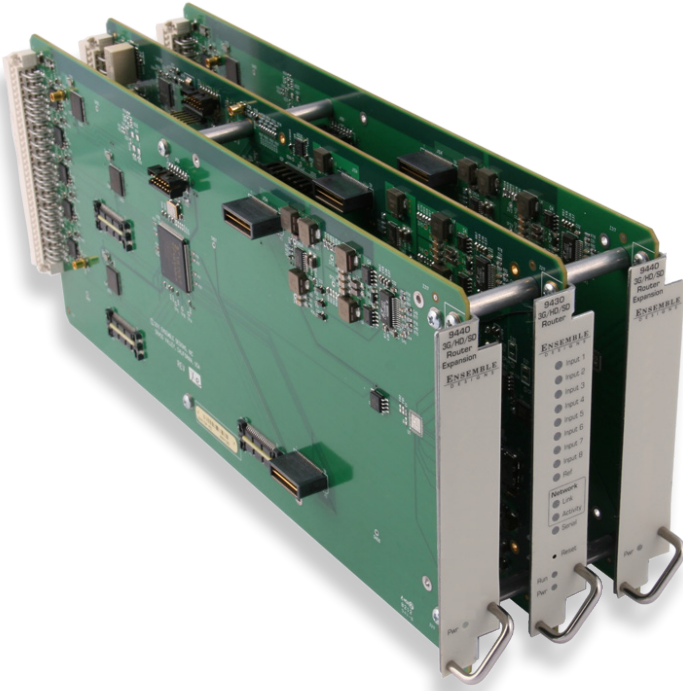# Router Quick Start Guide

Flexible Matrix Router

3G/HD/SD/ASI/310M
Model 9430

This Quick Start Guide walks you through the essential steps for getting started with your new Avenue 9430 Flexible Matrix Router.

Step 1	Connecting Network Cables
Step 2	Assigning the Router a New IP Address
Step 3	Establishing Initial Control Point and Profile for Administrator Functions
Step 4	Installing and Configuring the 5830 Router Control Panel (Optional)
Step 5	Connecting Sources and Destinations

Introduction

This Quick Start Guide will walk you through the essential steps for installing and configuring your new Avenue Flexible Matrix Router. The realtime video thumbnails, ease of expansion, user-definable input/output port geometry, built-in test signals, and optional clean and quiet switching offer useful and elegant additions to your facility.

The Avenue Flexible Matrix Router occupies from one to three slots in any Avenue 3RU Frame. The Router is comprised of up to three modules: the 9430 8×2 router module, one or two optional 9435 dual clean switch sub modules, and one or two optional 9440 ten-port expansion modules. BNCs on the 9440 module(s) are designated as inputs or outputs through the control system.

Step 1: Connecting Network Cables

Establishing Network Connectivity between Controlling Computer and 9430

Although the Avenue Frame system is equipped with both RS-232 and Ethernet interfaces, the 9430 has dedicated control connections to support live video thumbnails and third-party control systems for automation and event control.

To establish network connectivity between your controlling computer and the 9430, it is essential that the controlling computer be networked to the RS-232 and 100 Mb Ethernet Interface Adaptor Cable, or "Y" adaptor cable, shown in the illustration below.
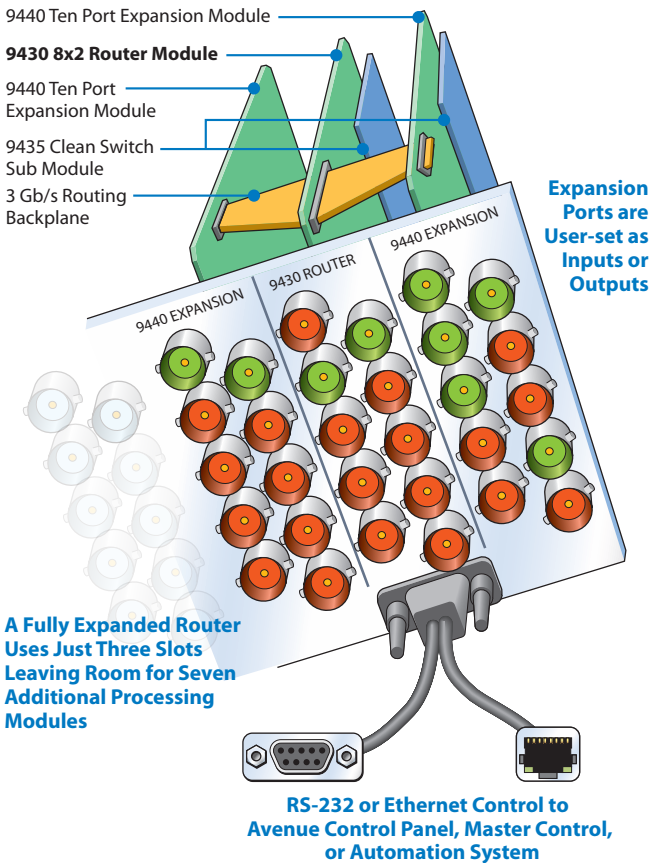

9440 Ten Port Expansion Module

9430 8x2 Router Module

9440 Ten Port Expansion Module

9435 Clean Switch Sub Module

3 Gb/s Routing Backplane

Expansion Ports are User-set as Inputs or Outputs

9440 EXPANSION

9430 ROUTER

9440 EXPANSION

A Fully Expanded Router Uses Just Three Slots Leaving Room for Seven Additional Processing Modules

RS-232 or Ethernet Control to Avenue Control Panel, Master Control, or Automation System

Illustration of fully expanded Router using three slots in an Avenue Frame

RS-232 and 100 Mb Ethernet Interface Adaptor Cable

Typically, you will need to make two Ethernet connections; one to the Avenue frame, the other to the 9430 module's "Y" adaptor cable. This cable, included with each 9430 module, has separate legs for the 9-pin D-Sub RS-232 and RJ-45 Ethernet connectors. The cable connects to the HD-15 connector specific to the slot where the 9430 is installed.

The Ethernet port should be connected with CAT5 or CAT6 cabling to a network Ethernet router or switch to make it accessible to computers on the network. This port can also be directly connected to a computer or to a Router Control Panel (5830). The Ethernet port will auto-sense cable direction, so a cross-over cable is not needed.

*"Y" adaptor cable for connecting the 9430
to RS-232 and 100 Mb Ethernet interfaces*

Step 2: Assigning the Router a New IP Address and Subnet Mask

When you initially power up the 9430 as received from the factory, it will take the self-assigned static IP address of 192.168.1.100. You must modify the 9430's IP address and subnet mask to be compatible with your network's environment.

These are general instructions. We recommend that you consult your IT staff if you are uncertain about any of these network configuration settings.

> **Note:** For customers who have neither Avenue PC nor Avenue Touch Screen, please refer to our website to download the "Model 9430 Installation, Configuration and Operations Guide." See Chapter 4, in the section called "Method Two: For Customers Not Using Avenue Touch Screen or Avenue PC."

To Set the IP Address

1. From the Avenue frame, select the 9430 module from the Touch Screen. The 9430 menus display.
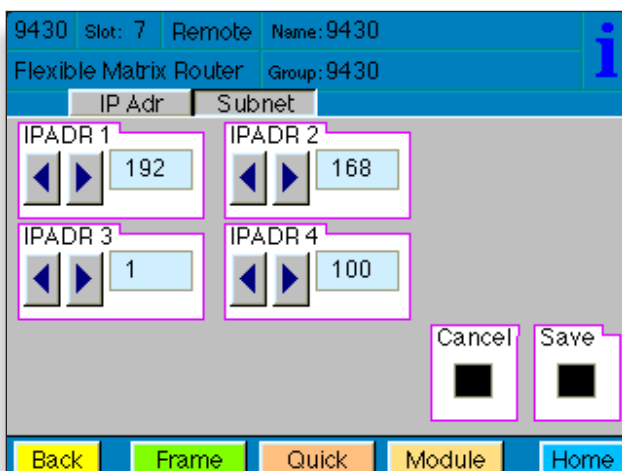
*The Touch Screen interface showing the IP address of the Router
as received from the factory*

2. From the **IP Adr** menu, enter the IP address you want to use that is compatible with your own network. The simplest method is to touch each number field, using the pop-up keypad to enter the new numbers. For example, you may want to change the IP address to something like the following: 10.123.222.100.

3. Press **Save**. Both the **Cancel** and **Save** buttons turn black to indicate that your new settings have been saved.

Note that when using Avenue PC instead of the Touch Screen interface, after entering numbers into the number fields, you will need to hit the "enter" or "return" key for the change to register.
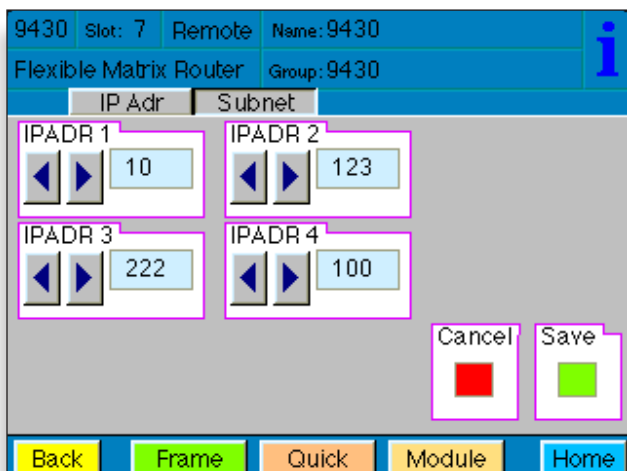
A new IP address has been entered, but not yet saved

The subnet mask must be set in accordance with the size and topology of your network. The default setting as received from the factory is for a smaller network: 255.255.255.0. For a larger network, a typical setting is 255.255.0.0. If in doubt, use the setting for a larger network.
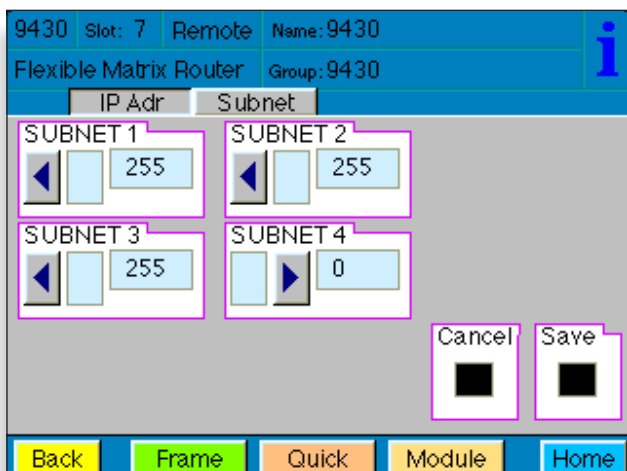
The Subnet menu showing typical settings for a smaller network

To Set the Subnet Mask

1. From the **Subnet** menu, modify the settings as needed. Use the arrow buttons to change the settings, or touch each number field to use the pop-up keypad.

2. When finished, press **Save**. Both the **Cancel** and **Save** buttons turn black to indicate that your new settings have been saved.

You can now browse to the 9430 from a computer on your network as described in the next step.

Step 3: Establishing Initial Control Point and Profile for Administrator Functions

Now that you have set the Router's IP address and subnet mask to suit your network environment, you can start the configuration process. From the controlling computer, connect to the 9430 to establish an initial Control Point for administrator functions.
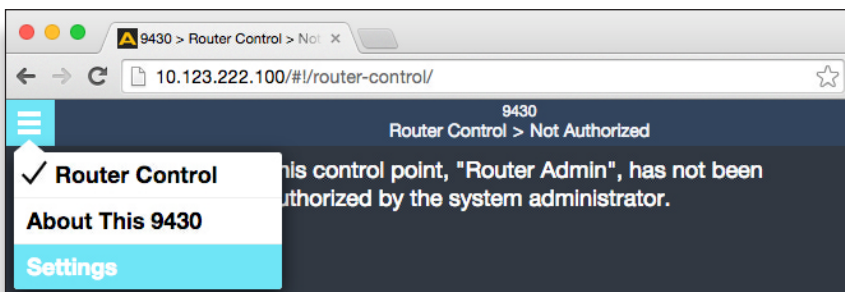
To Create an Initial Control Point

1. Navigate to the 9430's new IP address with your browser. The Control Point Needed window displays.

2. From the Control Point Needed window, enter the name you want to use to refer to the initial Control Point (for example, "Router Admin").
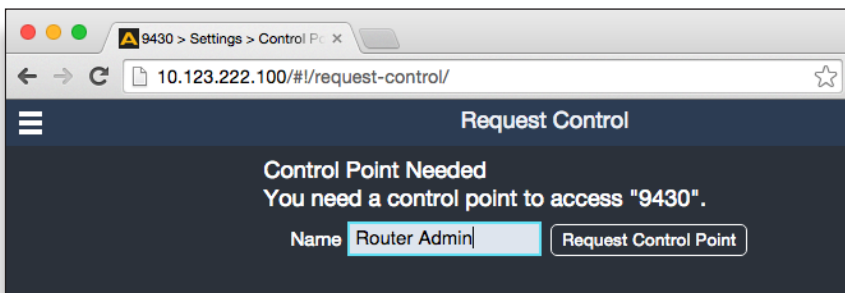
The Control Point Needed window

3. Click **Request.** The Router Control > Not Authorized window displays.
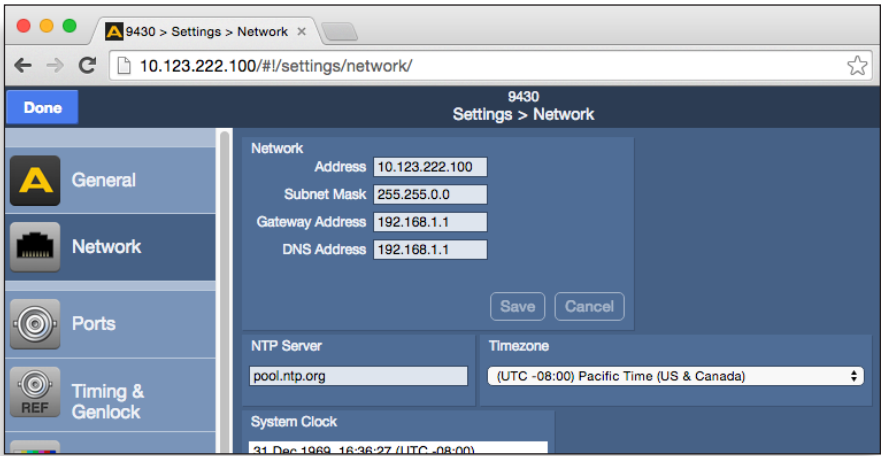

The "Control Point Disabled" message displaying after requesting an initial Control Point

4. Click **Settings** from the drop-down menu. The Settings > General window displays.

The Settings > General window

Model 9430 Flexible Matrix Router
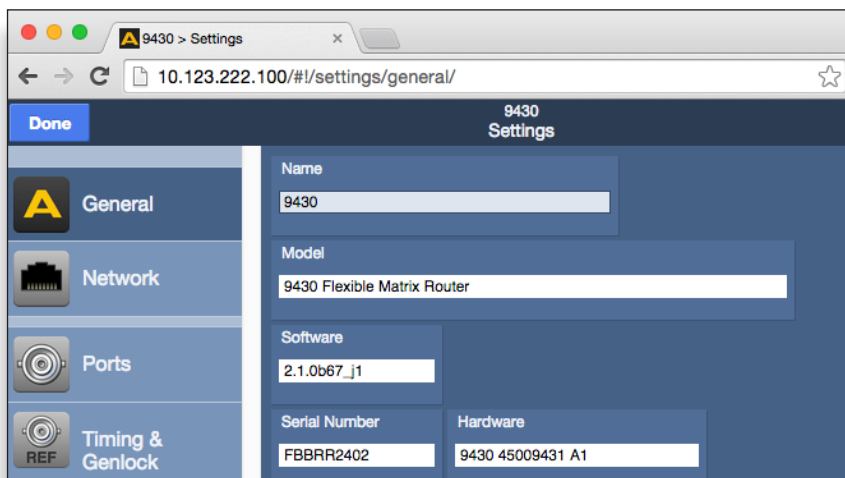
5. From the left navigation panel, click **Network**. The Settings > Network window displays.

The Settings > Network window

6. Set the Gateway and DNS Server parameters according to your network configuration. In general, these settings will be required only in installations with extended networking requirements, such as a remote site connected by VPN.

7. From the left navigation panel, click **Control Points**. The Settings > Control Points window displays. The Control Point you just requested is listed under Pending Authorization.
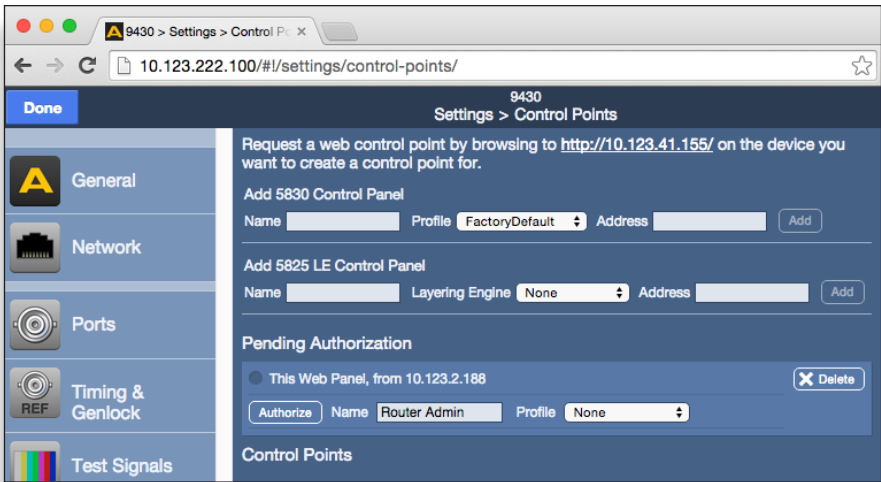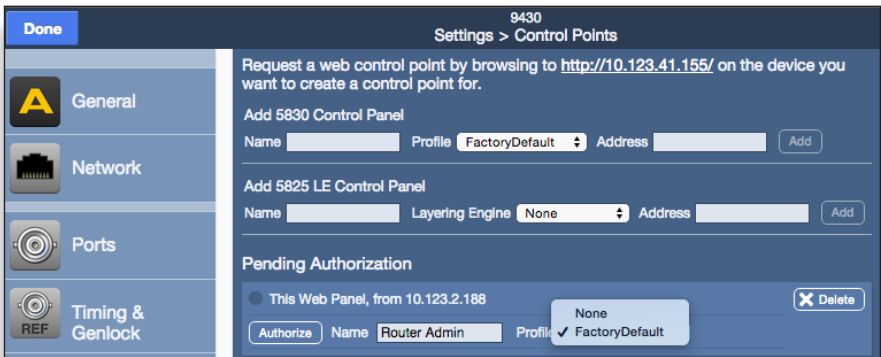

The Settings > Control Points window

To Assign a Profile to the Router Admin Control Point

Assign a Profile that defines which sources and destinations this Control Point can access. To begin with, choose the Factory Default Profile. It provides access to the eight Inputs, two Test Signal Generators, and two Outputs of the basic 9430 module.

1. From the Profile drop-down control, select **Factory Default**.

Selecting the Factory Default Profile from the Settings > Control Points window

2. Click **Authorize**.

3. Click **Done**.

You are now presented with a Router control view with thumbnail icons. Without video signals present, the thumbnails will indicate "No Input." In the example below, however, video signals were already connected to Router Inputs 1 - 8.
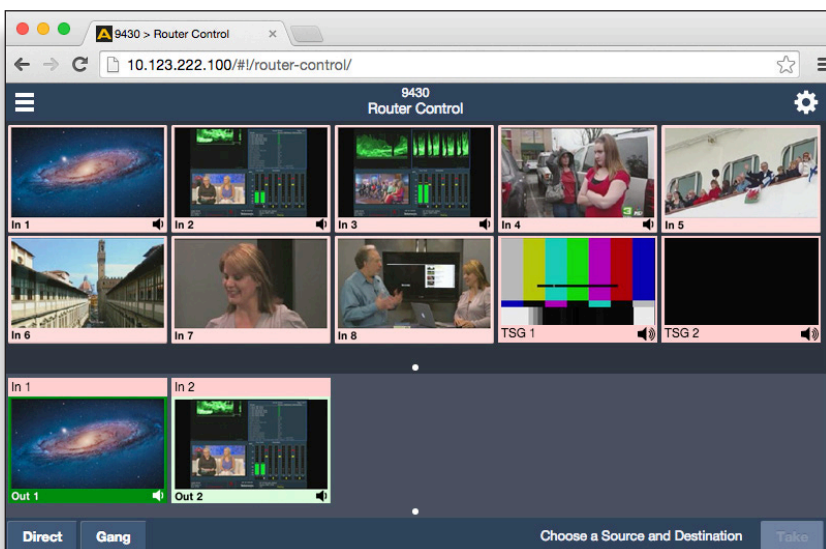
The 9430 Router control web interface showing video thumbnail images for 8 video inputs (In 1 through In 8), 2 test signal generators named TSG 1 and TSG 2, and 2 destinations named Out 1 and Out 2. In this example, In 1 is being routed to Out 1 while In 2 is being routed to Out 2.

For a full explanation of creating custom profiles and configuring ports, see the "Model 9430 Installation, Configuration and Operations Guide" available through our website.

Step 4: Installing and Configuring the 5830 Router Control Panel (Optional)

Connecting Ethernet Cable to RJ-45 Port

Make an Ethernet connection to the RJ-45 port on the rear of the Router Control Panel. The Ethernet cable should be connected to a network Ethernet router or switch to make it accessible to the Router.

A modular power supply is provided to power the Router Control Panel. Alternately, power can be supplied by the Ethernet connection using PoE (Power over Ethernet), provided that you have a PoE-enabled Ethernet switch to insert power into the Ethernet cables.
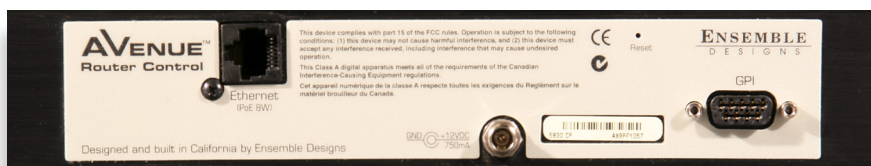
A portion of the rear of the 1RU Router Control Panel. Note the three connectors: the RJ-45 Port, the Power Input, and the 9-Pin GPI Connector

Assigning an IP Address to the Router Control Panel

The 5830 Router Control Panel comes from the factory with the following default settings:

- IP Address: 192.168.1.101
- Subnet: 255.255.255.0

Accessing the Control Panel's Network Configuration Controls

For one full second, simultaneously press both small round buttons located to the left of the LCD Display. The Network Settings screen displays.

Five panel buttons to the right of the LCD Display change both color and function while the Network Settings screen is displaying. A map of the green and yellow button functionality is shown in the upper right corner of the screen.

Use the green buttons to navigate up, down, left and right among the Network Settings menus and submenus.
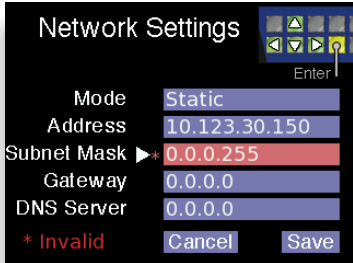
*Invalid network settings cannot be saved.*

When changing numeric values, pressing and holding the up or down navigation buttons accelerates the rate at which the numbers change.

Use the yellow button (Enter) to enter and exit menus and to select Cancel or Save.

A white arrow points to the currently selected menu or submenu.

## Modifying the Control Panel's Network Settings

Configure the Network Settings appropriately for your network. Gateway and DNS Server fields are optional.
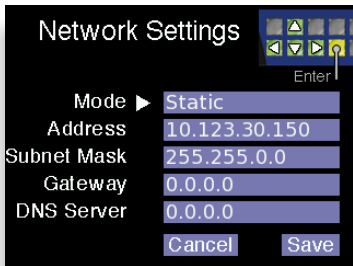

Static or Dynamic Mode

We recommend using a fixed, or static, IP Address. However, you can configure the 5830 Router Control Panel to use a dynamically assigned IP address from a DHCP server on your network.

1. With Mode selected, press Enter (yellow button) to access the Mode menu settings. The Set Network Mode screen displays.

2. Use the Up and Down navigation buttons to select either Static or DHCP.

3. Press Enter to exit the Mode menu.
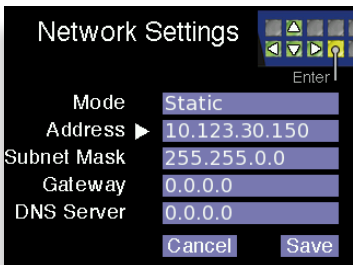
IP Address

1. Use the navigation buttons to select the Address menu.

2. Press Enter. The Set IP Address screen displays.

3. Use the Up and Down navigation buttons to change values. Use the Left and Right navigation buttons to move to the different segments of the IP address.

4. Press Enter to exit the Address menu and return to the Network Settings screen.
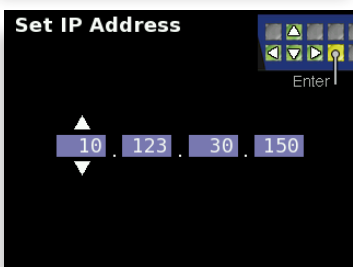
Subnet Mask

1. Use the navigation buttons to select the Subnet Mask menu.

2. Press Enter. The Set Subnet Mask screen displays.

3. Use the Up and Down navigation buttons to change values. Use the Left and Right navigation buttons to move to the different segments of the Subnet Mask menu.

4. Press Enter to exit the menu and return to the Network Settings screen.

5. Once finished modifying the control panel's network settings, select Save to save your changes, or select Cancel to cancel all changes.

6. Press Enter. The LCD Display returns to operational mode, displaying the currently selected Background.
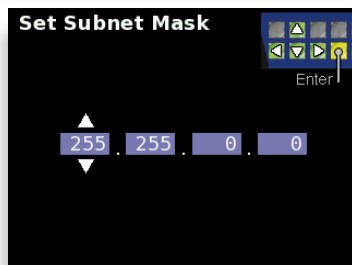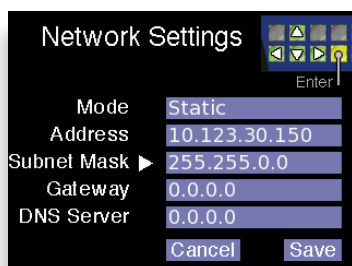
Creating a Control Point for the 5830 Control Panel

1. Navigate to the 9430's IP address with your web browser. The Router Control page displays.

2. Click Settings from the drop-down menu. The Settings > General window displays.

3. From the left navigation panel, click **Control Points**. The Control Points page displays.

4. Under the heading "Add 5830 Control Panel," enter a name for the 5830 Control Panel in the Name field. Enter the 5830's IP address in the Address field. Click **Add**. The 5830 Panel is added to the list of Control Points.

5. Click **Done**.

At this point, now that you have assigned a compatible IP address to the Control Panel and you have added it as a Control Point to the Router, it will now connect to the Router.
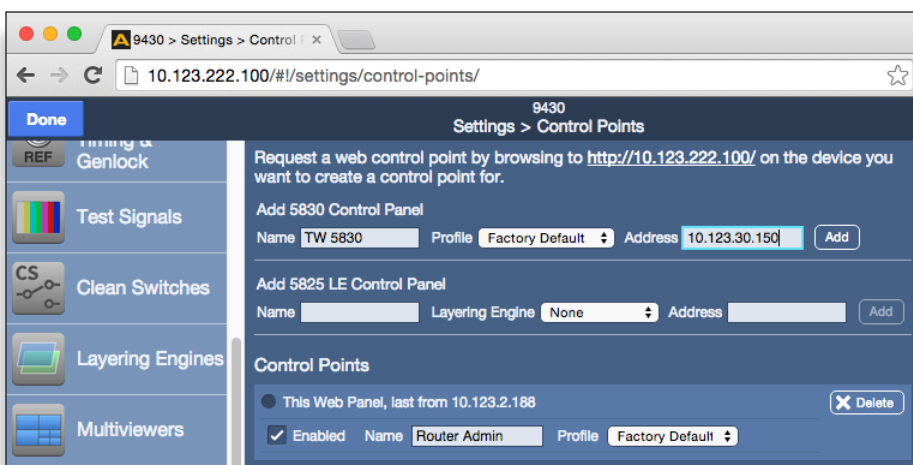
The 9430 Settings > Control Points window showing the process of adding the 5830 Control Panel as a Control Point

Step 5: Connecting Sources and Destinations

The Router is now ready for you to connect video and audio inputs and outputs. Refer to the illustration below to see how the ports are organized. The center panel is for the 9430 module. Refer to the outside panels if you have one or two 9440 expansion modules.
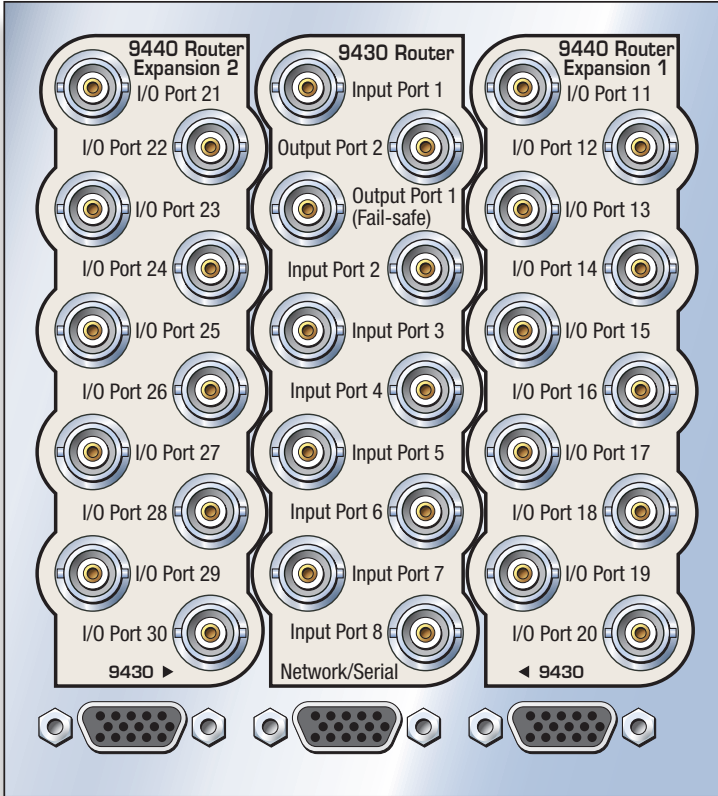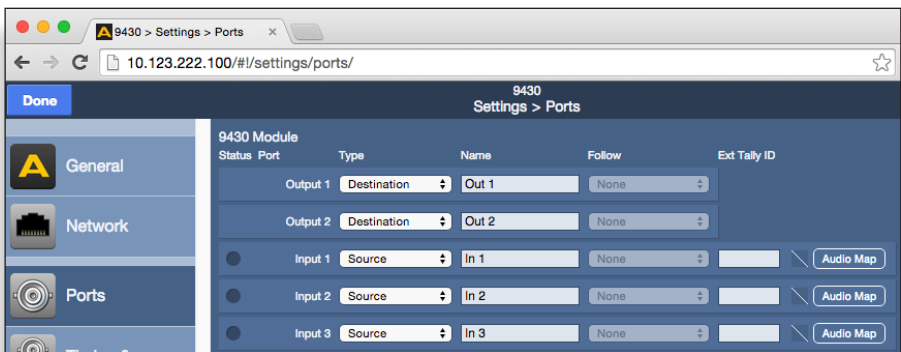

Diagram of the rear panels showing port connections for the 9430 and the 9440 expansion modules

The 9430 module has eight dedicated inputs and two dedicated outputs. Ports on the 9440 expansion modules can be configured as either inputs or outputs. Use the 9430 Settings > Ports page to configure each Port.

The 9430 Settings > Ports page

For additional assistance, see the "Model 9430 Installation, Configuration and Operations Guide" available through our website, or contact us at +1 530.478.1830 or service@ensembledesigns.com.

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