BrightEye™
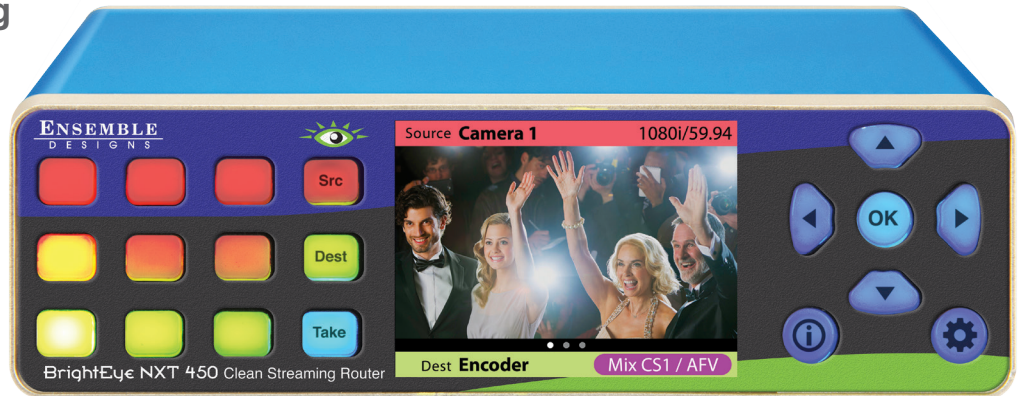
BrightEye NXT 450 Clean Streaming Router Quick Start Guide

A powerful combination of signal processing and switching
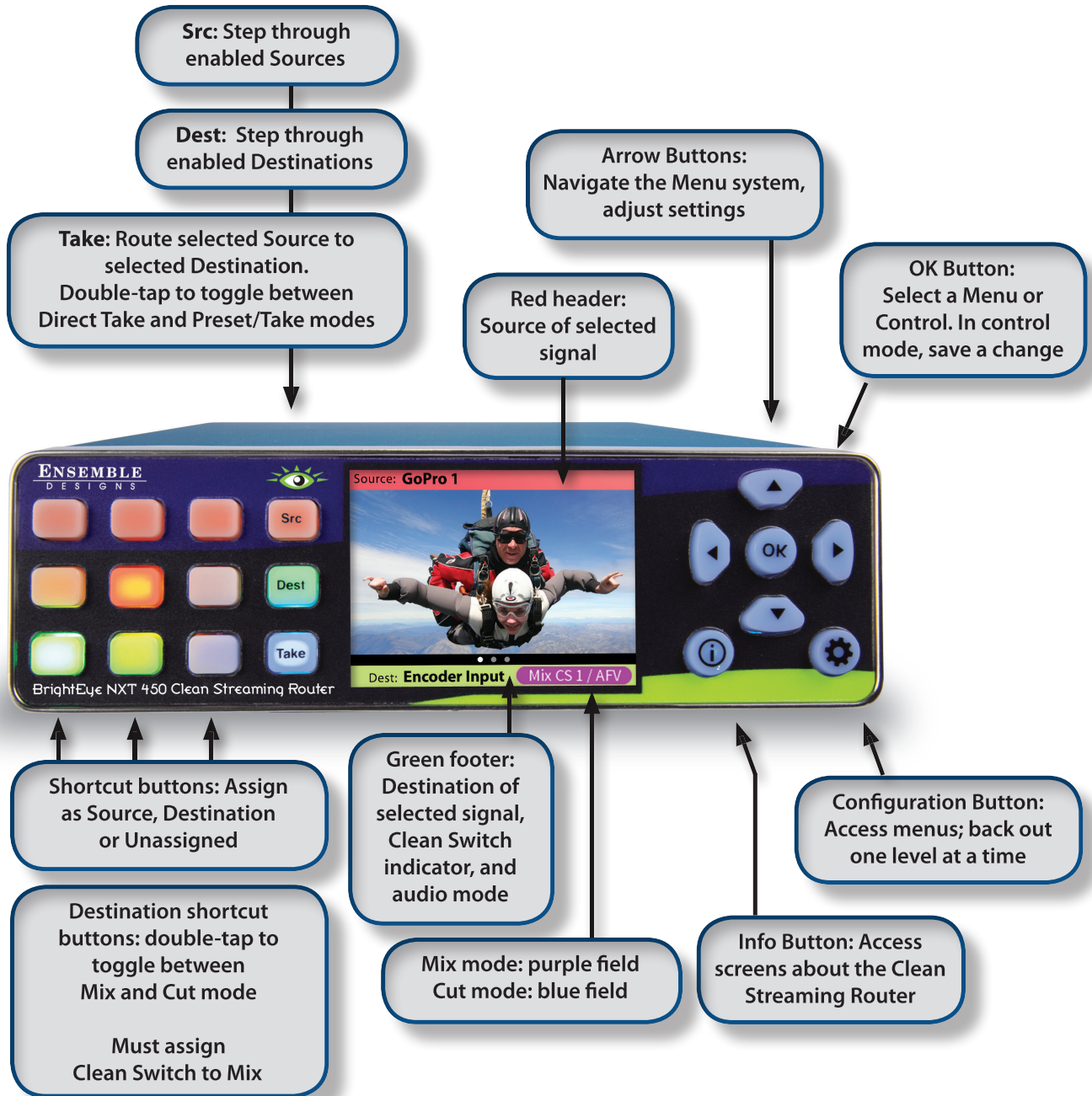

ENSEMBLE DESIGNS

Source **Camera 1** 1080i/59.94

Dest **Encoder** Mix CS1 / AFV

BrightEye NXT 450 Clean Streaming Router

H.264 Encoding/Decoding

Dual Up/Down/Cross Converters

For 3G/HD/SD SDI, HDMI, Fiber and Streaming

ENSEMBLE
D E S I G N S

Front Panel Controls

Src: Step through enabled Sources

Dest: Step through enabled Destinations

Take: Route selected Source to selected Destination. Double-tap to toggle between Direct Take and Preset/Take modes

Arrow Buttons: Navigate the Menu system, adjust settings

Red header: Source of selected signal

OK Button: Select a Menu or Control. In control mode, save a change

Source: **GoPro 1**

Dest: **Encoder Input** Mix CS 1 / AFV

BrightEye NXT 450 Clean Streaming Router

Shortcut buttons: Assign as Source, Destination or Unassigned

Destination shortcut buttons: double-tap to toggle between Mix and Cut mode

Must assign Clean Switch to Mix

Green footer: Destination of selected signal, Clean Switch indicator, and audio mode

Mix mode: purple field Cut mode: blue field

Info Button: Access screens about the Clean Streaming Router

Configuration Button: Access menus; back out one level at a time

Rear Connectors

GigE Streaming Media I/O Port

Send and receive unicast, multicast, MPEG-4 transport streams; receive MPEG-2 transport streams

Encode and decode signals simultaneously using the unit's full duplex codec

Decode to 3G, HD or SD SDI with embedded audio

Cleanly switch or dissolve signals arriving through MPEG alongside SDI/HDMI/Fiber sources; stream them live through the H.264 encoder

SDI I/O Ports (Sources or Destinations)

Two SFP Ports

Connect fiber optic or SDI signals, two I/O connections per port; HDMI one I/O connection per port

Media Network — I/O 6 — I/O 7 — SFP I/O 8/9 — SFP I/O 10/11

Control Network — In 1 — In 2 — I/O 3 — Out 4 — Out 5 — Ref In — GND / +12VDC 2.5A — BE NXT 450

Control Network Ethernet Port

For operational control and setup of the router from any browser-enabled device

SDI Inputs (Sources)

SDI Outputs (Destinations)

Power

SDI I/O Port 3 (Source or Destination)

Use the Ref In BNC if you need to genlock the unit, including encoding and decoding

Ventilation

Maintaining proper airflow is required to keep the NXT's internal temperature normal. Air input occurs below the front panel. Air output occurs through the rear panel. If placing the unit on a surface, the four feet must be mounted on its base. If mounted in a rack, the unit must be installed in such a way that the air flow on the front and rear is not restricted. Our BERKMT-Full rack mount kit, designed for this purpose, holds up to 3 NXT units in a 1RU rack.

Connecting Cables to Ports

Default Port Configurations

The default port configurations are shown below. Ports that are Unassigned, such as Port 3, can be configured from the front panel either as a Source or Destination, as described on page 7. The two Clean Switches (CS) can be assigned to Destinations as described on page 10.

In 1: Source	I/O 6: Unassigned	TSG 1: Source
In 2: Source	I/O 7: Unassigned	TSG 2: Source
I/O 3: Unassigned	SFP I/O 8/9: Unassigned	CS 1: Unassigned
Out 4: Destination	SFP I/O 10/11: Unassigned	CS 2: Unassigned
Out 5: Destination		

Connect Reference If Needed

The BrightEye NXT locks to house reference or to its own internal precision standard. Select Internal or External from the Timing & Genlock menu.

Connect Power Supply

Connect the power supply that is provided with the BrightEye NXT 450. The boot up process takes approximately one minute.

Note: The BrightEye NXT 450 must be powered by its own product-specific power supply that comes with the unit. This is a 5 amp single power supply, Ensemble Designs part number 23600106, order info: BEPS-NXT. DO NOT use a BrightEye Spider power supply (BEPS6) or a BrightEye Individual power supply (BEPS, ED part number 23118900).

Selecting Sources and Destinations and Making a Cross Point Switch

Preset/Take Panel Mode

Use the **Dest** button to step through the Clean Streaming Router's Destinations. The unit's LCD will show the signal on each Destination. Stop on the Destination you want to use.

Likewise, use the **Src** button to step through and then select a Source. The LCD will display the Source, whether it's a video input or an internal test signal.

Once you've selected a Destination and a Source, press **Take** to make a cross point switch.

Direct Take Panel Mode

Double-tap the **Take** button to enter Direct Take panel mode. In this mode, selecting an assigned source shortcut button instantly makes a cross point switch to the already-selected destination. Double-tap the **Take** button again to return to Preset/Take mode.

Mix Transition Panel Mode

For destinations that are going through a Clean Switch, you can mix transitions from the front panel using configurable transition durations. Switch between Mix mode and Cut mode by double-tapping the assigned destination shortcut button. Adjust the transition duration through the **Panel Config** menu.

Front Panel Navigation

Press (⚙) to bring up the configuration menus on the front panel screen.

Use the (⬍) arrows to scroll through the configuration menus, navigate submenus, or to change the values of a selected setting.

Press (▸) or (OK) to drop down successive levels within a menu.

Press (◂) or (⚙) to come back up one menu level.

Pressing any operational button—any button to the left of the screen—will take you immediately from configuration mode to the unit's operational mode.

After approximately 30 seconds of inactivity of the configuration controls, the Clean Streaming Router's screen will time out and revert to operational mode.

Panel Config

Shortcuts
    Button Assignments
Tran Duration
    30 frames
Panel Mode
    Preset / Take
Panel Brightness
    80 percent

Ports

Input #1
    Input 1
Input #2
    Input 2
I/O #3
    Port 3
Output #4
    Output 4

Clean Switch 1

Assignment
    SDI Encoder
Standard
    1080i/59.94
V Timing
    0 lines
H Timing
    0 clocks

Media Network

Mode
    Static
Address
    10.123.56.104
Subnet Mask
    255.255.0.0
Gateway
    10.123.123.1

High Res Encoder

Video Bit Rate
    8000 Kb/s
Profile
    High
Level
    Level 4.0
Audio Bit Rate
    128 Kb/s

Decoding

Input
    Unicast
Unicast Rcv Port
    2060
Multicast Src IP Adr
    239.255.255.100
Multicast Src Port
    1800

Unicast A

Enable
    On
Source
    High Resolution
Dest IP Adr
    192.168.1.150
Dest Port
    1234

Front Panel Router Configuration Menus
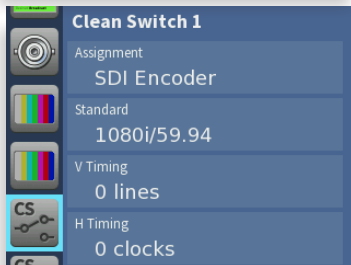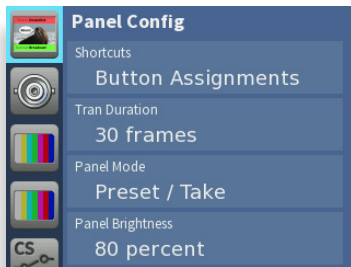
Panel Config	Assign shortcut buttons, adjust mix transition durations, select preset/take or direct take mode, adjust panel brightness, number of audio meters, meter reference level, peak display, disable live video
Ports	Name Sources and Destinations, define ports as inputs or outputs as needed
TSG1	Select a test signal, choose its standard, adjust test signal output timing, configure slate, enable audio groups, select tone frequency
TSG2	Same set of controls as for TSG1
Clean Switch 1	Assign the clean switch to an output, set its standard, adjust vertical and horizontal timing, enable audio groups, choose audio source settings, audio type (embedded or AES), split mode settings, SD > HD Pillar Box settings, HD > SD Letter Box settings
Clean Switch 2	Same set of controls as for Clean Switch 1
Media Network	Configure the Streaming Media I/O Port's network settings
High Res Encoder	Configure video bit rate, profile, encoding level, audio bit rate, assign PIDs
Low Res Encoder	Same controls as High Res Encoder but with lower bit rates
Decoding	Select input, unicast receive port, multicast source IP address, multicast source port, output format
Unicast A	Turn on or off, select high or low resolution, set the destination IP address, the destination port, TTL (time to live), packet size, source port
Unicast B	Same set of controls as for Unicast A
Multicast	Turn on or off, select high or low resolution, set the destination IP address, the destination port, TTL (time to live), packet size, source port
Timing & Genlock	Select between external and internal reference, get info about reference status and the system frame rate (determined by TSG1)
Network	Change the IP address and other network settings
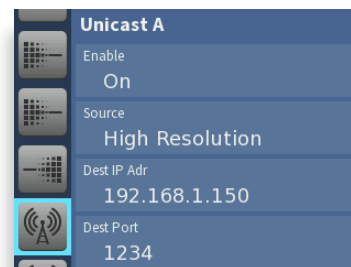
Assigning Shortcut Buttons

Assign Sources and Destinations to the nine shortcut buttons in order to streamline router operation. You can have any combination of Source buttons and Destination buttons.

Press ⚙ to get to the configuration menus. **Panel Config** is the first configuration menu. If needed, use the ⌃ arrow to navigate to **Panel Config**.

Press ▶ or (OK) twice to select **Shortcuts** and then go to the Shortcuts Button Assignments map. Use the ◀▶ arrows to select the shortcut button you want to configure.

Use the ⬍ arrows to select a Source or Destination to assign to the selected shortcut button. A button can also be unassigned.

After you've finished assigning shortcuts, press (OK) to save, or press ⚙ to cancel.

Configuring Ports

Some of the Clean Streaming Router's ports are fixed as inputs or outputs, whereas the flexible I/O ports can be configured as inputs or outputs. Naming the ports can make router operation more intuitive.

Press ⚙ to get to the configuration menus. Use the ⬍ arrows to navigate to the **Ports** menu.

Press ▶ or (OK) to highlight Input #1.

Use the ⬍ arrows to select the port you want to assign.

Press ▶ or (OK) to go to **Ports Configuration**. Use the ⬍ arrows to select the port's assignment. Available choices reflect the type of port you are working with.

Press (OK) to set your new port configuration selection, or press ⚙ to cancel your selection.
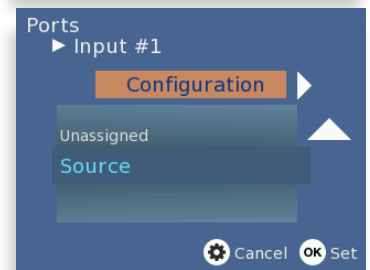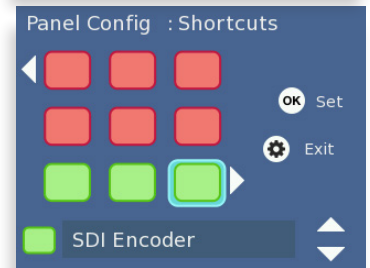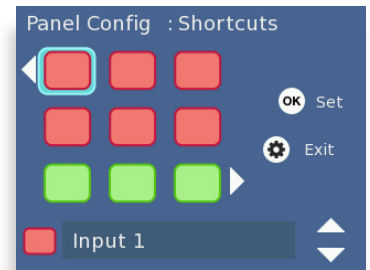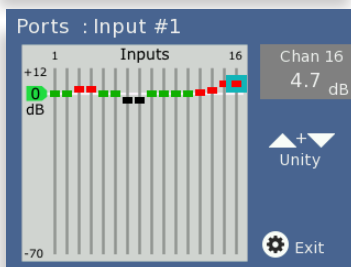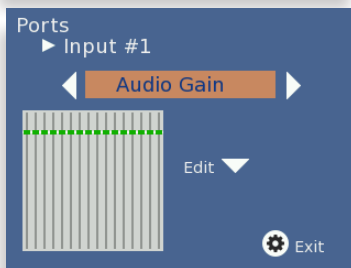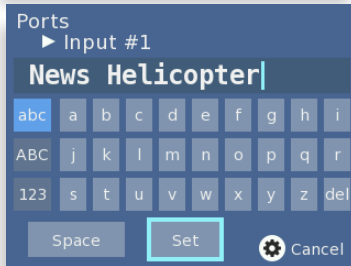
Naming Ports

Port names are shown on the LCD panel. The red header shows the current source port name; the green footer shows the current destination port name.

From **Ports Configuration**, press ⊳ to enter the **Port Name** menu. Then press ⊽ to go to the front panel keyboard menu.

Use the ⇅ and ⊲ ⊳ arrows to highlight the letter you want to enter. Press OK to enter the highlighted letter into the label area. Change case by highlighting and selecting either "abc" or "ABC." To backspace or delete letters one at a time, highlight the "del" key, then press OK . When finished editing, highlight "Set," then press OK .

Adjusting Audio Levels

When the signal is output through a Clean Switch, you can adjust audio levels on a per-input and per-channel basis. The BrightEye NXT 450 can apply gain or attenuation from +12.0 dB to -70 dB. When the Clean Switch is in Mix mode, the audio output will properly mix between the adjusted settings of one input to the adjusted settings of the new source.

From the **Port Name** menu, press ⊳ to enter the **Audio Gain** menu. Then press ⊽ to go to the **Audio Gain** editing screen. Use the arrows to select one channel at a time and adjust its levels. Press and hold ⊲ or ⊽ to accelerate the rate of adjustment. When finished, press ⚙ to return to the **Audio Gain** menu.

Mapping Audio Channels

From the **Audio Gain** menu, press ⏵ to access the **Audio Map** menu. Then press ⏷ to go to the **Audio Map** editing screen.

Each point on the audio map represents a potential cross-point for a specific audio channel Input and audio channel Output. By default, Input 1 is mapped to Output 1, Input 2 is mapped to Output 2, and so forth.

To edit the audio map, use the arrows to select a point on the grid. Press ⓞⓚ to toggle between purple and gray. When purple, the cross-point is active. When gray, the cross-point is not active.

When finished, press ✿ to exit.
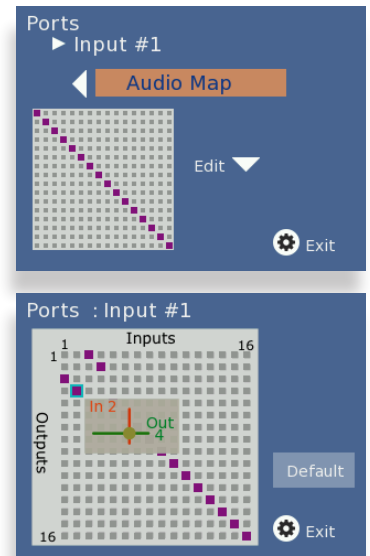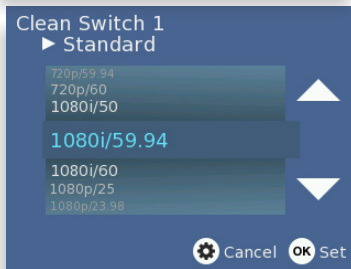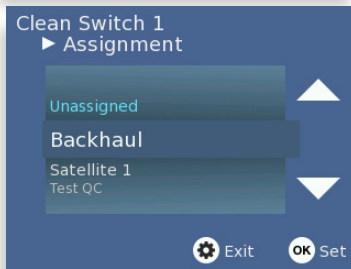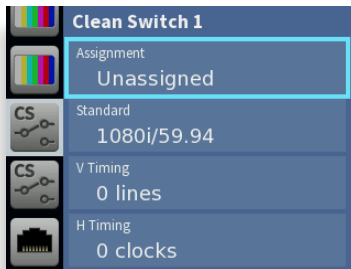
Clean Switching and Up/Down/Cross Conversion

Both of the BrightEye NXT 450's clean switches have frame synchronizers, enabling you to switch between asynchronous sources without glitches or pops. Both clean switches also have up/down/cross converters. Simply by setting the output standard of each clean switch, configured independently, they automatically convert any SMPTE broadcast resolution source to your chosen output standard, regardless of the signal's incoming format.

There are controls to adjust the output timing of the clean switch with respect to the genlock reference. If you are using embedded audio, enable the appropriate audio groups.

Assigning a Clean Switch to a Router Destination

Press (⚙) to get to the configuration menus. Use the ⇕ arrows to navigate to the **Clean Switch 1** or **Clean Switch 2** configuration menu.

Press (▶) or (OK) to highlight the **Assignment** submenu. Then press (▶) or (OK) to go to **Assignment** selection.

Use the ⇕ arrows to select the Destination port to which you want to assign the selected Clean Switch.

Press (OK) to set your new selection, or press (⚙) to cancel.

Setting the Output Standard

While in the **Clean Switch** menu, press (▼) to navigate to the **Standard** menu. Press (OK) to select it.

Use the ⇕ arrows to select the standard you want the Clean Switch to use.

Press (OK) to confirm your new Clean Switch standard, or press (⚙) to cancel.

Encoding

The BrightEye NXT 450 Clean Streaming Router contains both a full featured encoder and a decoder. Because the encoder and decoder are completely independent, they can be used independently or together.

You can route any 3G/HD/SD SDI baseband source that is connected to the NXT 450 to its internal MPEG-4 H.264 encoder. The encoder simultaneously produces a high resolution output for broadcast and a low resolution output for mobile and hand-held devices. The encoder's DVB-ASI formatter provides the option of sending encoded signals back to the routing matrix as a DVB-ASI signal. You can then deliver the signal to a BNC output or to fiber for delivery to a distant location.

Configuring the Encoder's Bit Rate

Higher bit rates accommodate higher image quality. Balance image quality needs with networking bandwidth considerations.

Default High Resolution Encoder Bit Rate: 8000 Kb/s
Default Low Resolution Encoder Bit Rate: 1500 Kb/s
Min: 500 Kb/s
Max: 30,000 Kb/s

Press (✿) to get to the configuration menus. Use the ⬆⬇ arrows to navigate to the **High Res Encoder** or **Low Res Encoder** configuration menu.

Press (▶) or (OK) to highlight the **Video Bit Rate** submenu. Then press (▶) or (OK) to go to **Assignment** selection.

Use the ⬆⬇ arrows to select the video bit rate you want to use. For example, 8000 Kb/s would be 8 megabits.

Press (OK) to set your new selection, or press (✿) to cancel.

High Res Encoder

Video Bit Rate
8000 Kb/s

Profile
High

Level
Level 4.0

Audio Bit Rate
128 Kb/s

High Res Encoder
► Profile

Baseline
Main

High

⚙ Exit   OK Set
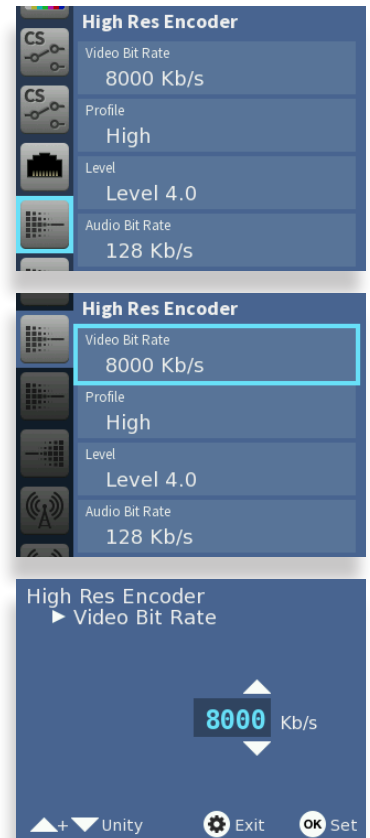
Selecting the Encoder's Profile

Choose Baseline for applications such as video conferencing or mobile. Choose Main for applications such as SD broadcasting. Choose High for applications such as HD broadcasting.

While in the **High Res Encoder** or **Low Res Encoder** menu, as applicable, press ⌄ to navigate to the **Profile** menu. Press (OK) to select it.

Use the ⌃⌄ arrows to select Baseline, Main or High.

Press (OK) to set your selection, or press ⚙ to cancel.

High Res Encoder

Video Bit Rate
8000 Kb/s

Profile
High

Level
Level 4.0

Audio Bit Rate
128 Kb/s

High Res Encoder
► Level

Level 3.0
Level 3.1
Level 3.2

Level 4.0

Level 4.1
Level 4.2

⚙ Exit   OK Set
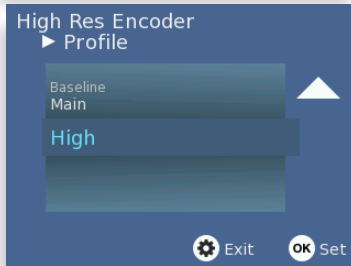
Selecting the Encoder's Level

Available selections: Level 3.0, 3.1, 3.2, 4.0, 4.1, 4.2. Encoding levels specify the maximum picture resolution, frame rate, and bit rate that the encoder uses.

While in the **High Res Encoder** or **Low Res Encoder** menu, as applicable, press ⌄ to navigate to the **Level** submenu. Press (OK) to select it.

Use the ⌃⌄ arrows to select the encoding level you require.

Press (OK) to set your selection, or press ⚙ to cancel.
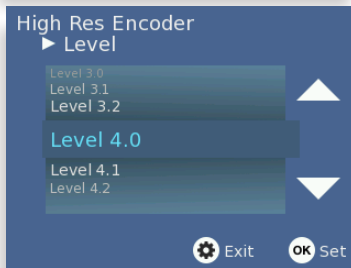
Configuring the Encoder's Audio Bit Rate

Select a bit rate that is compatible with your network bandwidth considerations and that does not exceed the bit rate of your audio source.

From the **High Res Encoder** or **Low Res Encoder** menu, as applicable, press ⦾ to navigate to the **Audio Bit Rate** submenu. Press (ᴏᴋ) to select it.

Use the ⧖ arrows to select the audio bit rate you require.

Press (ᴏᴋ) to set your selection, or press (⚙) to cancel.

Assigning PIDs (Packet IDs)

The PMT (Program Map Table) PID defines the set of PIDs that are being used with a program. The Video PID identifies the video stream. The PCR (Program Clock Reference) PID keeps content synchronized. The Audio PID identifies the audio stream.

Default PID value: 30
Min: 1
Max: 8000

While in the **High Res Encoder** or **Low Res Encoder** menu, as applicable, press ⦾ to navigate to the **PMT PID** submenu. Press (ᴏᴋ) to select it.

Use the ⧖ arrows to enter the number you want to use.

Press (ᴏᴋ) to set your selection, or press (⚙) to cancel.
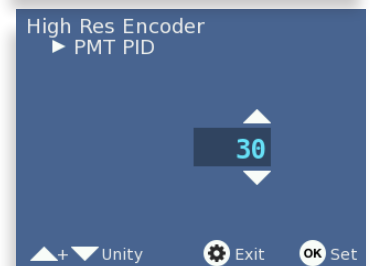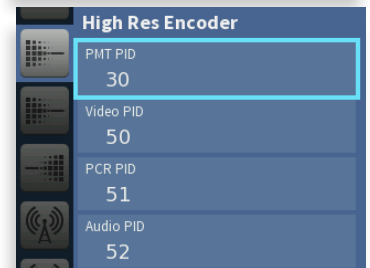
Continue in the same manner for the **Video PID**, **PCR PID** and **Audio PID** settings.

The Low Resolution Encoder has the same set of controls, but will generally be run at a much lower bit rate.
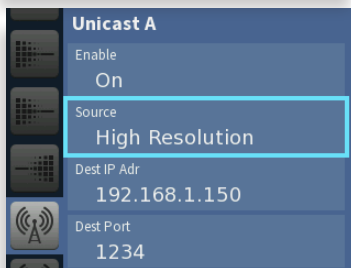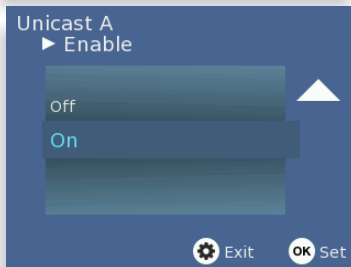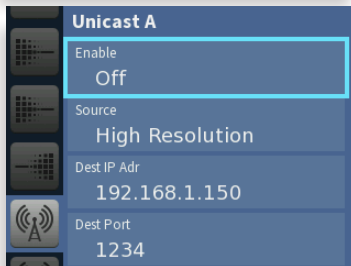
Streaming

After setting up the Encoder, you can configure the streaming outputs. The encoder produces simultaneous transport streams, including two unicast streams and one multicast stream. Each of these streams is independently configurable as either a high resolution or low resolution signal. Output the various streams to the GigE Streaming Media I/O port.

The Unicast A output is completely independent of the Unicast B output. You can deliver the same high resolution feed to two separate locations. You can deliver both the high and low resolution feed to one location. In this example, we will set up streaming for the Unicast A output.

Enabling the Unicast A Streaming Output

The streaming output must be enabled before it can send the output.

Press (⚙) to get to the configuration menus. Use the arrows to navigate to the **Unicast A** configuration menu.

Press (▸) or (OK) to highlight the **Enable** submenu. Then press (▸) or (OK) to go to the **Enable** selection.

Use the arrows to select On.

Press (OK) to set your new selection, or press (⚙) to cancel.

Select the Streaming Source

Earlier, you configured the settings of the High Resolution Encoder or the Low Resolution Encoder. Select which of these encoders you want to use for streaming from the Unicast A Source menu.

While in the **Unicast A** configuration menu, press (▾) to navigate to the **Source** submenu. Then press (▸) or (OK) to go to the **Source** selection.

Use the arrows to select High Resolution or Low Resolution.

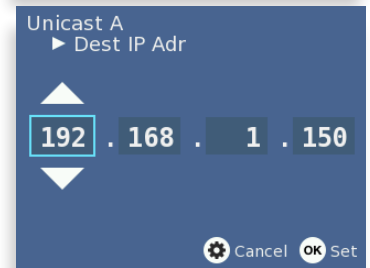Press (OK) to confirm your setting, or press (⚙) to cancel.

Setting the Destination IP Address

This is the IP address of the destination to which you are sending the streaming output.

While in the **Unicast A** configuration menu, press ⟨▼⟩ to navigate to the **Dest IP Adr** submenu. Then press ⟨▶⟩ or ⟨OK⟩ to go to the **Dest IP Adr** selection menu.

Use the ⟨▲▼⟩ arrows to set the address for each position. Use the ⟨◀▶⟩ arrows to move to a different position.

Press ⟨OK⟩ to set your new Destination IP Address, or press ⟨⚙⟩ to cancel.

Setting the Destination Port

This is the Port address of the destination to which you are sending the streaming output.

While in the **Unicast A** configuration menu, press ⟨▼⟩ to navigate to the **Dest Port** submenu. Then press ⟨▶⟩ or ⟨OK⟩ to go to the **Dest Port** selection menu.

Use the ⟨▲▼⟩ arrows to set the Destination Port Address.

Press ⟨OK⟩ to set your new Destination Port Address, or press ⟨⚙⟩ to cancel.
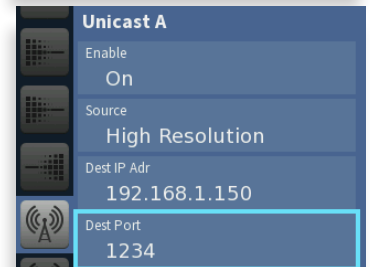
## Setting the TTL (Time to Live)

The TTL value sets a limit on how long a data packet will exist in the network before being discarded.

Default TTL value: 6   Min: 2   Max: 255

While in the **Unicast A** configuration menu, press ⟨▼⟩ to navigate to the **TTL** submenu. Then press ⟨▶⟩ or ⟨OK⟩ to go to the **TTL** selection menu.

Use the ⟨▲▼⟩ arrows to adjust the TTL setting.

Press ⟨OK⟩ to set your new TTL, or press ⟨⚙⟩ to cancel.
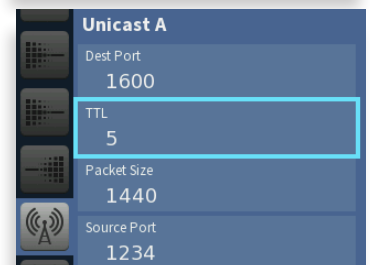
Setting the Packet Size

Default Packet Size value: 1400
Min: 500
Max: 1500

While in the **Unicast A** configuration menu, press ⬇ to navigate to the **Packet Size** submenu. Then press ▶ or **OK** to go to the **Packet Size** selection submenu.

Use the ⬍ arrows to adjust the Packet Size setting.

Press **OK** to set your new setting, or press ⚙ to cancel.

Setting the Source Port

This is the port address from which the unicast stream is being sent.

Default Source Port value: 1234
Min: 200
Max: 10000

While in the **Unicast A** configuration menu, press ⬇ to navigate to the **Source Port** submenu. Then press ▶ or **OK** to go to the **Source Port** selection menu.

Use the ⬍ arrows to set the Source Port Address.

Press **OK** to set your new Source Port Address, or press ⚙ to cancel.
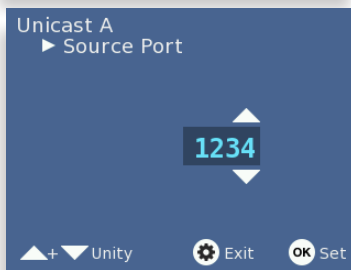
Decoding

Unicast, multicast, MPEG-2 or MPEG-4 signals enter the decoder over an IP connection. DVB-ASI signals enter the decoder through the routing matrix. You can select which of these signals you want decoded and delivered, including embedded audio, into the routing matrix in baseband form as HD SDI or SD SDI.

By setting the output format of the decoder, regardless of the incoming format in the stream, whether IP or DVB-ASI, the decoder will convert the signal to the specified format. Once decoded and delivered into the routing matrix, you can up/down/cross convert signals if needed, then send signals out of the Clean Streaming Router as SDI, HDMI or fiber.

Specifying the Decoder Input

Select the signal type you will be decoding: Unicast, Multicast or DVB-ASI.

Press (⚙) to get to the configuration menus. Use the arrows to navigate to the **Decoding** configuration menu.

Press (▸) or (OK) to highlight the **Input** submenu. Then press (▸) or (OK) to go to the **Input** selection.

Use the arrows to select Unicast, Multicast or DVB-ASI.

Press (OK) to set your new selection, or press (⚙) to cancel.

Configuring the Unicast Receive Port

This is the port address through which the Unicast stream will be received.

Default port value: 1234
Min: 200
Max: 10000

While in the **Decoding** configuration menu, press (▾) to navigate to the **Unicast Rcv Port** submenu. Then press (▸) or (OK) to go to the **Unicast Rcv Port** selection.

Use the arrows to set the port assignment.

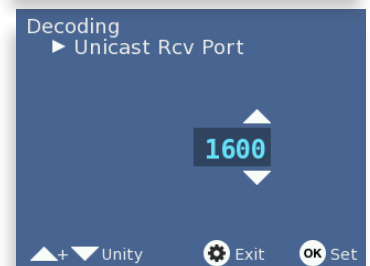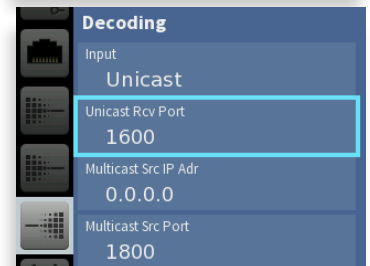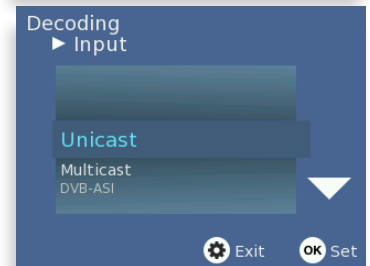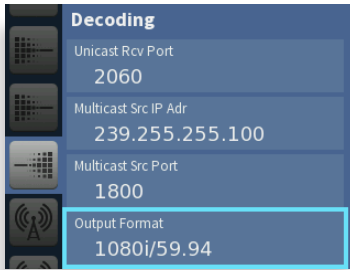Press (OK) to confirm your setting, or press (⚙) to cancel.

Configuring the Decoder Output Format

Available selections:

720p 50, 59.94, or 60 Hz	3G 1080p 50, 59.94, or 60 Hz
1080i 50, 59.94, or 60 Hz	SD 525 59.94 Hz
1080p 23.98, 24, or 25 Hz	SD 625 50 Hz

While in the **Decoding** configuration menu, press ⌄ to navigate to the **Output Format** submenu. Then press ▸ or **OK** to go to the **Output Format** selection.

Use the ⌃⌄ arrows to set the Output Format selection.

Press **OK** to confirm your selection, or press ⚙ to cancel.
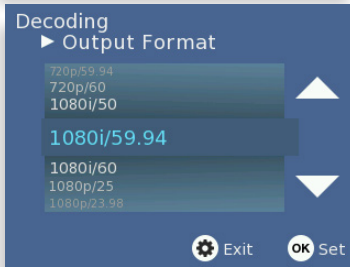
Web Control and Ethernet Interface

Your BrightEye NXT 450 has a built-in web server providing control from a web browser. Plug an Ethernet cable into the Control Network Ethernet Port shown on page 3 to connect directly to a computer or to your Ethernet network.

When you initially power up the Clean Streaming Router as received from the factory, it will have the self-assigned static IP address of 192.168.1.101. To change its IP address and network settings, use the Network menu. Note that the router supports only manual settings. DHCP is not supported.
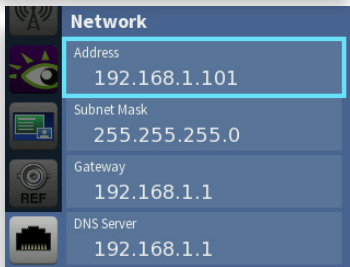
Setting the IP Address

Press ⚙ and use the ⌄ arrow to navigate to the **Network** menu.

Press ▸ or **OK** to highlight the **Address** submenu. Press ▸ or **OK** to enter the **Network Address** submenu.

Use the ⌃⌄ arrows to modify the IP address and other network settings as needed.

Press **OK** to save the new IP address, or press ⚙ to cancel.

Requesting the Web Control Point
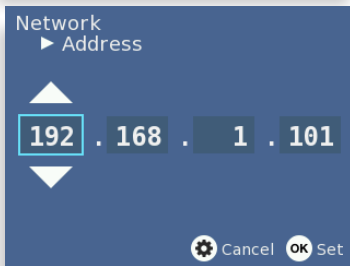
After you have set the unit's IP address to be compatible with your network, you can connect to it with a web browser to establish a web control point.

Navigate to the BrightEye NXT 450's new IP address with your web browser. The Control Point Needed window displays.

Enter the name you want to use to refer to this web control point; for example, "NXT 450 Admin." Click **Request Control Point.** The message "Not Authorized" displays.

Select **Settings** from the upper left pull-down menu in the browser window. The Settings window displays.

Click **Control Points**. The Settings > Control Points window displays.
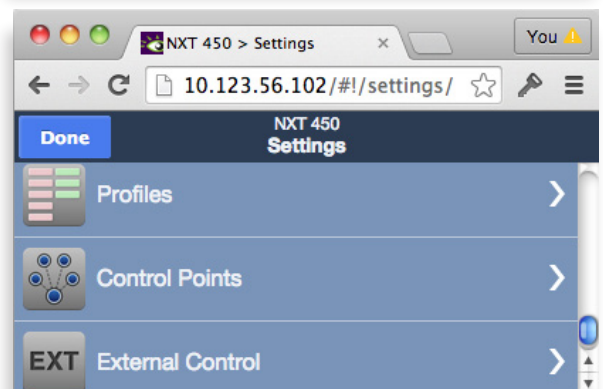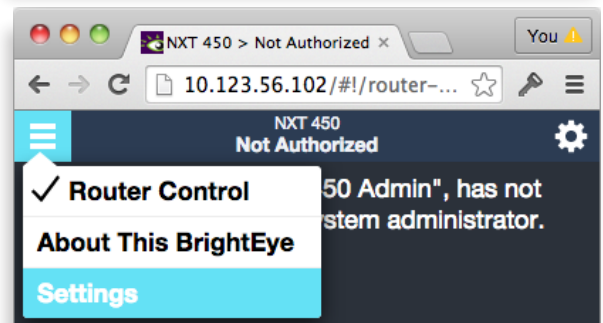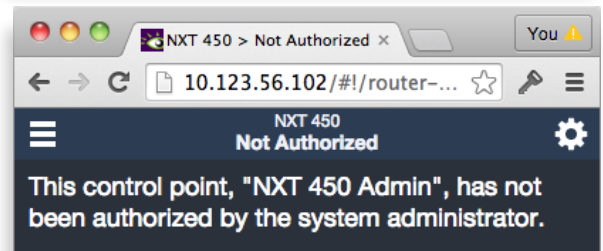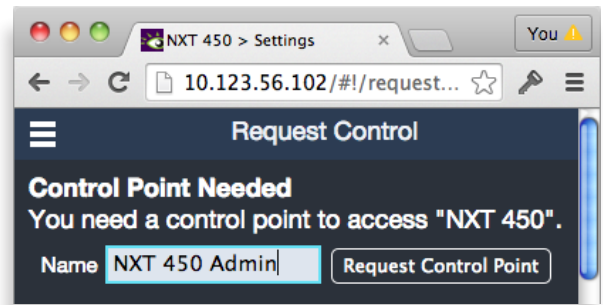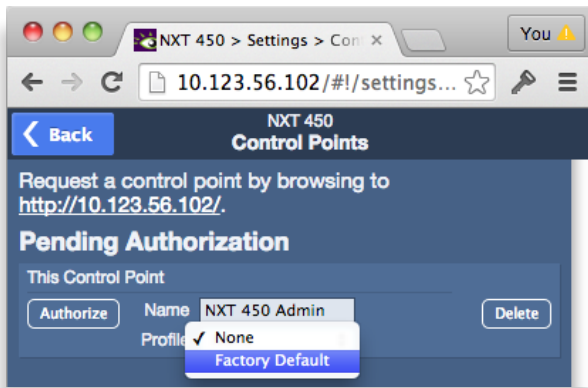
The Control Point you just requested will now be shown. Set the profile to Factory Default (or another profile, if you have one set up) and click **Authorize**.

Click **Back**.

Click **Done**. The Router Control window displays.

Web Browser Router Control Window

You can control the BrightEye NXT 450 Clean Streaming Router through its web browser user interface. Thumbnail representations of the unit's Sources are shown in the upper area, Destinations in the lower area.
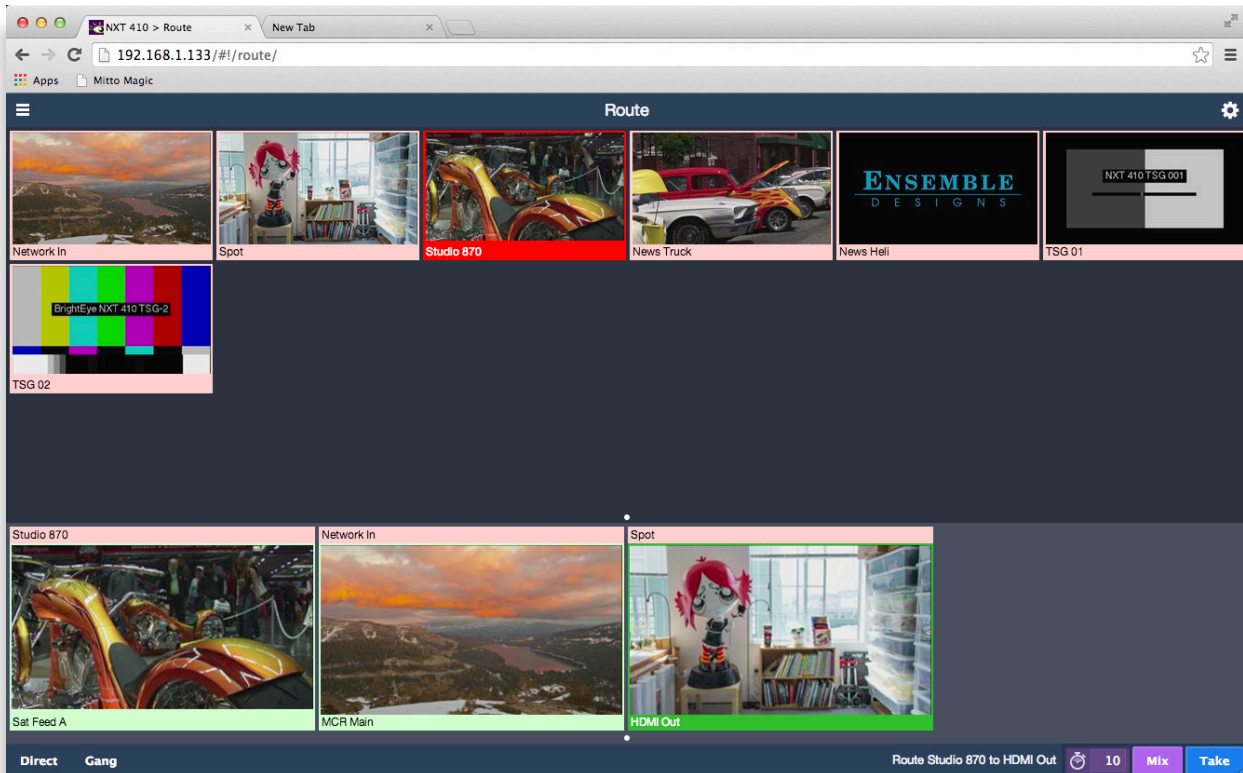
Click one of the lower thumbnails to select a Destination. Click one of the upper thumbnails to select a Source. Click **Take** or **Mix**. Your chosen Source is routed to the Destination you selected.

Click Direct to toggle the **Direct Take** mode on or off. Sometimes called a "hot take," a direct take lets you select a Destination and then immediately Take simply by selecting a Source.

Gang allows one Source to be routed to multiple Destinations. When **Gang** is on, select all of the Destinations you want to use, then select your Source and click **Take**. Alternately, Gang and Direct can be used together.

Settings Menu > Profiles

The web browser Settings menus provide complete control of the 450, including a software update interface, network settings, timing and automation control.

Through the **Profiles** menu, you can define which Sources and Destinations can be accessed from Control Points other than the 450 itself. Control Points include computers, tablets, smart phones, automation systems, and production switchers. Each Control Point must have a Profile assigned to it.

Each Profile can be customized to access unique combinations of Destinations and Sources. Create as many Profiles as your web users require. Multiple Control Points can share the same Profile.

Creating a Profile

From the **Settings** menu, click **Profiles**. The Profiles page displays.

Enter a profile name in the New Profile field, then click **Create**. The new Profile is listed on the Profiles page.

Next to the newly created Profile, click **Edit**. All available Sources and Destinations are shown. Click and drag unassigned Sources and Destinations up to the assigned area as desired for this specific Profile. Rearrange the order and add Space icons to fit your needs.

Click **Save**. Click **Profiles** to return to the Profiles page. Click **Done** to return to the Router Control page.

This newly created Profile is now available to assign to one or more Control Points.

Keyboard Shortcuts

KEY	ACTION
number key	Select Source
shift + number key	Select Destination
return key	Select Take
"m" key	Select Mix
"d" key	Toggle Direct Mode
"g" key	Toggle Gang Mode
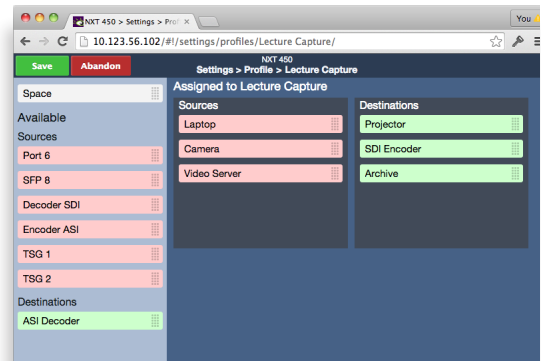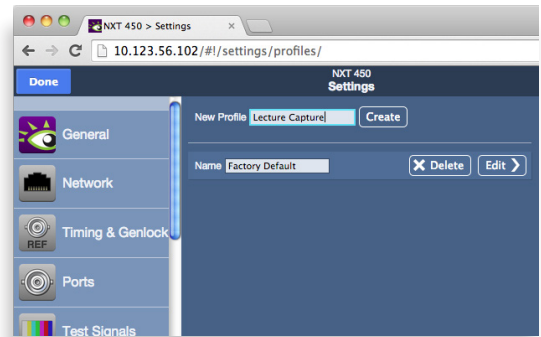
Factory Reset

To reset your BrightEye NXT 450 Router to factory settings, press and hold both the (OK) and the (⚙) while powering up the unit. Wait for the arrows to turn red and blink three times. The unit will then be reset to its factory default settings.

Training Videos

In addition to this Quick Start Guide, please see our training videos at the links below to learn how to set up and program your BrightEye NXT 450 Clean Streaming Router. The training videos address initial setup, configuration, operation, and more.

View several overview videos about the BrightEye NXT 450 under the Related Videos column found through this link:

http://www.ensembledesigns.com/products/be450

View the BrightEye NXT Training Videos that apply to the entire BrightEye NXT product line found at this link:

www.ensembledesigns.com/training

For additional assistance, see the complete manual available through our website, or contact us at +1 530.478.1830 or service@ensembledesigns.com. All Ensemble Designs products have a 5-year warranty. Avenue and BrightEye products are designed and built in California at Ensemble Designs. Come visit us!

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