select** button on the vertical toolbar of the panel.

To use the Multi Select

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
2. Double-click the node for a MultiBus Panel.

   The **MultiBus Panel** tab opens.
3. Select the level(s) from the left toolbar.
4. Click **Multi Select**.

   The **Multi Select** button is now lit.
5. Select the **Dest** buttons from the Destination bus located near the top of the interface.

   The **Dest** buttons are now lit.
6. Select a **Src** button from the Source bus located near the bottom of the interface.

   The **Src**, **Preset**, and **TAKE** buttons are now lit. In the example below, **Levels 2** and **3** are selected, and **Dest 2**, **3**, and **5** will switch with **Src 6**.

7. Click **TAKE**.

Using Category Panels

Category panels organize sources, destinations and levels based on the settings in the Category tab. There are two types of category panels: group and classic. This section outlines both types.

For More Information on...

- legacy categories, refer to the ***RCP-QE User Guide***.

Panel Interface Overview

The soft panel interface for each category type is similar in layout and available buttons.

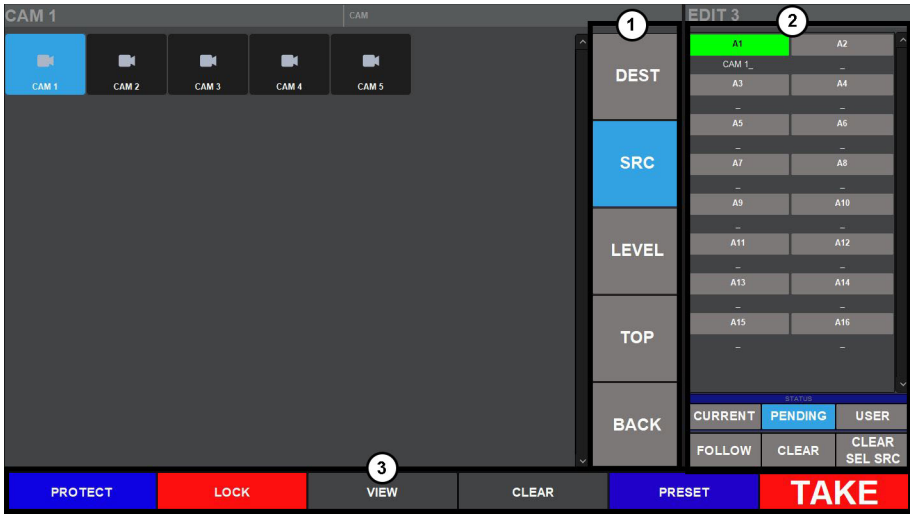


Figure 30 Example of a Group Category Soft Panel for an Ultricore CC Router

1. Group Window

This area of the soft panel interface may include the following buttons:

› **SOURCES**, **DESTINATIONS** Buttons — Clicking one of these buttons updates the button matrix to display the sources or destinations available as per the selected category. The button labels update to display the source or destination labels.

› **BACK** Button — Click this button to return the navigation to the previous category selection (back one level).

› **RESET** Button — Click this button to clear all selections on the interface. This button is only available on the Classic Category soft panels.

› **SELECT** Button — This button is only available on the Classic Category soft panels.

› **TOP** Button — This button is only available on the Group Category soft panels.

✶ When using a Group Category soft panel and the **Info** > **Non-group Resources** setting is set to **Hide**, only the resources assigned to a group are displayed on the soft panel.

2. Status Window

The bottom right corner of each soft panel includes a status window. For each level in the list of available levels, a corresponding status indicator display will indicate the current source for the currently selected destination.

The following buttons are located on the right-side of the soft panel interface:

› Individual Level Buttons — Click a level button to include the level in a crosspoint that you are configuring in the matrix. A lit button indicates that the corresponding level will be included in the next transition. The color and name of the button are specified using the **Levels** interface.

- **CURRENT** button — This button updates the level display area to show the current status for all displayed levels.
- **FOLLOW** Button — Click this button to select all levels in the matrix. Clicking **TAKE** after clicking **Follow** will then switch all crosspoints at the same time on all available levels.
- **PENDING** button — This button updates the level display area to show status for the currently pending operation (if selected source has not been switched yet. e.g. before TAKE is pressed). The user may clear individual source selections by selecting the levels to be cleared, then pressing **CLEAR SRC SEL** button.
- **CLEAR** Button — Click this button to clear all selections on the interface.
- **USER** button — This button shows current lock/protect status of each levels (and the soft panel name that is currently owned it). Since the soft panel does not recognize the names of remote control panels (RCP) to retrieve their name, a “owner #” name is used.

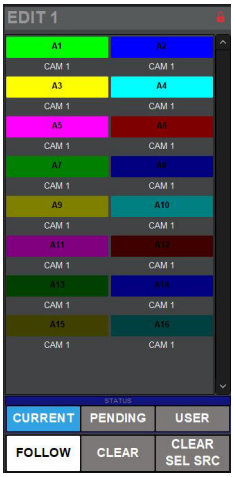


Figure 31 Status Protected — Destination

Figure 32 Status Protected — User

3. TAKE Control Area

The bottom toolbar of the soft panel interface includes the following buttons:

- **PROTECT** Button — Click this button to prevent switching of the selected destination except by the panel that initiated the protect. If you are using a soft panel with the **Protection Operation** set to **Disable**, the **Protect** button is not displayed.
- **LOCK** Button — Click this button to prevent switching of the selected destination by an control device. If you are using a soft panel with the **Protection Operation** set to **Disable**, the **Lock** button is not displayed.
- **VIEW** Button — Click this button to display the VIEW dialog. This dialog lists the current TAKE commands in the queue. Individual items may be removed from the queue via the options in the VIEW dialog.
- **CLEAR** Button — Click this button to clear the current TAKE queue.
- **PRESET** Button — This button is used to queue up multiple TAKE commands. Select a destination/source combination, then click PRESET. Select another destination/source combination then click PRESET. A following TAKE command will execute all the PRESET switches. To view the switch commands queued by the PRESET, click VIEW.
- **TAKE** Button — Click this button to execute the switch between the selected crosspoints. If you are using a soft panel with the **Take Operation** set to **Direct**, a **TAKE** button is not displayed because the transitions will occur automatically after a crosspoint switch is selected.

Crosspoint Switches via a Category Panel

The buttons and options in a Category soft panel are dependent on the categories defined for the current database, and how the soft panel was defined in the **Panels** tab. Instead of having access to all sources, destinations, and levels at one time, a Category soft panel provides access based on the categories and the tags you have created.

To make a crosspoint switch using a Group Category Panel

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
2. Double-click the node for the Category Panel.

   The **Category Panel** tab opens.
3. From the status window, highlight the level(s) you wish to include in the crosspoint switch.
   - Selected levels highlight in the level defined color.
   - Non-selected levels are indicated by a gray button with white text.
4. To select a destination:

   a. Click **DEST** from the category navigation tools.

   b. Navigate to the desired group using the displayed groups in the main group window.

✶ Only groups containing destination assignments will be displayed unless the **Non-group Resources** option for this soft panel is set to **Show**.

   c. Select a **DEST** button from the available category destinations located in the main group window.

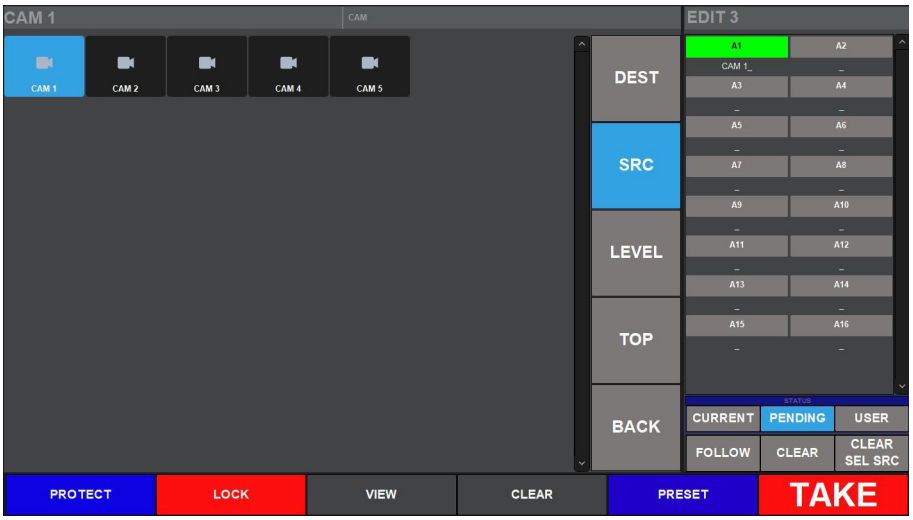
   The status title bar (if enabled) reports the currently selected destination. In the example below, the user has selected Level **A1** and destination **EDIT 3** from the **EDIT** group.

5. To select a source:

   a. Click **SRC** from the category navigation tools.

   b. Select a **SRC** button from the Source bus located in the middle of the interface.

✶ If your Category soft panel was created with the **Take Operation** set to Confirm, the **TAKE** button is lit. Otherwise the crosspoint switch automatically occurs.



6. Click **TAKE**.

Using Push Button Panels

✶ This soft panel type is not suitable for use on an Ultritouch hard panel. To control the Ultricore CC via an Ultritouch, you must create and load an Ultritouch PB soft panel as outlined in the ***Ultritouch + Ultricore CC User Guide***.

Panel Interface Overview

The Push Button soft panel is organized into three distinct windows. The order and width of each window can be customized using the options in the Panels > Home View interface.

Figure 33 is an example of a Push Button soft panel set to portrait.

Figure 33 Example of the Default Push Button Soft Panel — Portrait

Figure 34 is an example of a Push Button soft panel set to landscape.

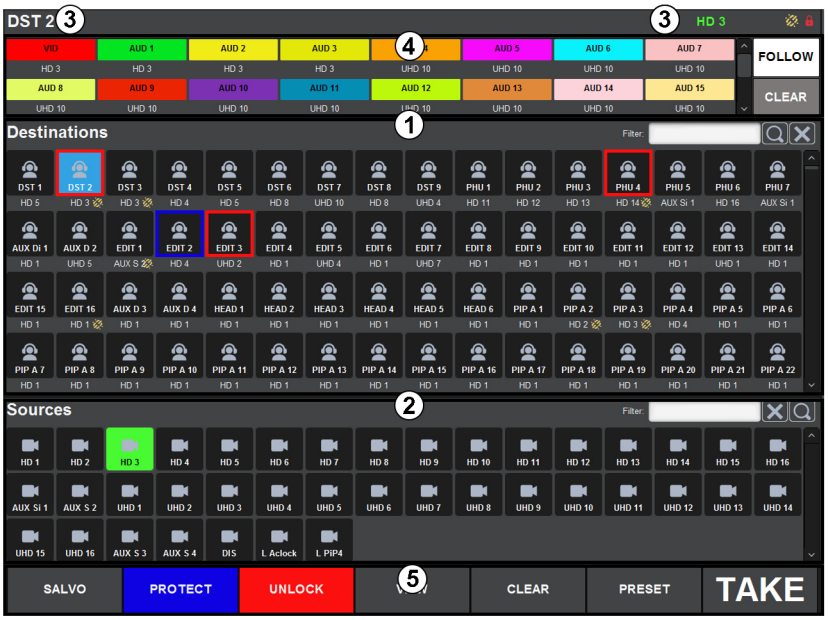


Figure 34 Example of the Default Push Button Soft Panel — Landscape

1. Destinations Area

The **Destinations** area displays the available destinations for router control. Select a **Destination** button to arm that destination for subsequent panel operations. Beneath each destination button is displayed the current source for that destination.

This area also includes the **Filter** field. A filter is available to match destination names against the entered text:

- Enter text in the **Filter** field.
- Click (or press **Enter**). The destinations area updates to display only those destinations starting with the filter text.
- To clear the active filter, click .

2. Sources Area

The Sources area displays the available sources for router control. Select a **Source** button to control the crosspoint for the currently selected destination.

This area also includes a **Filter** field. A filter is available to match source names against the entered text:

- Enter text in the field provided
- Click (or press **Enter**). The sources area updates to display only those sources starting with the filter text.
- To clear the active filter, click .

3. Current Destination

The currently selected destination label is displayed here. All subsequent panel operations operate on this destination until a new destination is selected.

› — the current status is not the same for all levels (ie a breakaway switch has occurred).

› — the current destination is locked. No switches can be made on this destination.

›  — the current destination is protected. Only the panel that initiated the protect may switch this destination.

4. Levels Area

The Levels area displays the available router levels as individual buttons. The current source for a given router level is displayed each level button. Select a **Level** button to include this level in the next source selection operation. Select the button again to toggle the level selection setting.

› **FOLLOW** Button — toggles the selection for all displayed levels.

› **CLEAR** Button — toggles the currently active level buttons.

5. Operation Area

This area provides buttons for soft panel and router control.

› **PROTECT** Button — protect the current destination. The following occurs:

- The destination button displays a blue border.
- The **Current Destination** area displays  . When a destination is protected, only the panel that initiated the protect can change the destination status.
- The **PROTECT** button is now labeled as **UNPROTECT**. Toggle the button to disable the protect.

✶ Only the panel that initiated the protect may change the protect status.

› **LOCK** Button — locks the current destination. The following occurs:

- The destination button displays a red border.
- The current destination display area displays  . When a destination is locked, no panel may change the destination status.
- The **LOCK** button is now labeled as **UNLOCK**.

✶ Only the panel that initiated the lock may change the lock status.

› **VIEW** Button — displays the current crosspoint switch requests currently in the preset list. Individual crosspoints may be removed via the list view.

› **CLEAR** Button — clear the preset list of all crosspoint selections.

› **PRESET** Button — adds the current destination/source/level selection to a preset list. A crosspoint is added to the list for every level selected. This enables the user to add more switches and execute them all with a single take operation. The preset function is only available when the **Take Mode** is set to **Confirm**.

› **SALVO** Button — reveals a list of predefined salvos. A salvo may be executed from the dialog. The salvo button is visible only when the panel configuration has one or more salvos assigned.

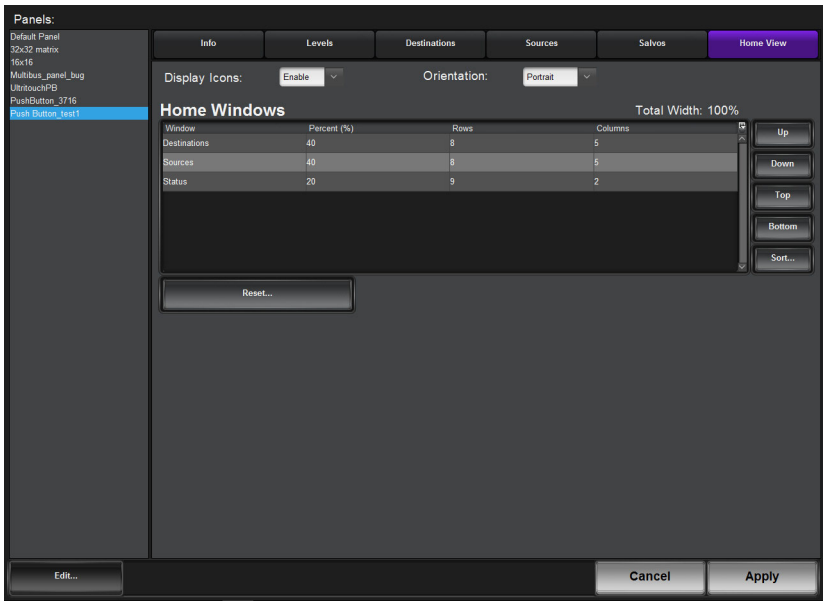
› **TAKE** Button — is lit when the current destination/source selection is ready to be requested of the router. The Take operation is a configurable option and will only be activated if the soft panel **Take Mode** is set to **Confirm**.

Configuring a Push Button Soft Panel

The Push Button soft panel provides additional configuration options in addition to those outlined in "**Creating a Soft Panel**".

To configure a Push Button soft panel

1. Create a new soft panel as outlined in "**To create a soft panel**".
2. Select the **Home View** tab.



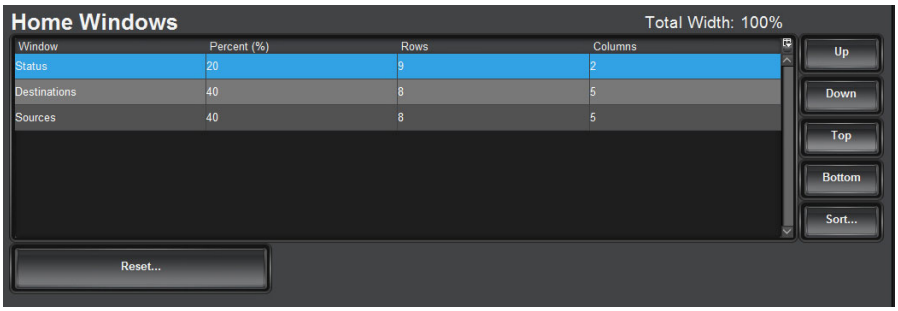
3. Use the **Display Icons** menu to specify whether buttons will display the default icons based on window type (**Enable**) or will only display the label text as determined by the database (**Disable**).
4. Use the **Orientation** menu to specify the layout on the monitor. Choose from the following:
   - **Portrait** — orients the soft panel in a horizontal layout, where the soft panel is taller than it is wide.
   - **Landscape** — orients the soft panel in a vertical layout, where the soft panel is wider than it is tall.
5. Specify the order that the windows will display in the completed soft panel layout as follows:

★ By default, the windows are organized in the following order (left to right): Destinations, Sources, and Status.

   a. In the **Home Windows** table, select the row for the window you want to move to a different position on the soft panel layout.

   b. Use the buttons in the toolbar to move the row to the desired position.

      In the example below, the user moved the **Status** window to the top of the table so it will display on the far left of the soft panel.



6. Adjust a window size as follows:
   - Use the **Percent** field to specify the size of the window as a percentage of the total soft panel area.
   - Use the **Rows** field to specify the number of button rows the window will display.
   - Use the **Columns** field to specify the number of button columns the window will display

7. Click **Apply** to save your changes.

Crosspoint Switches via a Push Button Panel

The buttons and options in a Push Button soft panel are dependent on the current database, and how the soft panel was defined in the **Panels** tab. You can also use the Filter fields in the Destinations and Sources area of the panel to provides access based on the search criteria entered into each Filter field.

To make a crosspoint switch on a single level using the Push Button Panel

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
2. Double-click the node for the Push Button Panel.

   The **Push Button Panel** tab opens.
3. Select the **Level** you want to perform the crosspoint switch.
4. Select a **DEST** button from the Destinations window.

   The Status field reports the selected **DEST** button. In the example below, the user selected **Level 6** and **Dest 54**.

5. Select a **SRC** button from the Sources window.

✶ If your soft panel was created with the **Take Operation** set to Confirm, the **TAKE** button is lit. Otherwise the crosspoint switch automatically occurs.

6. Click **TAKE**.

To make a crosspoint switch on multiple levels using the Push Button Panel

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC.
2. Double-click the node for a Push Button Panel.

   The **Push Button Panel** tab opens.
3. Select each level from the Levels window or click **Follow** to include all levels.

   The Level buttons are lit in the toolbar.
4. Select a **DEST** button from the Destination window.

   The Status area updates to display report the selected **DEST** button. In the example below, the user selected **Levels 2**, **6**, **8** and **11**, then **Dest 40**.

5. Select a **SRC** button from the Source window.

The Status area updates to display only the selected **SRC** button. In the example below, **Src 6** is selected.

✶ If your soft panel was created with the **Take Operation** set to Confirm, the **TAKE** button is lit. Otherwise the crosspoint switch automatically occurs.

6. Click **TAKE**.

Using an Ultritouch PB Panel

An Ultritouch PB soft panel is organized into a pre-sized layout that can be loaded for use on an Ultritouch hard panel. Customize each soft panel by specifying the size of each window, the location of each window on the layout, and what operational buttons to include on the panel.

✶ The Ultritouch PB soft panel can only be loaded and used on an Ultritouch hard panel.

Figure 35 Example of an Ultritouch PB Soft Panel

For More Information on...

- configuring and using an Ultritouch PB soft panel, refer to the ***Ultritouch + Ultrix User Guide***.

Using Salvos

Salvos are a selected series of crosspoints to switch in the matrix that can be saved and later recalled for use.

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide***.

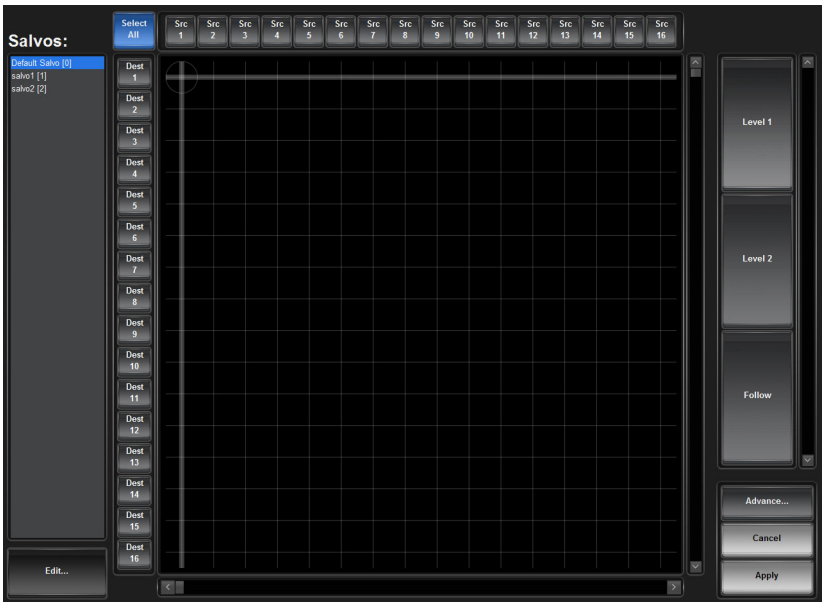
Creating Salvos

The Salvos tab enables you to create, delete, re-name, and manage your salvos in an interface that is off-line. The Salvo tab layout is similar to the Matrix Panel layout where crosspoints are arranged in a grid layout with sources in columns and the destinations in rows.

To create a salvo

1. In the **Basic Tree View**, expand the **Database** node for the Ultricore CC.
2. Double-click the **Salvos** node.

   The **Salvos** tab opens.



3. Create a new salvo in the database as follows:
   a. Click **Edit** > **Add**.

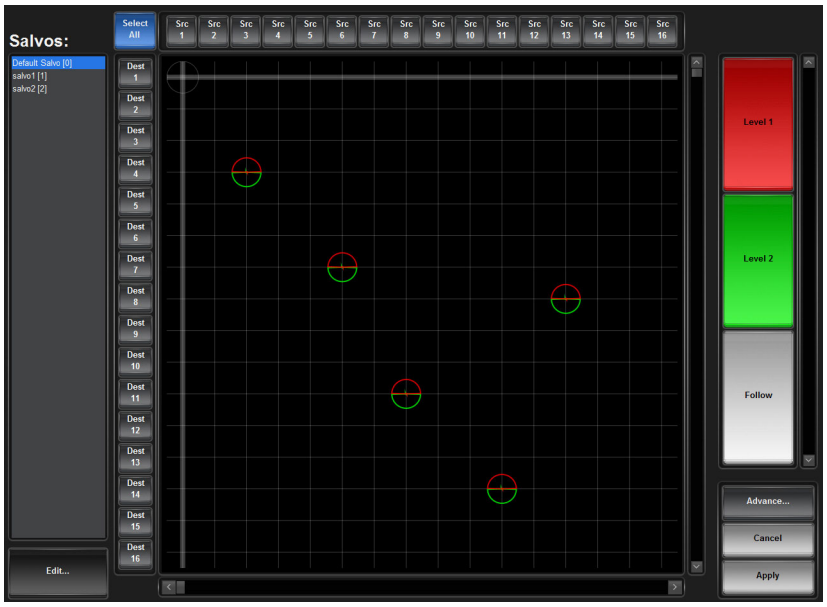
      The **Add Salvo** dialog opens.

   b. Type a unique identifier in the **Name** field for the new salvo.

   c. Click **Apply**.

      The **Add Salvo** dialog closes and the **Salvos** list updates with the new salvo selected.
4. Select the **Level**(s) button for the level(s) to include in the salvo.

   The **Level**(s) buttons are lit.
5. To create a single crosspoint switch, use the cross-hairs to select the source/destination combination on the grid.

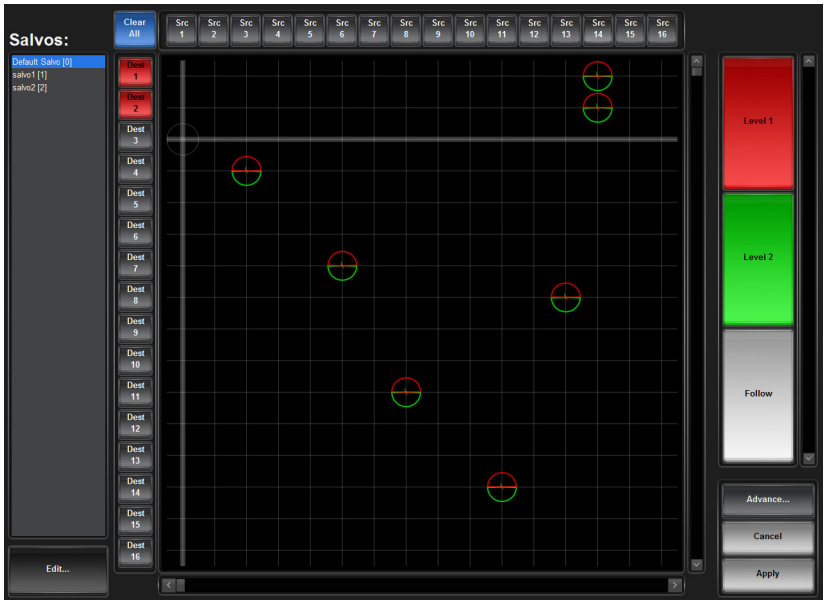


6. To assign multiple destinations to the same source.

   a. Click the button(s) in the **Destination** toolbar for each destination to include in the switch; or click **Select All** to include all the available Destinations.

   b. Click the button in the **Source** toolbar for the source to use for the switch.

   The grid updates to indicate the new selections. Notice that each level is represented by a corresponding slice of the crosspoint indicator. In the case below, there are seven crosspoint switches selected that will affect two levels.



7. Select the **Follow** button to enable the levels to automatically follow the switches.

✶ Click **Advanced** > **Clear Dest Presets** to cancel the destination selections or click **Advanced** > **Clear All Presets** to clear the workspace.

8. Click **Apply**.

   The salvo settings are updated.

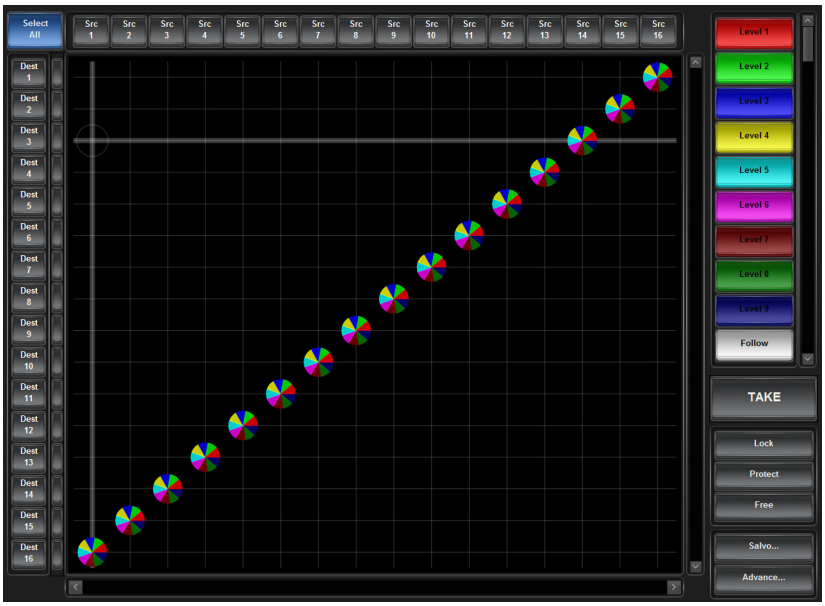
Saving the Current Crosspoint Status as a New Salvo

The Advanced menu in the Salvos tab provides the option to capture the current state of the crosspoint selections and save them as a salvo.

To create a salvo based on the current destination status

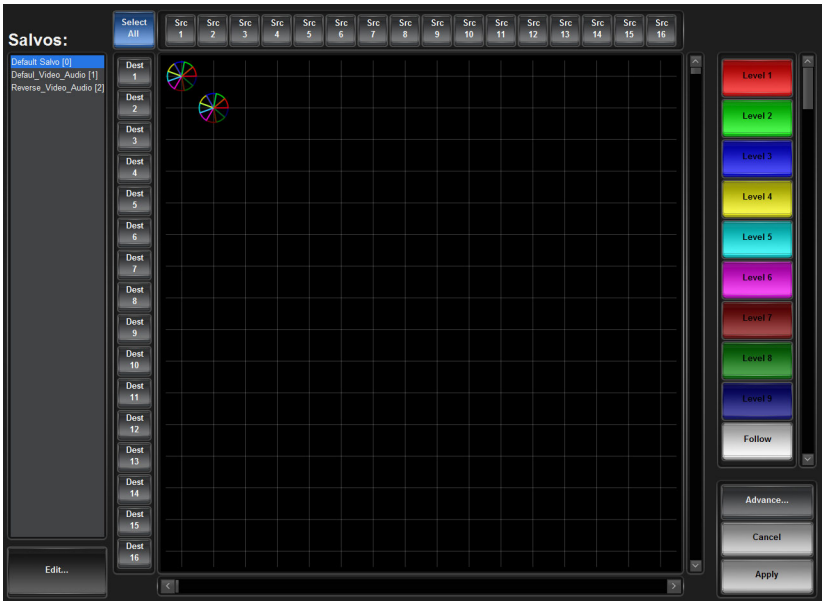
✶ This procedure captures the status of all destinations.

1. Verify the current crosspoint state using one of the soft panels in your database. Refer to "**Soft Panels in DashBoard**".



2. In the **Basic Tree View**, expand the **Database** node for the Ultricore CC router.
3. Double-click the **Salvos** node.

   The **Salvos** tab opens.

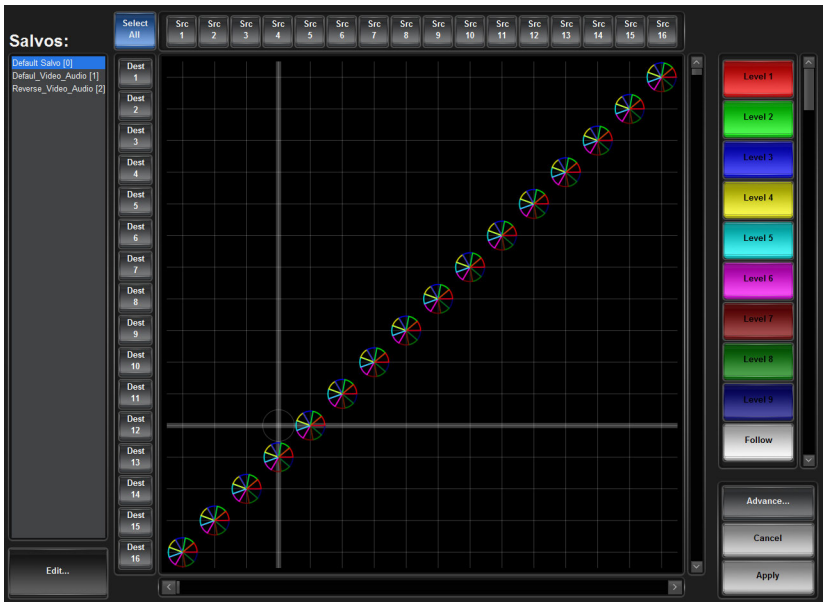


4. Create a new salvo in the database as follows:
   a. Click **Edit** > **Add**.

      The **Add Salvo** dialog opens.
   b. Type a unique identifier in the **Name** field for the new salvo.
   c. Click **Apply**.

      The **Add Salvo** dialog closes and the **Salvos** list updates with the new salvo selected.
5. Click **Advanced** > **Capture System Status**.

   The matrix in the **Salvos** tab updates to reflect the current crosspoint state as verified in step 1.



6. Click **Apply**.

To create a salvo based on selected destinations

✶ This procedure captures the status of selected destinations.

1. Verify the current destination crosspoint states using one of the soft panels in your database. Refer to "**Soft Panels in DashBoard**".
2. In the **Basic Tree View**, expand the **Database** node for the Ultricore CC router.
3. Double-click the **Salvos** node.

   The **Salvos** tab opens.
4. Create a new salvo in the database as follows:
   a. Click **Edit** > **Add**.

      The **Add Salvo** dialog opens.
   b. Type a unique identifier in the **Name** field for the new salvo.
   c. Click **Apply**.

      The **Add Salvo** dialog closes and the **Salvos** list updates with the new salvo selected.
5. Click **Advanced** > **Capture Dest Status**.

   The matrix in the **Salvos** tab updates to reflect the current Destination states as verified in step 1.

6. Select the **Level**(s) button for the level(s) to include in the salvo.

   The **Level**(s) buttons are lit.
7. Select the source(s) to use in the crosspoint switch.
8. Click **Apply** to update the salvo settings.

Copying and Pasting a Salvo

You can create a copy of a saved salvo and edit its settings or add crosspoint selections separately from the original salvo.

To copy and paste a salvo

1. In the **Basic Tree View**, expand the **Database** node for the Ultricore CC router.
2. Double-click the **Salvos** node.

   The **Salvos** tab opens.
3. Select the salvo to copy from the **Salvos** list.
4. Click **Edit** > **Copy**.
5. Click **Edit** > **Paste**.

   A new salvo displays at the bottom of the **Salvos** list in the **Salvos** tab. By default, the salvo is named Salvo # where # is an automatically assigned value.
6. Give the new salvo a unique identifier as outlined in "**To re-name a salvo**".
7. Edit the settings of the new salvo as outlined in "**To edit a salvo**".

Editing a Salvo

Once a salvo is created in the database, you can edit its crosspoint selections,

To edit a salvo

1. In the **Basic Tree View**, expand the **Database** node for the Ultricore CC router.
2. Double-click the **Salvos** node.

   The **Salvos** tab opens.
3. Select the salvo from the **Salvos** list.

   The grid updates to display the crosspoint selections currently saved for the salvo.
4. Perform steps 4 to 7 as outlined in "**To create a salvo**".
5. Click **Apply** to save your changes.

To re-name a salvo

1. In the **Basic Tree View**, expand the **Database** node for the Ultricore CC router.
2. Double-click the **Salvos** node.

   The **Salvos** tab opens.
3. Select the salvo from the **Salvos** list.

   The grid updates to display the crosspoint selections saved for the salvo.
4. Click **Edit** > **Rename**.

   The **Rename Salvo** dialog opens.
5. Type a new name for the salvo in the **Name** field.

6. Click **Apply**.

   The **Rename Salvo** dialog closes and the salvo displays with the new name in the **Salvos** list.

Deleting a Salvo

Deleting a salvo removes it from the database. The corresponding button on any soft panels for the deleted salvo are also no longer displayed.

To delete a salvo from the database

1. In the **Basic Tree View**, expand the **Database** node for the Ultricore CC router.
2. Double-click the **Salvos** node.

   The **Salvos** tab opens.
3. From the **Salvos** list, select the salvo to delete.
4. Click **Edit** > **Delete**.
5. Click **Apply** to close the dialog.

   The salvo no longer displays in the Salvos list to the left of the workspace. If the salvo was assigned to a button in a soft panel, the button is automatically deleted from the panel.

Recalling a Salvo

Once you have saved a salvo, you can recall it for use on a soft panel in DashBoard.

✶ You cannot recall salvos from a Category soft panel.

For More Information on...

- adding salvos to customized soft panels, refer to "**Creating a Soft Panel**".

To recall a salvo from a Matrix panel

1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC router.
2. Double-click the node for a **Matrix Panel**.

   The **Matrix Panel** tab opens.
3. Click **Salvo**.
4. Click **Recall**.

   The **Execute Salvo** dialog opens. Notice that the **Active** column reports whether the salvo is currently in use (ON) or not (OFF).

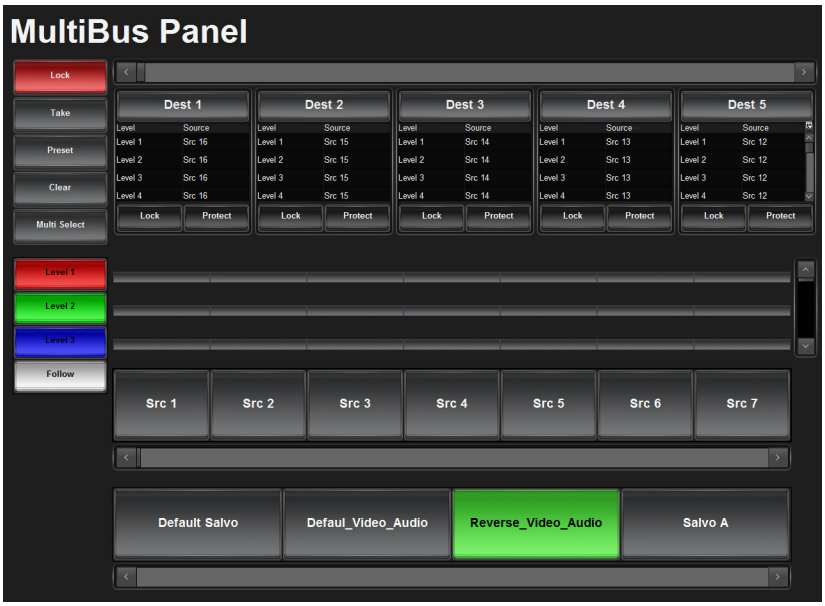
5. Select the salvo to recall.
6. Click **Apply** to close the dialog.

7. Click **Take** to apply the salvo.

To recall a salvo from a MultiBus panel

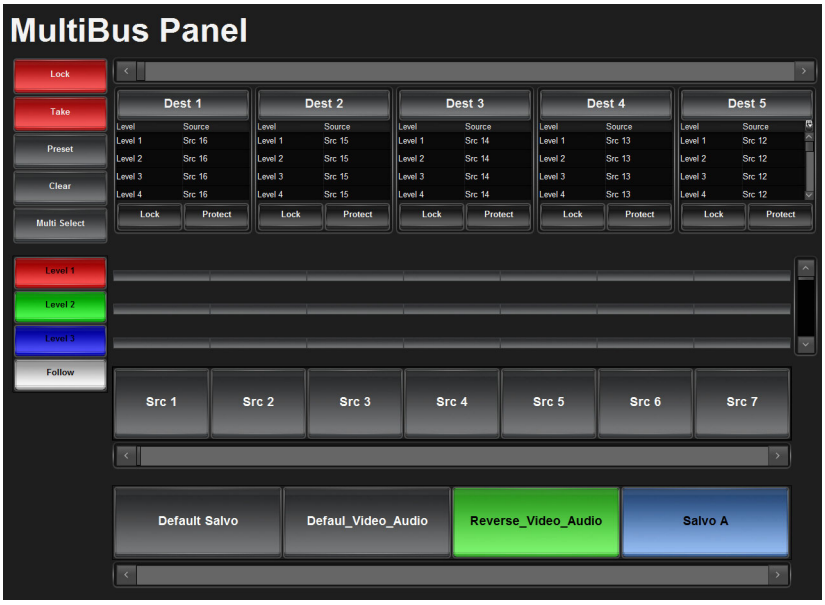
1. In the **Basic Tree View**, expand the **Soft Panels** node for the Ultricore CC router.
2. Double-click a **MultiBus Panel** node.

   The **MultiBus Panel** tab opens. The salvo buttons are located at the bottom of the soft panel interface. If a salvo button is lit green, it is currently in use.



3. Click the button for the salvo you wish to recall.

   The salvo button and **Take** buttons are now lit on the soft panel.



4. Click **Take** to apply the salvo.

   The crosspoint switch is made, and the salvo button is no longer lit.

Operation with Ross Devices

The Ultricore CC Central Controller connects to Ross NK series routers and Remote Control Panels (RCPs). Ross NK series routers and RCP devices may connect to the Ultricore CC via an NK-IPS/NK-NET over Ethernet.

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide***.

✶ It is recommended for optimum performance to minimize device connections to the NK-NET.

For More Information on...

- defining connection points between Ultricore CC and external devices, refer to "**Device Communication Setup**".

Overview

Introducing an Ultricore CC to an existing Ross NK system requires specific configuration to enable the Ultricore CC to manage the devices in the routing system.

✶ Ultricore CC does not support Unicode characters.

Using RCP-NK Series Remote Control Panels

When adding the Ultricore CC router to an existing system with one or more RCP-NK devices, each remote control must:

- have the **Virtual routing** enabled on their **Configuration** page
- have the **Comms Retry Delay Factor** set to 80ms or greater
- ensure that the level numbers correspond to the Ultricore CC Level ID number

Be aware that the RCP-NK devices do not:

- support Ultricore CC salvos
- automatically get source and destination labels from the Ultricore CC. They must be entered manually or via a global labels file.

Using an Ross NK Series Router

The Ross NK router partitioning not supported. The logical mapping of the Ultricore control system is far more capable and should be implemented there if required.

Keep the following in mind:

- The NK-IPS requires version 2.23 or higher to communicate with an Ultricore CC.
- The SCP/A is not supported.
- The SCP/K2 is not supported.
- NK-A64 control level is not supported.

Table 14 outlines the nomenclature that Ultricore CC automatically uses for Ross NK devices.

Table 14 Default Ultricore CC Naming for Ross NK Devices

Device	Matrix Name	Port Name
NK-3Gxxx	deviceName.SDI	deviceName.slot1.in/out[socket number].SDI.ch1

Table 14 Default Ultricore CC Naming for Ross NK Devices

Device	Matrix Name	Port Name
NK-Axxx	deviceName.An Aud L	deviceName.slot1.in/out[socket number].An Aud L.ch1
	deviceName.An Aud R	deviceName.slot1.in/out[socket number].An Aud R.ch1
NK-Dxxx	deviceName.AES	deviceName.slot1.in/out[socket number].AES.ch1
NK-Mxx	deviceName.Machine Control	deviceName.slot1.in/out[socket number].Machine Control.ch1
NK-MDxxx	deviceName.SDI	deviceName.slot1.in/out[socket number].SDI.ch1
NK-Vxxx	deviceName.An Vid	deviceName.slot1.in/out[socket number].An Vid.ch1

Using Ross Analog Audio Devices (NK-A16, NK-A32, NK-A64)

The Ross NK Analog Audio devices (NK-A16, NK-A32, NK-A64) will present as two matrices: Left and Right respectively.

Connection Diagrams

Figure 36 provides an example of a routing system with an Ultricore CC Central Controller, an NK-IPS, and several Ross NK devices. Communication between the NK-IPS and the Ross NK devices is over T-Bus, while the Ultricore CC communicates with the NK-IPS via Ethernet.

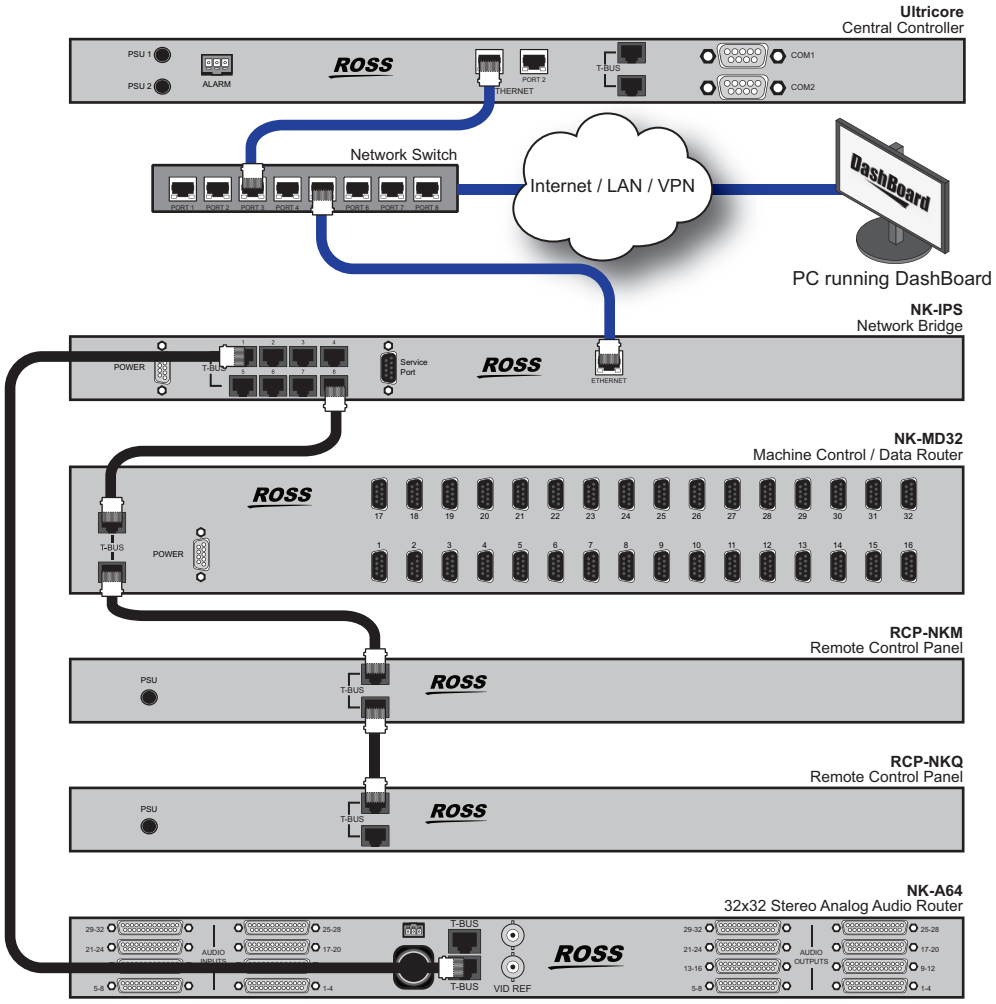


Figure 36 Connection Example with an NK-IPS

Figure 37 provides an example of an Ultricore CC Central Controller, Ultrix router, NK-NET and various NK devices.

✶ The NK-NET requires phantom power from the T-Bus to operate. This is available from any Ross NK series router.

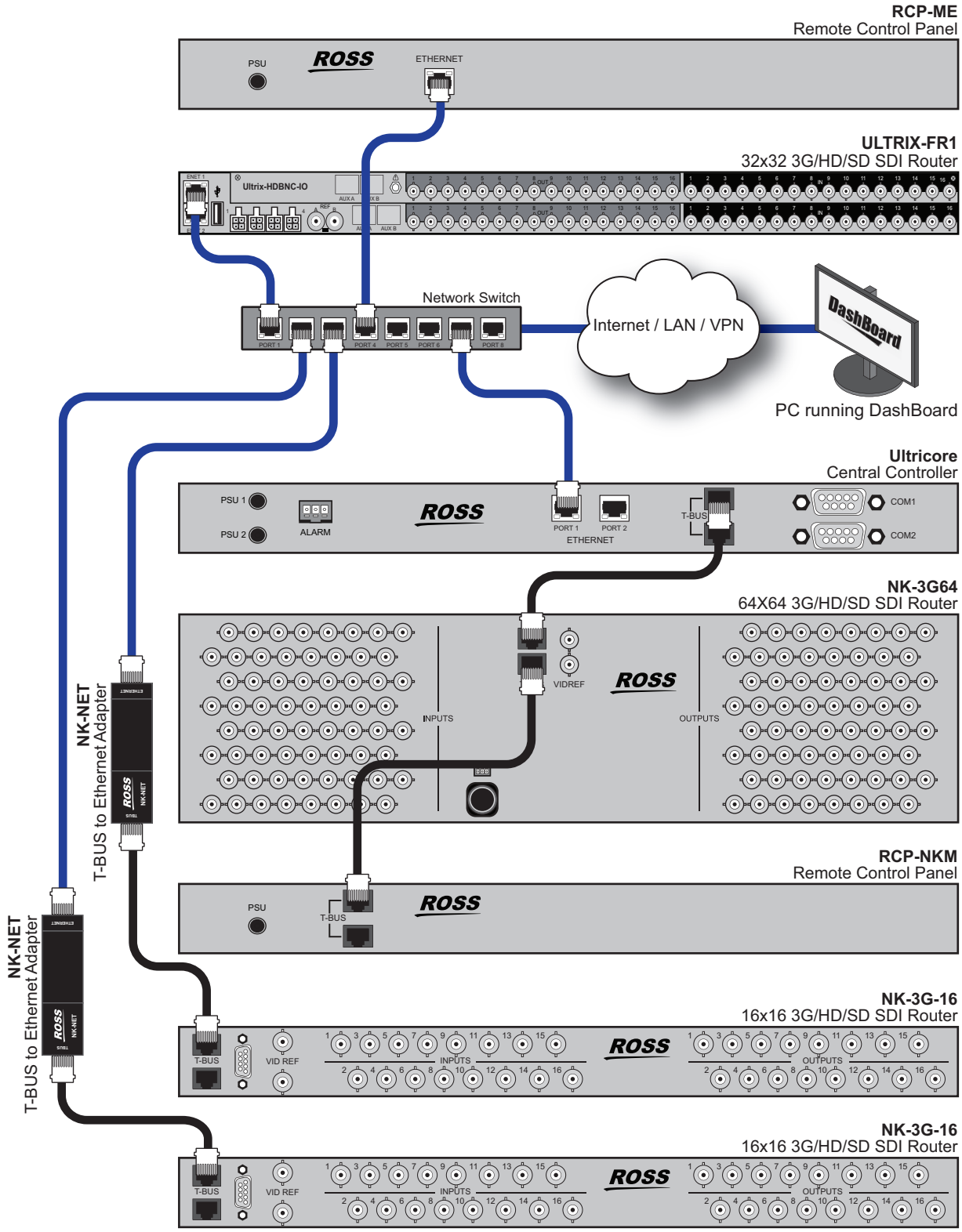


Figure 37 Connection Example with Two NK-NETs and an Ultrix Router

Ross RCP-NK Series Remote Control Panels

When adding the Ultricore CC to an existing system with one or more RCP-NK series devices, each panel must:

- have the **Virtual Routing** enabled on their **Configuration** page
- have the **Comms Retry Delay Factor** set to **80ms** or greater
- ensure that the **Level** numbers correspond to the Ultricore CC **Level ID number**

Be aware that the RCP-NK series devices do not:

- support Ultricore CC salvos
- automatically receive source and destination labels from Ultricore CC. They must be entered manually or via a global labels file.

Ross NK Series Routers

Ross NK Series routers can utilize two methods of connection to the Ultricore CC:

- Direct T-Bus connection
- Ethernet connection via an NK-IPS or NK-NET

All Ross NK routers are automatically discovered[1] and appear in the available matrix list ready for label assignment.

Integrating Ross NK Series Devices with Ultricore CC

Keep the following in mind when integrating Ross NK Series devices with Ultricore CC:

- Ross NK partitioning is not supported across different levels. Use Ultricore CC to facilitate this operation.
- NK-Ax analog audio routers present as two routers (Left and Right).
- NK-A64 control level is not supported.
- NK-SCP/A is not supported.
- NK-SCP/K2 is not supported.

Adding Ross NK Series Routers to the Ultricore Routing System

Add a Ross NK series device to the Ultricore routing system requires the following steps:

1. Determine the connection method to the Ross NK router. Choose from the following:
   - Direct T-Bus
   - Ethernet via NK-NET or NK-IPS
2. If you are using a Direct T-Bus connection, verify that the Ross NK series router is listed in the **Connections** tab for the Ultricore CC. T-Bus devices are automatically discovered as T-Bus communication is always enabled on the Ultricore CC.
3. If you are using an ethernet connection, define a connection point between Ultricore CC and each NK-IPS or NK-NET. Refer to "**Connecting to Ross Ethernet Devices**" for details.
4. Review the port label matrices for the Ultricore CC database.
5. Assign outputs to the logical destinations in the database as outlined in "**To map a physical output to a destination**".

1. Once an ethernet connection point has been established for ethernet connections.

6. Assign inputs to the logical sources in the database as outlined in "**To map a physical input with a source**".

Integrating Ross RCP-ME/RCP-QE Panels with Ultricore CC

RCP-QE and RCP-ME ethernet series remote control panels connect to Ultricore CC via the facility network. The panels offer some extra features not available to RCP-NK series control panels;

- automatic source and destination labeling
- automatic level and salvo labeling
- the ability to trigger system wide salvos
- Category index source/destination selection method *(RCP-QE only)*

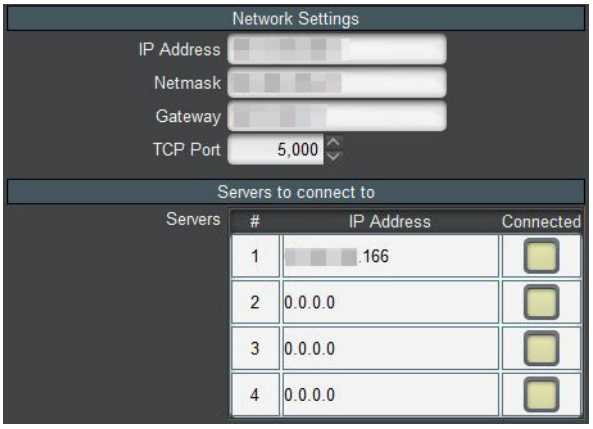
Adding a Ross RCP-ME or RCP-QE Panel to the Ultricore Routing System

The **Connection Editor** interface for an RCP-ME or RCP-QE enables you to configure the connection point from the panel to Ultricore CC. You will need DashBoard installed and running to access the Connection Editor interface.

To add an RCP-ME or RCP-QE

1. Connect the RCP to facility network and configure the network settings as outlined in the user guide for your remote control panel.
2. Open the **Connection Editor** in DashBoard for your panel as follows:
   a. In the Basic Tree View of DashBoard, expand the tree view for the remote control panel.
   b. Double-click the **Connection** icon within the device tree.

      The **Connection Editor** opens.
3. Locate the **Servers to connect to** area.



4. In a row of the provided table, type the **IP Address** of the Ultricore CC you want to establish a connection to.

   Upon a successful connection and a refresh of the current DashBoard view (click the **Refresh** button), a check mark displays next to the successful connection. In the above example, an IP Address is entered for Server 1.
5. Verify in the **Connections** area that a connection is establish.
6. Configure the Remote Control Panel layout as outlined in the user guide for your panel.

Machine-Control (RS-422) Logical Mapping

Connecting an NK-M series router to Ultricore CC requires some special consideration.

Machine control routing requires two crosspoints for a point to point connection due to the bi-directional nature of the signal. Each physical socket contains a transmit/receive pair. This can be thought of as a source-destination combination and is known as a port.

It is necessary to configure the input and output of the machine control port on the same row ID on the logical mapping tables.

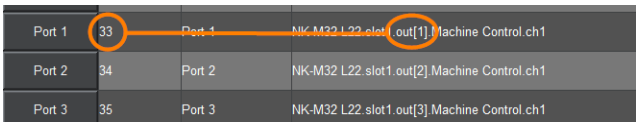


Figure 38 Destination Mapping

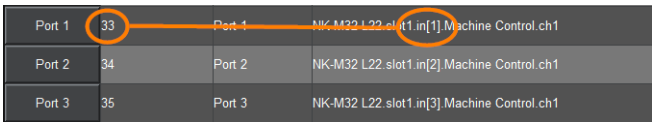


Figure 39 Source Mapping

It does not matter where the machine control is mapped (either row 3 or 300), but the input and outputs physical ports must be mapped to the same row ID.

Conditions for Machine Control

Three conditions must be met before machine control can be switched.

1. The NK machine control router is attached and configured within Ultricore CC (level, destination. and source maps).
2. Selected breakaway or level must include the machine control level.
3. Machine control reciprocal must be enabled on the controller.

Configuring T-Bus Devices

Configuration of T-Bus devices connected to an Ultricore CC T-BUS port may be achieved by opening an IPS style connection to the Ultricore CC Central Controller. This allows configuration and review of device settings in the same manner as legacy system with an NK-IPS.

Adding an NK-IPS Connection to Ultricore CC

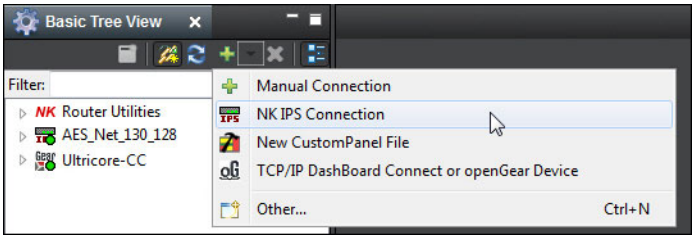
An NK-IPS connection must be manually added to DashBoard so the T-Bus devices may be configured.

To add an IPS connection to Ultricore CC

1. Note the TCP/IP Address of the Ultricore CC that you want to establish a connection to:
   - In the Basic Tree View of DashBoard, hover your mouse cursor over the main Ultricore CC node; or
   - In the Basic Tree View of DashBoard, right-click the main Ultricore CC node in the tree view and select **View Frame Information** to display the **Connection Information** dialog.

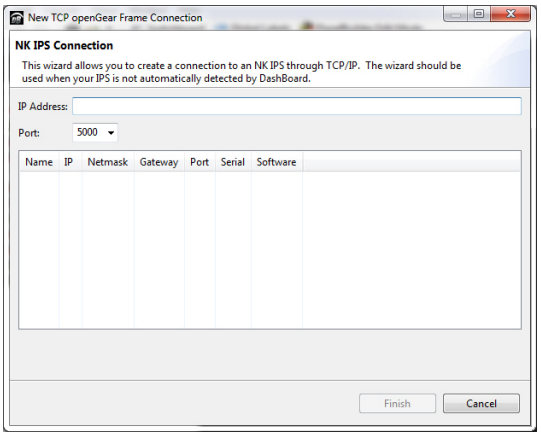
2. Configure DashBoard to open an NK-IPS Connection to that TCP/IP address as follows:

   a. In the Basic Tree View toolbar, click  to display the **Add New Connection** dialog.



   b. Select **NK-IPS Connection**.

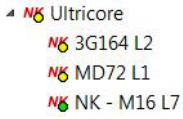
      The **New TCP openGear Frame Connection** dialog opens.



   c. In the **IP Address** field, enter the IP Address of the Ultricore CC you noted in step 1.

   d. Click **Finish** to apply your change and close the dialog.

3. Verify that a new node displays in the Basic Tree View. Note that the new node will have the same name as your Ultricore CC device (where the default name is Ultricore CC).



4. Complete the device configuration by double-clicking the device under the IPS node in the tree view. Refer to the user guide that accompanied your device for configuration details.

Operation with an Ultrix Router

Keep the following in mind when operating an Ultrix router within the Ultricore CC routing system:

- The Ultrix hardware is configured on the Ultrix router in DashBoard. Device specific functions such as hardware setup, installed license keys, and Ultriscape setup remain in the DashBoard node of the Ultrix router.
- The Ultriscape (Multiviewer) licensed feature is configured on the Ultrix router in DashBoard.
- All crosspoint changes (including salvos) must originate from the master Ultricore CC database.

- All routing commands are sent to and executed by the master Ultricore CC. This includes any third-party communications (GVG, Probel, TS, etc.). The Ultrix router will ignore any routing commands not originating from the master Ultricore CC database while in this connected mode.
- If more than one Ultrix router is to be controlled from the Ultricore CC, ensure that you assign unique device names for the Ultrix routers via the front panel. This will help to quickly identify the routers within the Ultricore CC system. Refer to "**Connecting to an Ultrix Router**".
- Each Ultrix router must be configured for remote control mode.
- All Remote Control Panels (RCP) must be configured to connect with the master Ultricore CC.

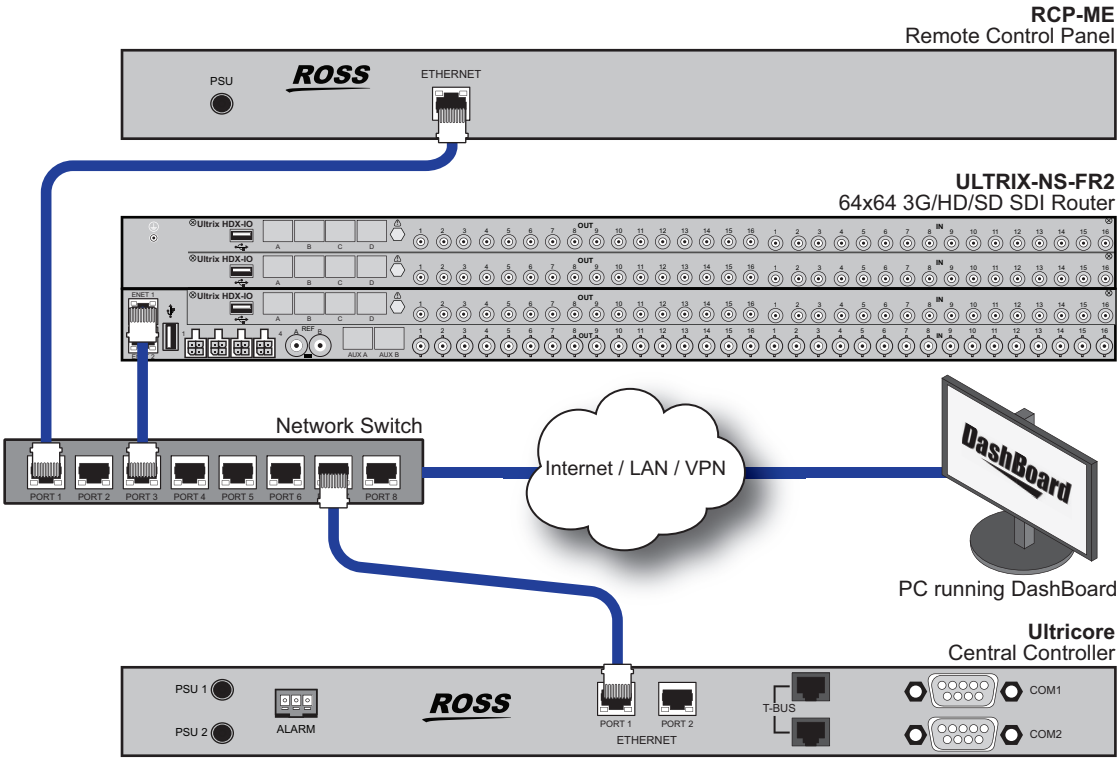


Figure 40 Example Setup Using an Ultricore CC and an Ultrix

System Integration Examples

There are many aspects of Ultricore CC that you can configure to suit the needs of your organization. The properties that you are able to configure depends on your user permissions. Note that the information provided is for illustration purposes only, and the requirements for your facility may differ from what is presented.

Adding Ultricore CC to Legacy Systems

In this example, you have legacy NK routers without remote control panels but you want to add the Ultricore CC as a system controller.

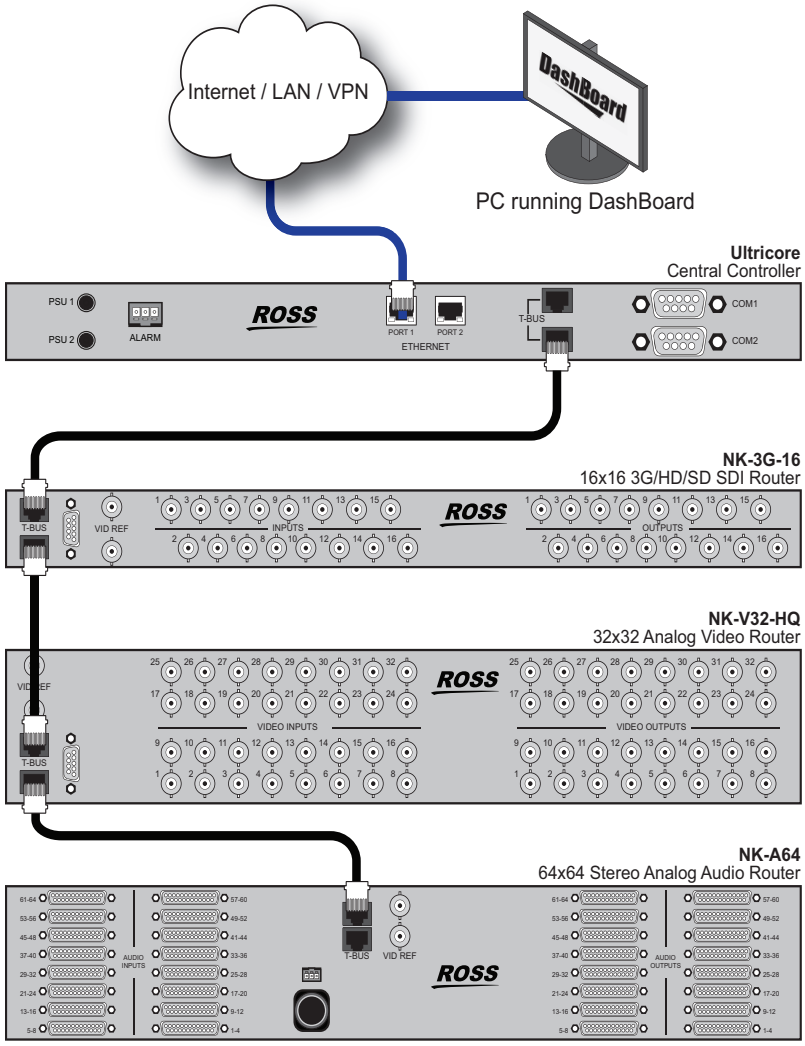


Figure 41 Routing System with Legacy Routers and No Remote Control Panels

You can use Ultricore CC and a series of NK-NETs to provide ethernet connectivity for T-Bus based legacy systems.

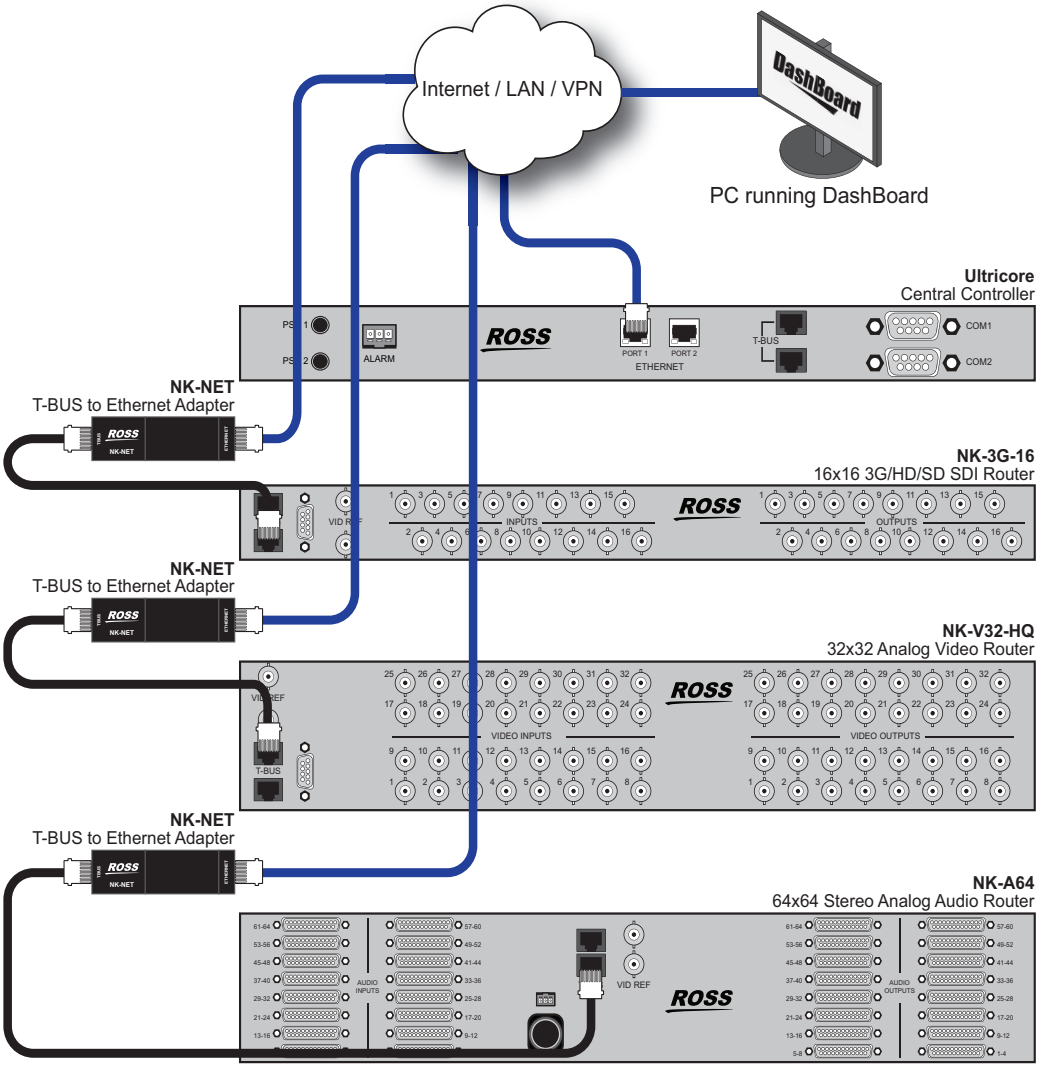


Figure 42 Adding Ethernet Communications via an Ultricore CC

Integrating Third Party Routers with an Existing System

Ultricore CC integrates supported third-party routers using GVG protocol translation. In this configuration, the Ultricore CC or the Ross router is the system master.

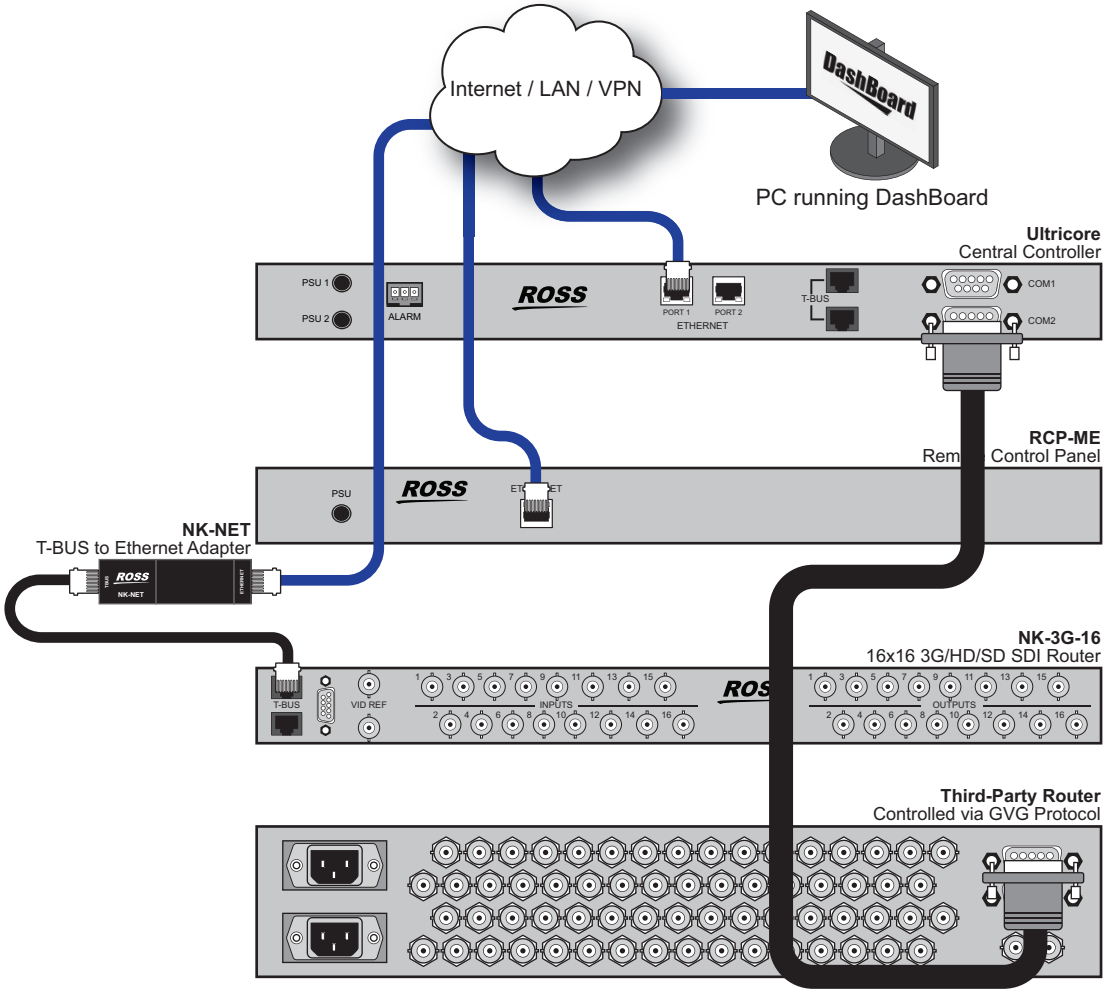


Figure 43 Integrating Third-Party Routers with an Ultricore CC

Integrating Routers with a Third Party Control System

Ultricore CC is integrated with an existing third-party routing system to add an NK router as a matrix within and under control of the third-party system. In this case, the Ultricore CC acts primarily as a protocol translator.

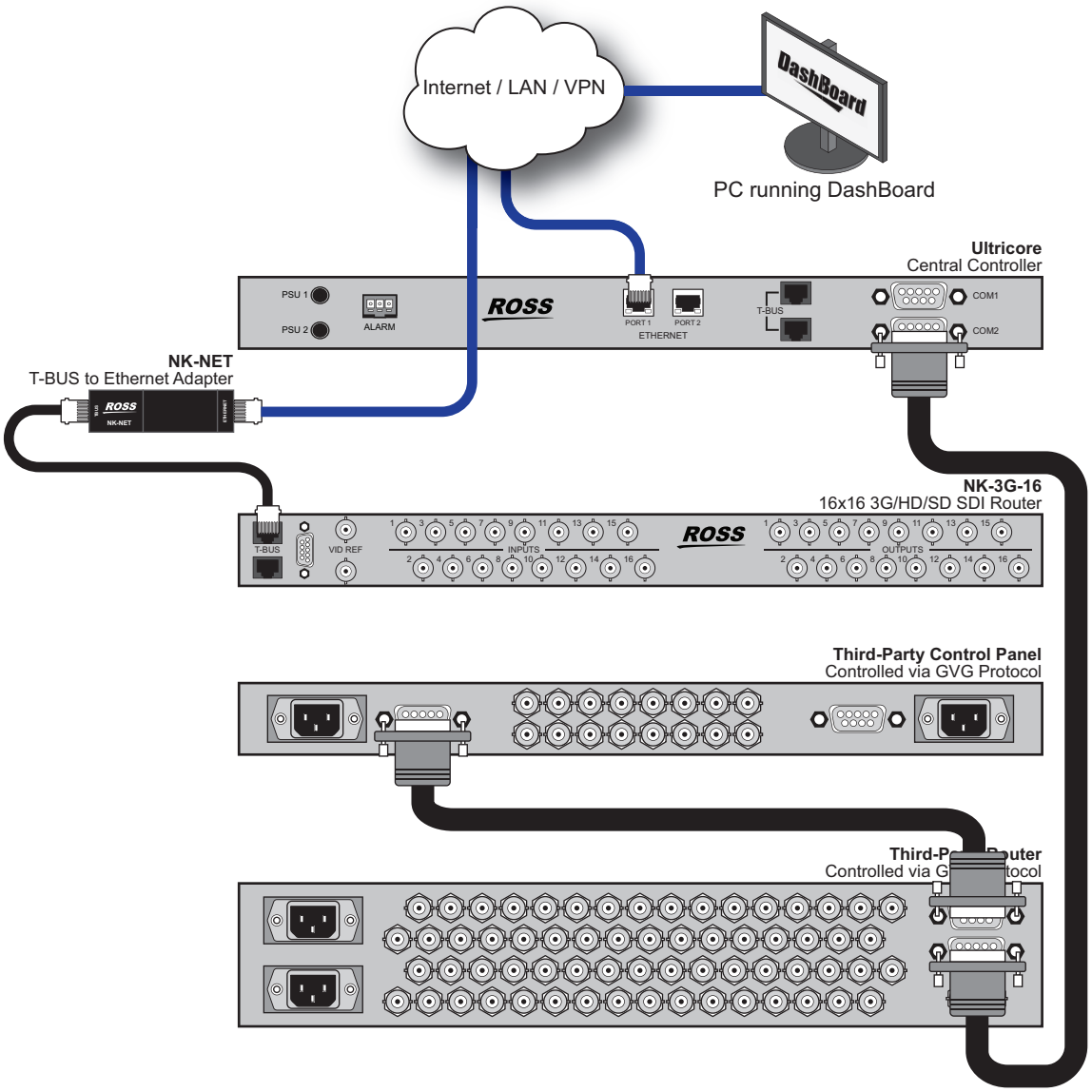


Figure 44 Using Ultricore CC to Integrate Existing Routers with a Third-Party Controller

Adding Third Party Control to Existing Systems

If you have an existing Ross routing system, you can add an external controller, such as an automation device, that is compatible with a supported third-party protocol. In this example, the Ultricore CC acts as the system controller and provides a protocol translation for the external third-party control device.

To add the third-party controller to your router system, connect the external controller to Ultricore CC and configure Ultricore CC to translate between the third-party controller and the rest of your Ross routing system.

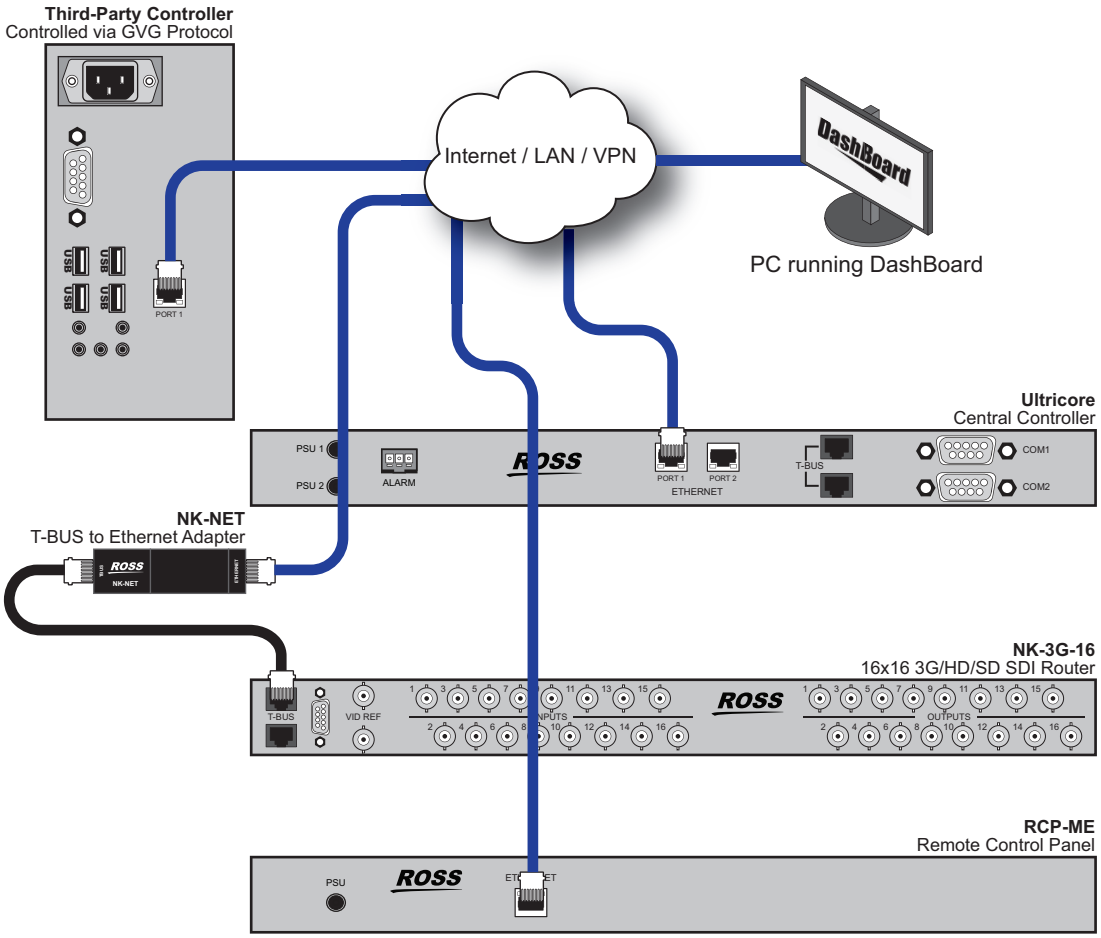


Figure 45 Adding Third-Party Control with an Ultricore CC

Monitoring of the Routing System and Communications

If you have an existing complex routing system with integration between the Ross products and third-party equipment connected using a variety of communication protocols. This requires the monitoring and/or logging of the communications streams to troubleshoot issues that could arise with system-level interactions.

In this case, the Ultricore CC acts as the system controller and provides system logging and monitoring functions because it provides protocol translations and communications ports to enable communications between all the devices in your system.

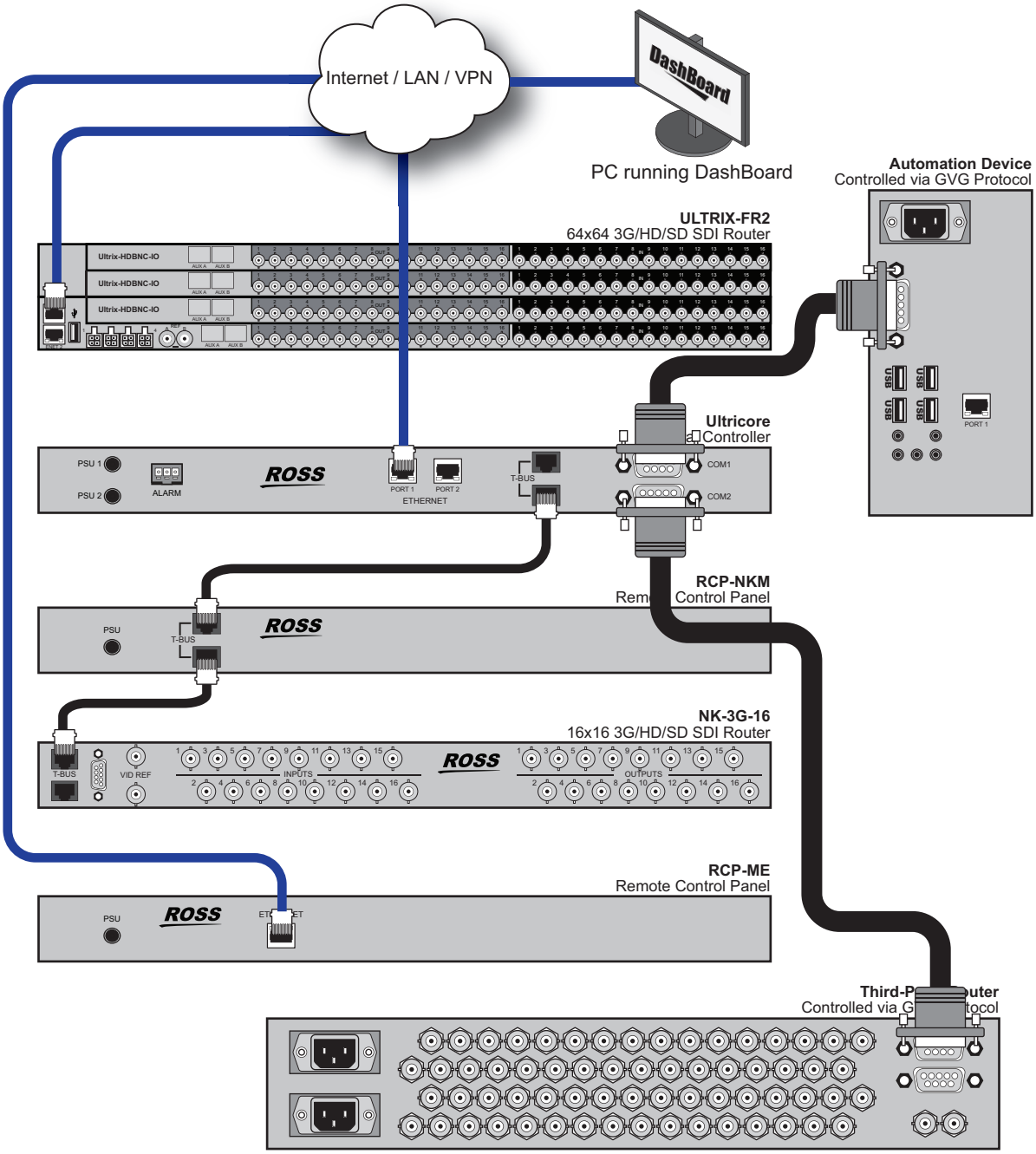


Figure 46 Monitoring an Existing Routing System with an Ultricore CC

Replacing an NK-IPS

You are replacing legacy remote control panels but still T-Bus power and communication for one or more legacy NK products. In this case, the Ultricore CC acts as the system controller, and provides power to T-Bus. The remote control panels use virtual switch commands to control the router system.

Caution — *Observe T-Bus power limitations. Ultricore CC has one loop through T-Bus port where the NK-IPS has eight.*

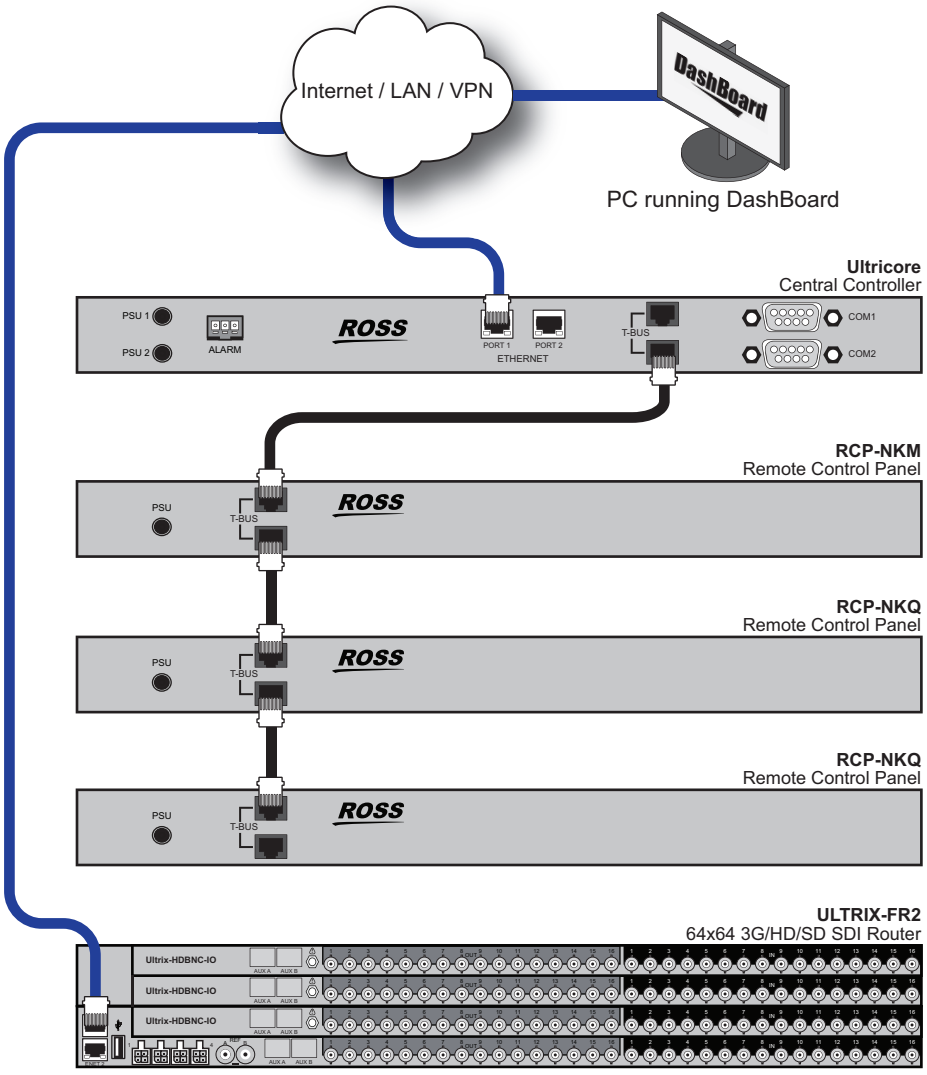


Figure 47 Replacing an NK-IPS with an Ultricore CC

Replacing an NK-3RD

If you have a system without an NK-IPS or an NK-3RD but you still require external control system that uses GVG protocol. In this case, the Ultricore CC acts as the system controller and provides T-Bus connection to the NK routers. The remote control panels/clients use virtual switch commands to control the routing system. Other attached clients may use third-party protocols to control the routers. The Ultricore CC translates the third-party protocol to enable control of the entire NK routing system.

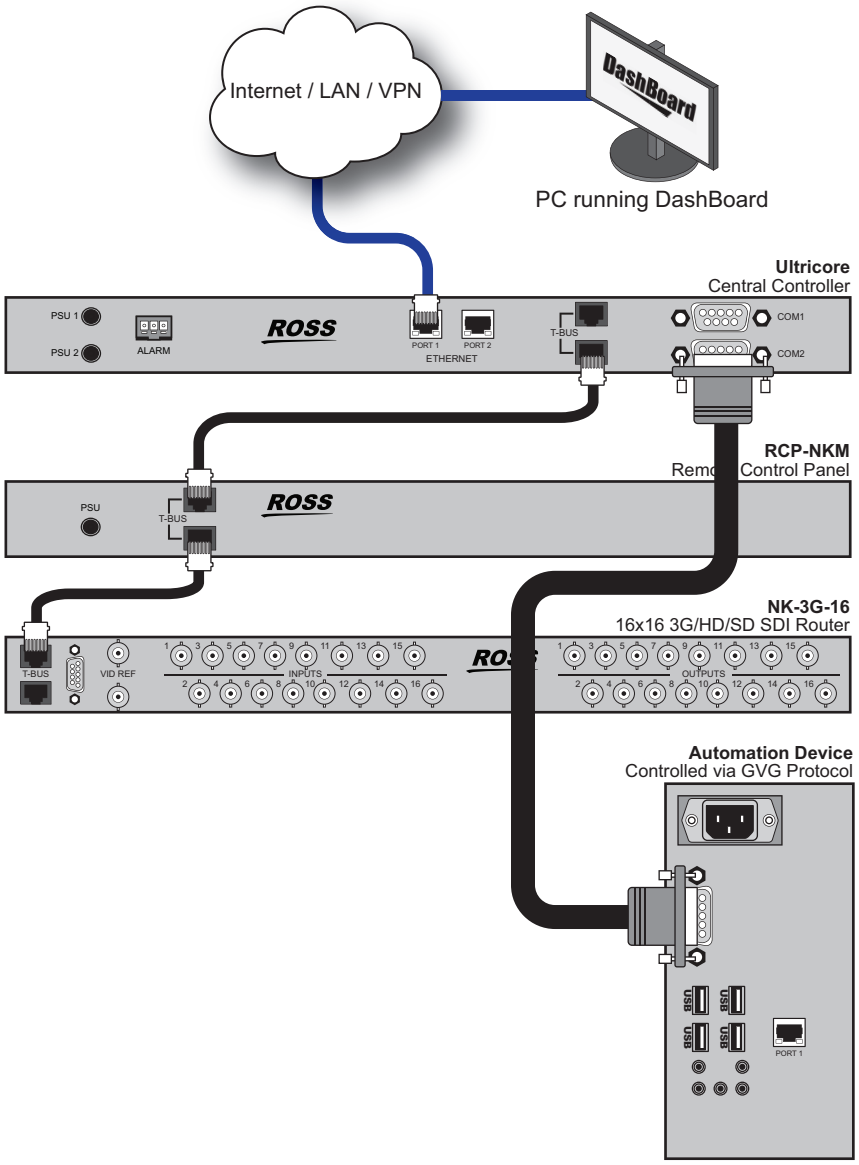


Figure 48 Replacing an NK-3RD with an Ultricore CC

External Control

This chapter lists the third-party protocols the Ultricore CC supports.

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide*** for details on communication setup via third-party protocols.

Ultricore CC Control with Third-Party Systems

Ultricore CC may be controlled by third-party control or automation systems via the GVG Native Series 7000 or Probel SW-P-08 protocols.

Ethernet Communication

The Ethernet interfaces to these protocols are automatically started with Ultricore CC and no further configuration is necessary. However, you must configure your external control systems to match the settings outlined in **Table 5**.

For More Information on...

- defining an ethernet connection between Ultricore CC and an external device, refer to "**Incoming Ethernet Connections**".

Serial Communication

If you are using a serial connection, you must first define the serial connection point as outlined in "**Defining a Serial Connection**" and selecting GVG Native or Probel SW-P-08 from the **Protocol** menu and the settings as outlined in **Table 6**.

Third-Party Matrix Control with Ultricore CC

The Ultricore CC control system is able to control third-party matrix devices. Two popular routing protocols are available to enhance compatibility: GVG Series 7000 and Probel SW-P-08.

To configure third-party matrix control

1. Create an outgoing connection point from the Ultricore CC to the third-party matrix device.
2. Define the external matrix.
3. Mapping the external matrix inputs and outputs.
4. Define the Ultricore CC operating level.
5. Assign external matrix to the Ultricore CC source and destination levels.

The following sub-sections outline each step required to configure third-party matrix control.

Create an Outgoing Connection Point

You must define an interface for the system to access third-party matrix devices. The connection point must be compatible with the settings of the external device you are trying to control.

Before proceeding, ensure that you have the following connection specifics:

- Communication protocol (GVG Native Series 7000 or Probel SW-P-08)
- Communication type (TCP/IP or serial[1])

Refer to "**Connecting to Third-Party Devices**" for details.

Defining the External Matrix

The system does not automatically know the details of any connected third-party matrix. The user must manually define the size and operating level within the Ultricore CC database.

Creating a Logical Matrix for an External Device

Once you establish a valid connection point between the Ultricore CC router and an external device, you can create logical matrices in an Ultricore CC database using the device inputs and outputs. Creating a logical matrix from the external device enables Ultricore CC to include the inputs and outputs for selection in the Sources and Destination tabs of the Ultricore CC database.

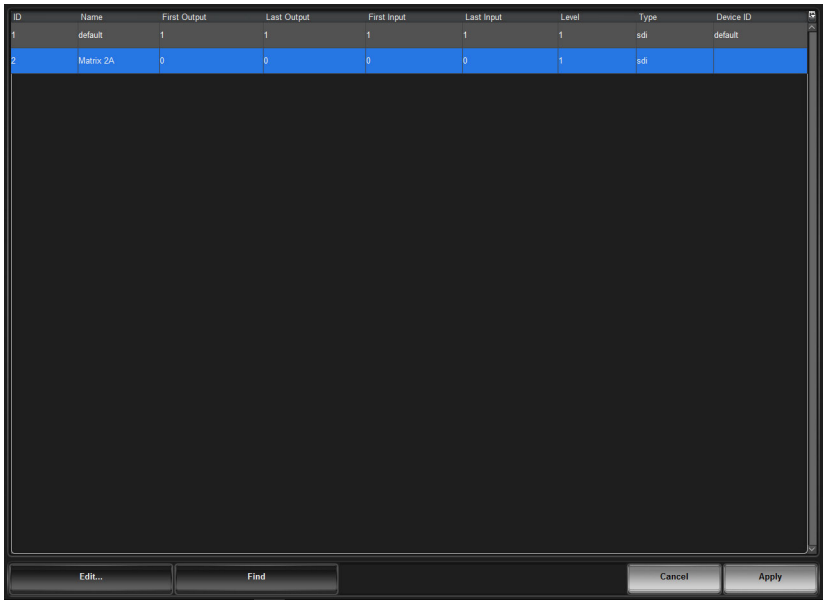
✶ The input/output range and level you specify in the Ultricore CC database must match the settings within the external matrix.

To create a logical matrix from an external device

1. Expand the **Database** node.
2. Double-click the **Third Party Matrices** node located under the **Database** node.

   The **Third Party Matrices** tab opens.
3. Click **Edit** > **Insert** to display the **Insert Matrix** dialog.
4. In the **Name** field, type a unique identifier for the third-party matrix. This name is used to identify the matrix within the Ultricore CC database.
5. Click **Apply** to close the **Insert Matrix** dialog and add a blank row to the **Third Party Matrices** table.

   In the example below, a new matrix named "**`Matrix 2A`**" was added.



6. From the **Device ID** drop-down menu, select the device you want to define the logical matrix for. This is the name given to the device when you established a connection point with it on the Connections tab.

✶ The **Device ID** menu lists only the third-party devices that have a valid connection point with the Ultricore CC router.

---

1. Only available natively on the Ultricore CC Central Controller. Serial connections from Ultrix requires an external USB-serial converter.

7. Define the matrix size as follows:
   a. Use the **First Output** and **Last Output** fields to define the range of destinations from the device within the Ultricore CC database.
   b. Use the **First Input** and **Last Input** fields to define the range of sources from the device within the Ultricore CC database.

✶ These created inputs and outputs will use the nomenclature **DeviceID.Slot.Port.Type.Channel** where **DeviceID** represents the Name assigned to the external device on the Connections tab.

8. Use the **Level** field to specify the number of levels for the device within the Ultricore CC database.
9. Use the **Type** field to specify the signal type for the matrix.
10. Click **Apply** to save the new matrix to the database and add it to the list of available matrices in the **Port Labels** tab.

Mapping the External Matrix Inputs and Outputs

Once the connection point and matrix are defined in the Ultricore CC database, you can map the external matrix inputs and outputs in the same manner as we do with Ross device matrices. However, you will instead select an external matrix output from the **Outputs** list (or an external matrix input from the **Inputs** list) in the database interfaces. The available inputs and outputs will display in the format of **DeviceID.slot#.in[x].Type.ch#** or **DeviceID.slot#.out[x].Type.ch#**.

✶ It may be necessary to create a new level in the Ultricore CC database for the assignment of inputs and outputs to logical labels. Refer to "**Defining the Levels in a Database**" for details.

For More Information on...

- assigning destinations, refer to "**Defining the Destinations in a Database**".
- assigning sources, refer to "**Defining the Sources in a Database**".

Using Index Numbers

Some protocols refer to source and destinations with a numerical index number. This number is listed in the ID column of the **Source** and **Destination** tabs of the Ultricore CC database.

For example, the GVG protocol reference to destination '00h' correlates to Ultricore CC destination ID 1 in the case shown below for the Dest 1 entry in the table.

Figure 49 Example of ID Numbers Listed in a Destinations Tab

Protocol Options

Some protocols provide additional configuration options via the **Protocol Options** dialog. These options can be accessed via the **Protocol Servers** table on the **Database** > **Connections** interface. Selecting an **Options** button to on the table opens this dialog.

The **Protocol Options** are outlined with the respective protocol details in the following sections.

GVG Series 7000 Native Protocol Commands

Ultricore CC supports the GVG Series 7000 Native protocol and is available over an RS-422 or RS-232 serial connection, as well as Ethernet connection.

Table 15 Default GVG Native Connection Types

	Setting
Serial	
Connection Type	RS422 or RS232
Baud	38400
Data Bits	8
Parity	None
Stop Bits	1
Ethernet	
Port	12345[a]

a. Port 12345 is the default value but is user configurable.

Table 16 summarizes the settings in the **Protocol Options** dialog for the GVG Series 7000 Native protocol.

Table 16 Protocol Options — GVG Series 7000 Native

Option	Setting	Notes
L4 Echo	Yes	Send command acknowledgments on protocol layer 4 (Ethernet only)
	No	Do not send acknowledgments. This is the default.

Table 17 lists the GVG Native Protocol commands the Ultricore CC supports.

Table 17 GVG Native Protocol Commands

Message Command	Description	Notes
BK[,parameter]		
BK,D	Force next QD command to return status of all destinations	Clears the flags associated with the D,no_parameter command. After BK,D is sent, the next QD,no_parameter command will result in destination statuses or all destinations being returned.
BK,E	Request status of level 4 echo setting	
BK,E,ON	Set level 4 echo to on	An err=00 response will be returned for successful commands that do not generate their own response (eg. Take commands). This is a per session setting.
BK,E,OFF	Set level 4 echo to off (default)	No response will be given for commands that do not generate their own response.
PR,dest_name,level_bitmap	Protects a specific destination from having its source changed	ER error-code response is currently not supported.

Table 17 GVG Native Protocol Commands

Message Command	Description	Notes
QC[,dest_name]	Query Combined Destination status by name	
QD[,dest_name]	Query Destination status by name	No information is returned for unmatched destination levels
Qd[,dest_name]	Query Destination status by name	Sets response src_name to NO_XPT for unmatched destination levels
QI,destIndex,lvlIndex	Query Destination status by index[a]	
Qi,destIndex,lvlIndex	Query Destination status by index[a]	The srcIndex returned will be 0xfffe if an error condition applies to the crosspoint being reported.
QJ[,destIndex]	Query Destination status by index[a]	No information is returned for unmatched destination levels
Qj	Query Destination status by index[a]	Sets response srcIndex to 0xFFFe for unmatched destination levels
QN,parameter		
QN,S	Query source names/labels	
QN,D	Query destination names/labels	
QN,L	Query level names/labels	
QN,IS	Query names via source index[a]	
QN,ID	Query names via destination index[a]	
QN,V	Query salvo name	
QT	Query date and time	
TA,dest_name,nbr_sources,src_name_entry1[,...src_name_entryn]	Takes sources (on specified levels) to specified destination, by name rather than index	Src_name_entryn = src_name,level_bitmap
TD,dest_name,src_name_entry	Takes same source to all or specified levels	Src_name_entryn = src_name[,levelbitmap] No levelbitmap=all destination levels
TI,destIndex,srcIndex[,levelIndex]	Request take by index with level index[a]	
TJ,destIndex,nbr_sources,srcIndex,level_bitmap[,...,srcIndex,level_bitmap]	Takes sources (on specified levels) to specified destinations by index rather than name; allows breakaways	
TS,salvo_name	Request Take Salvo	
UP,dest_name,level_bitmap	Removes Protect from specified destination	ER, error-code response is currently not supported.

a. Zero-based hex logical index numbering.

For More Information on...

- these commands, refer to the GVG protocol documentation.

RossTalk Commands

The RossTalk protocol is a plain text based protocol that allows control of Ross Video equipment.

✶ Each command should be terminated by a carriage return and a line feed (CR/LF).

To send RossTalk commands to Ultricore CC

1. Create a network connection to the Ultricore CC router on **Port 7788**.
2. At the prompt, enter the commands you wish to send. Refer to **Table 18** for a list of supported commands.

Table 18 RossTalk Protocol Commands

Message		Notes
Command	**Description**	
GPI ##	Execute the salvo number corresponding to the numerical ## extension of the command	For example, GPI 04 triggers the salvo <salvo_name>[4] as listed in the Ultricore CC database
TIMER ##:RUN	Request Timer ID to start/resume	
TIMER ##:STOP	Request Timer ID to stop	
TIMER ##:PAUSE	Request Timer ID to pause	
TIMER ##:END	Request Timer ID to end	
XPT D:<dest> S:<source> I:<user_id> [L:<levels>]	Crosspoint command for a router TAKE where: • <dest> is the logical destination ID from the active database (1-based) • <source> is the logical source ID from the active database (1-based) • <user_id> is the numeric user/panel ID that will be used to request the switch • <levels> is an optional parameter specifying comma-separated list of 1-based level IDs to switch (for breakaway, e.g. L:1,2,4). If no levels are specified, a follow switch (all valid levels) is requested. • <levels> supports ranges specified by two numbers separated by dash (e.g. L:1-16)	Range start value must be less than the end value Single levels and ranges can be mixed in the list (eg. L:1,3,4-8,12-17) There are no spaces between numbers or ranges Invalid numbers or improperly specified ranges will be ignored An argument is separated from its value using a single colon (:) Command arguments are separated single spaces The arguments may be specified in any order, (e.g. these are equivalent: XPT D:1 S:4 I:2 and XPT S:4 I:2 D:1) Examples: • ID 7 requesting to switch Dest 2 to Source 1 on Levels 1,3,5 and 12-16 • XPT I:7 D:2 S:1 L:1,3,5,12-16

Probel SW-P-08 Protocol Commands

Ultricore CC supports the Probel SW-P-08 protocol and is available over an RS-422 or RS-232 serial connection, as well as ethernet connection. **Table 19** provides the default values for this protocol.

Table 19 Default Probel SW-P-08 Connection Types

	Setting
Serial	
Connection Type	RS422 or RS232
Baud	38400
Data Bits	8
Parity	None
Stop Bits	1
Ethernet	
Port	8910[a]

a. Port 8910 is the default value but is user configurable.

✶ When Ultricore CC is the controller, Probel SW-P-08 System 1 is implemented. When Ultricore CC is not the controller, Probel SW-P-08 System 3 is implemented (where equipment functions exist).

Table 20 summarizes the settings in the **Protocol Options** dialog for the Probel SW-P-08 protocol.

Table 20 Protocol Options — Probel SW-P-08 protocol

Option	Setting	Notes
Protocol Variant	Non-extended	Use non-extended commands only
	Extended	Use extended commands only
	Use Last Request	Use command set as per last received command format (e.g. if received a non-extended command, reply in a non-extended format). This is the default.
Matrix Mode	Yes	Swap matrix and level fields
	No	Do not swap matrix and level fields. This is the default.
Unused Field	#	Send number (0-15) in either Level or Matrix field - which ever is not used as per Matrix Mode setting. The default is 0.

Table 21 lists the Probel SW-P-08 Serial Protocol commands the Ultricore CC supports.

Table 21 Probel SW-P-08 Native Protocol Commands

Request Message		Response Message		
Cmd ID	Description	Cmd ID	Description	Notes
01	Crosspoint Interrogate	03	Crosspoint Tally	Get single crosspoint status
02	Crosspoint Connect	04	Crosspoint connected	Take single crosspoint
10	Protect Interrogate	11	Protect Tally	Get destination protect status
12	Protect Connect	13	Protect connected	Set destination protect
14	Protect Disconnect	15	Protect dis-connected	Turn off destination protect
17	Protect Device Name Request	18	Protect Device Name Response	Get name of device that hold protect
19	Protect Tally Dump Request	20	Protect Tally Dump	Get all protect status
21	Crosspoint Tally Dump Request	22, 23	Crosspoint Tally Dump	Get all crosspoint status Cmd22: Byte max dest 191 Cmd23: Word max. dest. 65535
97	Implementation Request	98	Implementation Status	Get list of commands supported
100	All Source Names Request	106	Source Name Response	Get all source names (8 char. max.)
101	Single Source Name Request	106	Source Name Response	Get single source names (8 char. max.)
102	All Destination Association Name Request	107	Destination Association Name Response	Get destination names (8 char. max.)
103	Single Destination Association Names Request	107	Destination Association Name Response	Get single destination name (8 char. max.)
104	All UMD Labels Request	108	UMD Label Response	Only one set of labels is currently supported. UMD Labels replicate source labels. (16 char. max.)
105	Single UMD Labels Request	108	UMD Label Response	Get single source label (16 char. max.)
120	Crosspoint Connect On Go Group Salvo	122	Crosspoint Connect On Go Group Salvo Acknowledge	Add crosspoint to preset group
121	Crosspoint Go Group Salvo	123	Crosspoint Go Done Group Salvo Acknowledge	Switch/clear preset group
124	Crosspoint Salvo Group Interrogate	125	Crosspoint Group Salvo Tally	Preset group status
EXTENDED				
129	Extended Crosspoint Interrogate	131	Extended Crosspoint Tally	Get crosspoint status
130	Extended Crosspoint Connect	132	Extended Crosspoint Connected	Take single crosspoint
138	Extended Protect Interrogate	139	Extended Protect Tally	Get destination protect status
140	Extended Protect Connect	141	Extended Protect Connected	Protect a destination

Table 21 Probel SW-P-08 Native Protocol Commands

Request Message		Response Message		
Cmd ID	Description	Cmd ID	Description	Notes
142	Extended Protect Disconnect	143	Extended Protect Disconnected	Turn off protect for a destination
147	Extended Protect Tally Dump	148	Extended Protect Tally Dump Message	Get all protect status for given level
149	Extended Crosspoint Tally Dump	151	Extended Crosspoint Tally Dump Word Message	Get destination status for given level
228	Extended All Source Names	234	Extended Source Name Response	Get source names (8 char max.)
229	Extended Single Source Name	234	Extended Source Name Response	Get single source name (8 char max.)
230	Extended All Destination Association Names	235	Extended Destination Association Names Response	Get all destination names (8 char. max.)
231	Extended Single Destination Association Name	235	Extended Destination Association Names Response	Get single destination name (8 char. max.)
232	Extended Single UMD Label Request	236	Extended UMD Labels Response	Get all source labels (16 char. max.)
233	Extended Single UMD Label Request	236	Extended UMD Labels Response	Get single source label (16 char. max.)
248	Extended Crosspoint Connect On Go Group Salvo	250	Extended Crosspoint Connect On Go Group Salvo Acknowledge	Preset group acknowledge
124	Crosspoint Group Salvo Interrogate	253	Extended Crosspoint Group Salvo Tally	Preset group status

NVISION Commands

Ultricore CC supports the NVISION NP16 Ethernet protocol.

✶ Ensure that the Ultrix router has the Ultricore-NVISION license installed. Refer to the ***Ultrix User Guide*** for details.

Table 20 summarizes the settings in the **Protocol Options** dialog for the NVISION protocol.

Table 22 Protocol Options — NVISION protocol

Option	Setting	Notes
Offset	0	The Ultricore CC level matches the NVISION level
	1	The Ultricore CC level is the NVISION level plus 1

NVISION NP16 Ethernet Protocol

Ultricore CC supports the NVISION NP16 Ethernet protocol. **Table 23** outlines the default values for the Ultricore CC when using NP16.

Table 23 Default Connection Types — NVISION NP16

	Setting
TCP Port	5194

NP16 Commands

The NP16 protocol defines the message format: Protocol ID | Sequence Number | byte count | Command

Each field consists of a 32bit number where:

- Protocol ID — 0x0000000C (Router Control Protocol)
- Sequence number — controller generated and added to Ultricore CC response message
- byte count — total number of bytes in message including header (<8176)
- Command — refer to **Table 24**

✶ The protocol is zero based, meaning that destination 0 in the protocol relates to destination ID#1 in Ultrix. This is true for sources, destinations, and level values.

Refer to **Table 24** for a list of supported NP16 commands.

Table 24 NP16 Protocol Commands

Message		Notes
Command	**Description**	
0x0000 0050	Performs a TAKE	
0x0000 0051	Set Output LPR	Sets or releases a lock or protect on a destination
0x0000 0052	Get Status of Outputs	Retrieves the crosspoint status
0x0000 0059	Router Partition Information	
0x0000 005E	Crosspoint Tally	Retrieves the crosspoint status
0x0000 0070	Machine Control Take	Format 1 only

NVISION NP0010 Serial Protocol

Ultricore CC supports a limited sub-set of the NVISION serial NP0010 protocol.

Table 25 outlines the default values for the Ultricore CC for an NP0010 serial connection.

Table 25 Default Connection Types — NVISION NP0010

	Setting
Connection Type	RS232, RS422
Baud	9600, 19200, 38400, 56700, 115200
Data Bits	8
Parity	No
Stop Bits	1

Refer to **Table 26** for a list of supported NP0010 commands.

Table 26 NP0010 Protocol Commands

Message		
Command	**Description**	**Notes**
0x50	Take	Non-timestamped version only
0x51	Destination status	Get destination status

Table 26 NP0010 Protocol Commands

Message Command	Description	Notes
0x55	Lock destination	Assert a destination lock
0x56	Protect destination	Assert a destination protect
0x58	Release destination lock/protect	Releases the destination lock and protect
0x66	Destination LPR state	Get destination locked/protect/released status

TSL UMD Protocol v3.1 Commands

Table 27 outlines the default values for the Ultricore CC when using TSL UMD v3.1.

Table 27 Default Connection Types — TSL UMD v3.1

	Setting
Serial	
Connection Type	RS422
Baud	38400
Data Bits	8
Parity	Even
Stop Bits	1
Ethernet	
TCP Port	5727
UDP Port	4490

Protocol Implementation

Ultricore CC implements the protocol with the following structure: DisplayID | Control | DisplayData.

Table 28 lists the TSL UMD Protocol v3.1 commands the Ultricore CC supports.

Table 28 TSL UMD Protocol v3.1 Commands

Protocol Breakdown	Description	Ultriscape System Use
Display Address	0 - 126 display identification enumeration	DisplayID associated with source or destination
Control Byte		
Bit 0	Tally 1 status (1=on, 0=off)	Tally 1 (Red)[a]
Bit 1	Tally 2 status	Tally 2 (Green)
Bit 2	Tally 3 status	Not used
Bit 3	Tally 4 status	Not used
Bits 4-5	Brightness value	Not used
Bit 6	Reserved	Not used

Table 28 TSL UMD Protocol v3.1 Commands

Protocol Breakdown	Description	Ultriscape System Use
Bit 7	0	Not used
Display Data	16 ASCII display characters (20h-3Eh)	UMD Display Text

a. Green/Red may be swapped by configuring the Global Tally Settings in the Ultriscape Head interface for an Ultrix router. Refer to the ***Ultrix User Guide*** for details on these settings.

TSL UMD Protocol v4.0 Commands

Table 29 outlines the default values for the Ultricore CC when using TSL UMD v4.0.

Table 29 Default Connection Types — TSL UMD v4.0

	Setting
Serial	
Connection Type	RS422
Baud	38400
Data Bits	8
Parity	Even
Stop Bits	1
Ethernet	
TCP Port	5728
UDP Port	4491

Protocol Implementation

Ultricore CC implements the protocol with the following structure: Header | Control | DisplayData | VBC | XData.

Table 30 lists the TSL UMD Protocol v4.0 commands the Ultricore CC supports.

Table 30 TSL UMD Protocol v4.0 Commands

Protocol Breakdown	Description	Ultriscape System Use
Header	0x80 + 0 - 126 display address	DisplayID associated with source or destination
Control Byte		
Bit 0	Tally 1 status (1=on, 0=off)	Not used
Bit 1	Tally 2 status	Not used
Bit 2	Tally 3 status	Not used
Bit 3	Tally 4 status	Not used
Bit 4-5	Brightness value	Not used
Bit 6	0=display data, 1=command data	Display data only (0)
Bit 7	0	Not used
Display Data	16 ASCII display characters (20h - 7Eh)	UMD display text
VBC		

Table 30 TSL UMD Protocol v4.0 Commands

Protocol Breakdown	Description	Ultriscape System Use
Bits 3-0	Byte count of XData	
Bits 6-4	Minor protocol version (v4.0=0)	
Bit 7	0	
XData1		
Bits 0-1	Right Hand tally value[a]	Not implemented
Bits 2-3	Text display value[a]	Sets PiP label (UMD) text background color
Bits 4-5	Left hand tally value[a]	Displayed in either border or text background; can be either or both
Bit 6	Reserved	
Bit 7	0	
XData2		
Bits 0-1	Right Hand tally value	Not implemented
Bits 2-3	Text display value	Not implemented
Bits 4-5	Left hand tally value	Not implemented

a. Where 0=off, 1=Red, 2=Green, 3=Amber

TSL UMD Protocol v5.0 Commands

Table 31 outlines the default values for the Ultricore CC when using TSL UMD v5.0.

Table 31 Default Connection Types — TSL UMD v5.0

	Setting
Serial	
Connection Type	RS422
Baud	38400
Data Bits	8
Parity	Even
Stop Bits	1
Ethernet	
TCP Port	5729
UDP Port	4492

Table 32 summarizes the settings in the **Protocol Options** dialog for the TSL UMD v5.0 protocol.

Table 32 Protocol Options — TSL UMD v5.0 protocol

Option	Setting	Notes
Wrapping	Yes	Wrap commands for TCP mode
	No	Do not wrap commands (UPD mode). This is the default.
PBC in Count Value	Yes	Include the Packet Byte Count field when calculating the byte count value
	No	Do not include the Packet Byte Count field in the byte count value. This is the default.

Protocol Implementation

Ultricore CC implements the protocol with the following structure: PBC | Ver. | Flags | Screen | DMSG (Index, Control, Length, Text).

Table 33 lists the TSL UMD Protocol v5.0 commands the Ultricore CC supports.

Table 33 TSL UMD Protocol v5.0 Commands

Protocol Breakdown		Description	Ultriscape System Use
PBC		Total byte count of packet	
Ver.		Minor version number (0=v5.00)	
Flags			
Bit 0		0=ASCII strings, 1=UTF-16LE	
Bit 1		0=display data, 1=screen control	Display data only (0)
Bits 2-7		Reserved (0)	Not used
Screen		16bit Screen ID	ScreenID associated with source or destination
DMSG			
Index		16bit Display Address	DisplayID associated with source or destination
Control		Minor protocol version (v5.0=0)	
	Bits 0-1	Right hand tally value[a]	Sets right-hand tally indicator color (Ultriscape configuration dependent)
	Bits 2-3	Text display value[a]	Sets text background and border color
	Bits 4-5	Left hand tally value[a]	Sets left-hand tally indicator color
	Bits 6-7	Brightness value (0-3)	Not implemented
	Bits 8-14	Reserved (0)	
	Bit 15	0=display data, 1=command data	Display data only (0)
Length		Byte count of text	
Text		Text as defined by Flag 0 setting	UMD display text

a. Where 0=Off, 1=Red, 2=Green, 3=Amber

Enabling SNMP Support

Ultricore CCs running software version 3v4 or higher provide optional support for remote monitoring and control of your router using SNMP (Simple Network Management Protocol). This protocol is compatible with many third-party monitoring and control tools.

✶ The MIB file provides SNMP traps for the configurable alarms on Ultricore CC as well as on the power supplies and fans.

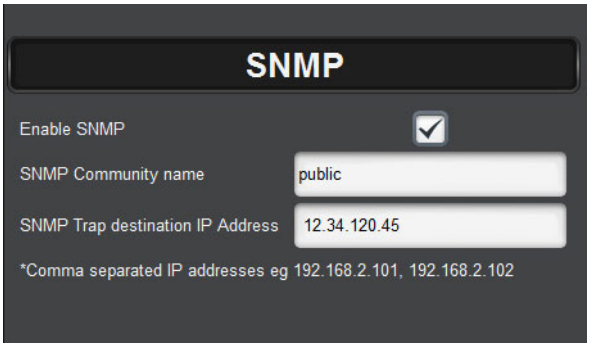
Enabling SNMP Support

The SNMP monitoring and control feature for your Ultricore CC is a software option that you enable in the System Status > Network tab.

To enable SNMP support on the Ultricore CC

1. Verify that the SNMP license key is installed for the router. Refer to "**Installing a License Key**".
2. In the Tree View of DashBoard, double-click the **System Status** node under the Ultricore CC node.

   The **System Interfaces** display in the DashBoard window.
3. Select the **Network** tab.
4. Locate the **SNMP** area of the tab.



5. Select the **Enable SNMP** box.
6. Ensure that the Alarms you want to monitor via SNMP are also enabled on the Ultricore CC router.
   - "**Monitoring the Hardware**"
   - "**Monitoring the Communications**"
   - "**Monitoring the Signals**"

Configuring the SNMP Agent using DashBoard

The SNMP Agent on the Ultricore CC uses SNMP version 2 to allow queries of the configured system alarms, and state changes to configured alarms will be sent out as SNMP traps to the specified Trap Destination IP Address(es).

✶ Whenever the options in the SNMP area are edited, the SNMP Agent is restarted. It can take up to 10 seconds for all monitored states to be updated. This latency only applies once on startup.

To configure the SNMP Agent using DashBoard

1. In the Tree View of DashBoard, double-click the **System Status** node under the Ultricore CC node.

   The **System Interfaces** display in the DashBoard window.

2. Select the **Network** tab.
3. Locate the **SNMP** area of the tab.
4. Use the **SNMP Community Name** field to specify the SNMP password for GET requests. For example, **`public`**.
5. Use the **SNMP Trap Destination IP Address** field to specify the target address to which traps should be sent.

   An example of a valid target is provided in the **SNMP** area.

✶ A maximum number of six strings are displayed in the **SNMP Trap Destination IP Address** field at one time. If at the maximum number, you must select a string from the field and delete it before adding a new target entry.

6. Press **[Enter]** to apply the changes.

Ember+ Registration and Discovery

This section provides information on the setup and operation for the Ultricore CC to communicate with a third-party control system via the Ember+ media distribution protocol.

Establishing a Connection

To establish a connection between the Ember+ client and the Ultricore CC

1. Configure your network streams as outlined in the ***Ultrix User Guide***.
2. Configure your router database as outlined in "**Database Configuration**".
3. Install the Ultricore-EMBER+ license on the Ultricore CC. Refer to "**Software License Keys**". This enables the Ultricore CC to start an Ember+ server and listen to incoming connections.
4. Add the Ultricore CC in the Ember+ control system interface using the IP Address assigned to the Ultricore CC.
5. In the Ember+ controls system, set the TCP port to 9000 for the Ultricore CC.

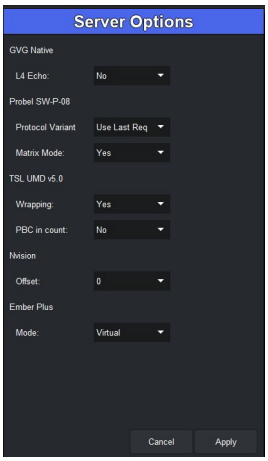
Specifying the Operation Mode

Ultricore CC can be controlled via Ember+ in two modes: Virtual Mode (table mapped IO) or Physical Mode (direct socket control).

To specify the Ember+ operation mode on the Ultricore CC

1. Display the **Connections** tab for Ultrix as follows:
   a. Expand the **Database** node in the Tree View.
   b. Double-click the **Connections** node.
2. Click **Options** in the **Protocol Servers** area.

   The **Server Options** dialog opens.



3. Use the **Ember Plus** menu to specify the operation mode required by your Ember+ control system. Choose from the following:
   - **Virtual Mode** — each level is represented by a Matrix and the Labels will be the one defined in the Destinations and Sources tabs.
   - **Physical Mode** — the whole router is represented as a single Matrix and the physical socket labels are used. The external control system using Ember+ commands bypasses the virtual IO mapping and directly controls the Ultrix physical socket connections. Therefore the Ultrix should not be switched by any other devices.
4. Click **Apply** to close the dialog.
5. Click **Apply** at the bottom of the **Connections** tab to apply the new setting.

Supported Commands

We support the **`Get Directory`** and **`Connect`** commands. The router is represented using the Ember+ Matrix object including Labels. This allows the Ember+ control system to see the number of levels, number of sources and destinations and their labels, the per destination status, and issue switch commands.

✶ If you make changes to the router database (such as Levels, Destinations and Sources) after establishing communications, you may need to refresh/reload/reconnect the connection.

Monitoring

The status of the Ultricore CC may be monitored via its fields in the DashBoard client software or the LEDs located on the front panel of the chassis.

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide***.

Enabling Logging for the Ultricore CC

The Ultricore CC records events in non-volatile memory. Each event includes a timestamp, and information about the event. The following events and conditions are recorded in the logs:

- Configuration changes that affect the routing path.
- Input state changes such as video presence, audio presence, video formats. In the case of audio inputs, the log entry also includes the associated audio cluster.
- Power-on or reboot cycles.
- Error conditions reported by DashBoard.

✶ You can also monitor the overall routing system status via the Product Info tabs in DashBoard. Refer to "**Status Tabs**" for details on these tabs.

To enable the Ultricore CC to log events

1. In the Tree View of DashBoard, double-click the **Product Info** node.

   The **Product Info** interface displays in the DashBoard window.
2. Select the **Setup** tab.
3. Select the **Logging** box.

Monitoring the Network Status

The Ethernet ports on the Ultricore CC rear panel are used to connect to an ethernet network for communications.

To verify the ethernet redundancy status via the Product Info interface

1. In the Tree View of DashBoard, double-click the **Product Info** node.

   The **Product Info** interface displays in the DashBoard window.
2. Select the **Network** tab.
3. Refer to **Table 37** for a summary of the possible messages displayed in the **Network** tab.

Forcing an Ethernet Failover Switch

The failover feature enables the Ultricore CC to use the second Ethernet port when the primary Ethernet connection is lost or unavailable. The **Active ENET** field in the **Product Info** > **Network** tab reports when Ultricore CC switches from one Ethernet port to the other.

To force an ethernet failover switch

1. In the Tree View of DashBoard, double-click the **Product Info** node.

   The **Product Info** interface displays in the DashBoard window.
2. Select the **Network** tab.

3. Click ENET Failover **Force**.

Monitoring the Ultricore Mode Status

The primary Ultricore CC passes all commands to each client device in the system. Each client device responds back to the primary in minute intervals.

Primary Status

If the Ultricore CC is configured as a primary, the **Ultricore Clients** table in the **Communication Settings** interface reports on the status between it and each client device connected to it. Each client is listed in the table, with the most recently connected device displayed at the bottom of the list.

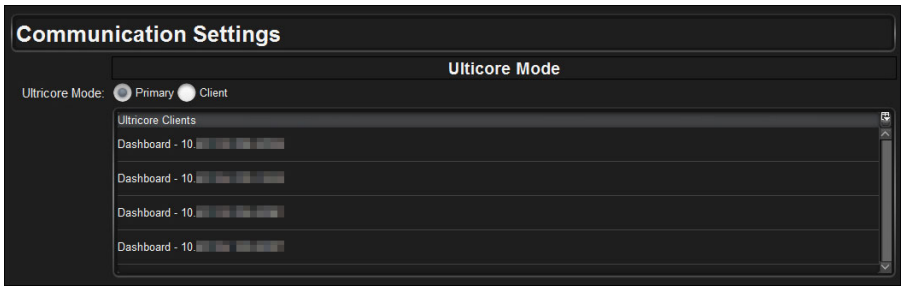


Figure 50 Ultricore CC Mode — Primary Status

Client Status

If the Ultricore CC router is configured as a client, the **Communication Settings** interface reports on the communications between it and the primary.

Troubleshooting

If you have lost communication between the primary Ultricore CC and its clients:

1. Verify that each device is installed correctly.
2. Verify that each device is installed with a network connection to your facility.
3. Verify the Ethernet settings for each device are valid.
4. Verify that the primary Ultricore CC reports a list of valid connections to clients in its **Ultricore Clients** table.
5. Verify that each client Ultricore CC is running software compatible to the primary Ultricore CC.

Using the System Logs in DashBoard

An entry in each log includes a timestamp, a code number, and a description. Messages are written to the log when significant changes occur in the operation of the Ultricore CC. These could include: changes to video, reference, audio or time inputs; power-on or reboot cycles; configuration changes that can have an effect on the routing path; alarm conditions.

To access the system logs in DashBoard

1. Double-click the **Product Info** node.
2. Select the **Logs** tab.
3. To view the communication log for the Ultricore CC only, select the **System Log** option.

4. To view the log for communications between the Ultricore CC and other devices, select the **Controller Communications Log** option.
5. To view the log for executed tasks in DashBoard for the Ultricore CC, select the **DashBoard Communications Log** option.
6. Click **Refresh** to update the entries for the currently selected log.

Saving the Current Settings for the Ultricore CC

You can save the Ultricore CC settings to a configuration file that can be used by Ross Technical Support for troubleshooting. Use this procedure only under the guidance of Ross Technical Support.

To save your setup a new file

1. In the Tree View of DashBoard, right-click the node for the Ultricore CC that you want to save the settings for.
2. Select **Save Configuration to File**.

   The **Save Configuration to File** dialog opens.
3. Navigate to the folder on your DashBoard computer in which you want to save the configuration file.

✶ The default location is Desktop\My Documents.

4. Click **Save**.

Monitoring the Devices in a Routing System

Devices with an established and valid communication point with Ultricore CC are displayed under the Devices node in the Tree View. Ultricore CC aggregates all the devices in a system under the Devices node to provide system wide monitoring capabilities.

✶ If you cannot expand a **Devices** sub-node, there are currently no devices of that type communicating with the Ultricore CC.

To monitor the external devices communicating with an Ultricore CC via DashBoard

1. Locate the **Ultricore CC** node in the Tree View of DashBoard.
2. Expand the main **Ultricore CC** node.
3. Expand the **Ultricore CC** sub-node to display a list of sub-nodes in the Tree View.
4. Expand the **System** node.
5. Expand the **Monitoring** node.
6. Double-click the **Health** sub-node.

Monitoring via the Front Panel

The LCD Display on the Ultricore CC front panel reports the IP Address of the Ultricore CC and reports when an error or warning condition is occurring on the Ultricore CC panel.

Navigating the Menus

The front panel includes a five-direction round finger joystick that is used to navigate the Ultricore CC messages on the LCD Display.

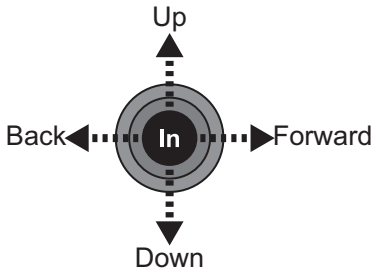


Figure 51 Positioner Movement

Use the following actions to navigate the parameters:

- **In** — pressing once brings the menu system onto the monitor output; holding for two seconds exits the menu system. This position is also used to enter the menu values/parameters.
- **Up** — pressing once selects the menu, item, or value above the current selection; holding scrolls to the top of the available selections.
- **Down** — pressing once selects the menu, item, or value below the current selection; holding scrolls to the bottom of the available selections.
- **Forward** — pressing once moves from menu to item to value.
- **Back** — pressing once moves from value to item to menu.

Monitoring the Ethernet LEDs on the Rear Panel

Each RJ45 connector on the Ultricore CC rear panel include two LEDs that report the ethernet communication activity and speed. Refer to **Figure 52** for LED locations on the Ultricore CC rear panel.

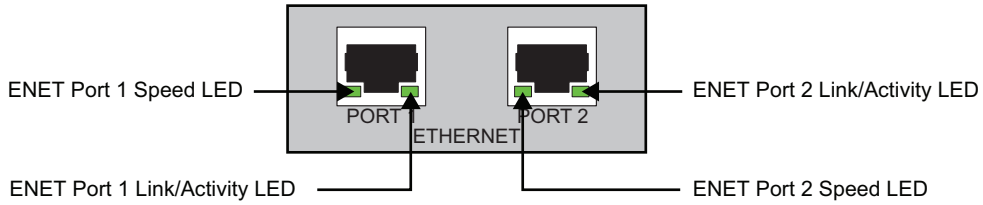


Figure 52 ENET Ports on Rear Panel — LEDs

Table 34 provides basic LED descriptions.

Table 34 ENET Port LEDs

LED	Status	Description
ENET # - Link/Activity	Green	When lit green, this LED indicates a valid link is established on the specified ENET port.
	Flashing	When flashing green, this LED indicates communication activity is occurring on the specified ENET port.
	Off	When unlit, this LED indicates an invalid link is detected on the specified ENET port. Verify the cable connection on the rear module port and your network connections.
ENET # - Port Speed	Green	When lit green, this LED indicates the ENET Port communication speed is at 1Gbps.
	Yellow	When lit orange, this LED indicates the ENET Port communication speed is at 100Mbps.
	Off	When unlit, this LED indicates the ENET Port communication speed is at 10Mbps.

If you have any questions pertaining to the installation or operation of Ultricore CC, please contact us at the numbers listed in "**Contacting Technical Support**". Our technical staff is always available for consultation, training, or service.

Upgrading the Software

Ultricore CC is upgraded through the DashBoard client. To obtain the most recent upgrade package, contact Ross Technical Support.

- Ensure that you are running DashBoard software version 9.10.0 or higher and that the computer running the DashBoard client is located on the same network as the Ultricore CC panel.
- Ultricore CC is temporarily taken off-line during the reboot process. The process is complete once the status indicators for the Ultricore CC return to their previous status.

DashBoard Interface Overview

The DashBoard client software enables you to monitor, configure, and operate your Ultricore CC Central Controller. Using the interfaces provided via the DashBoard client software, you can:

- Configure the network connection for your Ultricore CC
- Configure the connections to Ross NK Series routers via NK-NET or NK-IPS devices
- Configure the connections to Ross Ethernet routers and remote control panels
- Specify which attached routing devices or matrices to use
- Configure system levels and assign level names
- Assign physical router inputs and outputs to logical sources and destinations
- Configure source and destination labels
- Perform crosspoint preset/takes
- Monitor the status of multiple levels
- Create and use salvos

✶ This chapter is applicable if you are running software version 5.6 or lower. Otherwise, refer to the ***Ultrix and Ultricore Database Guide***.

Ultricore CC in DashBoard

Ultricore CC groups the configuration, monitoring, and operating features in a Tree View in the DashBoard client window. Each node of the tree opens to reveal one or more sub-nodes, giving access to the configuration options for your system.

Ultricore CC includes the following interfaces, as separate nodes, in the DashBoard Tree View.

System Status

Double-clicking the System Status node displays two types of tabs within the same DashBoard window: Status (read-only) tabs located on the left, and a series of Configuration tabs located on the right. This interface is similar to an openGear® card tab system.

Database

Expanding the Database node enables you to configure the connection points, matrices, destinations, sources, groups, levels, soft panels, and salvos for the system. The settings are saved locally on the Ultricore CC.

Devices

The sub-nodes under Devices provide a list of external devices in the routing system currently communicating with the Ultricore CC.

Soft Panels

The Soft Panels tree provides access to the Matrix, MultiBus, and Category soft panels for the Ultricore CC. From these panels you can perform crosspoint switches, and manage salvos via a DashBoard interface.

Terminology

Throughout the DashBoard interface, actual sockets (inputs and outputs) of a router (or matrix) are referred to by hierarchical dotted notation: **Frame.Slot.Port.Type.Channel** where:

- **Frame** identifies the physical router/device housing the matrix/matrices.
- **Slot** identifies which slot of the matrix is located.
- **Port** identifies the physical input or output socket.
- **Type** identifies the generic signal type (e.g. SDI, audio).
- **Channel** identifies the audio channel within an SDI stream.

These designators may be assigned more user friendly names if required by editing the **Port Labels** interface.

System Status Interfaces

The System Status interface provides hardware information, IP Address settings, and general database management for your Ultricore CC. The interface is organized into two distinct areas in the DashBoard window: Status tabs (located on the left), and Configuration tabs (located on the right).

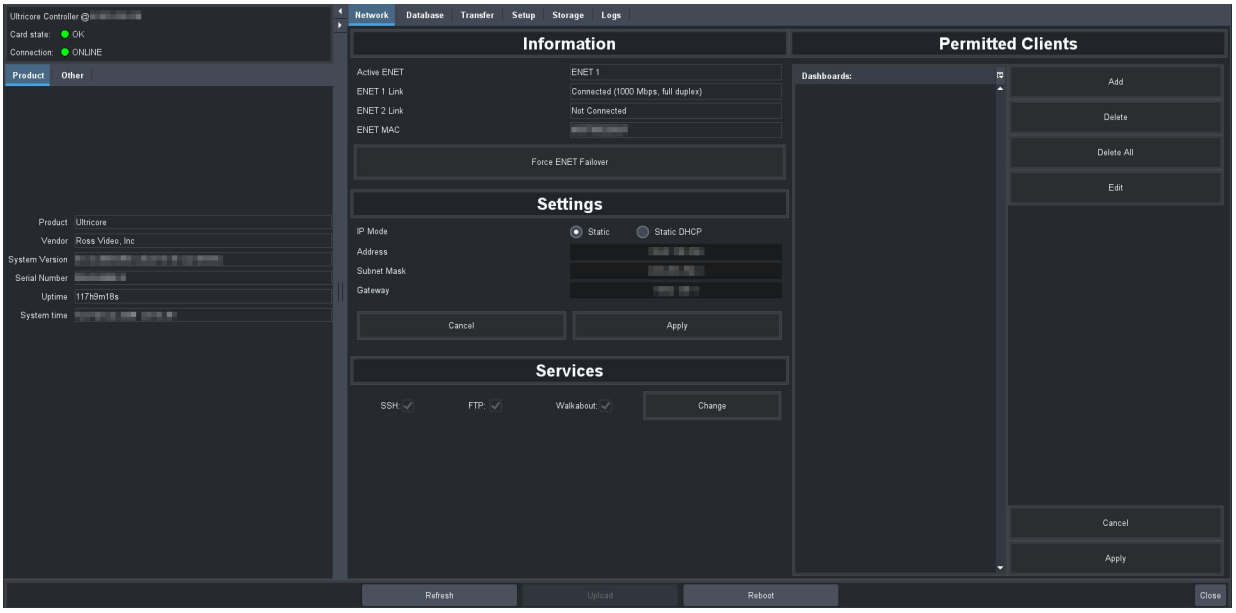


Figure 53 Example of a System Status Interface

Status Tabs

The Status tabs display read-only information about the Ultricore CC hardware and software.

Product Tab

Table 35 summarizes the read-only information displayed in the Product tab.

Table 35 Product Tab

Item	Parameters	Description
Product		Indicates the Ultricore CC product name
Vendor		Indicates the supplier/manufacturer of the device

Table 35 Product Tab

Item	Parameters	Description
System Version		Indicates the build version of the Ultricore CC panel
Serial Number		Indicates the serial number of the Ultricore CC panel
Uptime	#h #m #s	Indicates the number of hours since the last reboot of the Ultricore CC panel
System Time	DD mm dd yyyy hh:mm:ss	Indicates the current date based on the Ultricore CC internal clock where: • DD represents the calendar day • mm represents the month • dd represents the day • yyyy represents the year • hh:mm:ss represents the current local time

Other Tab

Table 36 summarizes the read-only information displayed in the Other tab.

Table 36 Other Tab

Item	Parameters	Description
Frontend SW Rev	#	Read-only information used by Ross Technical Support.
Backend SW Rev	#	
Device FW Rev	#	

Configuration Tabs

The Configuration tabs of the DashBoard window provide network setup options for the Ultricore CC panel and managing the Ultricore CC databases.

Network Tab

Table 37 summarizes the fields and menus displayed in the Network tab. The options in the Network tab are organized into two sections: Settings (editable fields), and Ethernet Redundancy (read-only fields).

Table 37 Network Tab

Item	Parameters	Description
Information		
Active ENET	ENET #	Indicates which Ethernet port on the rear panel is the primary Ultricore CC network connection

Table 37 Network Tab

Item	Parameters	Description
ENET # LINK	Connected (x, y)	Indicates that a valid network link is configured on the specified Ethernet port of the Ultricore CC rear panel where: • x represents the speed in number of Mbps • y represents the link type (e.g. full duplex)
	Not Connected	Ethernet communications for the Ultricore CC are invalid. The Ethernet cable may be disconnected on the rear panel or the Ethernet network may be down or experiencing problems.
ENET MAC (read-only)	###.###.###.###	Indicates the MAC Address for the Ultricore CC
Force ENET Failover	Switches the primary Ultricore CC network connection to other Ethernet port on the rear panel	
Settings		
IP Mode	Static	The user manually defines the Ultricore CC network settings
	Static-DHCP	The DHCP service for your network assigns the network settings to the Ultricore CC; once the settings are validated, they remain static
Address	###.###.###.###	Specifies the IP address for the Ultricore CC panel
Subnet Mask	###.###.###.###	Specifies the subnet mask for the Ultricore CC panel
Gateway	###.###.###.###	Specifies the gateway for communication outside of the local area network (LAN)
Apply	Updates the Address, Subnet Mask, and Gateway settings	
Cancel	Ignores any unsaved changes made to the Address, Subnet Mask, and Gateway settings and reverts back to the current running values.	
Services		
SSH	Selected	Enables system administrators to securely log onto remote systems and execute commands over an unsecured network via the Secure Shell (SSH) Login client-server protocol
	Cleared	Disables this service
FTP	Selected	Enables devices to transfer of files over a network connection
	Cleared	Disables this service
Walkabout	Selected	The Walkabout configuration software can be used to configure the basic network communications settings for the Ultricore CC
	Cleared	Disables this service
Change	Click this button to edit the services	
Permitted Clients		

Table 37 Network Tab

Item	Parameters	Description
DashBoards:	###.###.###.###	Lists the IP Address of each DashBoard client that is allowed to communicate with this Ultricore CC
Add	Enables you to add a new DashBoard client to the Permitted Clients list	
Delete	Deletes the selected DashBoard client from the Permitted Clients list	
Delete All	Clears all entries in the Permitted Clients list	
Edit	Enables you to modify the selected entry in the Permitted Clients list	
Cancel	Ignores any unsaved changes made to the Permitted Clients list and reverts back to the current running values	
Apply	Updates the Permitted Clients list settings	

Database Tab

Table 38 summarizes the fields and menus displayed in the Database tab. The options in the Database tab are organized into two sections: Current Database, and Database Management.

Table 38 Database Tab

Item	Parameters	Description
Current Database[a]		
Name	<name>	Indicates the database currently loaded in Ultricore CC
Levels		Indicates the number of levels the database is configured for
Sources		Indicates the number of inputs the database is configured for
Destinations		Indicates the number of outputs the database is configured for
Enable Tally	Selected	Select this box to enable Ultricore CC to read tally identifiers from the input signals. This information is passed through to any assigned outputs. Selecting this box also updates the Sources and Destinations tabs with a new column “Tally” that is used to assign Tally IDs to sources and/or destinations.
	Cleared	Tally information from the input signals is not read into the database.
I/O Ports	Refresh	Updates the Matrix Inputs and Outputs lists in the Sources and Destinations tabs respectively
Crosspoint Status	Refresh	Updates the Status field located directly below this button

Table 38 Database Tab

Item	Parameters	Description
Status (read-only)	Loaded	The active database was successfully loaded.
	Error[b]	One of the following has occurred: • the selected database is no longer available • an attempt was made to delete a non-existent database • an attempt was made to save a database with an existing name
Database Management - Load Database		
Name	<name>	Selects the database to load for the Ultricore CC
Database	Load	Loads the specified database to the Ultricore CC
Database to RCPs	Send	Forces the currently loaded database settings to the connected Remote Control Panels (RCPs)
Database Management - Add Database		
Include I/O Maps		Creates a database to match the quantity of BNC I/O fitted in the router. Each input / output SDI port will be mapped to default labels of SRC xx and DST xx respectively. • I/O mapping occurs for Level 1 only (SDI) • the Sources field is ignored • the Destination field is ignored • the Level field is applied
Name	<name>	Provides a unique identifier for the new database (up to 32 characters)
Levels	#	Specifies the total number of levels the database will make available
Sources	#	Specifies the total number of sources the database will make available
Destinations	#	Specifies the number of levels the database will make available
Database	Add	Uses the settings in the Database Management fields to create a new database
Database Management - Delete Database		
Name	<name>	Selects the database to delete
Database	Delete	Deletes the currently selected database

a. The Levels, Sources, and Destinations fields indicate the initial values when the database was created. Levels, Sources, and Destinations can be removed from or added to the database on their respective configuration tabs. Doing so will not alter the fields in the Database tab.
b. This message displays for a maximum of 10 seconds only.

Transfer Tab

Table 39 summarizes the options displayed in the Transfer tab.

Table 39 Transfer Tab

Item	Parameters	Description
Export		
Database:	<database name>	Selects the database to be exported
Save As:	*.uda	Automatically updates with the name of the database archive
Browse...	Enables you to save or re-name the database to a specific location. The default location is	
Apply	Click to begin exporting the file to specified location	
Import		
Archive File:	*.uda	Indicates the last file that was imported
Browse...	Enables you to specify the database to import	
Retrieve Database As:	<database name>	Indicates the file currently selected for importing
Apply	Click to begin the import	

Setup Tab

Table 40 summarizes the options displayed in the Setup tab.

Table 40 Setup Tab

Item	Parameters	Description
Device Identification		
Device Name	<name>	Provides a unique identifier for the Ultricore CC in the Tree View
System Name	<name>	Provides a unique identifier for the routing system
Log Settings		
Logging	Selected	Enables the Ultricore CC to update the entries in the System Logs interface
	Cleared	Disables this feature
Output Debug Messages	Selected	Only use this feature under the guidance of Ross Technical Support.
	Cleared	
DashBoard Interface		
DashBoard Timeout	10-300s	Sets the maximum number of seconds that DashBoard waits until it queries the Ultricore CC. The default is 10 seconds. This value is reset after a power-cycle.
Timeout	Update	Applies the new value in the DashBoard Timeout menu.

Table 40 Setup Tab

Item	Parameters	Description
Status	mm/dd/yy ERROR: Duplicate device name [abc] for ID [#]	Reports when multiple devices, with the same name, are communicating with the Ultricore CC where: • **mm/dd/yy** represents the date of the error • **[abc]** represents the device name • **[#]** represents the ID number assigned to the device
	Clear	Clears the Status field entry
Ultricore Profile Settings		
User Credentials		Users must enter their credentials as defined by the Ultricore Profiles feature
User Profiles		Users are granted permissions based on the profile assigned to their account
Routing Behavior		
Salvo/Multi-Crosspoint Take Completion	Require All Crosspoints	The Take operation will fail entirely if any destinations are locked or protected
	Best Effort	The Take operation will be performed for any valid routes and fail for locked or protected routes

Logs Tab

This tab includes the System Log, Controller Communications Log, and DashBoard Communications Log. The read-only information displayed in the logs is used by Ross Technical Support for diagnostic purposes.

Database Interfaces

The Database interfaces enable you to configure devices in your routing system and configure control aspects for Ultricore CC. Note that the currently active database name is displayed in parentheses in the tree view. Unicode names are also supported so that names may be defined in other languages or writing systems.

Most of the interfaces are organized into a table format with a row of buttons at the bottom of the interface. You can select individual cells, columns, or rows of entries to define.

A summary of each interface is provided in the following sub-sections.

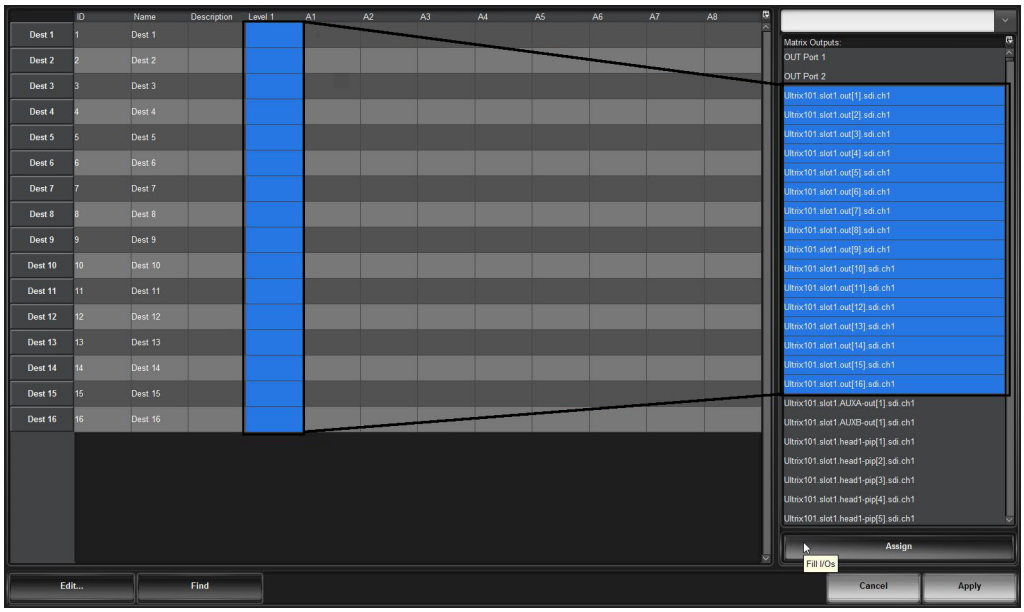


Figure 54 Example of Filling a Column of Entries

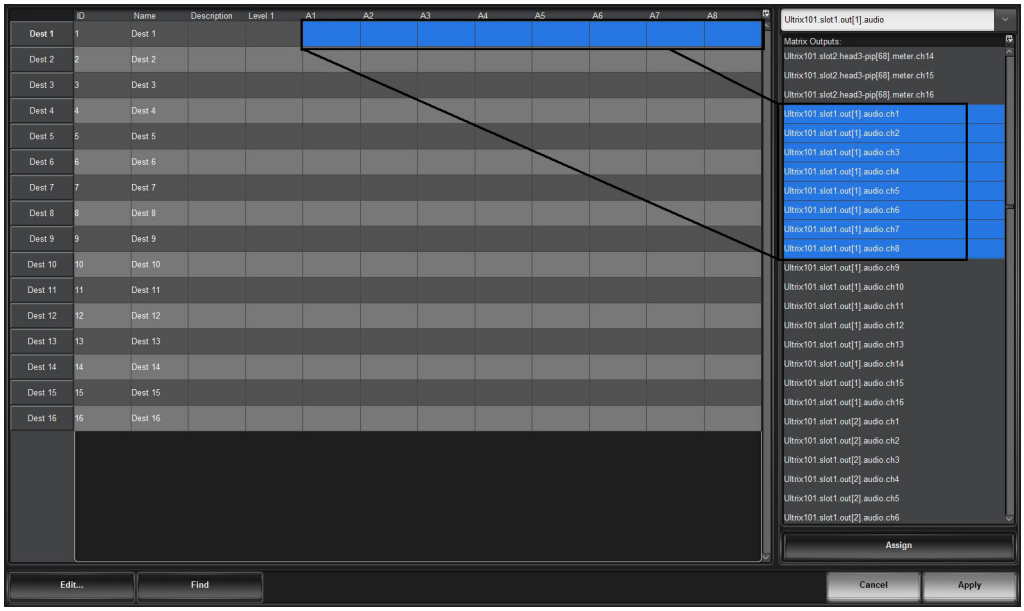


Figure 55 Example of Filling a Row of Entries

Database Builder

The Database Builder interface helps you to quickly create a database by grouping basic controls on four pages: Quick Start, Levels, Destinations, and Sources. The same controls are available as sub-nodes of the Database interface.

Quick Start

The Quick Start options display by default when the Database Builder displays in DashBoard. From this page you can define the database properties including: type of signals (video, audio) the number of Ultricore CC routers that the database includes, the audio elements of the database, and basic UltriScape parameters.

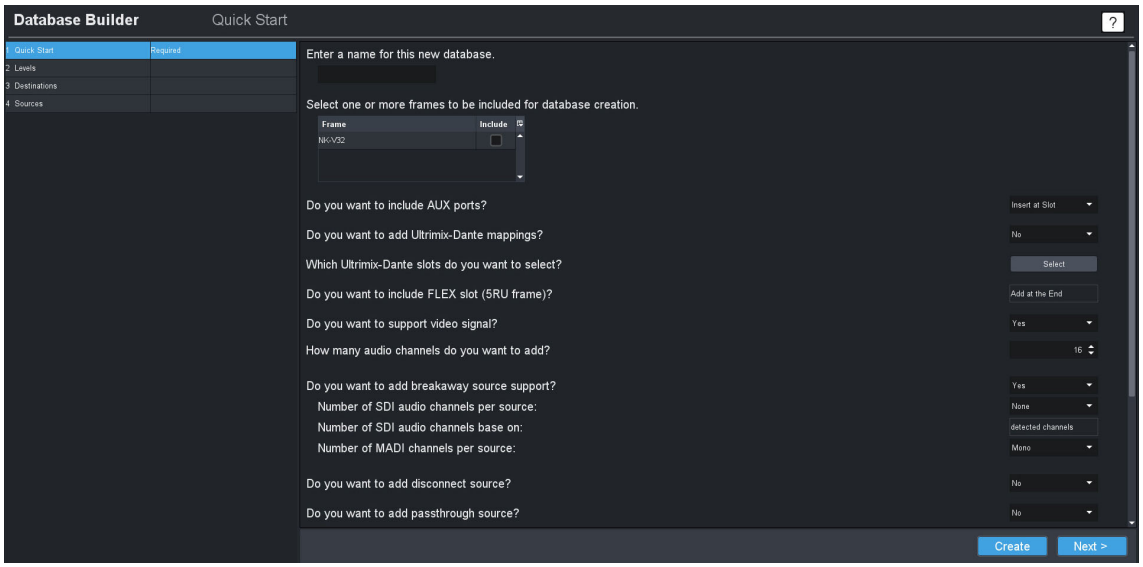


Figure 56 Example of the Database Builder — Quick Start Page

Table 43 summarizes the fields displayed in the options in the Quick Start page.

Table 41 Database Builder — Quick Start

Item	Parameters	Description
Database name	<name>	Assigns a unique identifier for the device in the routing system. This name is also used when matrices are defined in the Ultricore CC system.
Frame select table		Displays a list of detected routers in your network. Select a box to apply the database to the specified router.
Include AUX ports	None	Do not create entries for AUX ports in the database
	Insert at slot	Create AUX port entries as they are physically located within the Ultricore CC chassis (e.g. ports 17 and 18).
	At the end	Create AUX ports after BNC entries
Ultrimix-Dante map	Yes	Maps the audio channels as defined by the external audio matrix from a connected Dante® device
	No	Audio channels from a connected Dante® matrix are not mapped to this database
Video support	Yes	Creates a database that includes video and audio signals
	No	Creates an audio-only database
Audio channels	#	Specifies the quantity of audio channels (levels) required
Breakaway source support	Yes	Create sources for audio breakaways/shuffles
	No	Audio breakaways are not included in this database
SDI audio per channel		Creates audio breakaway sources using the selected audio channel grouping size
MADI channels per source		Creates MADI sources using the selected audio channel grouping size

Table 41 Database Builder — Quick Start

Item	Parameters	Description
Disconnect source?	Yes	Creates a source that will disconnect (mute) SDI and audio channels
	No	This option is not included in the database
Passthrough source?	Yes	Sources are routed without changes/edits
	No	This option is not included in the database
Ultriscape support?	Yes	Enables Ultriscape heads and PiPs to be included in the database
	No	Ultriscape heads and PiPs are not included in the database
Number of Multiviewer heads	#	Specifies the number of Ultriscape heads the database will support
Number of Multiviewer pips per head	#	Specifies the maximum number of PiPs available per layout
Include detected Multiviewer layout		Creates sources for detected Ultriscape layouts to enable layout changing from control panels

Levels

Once you defined the options on the Quick Start interface, you can proceed to preview and customize the levels, destinations, and sources this database will include. Clicking **Next** on the Quick Start page displays the **Levels** page. (**Figure 57**)

The options in the Levels page are organized into a table where each row represents a level and the columns provide the options for configuring that level. From this page you assign a unique name to each level, a color that represents the level to make it easier to identify the level in a soft panel.

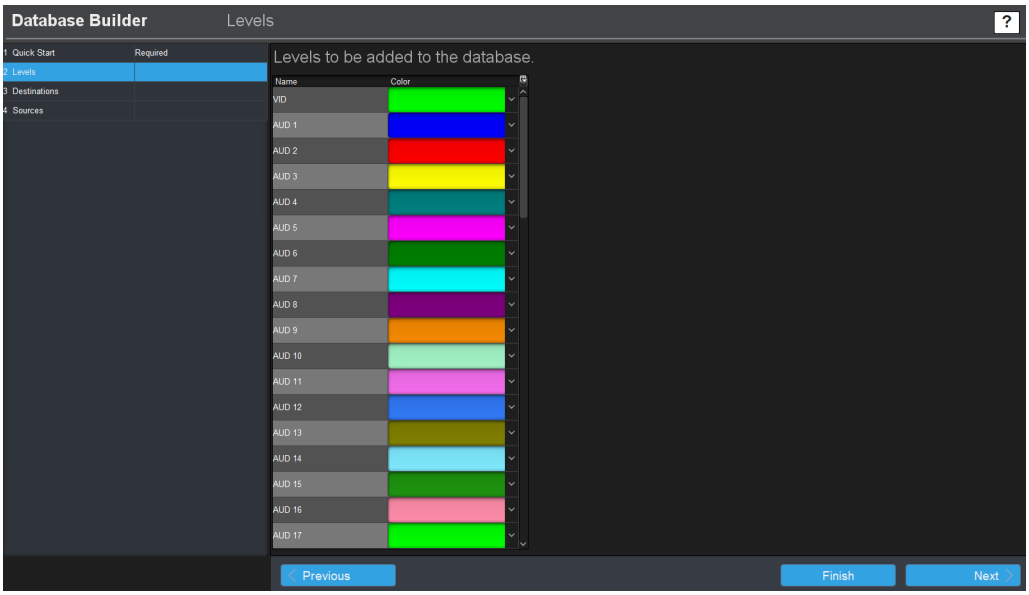


Figure 57 Example of the Database Builder — Levels Page

Destinations

Clicking **Next** on the Levels page displays the **Destinations** page. (**Figure 58**)

The Destinations page enables the assignment of logical labels (used by remote control panels and soft panels) to physical outputs of the attached matrices or routers. The options in the Destination page are organized into a table where each row associates a name of the destination with one or more logical matrix output sockets.

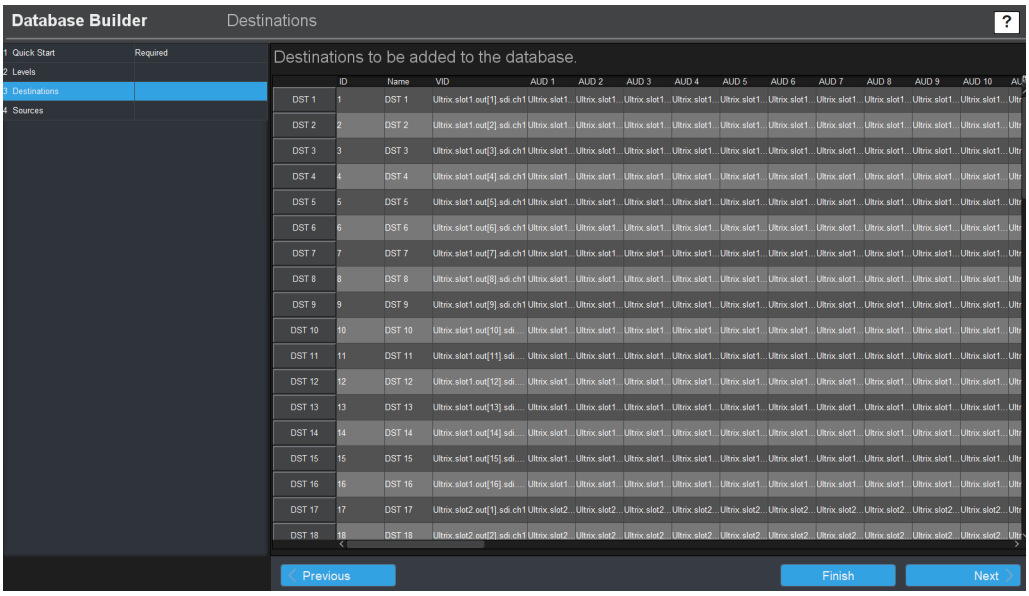


Figure 58 Example of the Database Builder — Destinations Page

Sources

Clicking **Next** on the Destinations page displays the **Sources** page. (**Figure 59**)

The Sources page enables the assignment of labels (used by remote control panels and soft panels) to inputs of the attached matrices or routers. The options in the Sources page are organized into a table where each row associates a name of the source with one or more logical matrix input sockets.

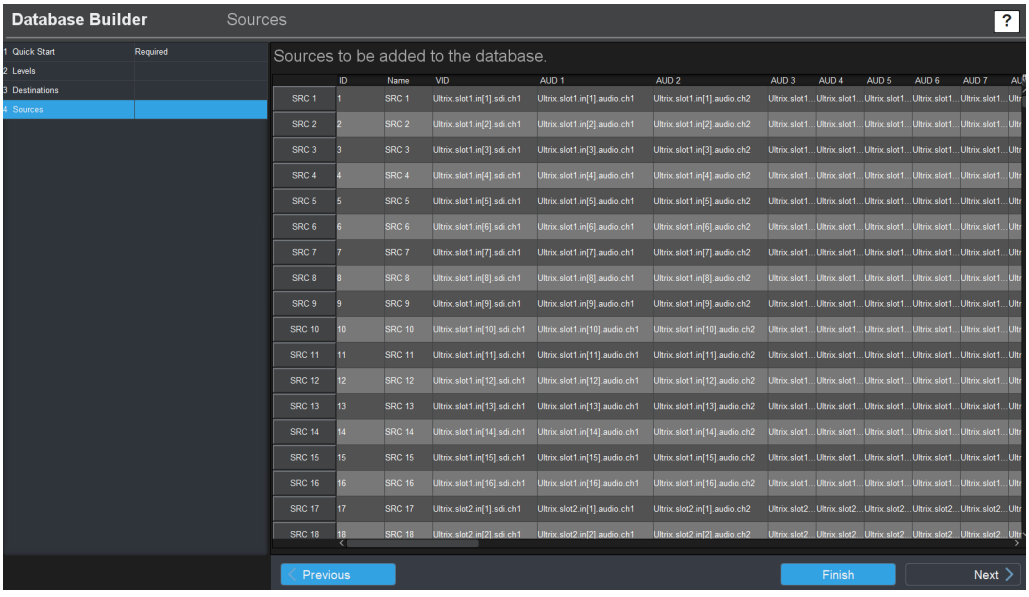


Figure 59 Example of the Database Builder — Sources Page

Connections Tab

Ross Video devices are automatically discovered and available for connection in this tab. Third-party devices that are not discoverable via their protocol must be manually added.

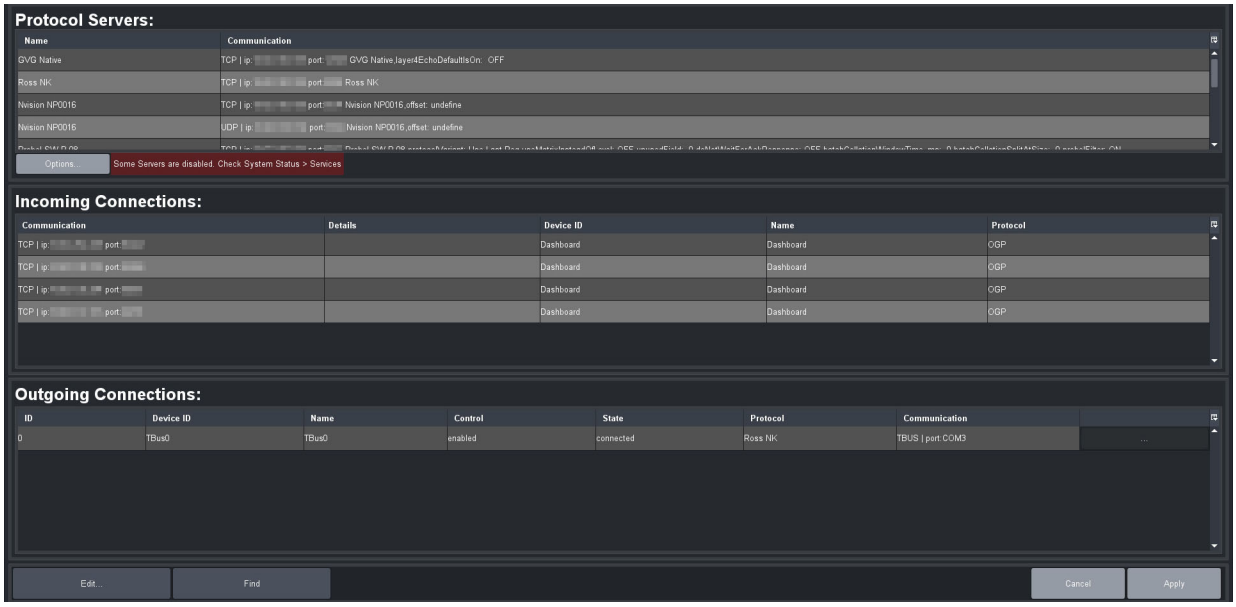


Figure 60 Example of Entries in a Connections Tab

Protocol Servers Table

The Protocol Servers table lists the connection details of external devices that Ultricore CC has established a connection point to (e.g. devices that are controlled by this Ultricore CC). Entries in the Protocol Servers table are managed by the user as outlined in "**Device Communication Setup**".

Table 42 Connections Tab — Protocol Servers

Item	Parameters	Description
Name	<name>	Assigns a unique identifier for the device in the routing system. This name is also used when matrices are defined in the Ultricore CC system.
Options		
Enabled	Enable	Direct communication is established between Ultricore CC and the device.
	Disable	Communication between Ultricore CC and the device is unavailable.
Connected (read-only)	Connect	A valid connection is established between the device and the Ultricore CC on your network. This box is automatically selected when communication is established.
	Disconnect	The connection is invalid or absent between the device and the Ultricore CC on your network.

Table 42 Connections Tab — Protocol Servers

Item	Parameters	Description
Protocol (read-only)	GVG Native	The device uses the third-party GVG protocol to communicate. Refer to "**GVG Series 7000 Native Protocol Commands**".
	NVISION	This device communicates via the third-party NVISION protocol. Refer to "**NVISION Commands**".
	Probel SW-P-08	The device uses the third-party protocol known as Probel SW-P-08.
	Ross NK	The device uses the Ross NK protocol to communicate. Refer to "**Connecting to Ross NK Series Devices**".
	TSL UMD v3.1	The device uses TSL UMD protocol version 3.1
	TSL UMD v4.0	The device uses TSL UMD protocol version 4.0
	TSL UMD v5.0	The device uses TSL UMD protocol version 5.0
	Ultrix	The device uses the Ross Ultrix protocol to communicate (TCP only).
Communication	type: t-bus	The device is physically connected to a T-BUS port on the Ultricore CC rear panel. Communication is via the Ross T-BUS protocol.
	type: tcp	The device is communicating over a network connection. Note that the DashBoard client computer, the Ultricore CC, and the external device must be on the same network.
	type: serial	The device is physically connected to a COM port on the Ultricore CC rear panel. The device is communicating with the Ultricore CC via a serial protocol.
	ip: ###.###.###.###	Specifies the IP Address of the device on the network
	ip: localhost	Indicates that the device is the one you are currently configuring
	port:###.###.###.###	Specifies the ethernet port the device is associated with on the network.
	…	This button opens a dialog allowing further connection point setting adjustments such as specifying an IP address, IP port, etc.

Incoming Connections Table

The Incoming Connections table lists the connection details of remote client devices (e.g. external devices connecting to this Ultricore CC) currently communicating with the Ultricore CC.

Table 43 summarizes the read-only fields displayed in the Incoming Connections table in the Connections tab.

Table 43 Connections Tab — Incoming Connections

Item	Parameters	Description
Communication	type: t-bus	The device is physically connected to a T-BUS port on the Ultricore CC rear panel. Communication is via the Ross T-BUS protocol.
	type: tcp	The device is communicating over a network connection. Note that the DashBoard client computer, the Ultricore CC, and the external device must be on the same network.
	type: serial	The device is physically connected to a COM port on the Ultricore CC rear panel. The device is communicating with the Ultricore CC via a serial protocol.
	ip: ###.###.###.###	Specifies the IP Address of the device on the network
	ip: localhost	Indicates that the device is the one you are currently configuring
	port:###.###.###.###	Specifies the ethernet port the device is associated with on the network.
Details		Provides additional information on the device such as device type, and firmware version
Device ID	<name>	Specifies the external device for the connection point
Name	<name>	Assigns a unique identifier for the device in the routing system. This name is also used when matrices are defined in the Ultricore CC system.
Protocol (read-only)	GVG Native	The device uses the third-party GVG protocol to communicate. Refer to "**GVG Series 7000 Native Protocol Commands**".
	NVISION	This device communicates via the third-party NVISION protocol. Refer to "**NVISION Commands**".
	OGP	This device uses the openGear Protocol to communicate with Ultricore CC.
	Probel SW-P-08	The device uses the third-party protocol known as Probel SW-P-08.
	Ross NK	The device uses the Ross NK protocol to communicate. Refer to "**Connecting to Ross NK Series Devices**".
	TSL UMD v3.1	The device uses TSL UMD protocol version 3.1
	TSL UMD v4.0	The device uses TSL UMD protocol version 4.0
	TSL UMD v5.0	The device uses TSL UMD protocol version 5.0
	Ultrix	The device uses the Ross Ultrix protocol to communicate (TCP only).

Third Party Matrices Tab

Once connection points are established with the devices in your routing system, use the **Third Party Matrices** tab to import the logical matrices from those devices into the Ultricore CC database.

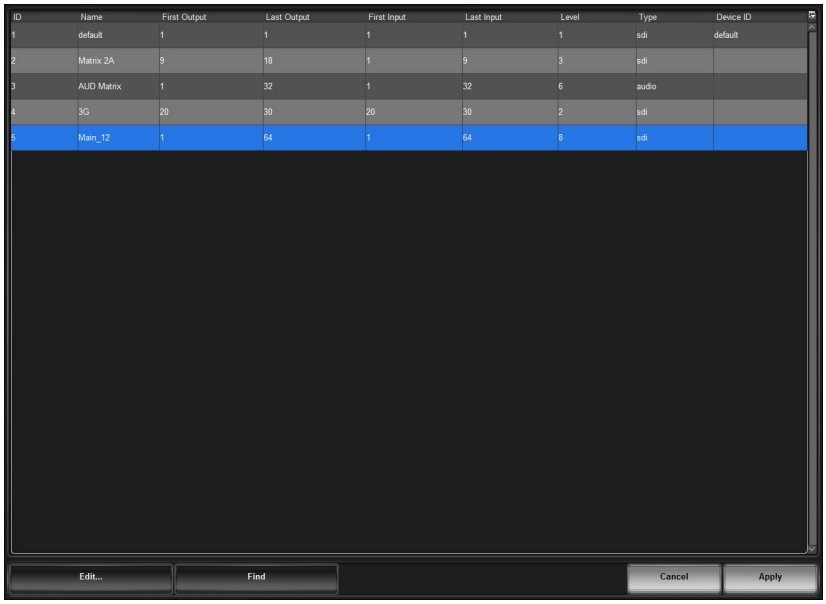


Figure 61 Example of Entries in a Third Party Matrices Tab

Table 44 summarizes the options displayed in the Third Party Matrices tab.

Table 44 Third Party Matrices Tab

Item	Parameters	Description
ID	#	Auto-numbered field (read-only).
Name	<name>	Assigns a unique identifier for the imported third party matrix
First Output	#	Specifies the first destination for the device within the Ultricore CC database
Last Output	#	Specifies the last destination for the device within the Ultricore CC database
First Input	#	Specifies the first source for the device within the Ultricore CC database
Last Input	#	Specifies the last source for the device within the Ultricore CC database
Level	#	Specifies the number of levels for the device in the Ultricore CC database
Type		Specifies the signal type of inputs and outputs this device provides within the Ultricore CC database
Device ID		Specifies the external third-party device the imported logical matrix applies to

Port Labels Tab

The Port Labels tab lists the matrices discovered by the connection points on the Connections tab and imported via the Third Party Matrices tab. A matrix (or router) socket is identified via the **Frame.Slot.Port.Type.Channel** nomenclature. Custom labels may be applied to the ports if required. These may be also known as actual labels in other terminology (the name the cable would be assigned). This re-naming is not necessary for operation, but it may make your assignment of source and destination labels easier when using your internal cable naming conventions.

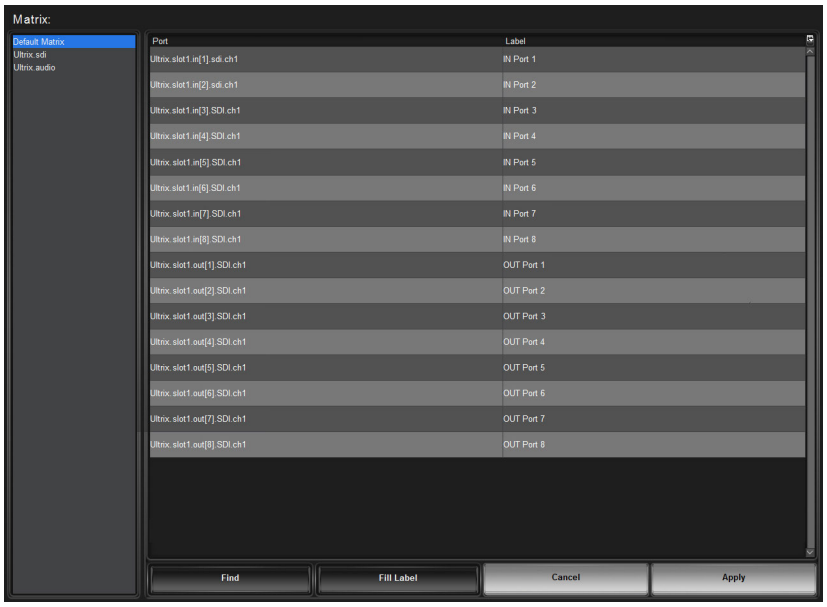


Figure 62 Example of Entries in a Port Labels Tab

Table 43 summarizes the options displayed in the main area of the Port Labels tab (from left to right on the interface).

Table 45 Port Labels Tab

Item	Description
Matrix:	Provides a list of configured matrices for the currently loaded database. Double-click an item in the list to update the table in the Port Labels tab. By default, each router is represented by a read-only matrix in this list. This read-only matrix lists all the SDI signals available to the Ultricore CC via that router. If you have multiple routers, each router is represented with a separate read-only matrix with the device name in the matrix name (e.g. **`NK-3G16.SDI [read-only]`**, or **`NK-3G144.SDI [read-only]`**).
Port	Indicates the physical socket on the external device that is included in the currently selected logical matrix using the nomenclature **Frame.Slot.Port.Type.Channel**.
Label	Provides a text label that identifies the physical port in other interfaces of the database. This virtual label is used instead of the **Frame.Slot.Port.Type.Channel** format. For example, you might re-name port **`NK-S34.slot1.in[1].SDI.ch1`** to **`NK-234 SDI IN 1-1`**.

Bottom Toolbar

Refer to **Table 69** for a summary of the buttons displayed in the Bottom toolbar of the Database interfaces.

Levels Tab

A level is a specific grouping of signal input and output ports, that may be controlled separately from other groups (a breakaway). Typically a level is associated with input/output ports that are used with sets of similar or related signals, such as SDI Video, AES Audio, Analog Video, Analog Audio, Timecode, or Machine control, and often include routing matrices that are dedicated to controlling that specific type of signal.

The options in the Levels tab are organized into a table where each row represents a level and the columns provide the options for configuring that level. From this tab you can assign a unique name to each level, a color that represents the level, and a textual description of the level to make it easier to identify the level in the soft panels.

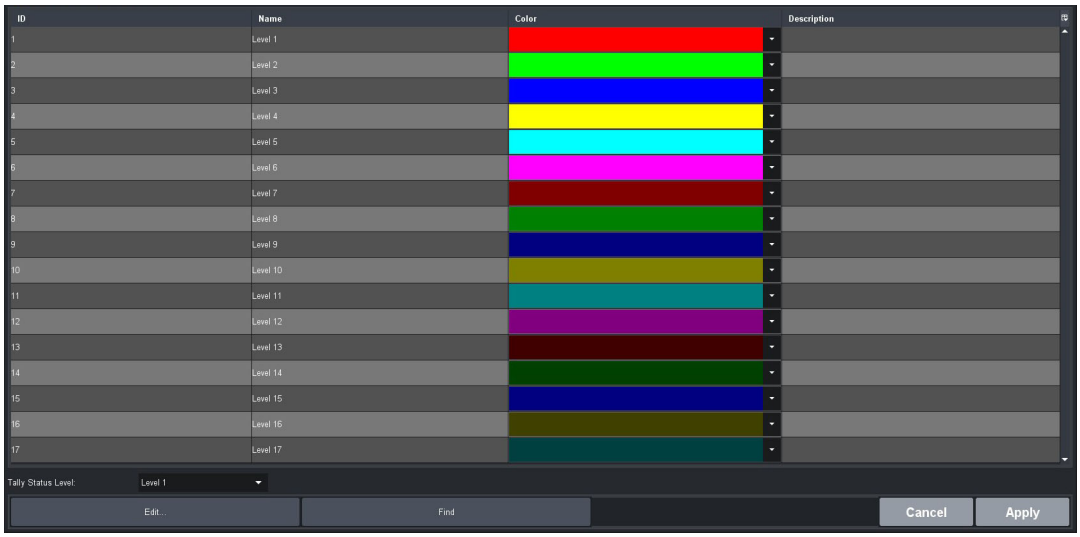


Figure 63 Example of Entries in a Levels Tab

Destinations Tab

The Destination tab enables the assignment of labels (used by control panels) to outputs of the attached matrices or routers. The options in the Destination tab are organized into a table where each row associates the name of the destination with one or more logical matrix output sockets.

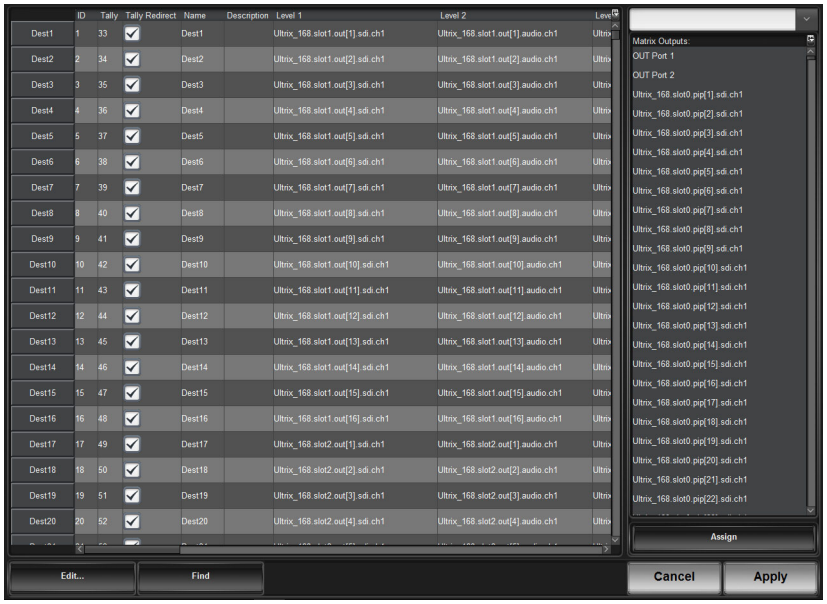


Figure 64 Example of Entries in a Destinations Tab

Table 46 summarizes the options displayed in the Destinations tab.

Table 46 Destinations Tab

Item	Parameters		Description
ID	#		Auto-numbered field (read-only).
Tally	TSL v3.1	<displayID>	Displays the TSL protocol Tally ID entry. The Enable Tally box is selected in the Database tab.
	TSL 4.0	<displayID>	
	TSL v5.0	<screenID>:<displayID>	
Tally Redirect	Enables/disables the re-direction of connected source Tally ID to destination Tally ID as set by the Tally field		
Name	<name>		Assigns a unique identifier for the destination in the routing system. This name is also used when matrices are defined in the Ultricore CC system.
Description	Provides additional information or user entered notes about the output		
Level #	Specifies the physical output port associated with the destination and assigns it to the specified level. Unless you have given the port a different label via the Port Labels tab, the port is labeled as **Frame.Slot.Port.Type.Channel**.		
Matrix Outputs	#		Lists all the physical output ports available that can be assigned as a destination in the routing system
Assign	Click this button to add the selected physical output port(s) to the list of Destinations for the database.		

For More Information on...

- the buttons located on the bottom toolbar for the Destinations tab, refer to **Table 69**.

Sources Tab

The Sources tab enables the assignment of labels (used by remote control panels and soft panels) to physical input sources to specific sources based on the routers connected to the Ultricore CC (and listed in the Database interface). The rows in the table are dependent on the database that is currently loaded. The Sources tab is organized into a table where each row associates a name of the source with one or more logical matrix input sockets.

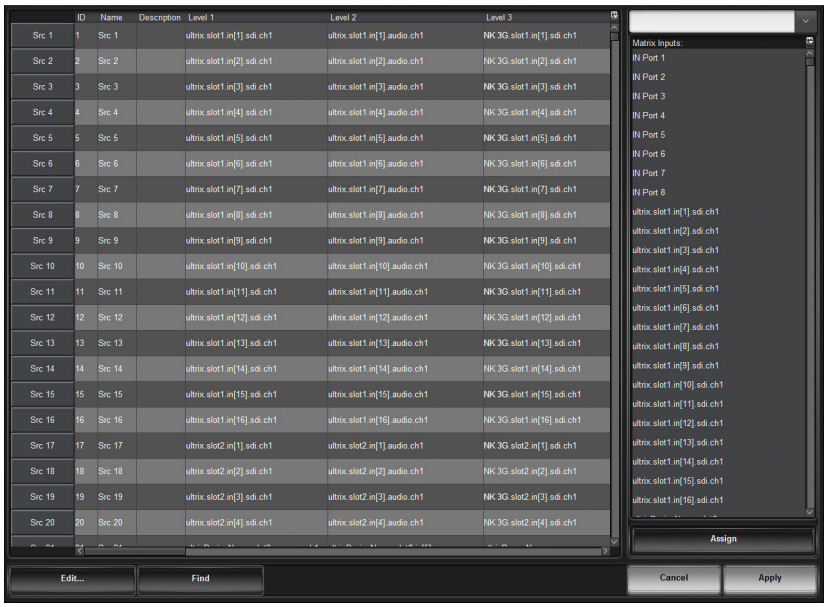


Figure 65 Example of Entries in a Sources Tab

Table 47 summarizes the options displayed in the Sources tab.

Table 47 Sources Tab

Item	Parameters	Description
ID	#	Auto-numbered field (read-only).
Tally	<displayID> or <screenID>:<displaydID>	Displays the TSL protocol tally ID entry. The Enable Tally box is selected in the Database tab.
Name	<name>	Assigns a unique identifier for the source in the routing system. This name is also used when matrices are defined in the Ultricore CC system.
Description		Provides additional information or user entered notes about the input
Level #		Specifies the physical input port associated with the source and assigns it to the specified level. Unless you have given the port a different label via the Port Labels tab, the port is labeled as **Frame.Slot.Port.Type.Channel**.

Table 47 Sources Tab

Item	Parameters	Description
Matrix Inputs	#	Lists all the physical input ports available that can be assigned as a source in the routing system
Assign	Click this button to add the selected physical input port to the Source label in the database	

Cat/Index Categories Tab

The Cat/Index Categories tab enables you to categorize sources, destinations, and levels via a hierarchal system of tags. You can use categories to filter sources, destinations or levels into manageable groups for a Category soft panel. Refer to "**Using Category Panels**".

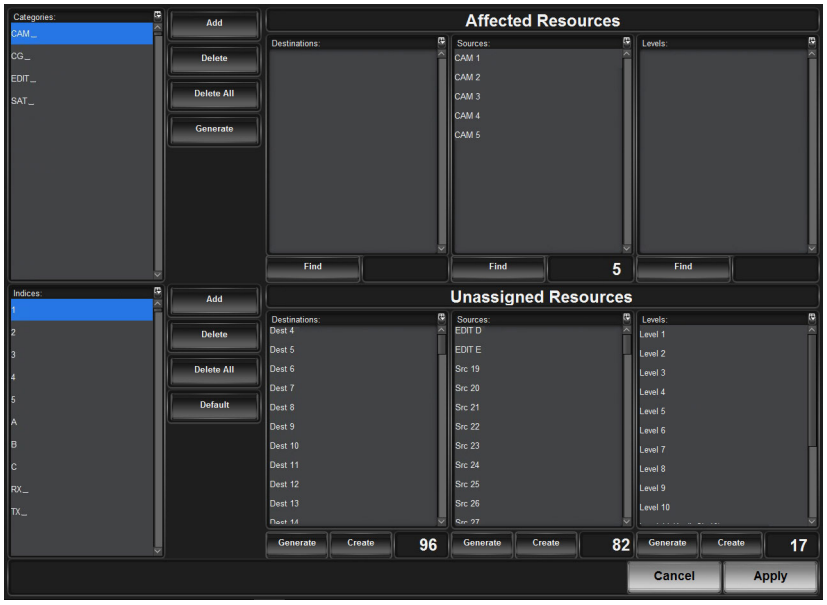


Figure 66 Example of Entries in a Cat/Index Categories Tab

Categories Area

Table 48 summarizes the options displayed in the Categories area of the Cat/Index Categories tab.

Table 48 Cat/Index Categories — Categories Area

Item	Description
Categories:	Lists the category tags defined for this database
Add	Adds a category tag
Delete	Deletes the selected tag
Delete All	Deletes all tags listed in the Categories: pane
Generate	Automatically generates category tags based on the entires in your database

Affected Resources Area

Table 49 summarizes the options displayed in the Affected Resources area of the Cat/Index Categories tab.

Table 49 Cat/Index Categories — Affected Resources Area

Item	Parameters	Description
Destinations:	<text>	Lists the destinations that are tagged
	Find	Performs a search for destinations in the database to add to the category
Sources:	<text>	Lists the sources that are tagged
	Find	Performs a search for sources in the database to add to the category
Levels:	<text>	Lists the levels that are tagged
	Find	Performs a search for level in the database to add to the category

Indexes Area

Table 50 summarizes the options displayed in the Indexes area of the Cat/Index Categories tab.

Table 50 Cat/Index Categories — Indexes Area

Item	Description
Indexes:	Creates search terms to define category tags
Add	Adds a new entry to the Indexes list
Delete	Deletes the selected entry from the Indexes list
Delete All	Deletes all entries from the Indexes list
Default	Creates indexes 0-9 and A-F

Inaccessible Resources Area

Table 51 summarizes the options displayed in the Inaccessible Resources area of the Cat/Index Categories tab.

Table 51 Cat/Index Categories — Inaccessible Resources Area

Item	Parameters	Description
Destinations:	<text>	Lists the destinations in the current database that are not included in any Cat/Index categories
	Generate	Automatically generates category tags based on the destinations in your database
	Create	Enables you to create a new Cat/Index filter for Destinations
Sources:	<text>	Lists the sources in the current database that are not included in any Cat/Index categories
	Generate	Automatically generates category tags based on the sources in your database
	Create	Enables you to create a new Cat/Index filter for Sources

Table 51 Cat/Index Categories — Inaccessible Resources Area

Item	Parameters	Description
Levels:	<text>	Lists the levels in the current database that are not included in any classic categories
	Generate	Automatically generates category tags based on the levels in your database
	Create	Enables you to create a new Cat/Index filter for Sources

Group Categories Tab

The Categories tab enables you to categorize sources, destinations, and levels via a hierarchal system of tags. You can use categories to filter sources, destinations or levels into manageable groups for a Category soft panel. Refer to "**Group Categories Overview**".

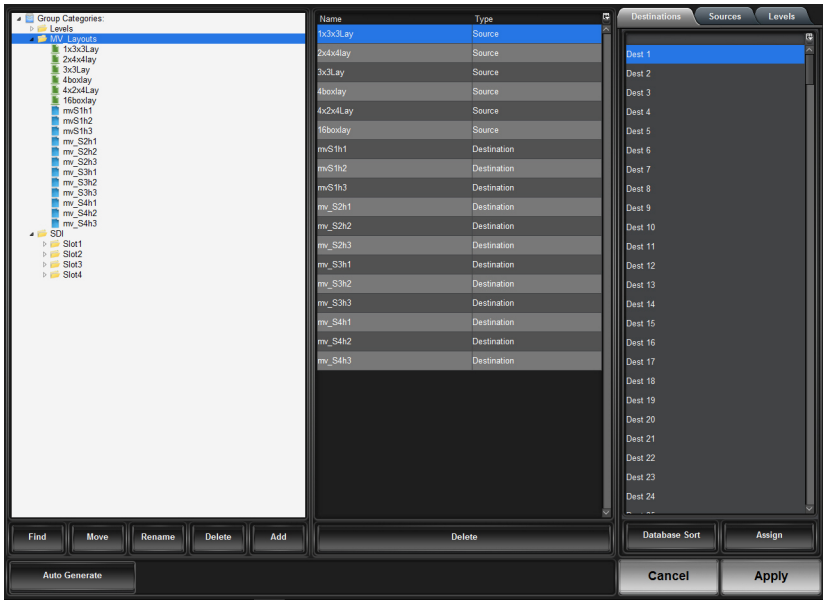


Figure 67 Example of Entries in a Group Categories Tab

The Group Categories tab is organized into three panels and a bottom toolbar.

Table 52 summarizes the options displayed in the left panel of the Group Categories tab. This panel displays all the created groups and sub-groups, and/or resources in a top-down hierarchy. Note that the nodes are sorted by type and then by alphabetical order.

Table 52 Group Categories Tab — Left Panel

Item	Description
Group Categories:	Displays the groups as folders arranged in a tree view
Find	Displays the Find dialog that enables you to search for a category or resource name
Move	Displays the Move dialog that enables you to move a selected group and its contents to another group
Rename	Renames a selected group; the resource type will be not re-named
Delete	Deletes a selected group and all of its contents
Add	Adds a new group to the selected group

Table 53 summarizes the options displayed in the middle panel of the Group Categories tab. This panel shows the assigned contents (groups and/or resources) of the currently selected item from the tree view (in the left panel).

Table 53 Group Categories Tab — Middle Panel

Item	Description
Name	Indicates the name of a resource
Type	Indicates the type of resource
Delete	Deletes the selected resource(s) from the currently selected group

Table 54 summarizes the options displayed in the right panel of the Group Categories tab. This panel displays the available destinations, sources, and levels that can be arranged into group categories.

Table 54 Group Categories Tab — Right Panel

Item	Description
Destinations	Displays the unassigned destinations in alphabetical order
Sources	Displays the unassigned sources in alphabetical order
Levels	Displays the unassigned levels in alphabetical order
Assign	Select the resource(s) and click Assign to assign it to the group selected in the left table

Table 55 summarizes the bottom toolbar.

Table 55 Group Categories Tab — Bottom Toolbar

Item	Description
Auto Generate	Click to auto-generate group categories based on the resource names from the current database
Cancel	Ignores all unsaved changes and reverts the tab back to the last saved entries
Apply	Applies all change made in the Group Categories tab

Legacy Categories Tab

The Legacy Categories tab enables you to categorize sources, destinations, and levels via a hierarchal system of tags. You can use legacy categories to filter sources, destinations, or levels into manageable groups for legacy RCP-QE panels. Refer to the ***RCP-QE User Guide*** for details.

Table 56 summarizes the options displayed in the top toolbar.

Table 56 Legacy Categories Tab — Top Toolbar

Item	Description
Destinations	Lists the destination category/index assignments
Sources	Lists the source category/index assignments
Levels	Lists the level category/index assignments

Table 57 summarizes the options displayed when the Edit button is selected from the bottom toolbar.

Table 57 Legacy Categories Tab — Bottom Toolbar

Item	Description
Copy	Copies the selected cells in the tab
Paste	Pastes the previously copied items to the current cell selection
Clear	Clears the data from the selected cells
Clear All	Clears all category/index assignments
Fill	Auto fills a range of cells
Auto Generate	Auto fills the cells based on spaces in the source/destination names

Salvos Tab

A salvo is a set of pre-defined switch events. The Salvos tab provides a list of the global salvos available in the currently selected database. From this tab you can create salvos, rename, and delete salvos.

The workspace in the Salvos tab displays a grid pattern with sources at the top and the destinations along the left side. A list of currently available (saved) salvos displays on the far left-side of the tab. The toolbar on the far right-side displays a button for each level available in the database with each button set in the color specified for the level. The toolbar in the bottom right corner of the interface displays three buttons: Advanced, Cancel, and Apply.

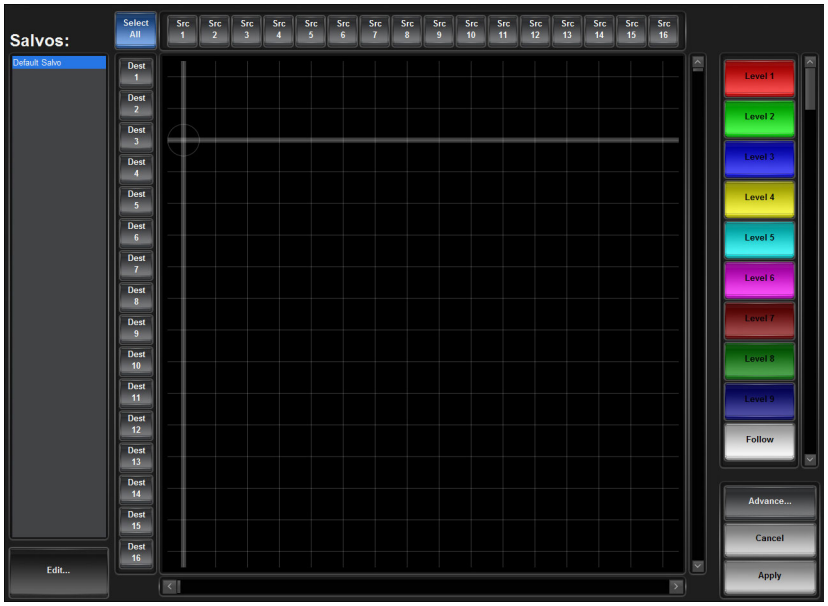


Figure 68 Example of a Salvos Tab

Table 58 summarizes the options displayed in the Salvos tab.

Table 58 Buttons on the Salvos Interface

Button	Description
Salvos:	Provides a list of configured salvos for the currently loaded database. Double-click an item in the list to update the grid in the Salvos tab.
Edit...	Displays the Edit dialog for the soft panel. Refer to "**Edit Dialogs**".

Table 58 Buttons on the Salvos Interface

Button	Description
Select All	Click this button to select all the Destinations in the matrix of the Salvos tab. This will include all the destinations in the matrix in the salvo configuration. • All the Destination buttons are lit red in the matrix. • The button now displays the **Clear All** label. Click the button again to remove all the Destinations from the salvo configuration.
Level #	A button is assigned to each level available in the currently loaded database. The color and label of the button is specified in the Levels tab.
Advanced	Displays the Advanced options outlined in **Table 59**.
Cancel	Discards any recent changes made in the Salvos tab, and clears the matrix. Note that the Destinations are still selected (buttons are lit red) if you clicked **Select All**.
Apply	Applies changes made in the Salvos tab and updates the salvo settings.

Advanced Menus

Clicking the **Advanced** button in the Salvos tab displays the options outlined in **Table 59**.

Table 59 Advanced Menu Items

Button	Description
Clear All Presets	Clears the workspace in the Salvos tab and resets all settings to the default values.
Clear Dest Presets	Clears all selections made in the Destinations column of the workspace.
Capture System Status	Captures the current routing state of the Ultricore CC system.
Capture Dest Status	Updates the workspace to reflect only the status of the destinations of the Ultricore CC system.

Ultricore Profiles Tab

The Ultricore Profiles operate as a form of hierarchical database where user permissions are organized into a tree-like format. A profile determines which groups and pages that a user can access.

When the ULTRICORE-PRO license is enabled, the Ultricore Profiles interface is organized into five distinct areas. (**Figure 69**) Each area is briefly described in this section starting with the leftmost area of the DashBoard window.

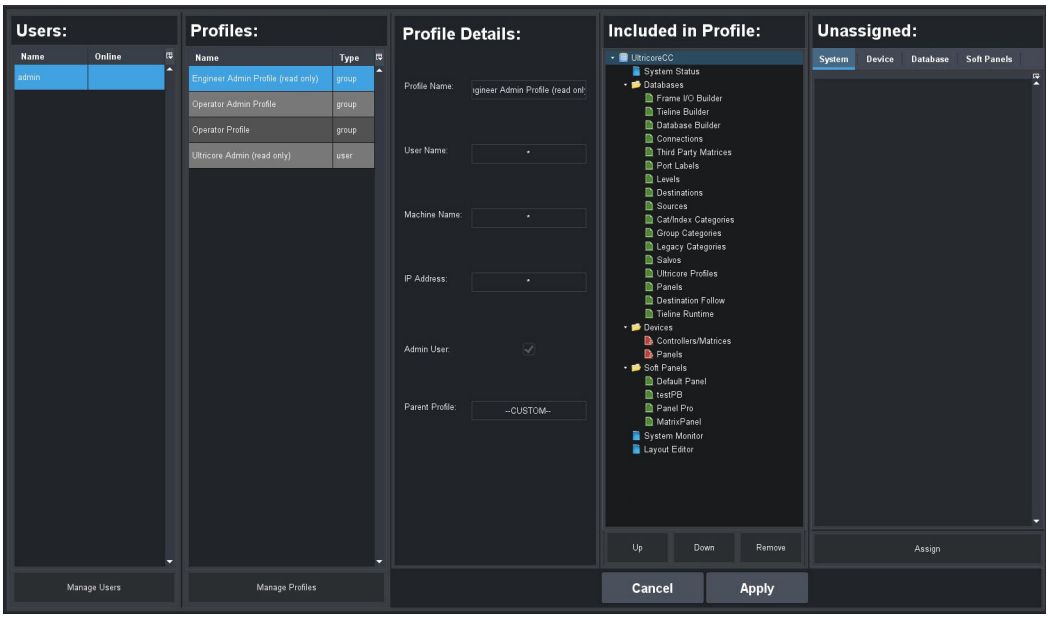


Figure 69 Example of the Ultricore Profiles Interface with the ULTRICORE-PRO license

Users

When the system is configured to use the user login mechanism, a list of all currently configured usernames along with their current online status displays in this area.

Profiles

A list of all currently configured profiles. Selecting a profile (row) in this area automatically updates the items displayed in the Profile Details, Device Tree, and Options areas.

Profile Details

This area displays the details of the profile showing the conditions under which the tree in the following section will be applied.

Tree Nodes

A visual representation of the tree view that is defined in the Profile Details. Note that certain entries that are specific to licenses or other conditions may be visible but not in the actual tree view. Should conditions change that enable those entries, they will appear as shown in this display. A profile also maintains the position of items in groups allowing the most relevant items to be the easiest to reach.

The tree nodes are organized in a hierarchy where the top level (blue icons) list system specific options, and secondary levels (yellow icons) list specific functions.

✶ This area only displays when the ULTRICORE-PRO license is enabled.

Group Tabs

This area displays all the available items that have not yet been assigned to the currently selected profile but are available to define.

✶ This area only displays when the ULTRICORE-PRO license is enabled.

Panels Tab

The Panels tab includes a series of sub-tabs that enable you to customize soft panels (control panels within the DashBoard environment). You can choose to assign the levels, sources, and destinations from an Ultricore CC database to the soft panel buttons.

The soft panels display as sub-nodes in the Soft Panels tree using the name specified in the **Info** tab. When you save a soft panel to the database, a node for the panel automatically displays under the Soft Panels node in the Tree View. The soft panels display in the tree according to their assigned Panel ID number (where an ID of 1 is the highest, and ID of 2 is the second highest etc.).

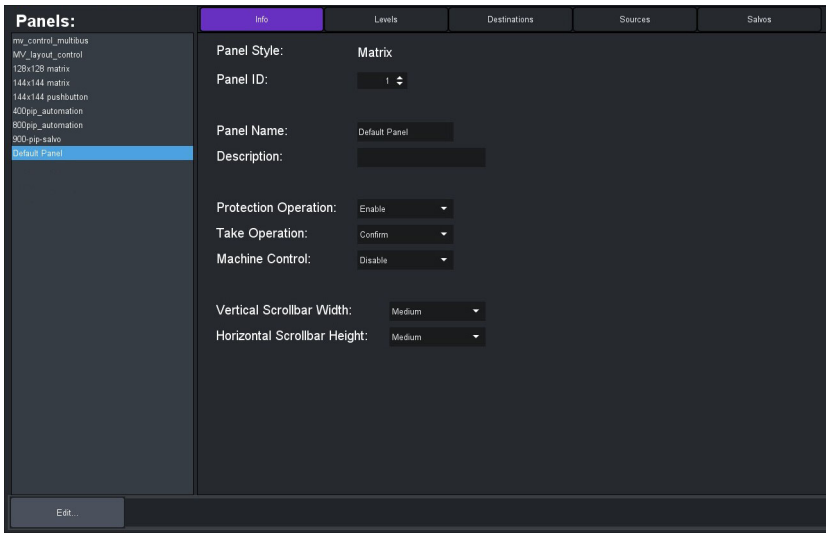


Figure 70 Example of Entries in a Panels Tab

Panels Menu

The Panels menu displays on the left side of the interface. This menu provides a list of soft panels saved in the current database. Selecting a soft panel from the list updates the tab entires in the Panels tab with the settings for that soft panel.

Info Tab

Use the options in the Info tab to assign a panel a unique identifier, select the panel style template to use, and how the panel will perform tasks such as Take transitions. This is the default tab that the interface opens on. **Table 60** summarizes the fields and menus displayed in the Info tab.

Table 60 Info Tab

Item	Parameters	Description
Panel Style (read-only)	<name>	Specifies the panel type that was assigned to the soft panel when it was created.
Panel ID	<integer>	Assigns a unique identifier to the panel
Panel Name	<name>	Provides a unique identifier for the soft panel. This name also displays as a sub-node in the Soft Panels tree.
Description	#	Provides a textual summary of the soft panel or additional information about the panel.

Table 60 Info Tab

Item	Parameters	Description
Protection Operation	Lock	Displays only the Lock button in the panel interface
	Protect	Displays only the Protect button in the panel interface
	Both	Displays the Lock and Protect buttons in the panel interface
Take Operation	Confirm	A TAKE button displays on the soft panel. You must click this button before the transition occurs
	Direct	A Take transition occurs automatically when a Level, Destination, and Source are selected on the soft panel
Selection Operation	Single	The Multi Select button does not display on the soft panel
	Multi	Displays the Multi Select button on the soft panel. Use this button to quickly select multiple destinations for a crosspoint switch. This button is only applicable for MultiBus and Category panels.
Machine Control	Enable	Displays a Machine Control button on the panel. When selected on the panel, this Machine Control button sends a Take request directed to a Ross NK-M series data router to automatically make the reciprocal port switch. On a video router, the connection is all one way from an input port to an output port (e.g. such as from IN 1 to OUT 2).
	Disable	Does not display a Machine Control button on the panel.
Nongroup Resources[a]	Hide	Resources that are not assigned to a specific group are not displayed on the soft panel.
	Show	All resources are displayed on the soft panel.

a. This menu is only available when the Panel Style is set to Group Category.

Levels Tab

Use the options in the Levels tab to specify the number of levels for the panel, and organize them in a hierarchy for the panel. **Table 61** summarizes the fields and menus displayed in the Levels tab.

Table 61 Levels Tab

Item	Parameters	Description
Viewable Levels	<integer>	Specifies the maximum number of levels, as selectable buttons, that can display on the panel interface
Available	<integer>	List all the levels in the current database
Assigned	<integer>	Specifies which levels will be available in the soft panel

Destinations Tab

Use the options in the Destinations tab to specify which router outputs will be available in Destination bus of the soft panel. **Table 62** summarizes the fields and menus displayed in the Destinations tab.

Table 62 Destinations Tab

Item	Parameters	Description
Viewable Destinations	<integer>	Specifies the maximum number of destinations, as selectable buttons, on the panel. This field is not displayed when the Panel Style is set to Group Category or Cat/Index Category.
Available	<integer>	Lists all the destinations in the current database
Assigned	<integer>	Specifies which destinations will be available in the soft panel

Sources Tab

Use the options in the Sources tab to specify which router inputs will be available in Source bus of the soft panel, and their hierarchy. **Table 63** summarizes the fields and menus displayed in the Sources tab.

Table 63 Sources Tab

Item	Parameters	Description
Viewable Sources	<integer>	Specifies the maximum number of sources, as selectable buttons, on the panel. This field is not displayed when the Panel Style is set to Group Category or Cat/Index Category.
Available	<integer>	Lists all the sources in the current database
Assigned	<integer>	Specifies which sources will be available in the soft panel

Salvos Tab

Use the options in the Salvos tab to specify the total number of salvos displayed in the soft panel and their hierarchy. **Table 64** summarizes the fields and menus displayed in the Salvos tab.

Table 64 Salvos Tab

Item	Parameters	Description
Viewable salvos	#	Specifies the maximum number of salvos that will be listed on the Recall Salvos dialog for the panel. This field is not displayed when the Panel Style is set to Matrix.
Available	#	Lists all the salvos in the current database
Assigned	#	Specifies which salvos will be available in the soft panel

Favorites Tab

✶ The Favorites tab only displays when the Panel Style is set to Ultritouch PB.

Table 65 summarizes the fields and menus displayed in the Favorites tab.

Table 65 Favorites Tab

Item	Parameters	Description
Name	<name>	Provides a unique identifier for the type of Favorite for this soft panel.
Type	Crosspoint	Creates a Favorites button on the soft panel that recalls a specific crosspoints switch
	Group	Creates a Favorites button on the soft panel that loads a specific Group Category in the database
	Salvo	Creates a Favorites button on the soft panel that recalls a specific salvo in the database
	Sources	Creates a Favorites button on the soft panel that selects a specific source in the database
	Destinations	Creates a Favorites button on the soft panel that selects a specific destination in the database
Field 1		Specifies the first item for the Favorite. For example, if the type is set to Crosspoint, Field 1 reports the destination.
Field 2		Specifies the second item for the Favorite. For example, if the type is set to Crosspoint, Field 2 reports the source.
Up	Moves the selected row higher in the table	
Down	Moves the selected row lower in the table	
Top	Moves the selected row to the top of the table	
Bottom	Moves the selected row to the bottom of the table	
Sort	Sorts by window type	

Home View Tab

✶ The Home View tab only displays when the Panel Style is set to Ultritouch PB or Push Button.

Table 66 summarizes the options displayed in the Home View tab.

Table 66 Home View Tab

Item	Parameters	Description
Display Icons	Enable	The Destination and Source buttons on the soft panel display icons
	Disabled	The Destination and Source buttons do not display icons; only the labels are displayed on each button.
Orientation	Portrait	The windows are organized into columns (vertical panes) on the soft panel
	Landscape	windows are organized into rows (horizontal panes) on the soft panel
Home Windows		
Window (read-only)	<text>	Specifies the window type

Table 66 Home View Tab

Item	Parameters	Description
Percent	#	Specifies the width of the window in a percentage of the overall soft panel size
Rows	#	Specifies the number of button rows in the window
Columns	#	Specifies the number of button columns in the window
Reset	Loads the default window layout and widths	
Up	Moves the selected row higher in the table	
Down	Moves the selected row lower in the table	
Top	Moves the selected row to the top of the table	
Bottom	Moves the selected row to the bottom of the table	
Sort	Sorts by window type	

Buttons

Table 67 summarizes the buttons displayed in all Panel sub-tabs.

Table 67 Button on the Panels Interface

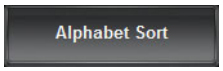
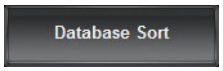
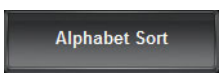
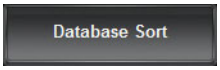
Button	Description
 	In the Available area, clicking this button toggles the sorting order between alphabetical or database-index (based on the current order listed in the Levels, Destinations, or Sources tabs)
	Moves the selected items in the Available list to the Assigned list.
	Moves the selected item(s) from the Assigned list back to the Available list. These items will not be available in the soft panel window.
	Moves all the available labels to the Assigned list
	Removes all the items from the Assigned list back to the Available list. These items will not be available in the soft panel window.
Up	Moves the selected item in the Assigned list up one position. This changes the order of the displayed items on the soft panel.
Down	Moves the selected item in the Assigned list down one position. This changes the order of the displayed items on the soft panel.
Top	Moves the selected item in the Assigned list to the top of the list. This changes the order of the displayed items on the soft panel.
Bottom	Moves the selected item in the Assigned list to the bottom of the list. This changes the order of the displayed items on the soft panel.
	In the Assigned area, clicking this button arranges the items into alphanumerical order.

Table 67 Button on the Panels Interface

Button	Description
	In the Assigned area, clicking this button arranges the items in the Assigned list according to the order established in the Levels, Destinations, or Sources tabs.
Edit...	Displays the Edit dialog for the soft panel
Cancel	Discards any recent changes made in the soft panel, and reverts to the previously saved settings.
Apply	Applies changes made in the soft panel and updates the Ultricore CC database

Destination Follow Tab

Table 68 summarizes the options displayed in the Destination Follow tab.

Table 68 Destination Follow Tab

Item	Parameters	Description
Destination	#	Specifies the Destination you want to configure
Following	#	Specifies the router output that the specified Destination will follow

Additional Dialogs, Menus, and Toolbars in the Database Interfaces

Each tab displays a toolbar located at the bottom that provides buttons that display additional editing dialogs (e.g. insert, cut, paste, search). Also, right-clicking a row in any tab also displays a menu of editing dialogs. This section briefly outlines those additional editing dialogs.

Bottom Toolbar

The bottom toolbar of each tab in the Database includes buttons for applying changes made to settings in the interface, or adding elements to the table in the interface. **Table 69** summarizes the buttons displayed in the Bottom toolbar. Note that not all buttons display in all tabs.

Table 69 Bottom Toolbar Items

Button	Description
Edit	Displays the Edit dialog for the tab. Refer to **Table 70** for details.
Find	Displays the Find dialog that enables the entering of criteria for searching of the tab contents.
Fill Label	Applies a custom label to the selected port
Reset Label	Reverts the label content to the previously saved text
Delete	Removes the selected port from the list for the matrix
Add	Adds the selected port from the list for the matrix
Cancel	Discards any recent changes made in the tab, and reverts to the previously saved table settings.
Apply	Applies changes made in the tab and updates the Ultricore CC database

Edit Dialogs

Table 70 summarizes the buttons displayed in the **Edit** dialogs. Note that not all options display in all tabs.

Table 70 Edit Dialogs Items

Button	Description
Add	In interfaces with lists on the left toolbar (e.g. Panels, Port Labels, Salvos), selecting a list item and then clicking Add creates a copy of the selected item. The name to the newly created item includes the name from the copied item with the prefix “New”.
Auto Generate	Automatically fills the cells in the table with a default value. For example, clicking this button in the Destinations tab automatically fills all the cells with the text “Dest”.
Clear	Removes the data from the selected cell.
Clear All	Removes the text or entry in all cells of the interface.
Copy	Copies the selected cell data to the clipboard. In some interfaces, such as in the Salvo tab, the salvo settings are copied in entirety.
Cut	Copies the cell data to the clipboard and then delete it from the table.
Delete[a]	When working in an interface with a table layout, clicking this button removes the currently active row from the table. When working in an interface with lists on the left toolbar, clicking this button removes the selected item from the list. You will still need to click Apply to completely remove the item from the database.
Fill	A range of name cells may be filled with consecutive numerical data. For example, VTR1 to VTR4 may be entered quickly by defining a prefix (in this case VTR) and a suffix that will numerically increment. Selecting Fill from the Insert toolbar, a dialog displays prompting you to enter a prefix (alphanumeric) and the start/end numerical values. This method adds rows to the destination table inserting below the active row.
Fill & Replace	Enables you to overwrite a range of cells in the table. Rows beneath the currently active row are overwritten with data from the Fill & Replace dialog.
Insert Above	Inserts a new row above the currently active row in the table. Any existing data is moved down the table by one row.
Insert Below	Inserts a new row below the currently active row in the table. Any existing data is moved up one row.
Insert Series	Inserts a sequential range of labels below the currently selected row.
Paste	Pastes the copied cell data from the clipboard. In some interfaces, such as in the Salvo tab, the copied salvo settings are pasted in entirety.
Paste Below	Pastes the copied cell data, from the clipboard, to currently selected cell.

Table 70 Edit Dialogs Items

Button	Description
Rename	When working in an interface with lists on the left toolbar, clicking this button enables you to provide a different name/label to the selected item.
Reset All IDs	Resets the source/destination ID numbers based on their current row number. It is recommended to verify the interfaces that referenced IDs (such as Soft Panels, Salvos, etc.)

a. Ensure the ID numbers are correctly sequenced when deleting and inserting entries in the tabs. Refer to the Reset All IDs row in this table.

Find Dialogs

Table 71 summarizes the buttons displayed in the **Find** dialogs.

Table 71 Find Dialogs Items

Item	Description
Column	A pull-down menu that lists the columns available in the current interface. Select the column to perform the search within.
Find What:	Specifies the characters, or text, to search the table contents.
Direction	Begins the search by searching below the currently selected row (Down), or above the selected row (Up).
Match whole word only	Select the check box to search only for the characters in the Find What: field as they are typed in the field. For example, typing "**`put`**" will search for instances of the word "put" and not "input" or "output".
Cancel	Cancels the search criteria and closes the Find menu.
Find	Performs a search through the table contents based on the specified criteria.

Advanced Fill Tool

The **Advanced Fill** tool is provided to create new destination and source labels that are automatically assigned to physical outputs and inputs depending on options set by the user. The audio routing features provided by the routers in your system can result in an extensive source and destination definition map requiring some time to manually enter. The **Advanced Fill** tool will speed the assignment of physical sockets greatly.

For More Information on...

- using the tool to set up your database, refer to "**Using the Advanced Fill Tool**".

Breakaway Fill Dialog

The **Breakaway Fill** dialog is the **Advanced Fill** tool for the **Sources** tab. This dialog is displayed when you click **Edit** > **Fill**.

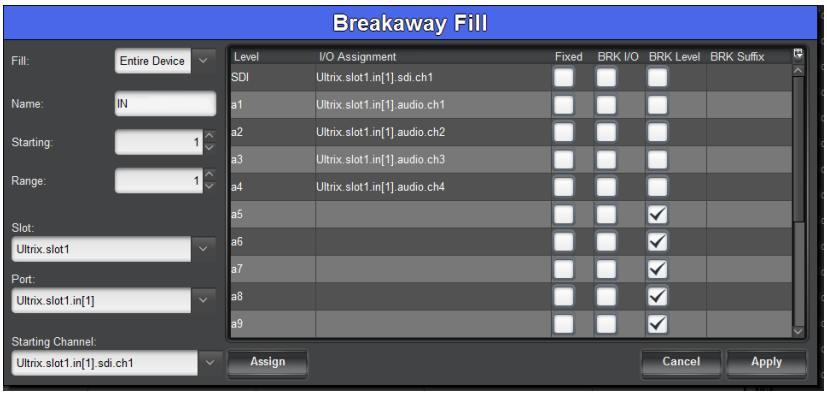


Figure 71 Example of a Breakaway Fill Dialog

Table 72 summarizes the options displayed in the **Breakaway Fill** dialog.

Table 72 Breakaway Fill Dialog

Item	Parameters	Description
Fill	Custom	Insert labels with assignments for a custom range defined by the Range setting
	Entire Slot	Insert labels with assignments for a single router slot (including the AUX ports on the Ultrix router)
	Entire Device	Insert labels with assignments for the entire router (including the AUX ports on the Ultrix router)
Name	<text>	The prefix for the label creation. For example, typing **VTR** results in labels **VTR1**, **VTR2**, etc. Take care when determining label names. While a long name may be nice and descriptive for the Source tab, many control devices have limited screen space and labels may be truncated.
Starting	#	The starting numerical extension for the label creation. For example, typing **3** results in labels **Name3**, **Name4**, etc.
Range	#	The quantity of labels for custom fill range
Slot	#	The Ultrix slot number to start the label assignment from[a]
Port	#	The Ultrix port to start the label assignment from[a]
Starting Channel	#	The Ultrix channel to start the label assignment from[a]
Level	#	This column lists the levels defined as per user entries in the system Levels setup table
I/O Assignment	#	This column lists the starting assignment for the given Level row
Fixed		Select the box to fix the I/O assignment selection even though it may be out of natural order compared to other I/O assignments. For example, `Ultricore CC.slot1.in[1].audio.ch1` and `Ultricore CC.slot2.in[1].audio.ch1`.

Table 72 Breakaway Fill Dialog

Item	Parameters	Description
BRK I/O		Select the box to insert a label with this I/O assignment on all BRK Level selections. For example, `IN 1 ch1 | slot1.in[1].audio.ch1 | slot1.in[1].audio.ch1 | slot1.in[1].audio.ch1.`
BRK Level		Select the box to include this level when creating a breakaway label. For example, `IN 1 ch1`.
BRK Suffix	<text>	By default, breakaway label naming uses the ch**x** part of the Ultricore CC name. A user defined suffix may be entered here.
Assign	Click this button to automatically fill the I/O Assignment column based on the **Slot**, **Port**, **Starting Channel** settings to the selected row(s).	
Apply	Click this button to insert labels with assignments based on dialog settings into the source assignment table below the current selected row.	
Cancel	Click this button to cancel the settings and close the dialog. No changes to the Source table will be made.	

a. The Breakaway Fill dialog uses the default naming convention of FrameName.slot n.in/out[p].type.chx.

Destinations Fill Dialog

The **Destinations Fill** dialog is the **Advanced Fill** tool for the **Destinations** tab. This dialog is displayed when you click **Edit** > **Fill**.

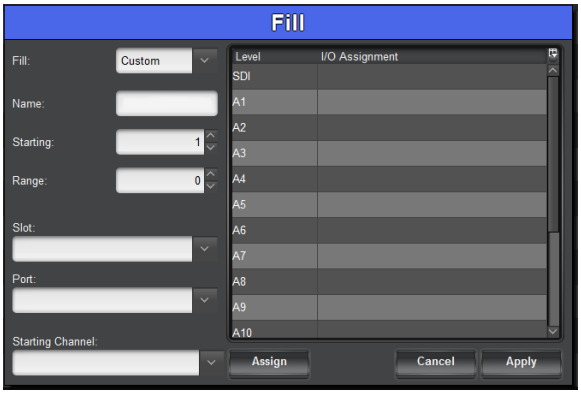


Figure 72 Example of a Destinations Fill Dialog

Table 73 summarizes the options displayed in the **Destinations Fill** dialog.

Table 73 Destinations Fill Dialog

Item	Parameters	Description
Fill	Custom	Insert labels with assignments for a custom range defined by the Range setting
	Entire Slot	Insert labels with assignments for a single router slot
	Entire Device	Insert labels with assignments for the entire router/device

Table 73 Destinations Fill Dialog

Item	Parameters	Description
Name	<text>	The prefix for the label creation. For example, typing `VTR` results in labels `VTR 1`, `VTR 2`, etc. Take care when determining label names. While a long name may be nice and descriptive for the Destination tab, many control devices have limited screen space and labels may be truncated.
Starting	#	The starting numerical extension for the label creation. For example, typing `3` results in labels `Name3`, `Name4`, etc.
Range	#	Specifies the quantity of labels for custom fill range
Slot	#	The Ultricore CC slot number to start the label assignment from[a]
Port	#	The Ultricore CC port to start the label assignment from[a]
Starting Channel	#	The Ultricore CC channel to start the label assignment from[a]
Level	#	This column defines the levels as per user entries in the system levels setup table
I/O Assignment	#	Starting assignment for the given level row
Assign	Click this button to automatically fill the I/O Assignment column based on the **Slot**, **Port**, and **Starting Channel** settings to the selected row/s	
Apply	Click this button to insert labels with assignments based on dialog settings into the source assignment table below the current selected row.	
Cancel	Click this button to cancel the settings and close the dialog. No changes to the Destination table will be made.	

a. The Fill Destination dialog uses the default naming convention of FrameName.slot n.in/out[p].type.chx.

Devices Interface

The Devices node summarizes the hardware components of the routing system. The nodes represent a hierarchy of the routing system communicating with the Ultricore CC.

Frame Configuration Interface

The Frame Configuration interface is divided into four areas, each accessed by clicking the corresponding button on the left toolbar of the interface.

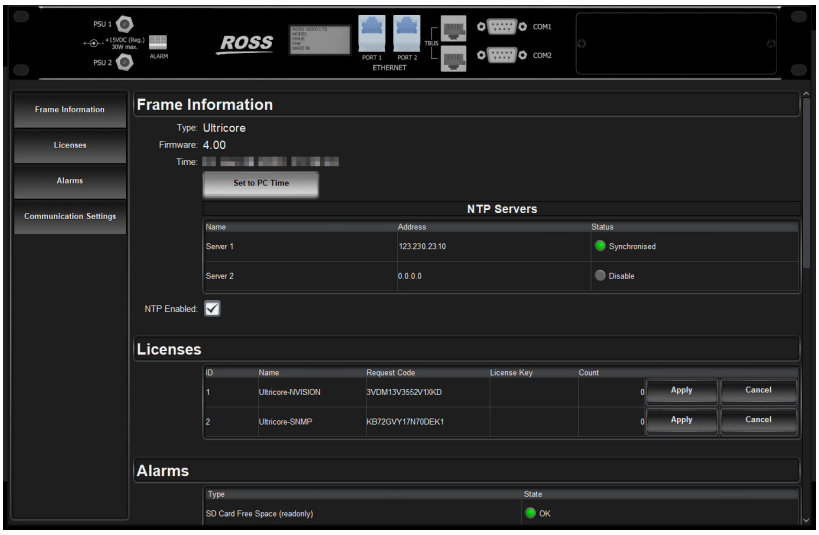


Figure 73 Example of Frame Configuration Interface

Frame Information

Below the Frame Inventory table are the fields that report status information on the Ultricore CC hardware such as the version of the system firmware and reporting the current date and time. From this area you can also specify the NTP Server to be used as the time source for the Ultricore CC.

Licenses

Use the options in the Licenses area to manage the licensed features for your Ultricore CC. From here you can view which licensed features are enabled, and enter license keys for new features.

Alarms

From the Alarms table you can specify what components the Ultricore CC monitors such as the SD Card, the chassis battery, and the ENET ports.

By default, the Ultricore CC monitors the following components (these options in the Alarms table are enabled):

- SD Card Free Space
- SD Card Presence
- Battery

The Alarms table also displays read-only State column that reports the status of each enabled alarm using color indicators which vary in severity from green (valid), yellow (caution), to red (alarm). For example, if the SD Card status is set to red in the Alarms table, an SD Card is not detected or the SD Card not mounted correctly inside the chassis.

Communication Settings

The Frame Communications area enables you to monitor the status of the Ethernet connections of the Ultricore CC. From here you can verify the network settings of the active Ethernet port on the chassis, and view the mode of the control system (primary/client).

Serial Ports

The Serial Ports area enables you to monitor the COM1 and COM2 ports on the Ultricore CC chassis. Each enabled alarm using color indicators which vary in severity from green (valid), yellow (caution), to red (alarm).

Controllers and Matrices

Under the **Controllers + Matrices** node provides an inventory of remote control devices and routers that make up your routing system, and have a defined connection to Ultricore CC.

- A **Matrix** is, generally speaking, a simple router consists of a matrix and a limited control system.
- A **Controller** is a complex router consisting of many matrices and its own control system.

Expanding the **Controllers and Matrices** reveals devices defined by rows in the Database Matrices tab. Double clicking the node for the device opens the setup options for that particular device in DashBoard.

Ross Video devices that previously displayed in the Tree View as a sub-node of their IP connection point (i.e. NK-NET or IPS), are now relocated to the **Controllers and Matrices** node of Ultricore CC once they are defined in the Database Matrices tab. This indicates the device in question is now part of the Ultricore CC control system.

Panels

The **Panels** node provides a list of physical remote control panels within the routing system. For example, if you have any RCP-ME or an RCP-QE setup in your system, each device would display as a sub-node under the Panels node. Double-clicking the sub-node updates the DashBoard client window with the interface for that remote control panel.

Soft Panels Interfaces

The Soft Panels interface represents the routing system crosspoint control in the virtual space of the Ultricore CC. Each available soft panel in the database displays as a sub-node under the Soft Panels main node in a tree layout. The soft panels display in a hierarchy based on their Panel ID. Double-click a soft panel node to display its interface in the DashBoard window. There are three types of soft panels: Matrix, MultiBus, and Category.

✶ You must configure your connections, sources, destinations, and levels, before you can create a soft panel and perform crosspoint switches.

For More Information on...

- creating a database for your routing system, refer to "**Creating a New Database**".
- the interface for creating soft panels, refer to "**Soft Panels Interfaces**".
- using soft panels, refer to "**Soft Panels in DashBoard**".
- creating and using salvos, refer to "**Using Salvos**".

Matrix Panel

The Matrix Panel provides a visual representation of multi-level crosspoints, in a grid layout, and offers a convenient and easy way to select and switch crosspoints. The columns of the grid represent the configured Sources and are labeled with the labels specified in the Input Name cells of the Sources tab. The rows of the grid represent the configured Destinations and display the labels specified in the Destination tab.

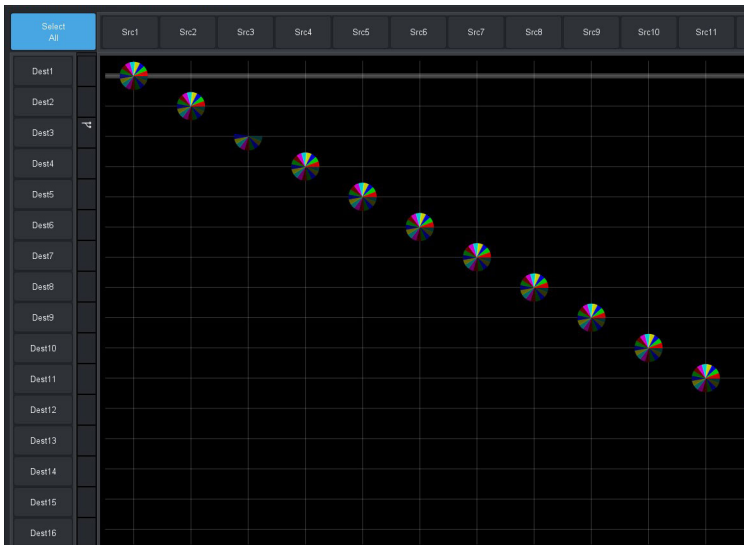


Figure 74 Example of a Matrix Panel

Right-side Toolbar

Table 74 summarizes the buttons displayed in the toolbar on the right-side of the interface.

Table 74 Matrix Panel Toolbar Items

Button	Description
Level #	Each configured level in the currently active database is represented with a button. When selected, the button is lit with the color assigned to the level. Crosspoint selections on the matrix are also lit this color when the level is included in the next switch.
Follow	Automatically selects all the Level buttons listed on the Matrix panel (buttons are now lit). All levels are now included in next crosspoint selection.
TAKE	Performs a Take transition to the next crosspoint selection.
Lock	Locks the Matrix panel from all switches or function button operation.
Protect	Protects the currently selected source/destination level pair from use by other sources, as well as from other linked panels.
Free	Removes the Lock and Protect from the next crosspoint switch.
Salvo	Displays the options for managing the salvos for your soft panel. Refer to "**Salvo Menus**" for details.
Advanced	Displays the options for managing crosspoint switches on your soft panel. Refer to "**Advanced Menus**" for details.

Salvo Menus

Table 75 summarizes the options displayed in the **Salvo** menu.

Table 75 Matrix Panel — Salvo Menus

Button	Description
Recall	Recalls and applies the last saved salvo settings.
Edit	Enables you to load a salvo, update its settings, and then save your changes.

Table 75 Matrix Panel — Salvo Menus

Button	Description
Save	Saves the current crosspoint selection as a local salvo.
Capture Current Status	Automatically creates a salvo based on the currently selected destination and source positions.
Capture Dest Status	Automatically creates a salvo based on the currently selected destination positions.

Advanced Menus

Table 76 summarizes the options displayed in the **Advanced** menu.

Table 76 Matrix Panel — Advanced Menus

Button	Description
Clear All Presets	Removes all selections currently made on the soft panel and returns the panel to its default destination and source selections.
Clear Dest Presets	Removes only the selections made on the Destinations bus. No destination buttons are selected.
Diagonal Presets	The destination and source crosspoint selections are automatically made starting at the top left corner and progressively moving down the grid in a 1:1 pattern. For example, Src1 and Dest1, Src2 and Dest2, Src3 and Dest3 etc.
R-Diagonal Presets	The destination and source crosspoint selections are automatically made starting at the top right corner and progressively moving down the grid in a 1:1 pattern. For example, Src10 and Dest1, Src9 and Dest2, Src8 and Dest3 etc.
Setup Automation	Automatically loops the crosspoint switches for the specified length of time.
Stop Automation	Stops the automatic loop of crosspoint switches that was initiated using the Setup Automation option.

MultiBus Panel

The MultiBus Panel provides breakaway control and status monitoring of several destinations simultaneously. The MultiBus Panel interface is organized into two buses with a central status row of indicators for the levels. The toolbar on the far left of the interface provides options for locking and protecting crosspoints, setting up the transition, and selecting the levels. The bottom row of the interface is populated with buttons for the salvos defined in the database.

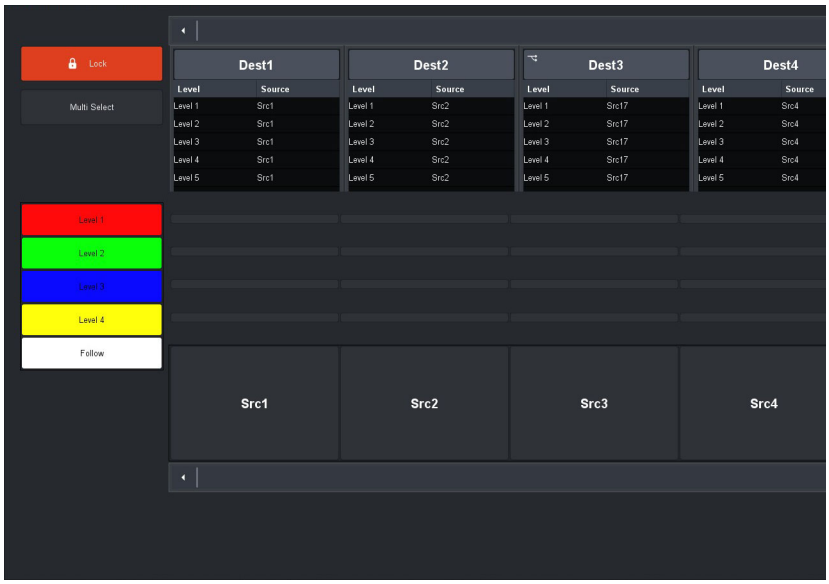


Figure 75 Example of a MultiBus Panel

Left Toolbar

Table 77 summarizes the fields and information displayed in the left toolbar of the **MultiBus Panel**.

Table 77 MultiBus Panel — Left Toolbar Items

Button	Description
Lock	Locks the MultiBus panel from all switches or function button operation.
Take	Performs a Take transition to the next crosspoint selection.
Preset	Enables you to configure a crosspoint switch that will not take effect until the Take button is selected.
Clear	Clears the selections in the crosspoint buses. No buttons are lit and the fields in the Destination buses are blank.
Multi Select	Enables you to assign a single source to multiple destinations for a multi-switch configuration.
Level #	Each configured level in the currently active database is represented with a button. When selected, the button is lit with the color assigned to the level. Crosspoint selections on the matrix are also lit this color when the level is included in the next switch.
Follow	Automatically selects all the Level buttons listed on the Matrix panel (buttons are now lit). All levels are now included in next crosspoint selection.

Destinations Bus

Each Destination is represented as a distinct box on the top bus of the MultiBus Panel. **Figure 76** provides an example of a Destination bus. The Destination bus only displays the destinations specified when the soft panel was configured.

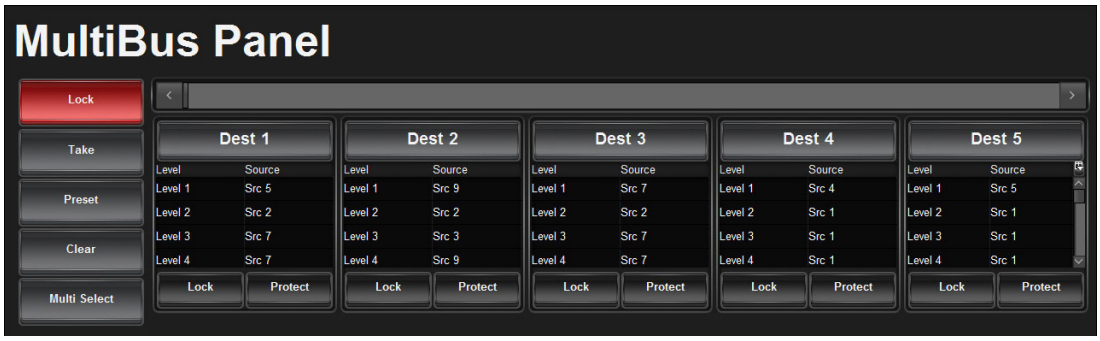


Figure 76 Example of a Destination Bus on the MultiBus Panel

Table 78 summarizes the buttons displayed for each Destination in the **MultiBus Panel**.

Table 78 MultiBus Panel — Destination Items

Button	Description
Name	The Destination name/label is reported at the top of each area and displays as a selectable button. This enables for quick identification on the bus when selecting crosspoint switches. The Destinations available on the bus is dependent on the database currently loaded on the router and how many destinations were specified when the soft panel was configured.
Level #	This field reports the level(s) that the destination was associated with on the last crosspoint switch.
Source #	This field reports the source(s) currently selected on the Source bus located near the bottom of the MultiBus Panel interface.
Lock	Locks the Destination from all switches or function button operation.
Protect	Protects the currently selected Destination from use by other sources, as well as from other linked panels.

Sources Bus

Each Source is represented as a distinct button on the bottom bus of the MultiBus Panel. **Figure 77** provides an example of a Source bus. The Source bus only displays the sources, and in the hierarchy, specified when the soft panel was configured.

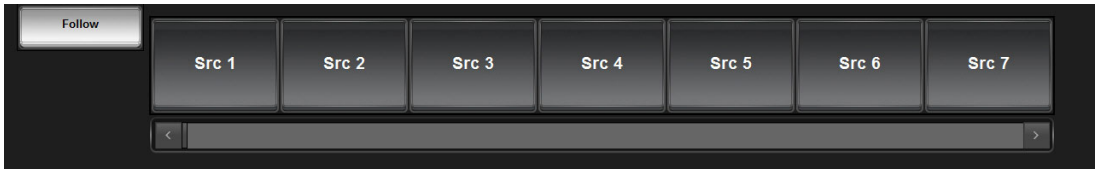


Figure 77 Example of a Source Bus on the MultiBus Panel

Category Panel

There are two types of Category Panels: Classic and Group. Each Category Panel organizes the sources and destinations according to the definitions set in the applicable Category interface for the database. The top toolbar is used in conjunction with the central button matrix for selecting sources and destinations. The left side of the interface provides access to level selection, and reports on the breakaway status with fields for each level. Some functions are category type specific. Refer to "**Using Category Panels**" for details.

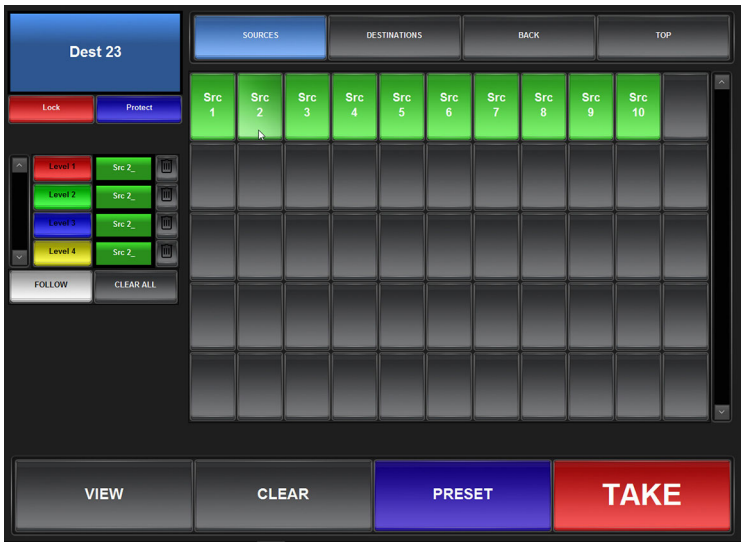


Figure 78 Example of a Category Soft Panel for an Ultricore CC

Ultritouch PB Panels

You can control an Ultrix router via Ultritouch by loading a saved soft panel using the Ultritouch hard panel interface. Loading a soft panel to Ultritouch requires a similar method as loading a soft panel in the Ultrix and/or Ultricore menu system. You select the device in the Ultritouch > All Connections interface, navigate to the specific soft panel you wish to load, and select it from the provided list.

Figure 79 Example of an Ultritouch Soft Panel

For More Information on...

- the creating and using Ultritouch soft panels, refer to the ***Ultritouch + Ultricore CC User Guide***.

Push Button Panels

The Push Button Panel interface is organized into four distinct areas. The top area displays the Destinations, the middle row includes the Source buttons, and each area includes an independent method for filtering the buttons. A toolbar displays on the right to provide access to the level buttons, and includes a status field. The bottom toolbar provides options for locking and protecting crosspoints, setting up the transition, selecting salvos, and other functions.

Figure 80 Example of a (Landscape) Push Button Soft Panel

For More Information on...

- the creating and using Push Button soft panels, refer to "**Using Push Button Panels**".

Using Walkabout in DashBoard

Walkabout is a Ross router utility operating within DashBoard, as of DashBoard version 6.2, that enables you to configure the network settings for NK devices. Once a valid connection is established with Walkabout, the device is listed in the Tree View of DashBoard and available for monitoring and configuration via DashBoard.

Ultricore CC supports a basic configuration mode via the Walkabout system for initial configuration of IP settings:

- specify device IP settings and names
- specify a name for your routing system
- specify the system role (e.g. primary, backup, device)
- select a system to join from a list of valid system names assigned to controllers
- set communications server from a list of valid communication server devices (or IP)

For More Information on...

- the features of Walkabout, refer to the Ross Video document ***Configuring Devices Using Walkabout***.
- using Walkabout and Ultricore CC, refer to "**Using Walkabout to Assign an IP Address to the Ultricore CC Panel**".

Technical Specifications

This chapter provides technical information for Ultricore CC. Note that specifications are subject to change without notice.

Ethernet Ports

Each Ethernet port uses a single 9-pin, RJ45 connector to interface with a local network, RCP-ME, RCP-QE, and other devices that use an ethernet protocol for communications. The Ethernet ports are operated in a link aggregated or bonded configuration to provide failover functionality.

Specifications

Table 79 Technical Specifications — Ethernet Ports

Item	Specifications
Standards Accommodated	1000BASE-T (GbE) network
Connection	RJ45

ALARM Connector

The ALARM connector on the Ultricore CC rear panel is used to configure alarm during loss of power to the panel.

Specifications

Table 80 Technical Specifications — GPO Alarm Port

Item	Specifications
Alarm	Mechanical relay normally closed output
Connection	3-pin header

Pinouts

Refer to **Figure 82** and **Table 81** for the pinout assignment of the ALARM port on the Ultricore CC rear panel.

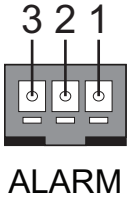


Figure 81 ALARM Connector on Ultricore CC Rear Panel — Pinouts Assignment

Table 81 GPO Alarm Pinouts

Pin Number	Function
1	Ground
2	Alarm Output
3	+5VDC 22mA max.

Refer to **Figure 82** for the signal pinouts for the 3-pin connector plug.

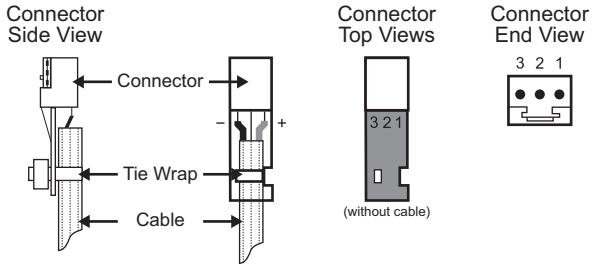


Figure 82 Connector Plug — Pinouts for GPO Alarm Port

Serial Ports

The COM 1 and COM 2 ports on the Ultricore CC rear panel are used to connect to a third-party device that communicates via a supported serial protocol.

Specifications

Table 82 Technical Specifications — Serial Ports

Item	Specifications
Standards Accommodated	RS-232/RS-422 (switchable) serial
Maximum Baud	115200
Connection	DB9 female

Pinouts

This section outlines the signal pinouts for the two COM ports.

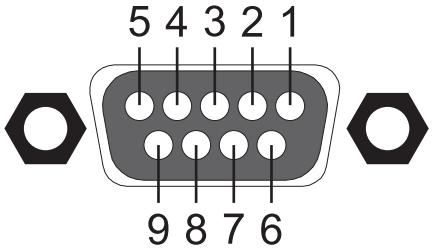


Figure 83 Pinouts for Serial Ports

Table 83 Serial Pinouts

Pin Number	RS-232 Function	RS-422 Function
1	N/C	N/C
2	Tx	-Rx
3	Rx	+Tx
4	N/C	N/C

Table 83 Serial Pinouts

Pin Number	RS-232 Function	RS-422 Function
5	Ground/shield	Ground/shield
6	N/C	N/C
7	N/C	+Rx
8	N/C	-Tx
9	N/C	N/C

T-Bus Ports

The T-Bus ports on the Ultricore CC rear panel are used for connecting to Ross NK Series devices that communicate via the T-Bus protocol.

Specifications

Table 84 Technical Specifications — T-Bus Ports

Item	Specifications
Standards Accommodated	Ross Video proprietary T-Bus
Cabling Type	CAT3 or better
Connection	8P8C modular jack

Pinouts

This section outlines the signal pinouts for the two T-Bus ports.

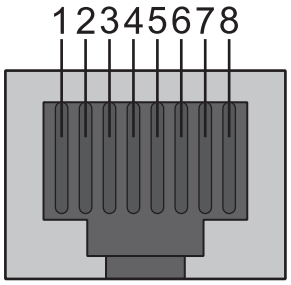


Figure 84 Pinouts for T-Bus Ports

Table 85 T-Bus Pinouts

Pin Number	Function
1	Ground
2	Ground
3	+Tx/Rx
4	N/C
5	N/C
6	-Tx/Rx
7	+15 VDC[a]
8	+15 VDC[a]

a. 7W total for both ports and not 7W each.

Power

The two power ports on the Ultricore CC rear panel deliver AC power.

Table 86 Technical Specifications — PSU

Item	Specifications
Output	15VDC @ 4A
Output Power	60W
Input	100-240V~, 50-60Hz, 1.5A

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zlib

The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files ftp://ds.internic.net/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format).

Glossary

The following terms are used throughout this guide:

Breakaway — an act of performing a switch on only some of the signals grouped together under one label.

Connection Point — setting to define a communication connection between Ultricore CC and a device in the routing system.

Crosspoint — a switch within a matrix. For example, the connection of signal IN 1 to OUT 1 requires one crosspoint.

Destination — a signal output from the routing system.

IP Address — a setting that defines the Internet protocol address of a device within a network.

Label — text that is used by control displays to identify a signal as an input or output.

Level — refers to a section of a routing system. For example, a video router would be one level and an audio router would be a second level.

Logical (virtual) Label — a name for a group of routing system inputs or outputs.

Logical (virtual) Routing — the action of switching a group of otherwise unrelated signals via a common label (name).

Macro — a recorded sequence of Remote Control Panel operations (local to the panel).

Map — a table that defines the allocation of names (labels) to router input and output sockets.

Matrix — the part of the routing system that performs the actual signal switching tasks.

Partition — matrices may be partitioned to behave as smaller independent matrices.

Remote Control Panel (RCP) — a physical hardware panel of buttons that is used to control the routing system.

Resource — a source or destination of a router configuration; an external device providing some conversion functionality for use within the routing control system.

Salvo — a system wide sequence of matrix control operations and crosspoint actions.

Soft Panel — a DashBoard interface that represents a panel of buttons that is used to control the routing system.

Source — a signal input to the routing system.

T-Bus — the Ross Video proprietary routing communication method via a defined physical interface.

Virtual Label — a name for a group of routing system inputs or outputs.

Virtual Routing — the action of switching a group of otherwise unrelated signals via a common label (name).