grass valley

Newton

MODULAR CONTROL SYSTEM

Instruction Manual

SOFTWARE VERSION 2.0

071823402
DECEMBER 2004

the most watched worldwide

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Grass Valley Web Site

The www.thomsongrassvalley.com web site offers the following:

Online User Documentation — Current versions of product catalogs, brochures, data sheets, ordering guides, planning guides, manuals, and release notes in .pdf format can be downloaded.

FAQ Database — Solutions to problems and troubleshooting efforts can be found by searching our Frequently Asked Questions (FAQ) database.

Software Downloads — Software updates, drivers, and patches can be downloaded.

Contents

Preface

About This Manual

This manual provides installation, configuration, operation, and safety and regulatory information for the Newton Modular Control system rack mount and software control panels for controlling Gecko 8900 Series, Kameleon 2000 Series modular products, and a Router Interface option.

Regulatory Notices

Certifications and Compliances

FCC Emission Control

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. Changes or modifications not expressly approved by Grass Valley can affect emission compliance and could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules (E4 environment). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation.

Canadian EMC Notice of Compliance

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'emet pas de bruits radioélectriques dépassant les limites applicables aux appareils numeriques de la classe A préscrites dans le Règlement sur le brouillage radioélectrique édicte par le ministère des Communications du Canada.

EN55103-1/2 Class A Warning

For products that comply with Class A. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This product has been evaluated for Electromagnetic Compatibility under the EN 55103-1/2 standards for Emissions and Immunity and meets the requirements for E4 environment.

Safety Certification

This product's components have been evaluated and meet the Safety Certification Standards listed in Table 1.

Table 1. Safety Certification Standards

Component	Standard	Designed/Tested for compliance with:
Newton-RM Control Panel	UL60950	Safety of Information Technology Equipment, including Electrical Business Equipment (Third edition revision, 3/15/02)
	IEC 60950	Safety of Information Technology Equipment, including Electrical Business Equipment (Third edition, 1999).
	CAN/CSA C22.2 N0. 60950-00	Safety of Information Technology Equipment, including Electrical Business Equipment.
	BS EN60950-2000	

Safety Summary

Read and follow the important safety information below, noting especially those instructions related to risk of fire, electric shock or injury to persons. Additional specific warnings not listed here may be found throughout the manual.

WARNING **Any instructions in this manual that require opening the equipment cover or enclosure are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.**

Safety Terms and Symbols

Terms in This Manual

Safety-related statements may appear in this manual in the following form:

WARNING **Warning statements identify conditions or practices that may result in personal injury or loss of life.**

CAUTION Caution statements identify conditions or practices that may result in damage to equipment or other property, or which may cause equipment crucial to your business environment to become temporarily non-operational.

Terms on the Product

The following terms may appear on the product:

DANGER — A personal injury hazard is immediately accessible as you read the marking.

WARNING — A personal injury hazard exists but is not immediately accessible as you read the marking.

CAUTION — A hazard to property, product, and other equipment is present.

Symbols on the Product

The following symbols may appear on the product:

Indicates that dangerous high voltage is present within the equipment enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

Indicates that user, operator or service technician should refer to product manual(s) for important operating, maintenance, or service instructions.

This is a prompt to note fuse rating when replacing fuse(s). The fuse referenced in the text must be replaced with one having the ratings indicated.

Identifies a protective grounding terminal which must be connected to earth ground prior to making any other equipment connections.

Identifies an external protective grounding terminal which may be connected to earth ground as a supplement to an internal grounding terminal.

Indicates that static sensitive components are present which may be damaged by electrostatic discharge. Use anti-static procedures, equipment and surfaces during servicing.

Warnings

The following warning statements identify conditions or practices that can result in personal injury or loss of life.

Dangerous voltage or current may be present — Disconnect power and remove battery (if applicable) before removing protective panels, soldering, or replacing components.

Do not service alone — Do not internally service this product unless another person capable of rendering first aid and resuscitation is present.

Remove jewelry — Prior to servicing, remove jewelry such as rings, watches, and other metallic objects.

Avoid exposed circuitry — Do not touch exposed connections, components or circuitry when power is present.

Use proper power cord — Use only the power cord supplied or specified for this product.

Ground product — Connect the grounding conductor of the power cord to earth ground.

Operate only with covers and enclosure panels in place — Do not operate this product when covers or enclosure panels are removed.

Use correct fuse — Use only the fuse type and rating specified for this product.

Use only in dry environment — Do not operate in wet or damp conditions.

Use only in non-explosive environment — Do not operate this product in an explosive atmosphere.

High leakage current may be present — Earth connection of product is essential before connecting power.

Dual power supplies may be present — Be certain to plug each power supply cord into a separate branch circuit employing a separate service ground. Disconnect both power supply cords prior to servicing.

Double pole neutral fusing — Disconnect mains power prior to servicing.

Use proper lift points — Do not use door latches to lift or move equipment.

Avoid mechanical hazards — Allow all rotating devices to come to a stop before servicing.

Cautions

The following caution statements identify conditions or practices that can result in damage to equipment or other property

Use correct power source — Do not operate this product from a power source that applies more than the voltage specified for the product.

Use correct voltage setting — If this product lacks auto-ranging power supplies, before applying power ensure that the each power supply is set to match the power source.

Provide proper ventilation — To prevent product overheating, provide equipment ventilation in accordance with installation instructions.

Use anti-static procedures — Static sensitive components are present which may be damaged by electrostatic discharge. Use anti-static procedures, equipment and surfaces during servicing.

Do not operate with suspected equipment failure — If you suspect product damage or equipment failure, have the equipment inspected by qualified service personnel.

Ensure mains disconnect — If mains switch is not provided, the power cord(s) of this equipment provide the means of disconnection. The socket outlet must be installed near the equipment and must be easily accessible. Verify that all mains power is disconnected before installing or removing power supplies and/or options.

Route cable properly — Route power cords and other cables so that they ar not likely to be damaged. Properly support heavy cable bundles to avoid connector damage.

Use correct power supply cords — Power cords for this equipment, if provided, meet all North American electrical codes. Operation of this equipment at voltages exceeding 130 VAC requires power supply cords which comply with NEMA configurations. International power cords, if provided, have the approval of the country of use.

Use correct replacement battery — This product may contain batteries. To reduce the risk of explosion, check polarity and replace only with the same or equivalent type recommended by manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Troubleshoot only to board level — Circuit boards in this product are densely populated with surface mount technology (SMT) components and application specific integrated circuits (ASICS). As a result, circuit board repair at the component level is very difficult in the field, if not impossible. For warranty compliance, do not troubleshoot systems beyond the board level.

Section 1

Newton Overview

Introduction

The Newton modular control system provides comprehensive and consolidated real-time control for Grass Valley modular and router products. Two control panel designs give fast, multi-knob, Ethernet-based access in a user-configured processing channel. A standard Ethernet TCP/IP communications interface and a standard XML data format provide complete signal processing monitoring and control.

Processing channels can be customized by the user from any combination of modules present in any Ethernet accessible Gecko or Kameleon frame. Module parameters can then be adjusted from a rack-mounted control panel or by using a software-based control panel with similar functionality running on a standard Windows PC.

This approach to modular control utilizes the separation of system-level configuration tasks from operational ones. This minimizes the potential for on-air mistakes and provides the ability to group products and controls into a logical signal path that can be easily accessed and adjusted.

A Router Interface option also allows the Newton control system to interface to Grass Valley routers with Native or RCL protocols to provide simple X-Y direct router control and module source chain control. Module parameters in the router source chain can be controlled by a Newton Control Panel associated with a router destination. Newton can also be used to directly control a router for all level takes to specified destinations.

The Newton system also includes the Grass Valley NetConfig™ software. This application allows network-wide configuration of the control panels with a configuration plug-in called Newton Panel Configurator. It also allows you to set IP addresses and update software from a single network location.

The Gecko and Kameleon product lines also support the Grass Valley NetCentral application for Simple Network Management Protocol (SNMP) to help maximize system support and uptime. NetCentral offers continuous monitoring and user-programmable alerts in the event of equipment problems or signal loss.

Newton Control Panels

The Newton system features two control panels: a rack-mounted version and a software-based PC version. The NewtonPC software panel application has similar functionality as the rack mount panel, making operation easier to learn. Any combination and number of panels can be used in a network; there is no limit to the number of panels that can be installed on the network. Panel operation is independent of configuration and an **Enable** button is provided for locking out the panels to prevent accidental changes.

Overall control panel features include:

- Four user-configurable control knobs, with tri-color connection status indicator LEDs, for changing device parameters,
- Twelve soft keys for quick recall of user-configurable parameters,
- Simple up/down, left/right navigation controls,
- Each panel supports up to 128 channels with 12 setups each (number of channels allowed varies according to setup complexity),
- Clearly visible status of controlled devices,
- **Enable** button locally disconnects knobs and buttons from devices, and
- **Identify** button reveals identity of controls and configurations.

Newton Rack Mount Control Panel

The Newton rack mount control panel, NewtonRM, (Figure 1) is a compact, 1 RU Rack Mount panel.

Additional features of the rack mount control panel include:

- Easy to read green display with adjustable intensity,
- Combination of soft buttons and dedicated function buttons with adjustable backlighting intensity, and
- Two simple connections required for installation, RJ-45 Ethernet and IEC Mains.

Figure 1. Newton Control Panel

NewtonPC Software Control Panel

The NewtonPC software control panel (Figure 2) offers similar functionality to the rack mount control panel in a Windows-based PC software panel application. Any PC on the network running the Newton software panel application can configure and adjust processing channels.

Note The software panel in Figure 2 is shown with the router interface option enabled with a valid connection.

Figure 2. Newton Software Control Panel with Router Interface

Router Interface Option

Both the rack mount and software control panels can operate with the optional Router interface (NEWT-ROUTE). This option provides an interface to Grass Valley routers (see *Router Interface Requirements* on page 24) for modular source chain control where the Newton Control Panel will follow the router source selection on a monitored destination and simple direct X-Y router control (change source and destination for all-level takes).

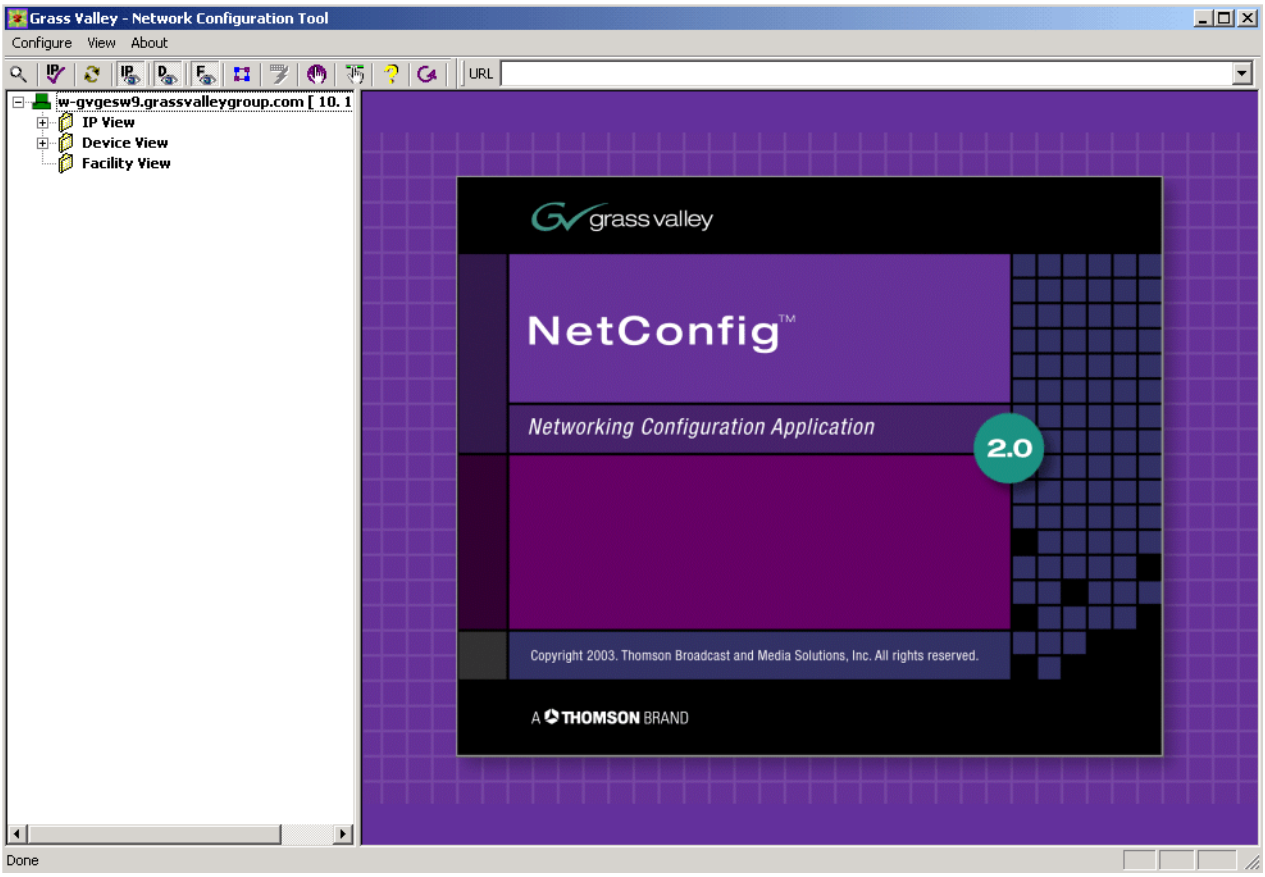
The **Route** and **Monitor** buttons and the Router LED become active on both panels when this option is enabled and a valid router connection is established. Soft keys can be configured to take router sources and to select named router destinations.

NetConfig Application

With the NetConfig application installed, in addition to using Newton Panel Configurator required to configure the Newton panels, the PC can be used to set IP addresses of panel and modular frame devices on the network and update software to frame controllers and media modules when updates become available. Because the NetConfig application runs over the network, it centralizes and accelerates configuration tasks. It eliminates the need to physically visit every frame in the network, attach a serial cable, and load parameters. Everything can be done from your desktop. Refer to Figure 3 for an illustration of the NetConfig main view.

NetConfig also interfaces with many of the Grass Valley router control systems, and various other Grass Valley products.

Figure 3. NetConfig Main View

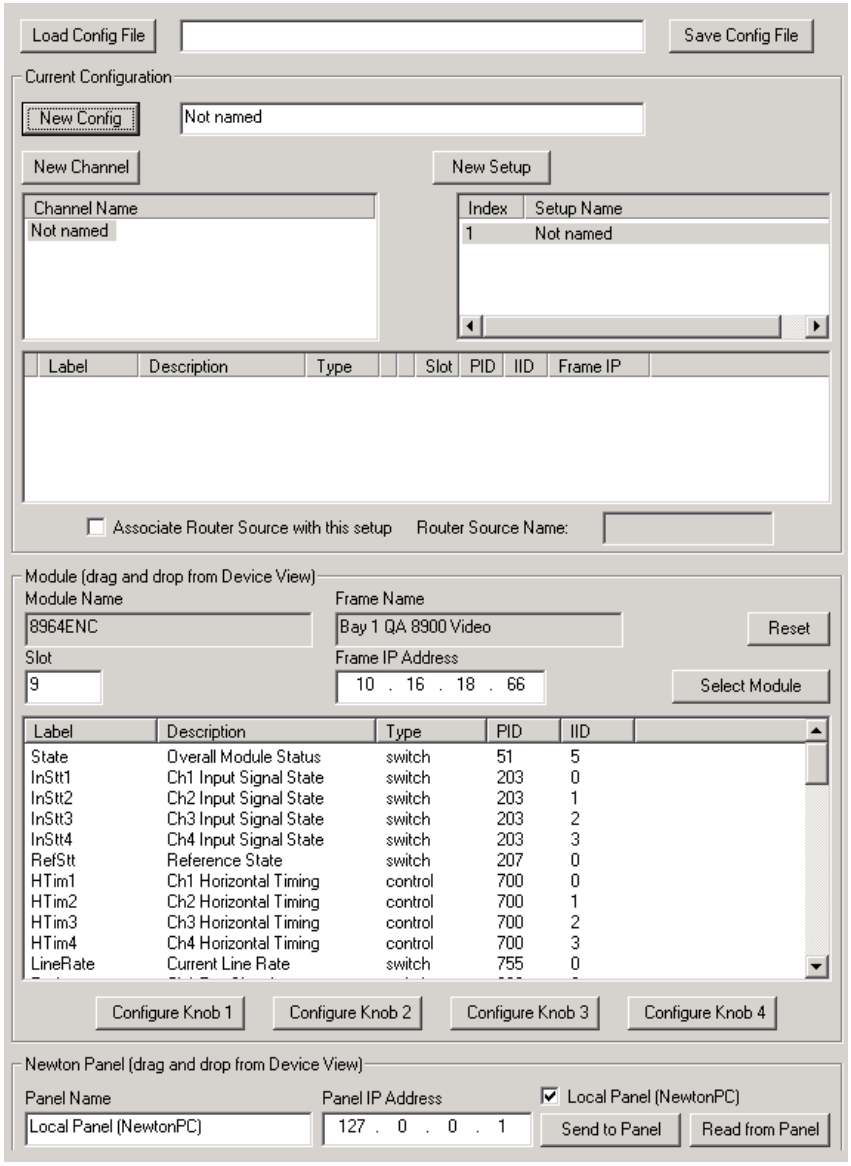


Newton Panel Configurator Plug-In Tool

The Newton Panel Configurator in NetConfig (Figure 4) is required for panel configuration and is included on the CD. It provides an easy interface for configuring a signal processing path—or channel—that includes an individual module or a string of modules. Adjustable parameters or setups can be defined for each channel. Each setup contains the assignments for the four control knobs. Router sources can be associated with setups and soft keys can be delegated to control router sources and destinations.

Configurable modules can be located on the network with NetConfig, then dragged and dropped to the Newton Panel Configurator where specific channels can be defined from the available parameters to provide any number of setups for control with the four available knobs in each channel.

Figure 4. NetConfig with Newton Panel Configurator



Using Newton

The Newton modular control system lets you quickly access all of the Gecko and Kameleon modules in a signal processing path to make audio, video, and timing adjustments from a single or multiple control points.

As an example of utilizing the Newton control system, an ideal real-time application would be quality analysis and control of satellite and microwave incoming feeds. As shown in Figure 5 on page 21, the incoming satellite feed to a television station requires video analog-to-digital conversion with processing and timing adjustments, along with multi-channel audio processing and delay.

Using the NetConfig application and the Newton Panel Configurator, an identifying name can be created for the processing channel that includes all the modules in the path, such as SAT_4. The module icons can then be dragged and dropped into the Newton Panel Configurator and the desired parameters assigned to control knobs for the operator to adjust.

The SAT_4 channel in the example may have a number of adjustment parameters that need to be controlled, such as video gain, black level, hue, horizontal and vertical timing, audio levels and audio processing functions such as sum, swap, and phase invert. These controls can be configured then stored as nested setups which can be accessed when needed by navigating through them using the Newton control panels.

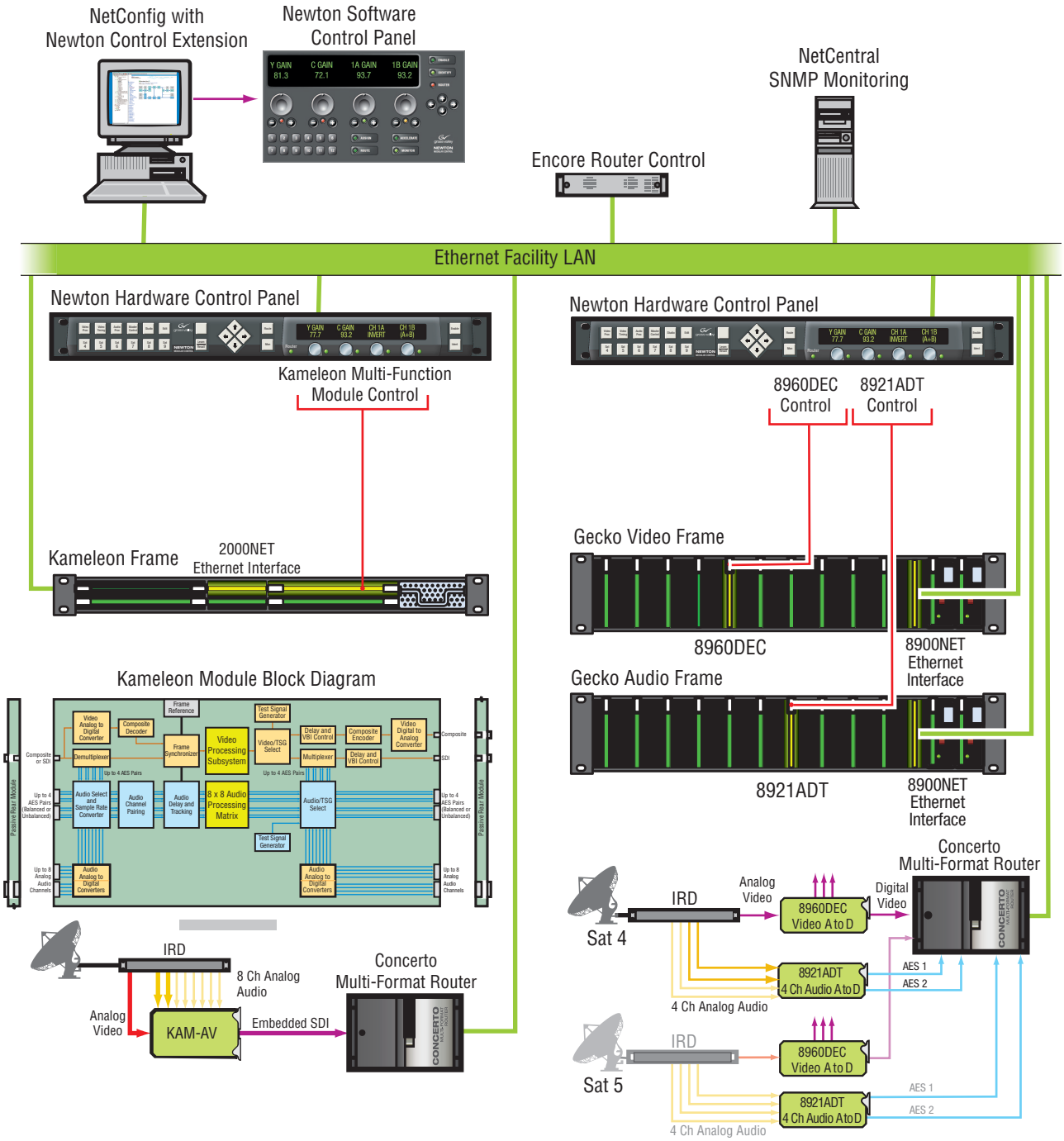
The Newton control system recalls the current module parameters and displays them over each of the four control knobs. Each knob takes on the functionality required for the parameter recalled. Parameters can be continuously variable (such as gain), or enumerated steps (such as an on/off control.)

Once the configuration of a control panel is complete, it can be saved to offline storage, edited if required, and loaded to other control panels on the network. This allows different operators to recall the setups they need for the required broadcast or edit session.

For increased security, the Newton Panel Configurator allows the engineer to specify the control available to each panel on the network. Access to a frame, module, or set of parameters can be controlled.

In addition, with the Router Interface option enabled, simple X-Y control of a configured router is possible from a panel. A panel can also be used to follow the source selection from a router for parameter adjustment when the source is taken to the Monitored Destination defined in Newton configuration.

Figure 5. Newton Control Diagram



Newton System Components and Options

Refer to Table 2 for a summary of the standard system components available with each Newton model and any options that can be purchased.

Table 2. Newton System Components and Options

Model Name	Components
Newt-PC	Software control panel application CD-ROM
	NetConfig application
	Newton Panel Configurator for NetConfig
	Newton control panel application and system documentation in pdf format
	Hard copy of Newton Control System Instruction Manual
Newt-RM	1 RU Rack Mount control panel
	CD-ROM with:
	NetConfig application
	Newton Panel Configurator for NetConfig
	Newton control panel application and system documentation in pdf format
	Hard copy of Newton Control System Instruction Manual
Newt-Route	Newton Router Interface for use with Newt-PC or Newt-RM (requires acquisition of License Key from Grass Valley)

Section 2

Installation

This section contains the following installation information:

- System Requirements, including 8900NET module, 2000NET module and Router Interface option
- NewtonPC installation for software panel, NetConfig application and Newton Panel Configurator
- 1 RU Rack Mount Control Panel Installation, NetConfig application and Newton Panel Configurator
- Router Interface option installation overview

Once installation is complete, each rack mount panel must be configured for connection to the facility Ethernet. Then a panel configuration must be created and downloaded to each panels as described in *Section 3-Configuration*.

System Requirements

The NewtonPC software panel and NetConfig and Newton Panel Configurator run on a Windows platform and require the operating systems and network interface software described below.

Windows Platforms

The Newton software panel and NetConfig applications can be installed on the following Windows platforms on a networked PC:

- Windows 2000 with Support Pack 2.0
- Windows XP

Note To run NetConfig you must have Administrator privileges on the PC.

Gecko and Kameleon System Requirements:

Operation of the Newton Modular Control System requires the following software for the Gecko 8900 and Kameleon 2000 Series systems:

Gecko 8900 series system requirements:

- 8900NET module with version 3.2.0 software or later
- Ethernet network connection

Kameleon 2000 series system requirements:

- 2000NET module with version 3.2.0 software or later
- Ethernet network connection

Software updates for the 8900NET and 2000NET modules can be obtained by contacting Grass Valley Customer Service as described in *Appendix B-Updating 8900/2000NET Software*.

Router Interface Requirements

The Newton Router Interface option will operate with the following Thomson Grass Valley routing system protocols:

- Routers supporting RCL protocol
- Routers with Native Protocol and ethernet interface to system controllers

The Newton Router Interface option comes bundled with the latest software and is installed at the same time as the Newton panel software. It must then be enabled by the user with a software License Key provided by Grass Valley. Each device running the option (PC or rack mount panel) must have a specific License Key based on the Device ID of the device it is running on.

The Device ID from each device must be obtained in order to generate the License Key. To obtain the Device ID, refer to the following page references for each panel type:

- Newton PC Device ID (page 31)
- Rack Mount Panel Device ID (page 42)

Note Each License Key is node-locked. It will only enable the router interface on the NewtonPC or rack mount panel whose Device ID was used to generate the License Key. For installations with multiple NewtonPC applications on multiple PCs or multiple rack mount panels, a License Key is required for each separate application.

Refer also to the documentation that accompanies the option for more information on how to obtain the License Key.

Newton Control Panel Application Installation

The NewtonPC software control panel application for the PC comes on a CD-ROM along with the NetConfig networking tool and the Newton Panel Configurator necessary for configuring panels.

Installation of the Newton software control panel is a process of installing:

- Newton Control Panel application,
- NetConfig Networking application, and
- Newton Panel Configurator.

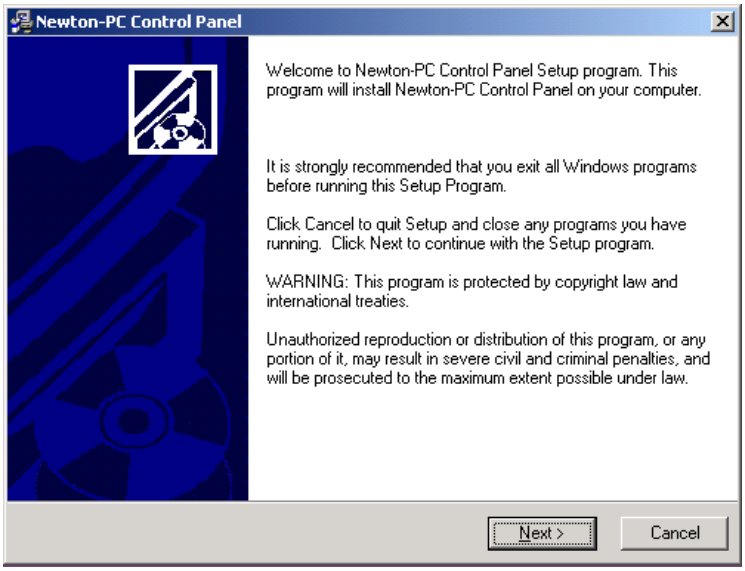
These software components are all included in the install process.

Installing NewtonPC Control Panel Application

Install the NewtonPC Control Panel software and additional components on a networked PC as follows:

1. Insert the NewtonPC CD-ROM into the CD drive in your networked PC.
2. The setup application should autorun when inserted. If not, locate the NewtonPC1-Setup.EXE file in the NewtonPC folder and double-click on it to start the installation.
3. Read the Welcome screen and click on the **Next >** button (Figure 6).

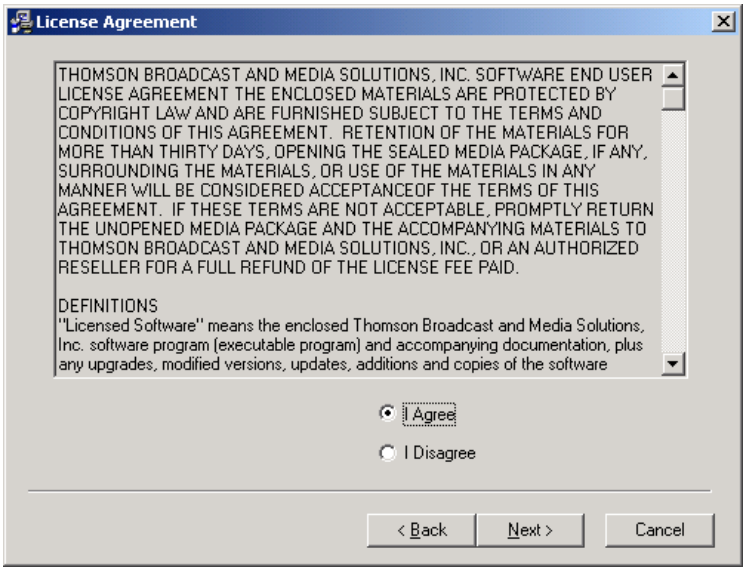
Figure 6. Installation Welcome Screen



4. Read the license agreement (Figure 7) and click on the **I Agree** radio button, then the **Next >** button to continue.

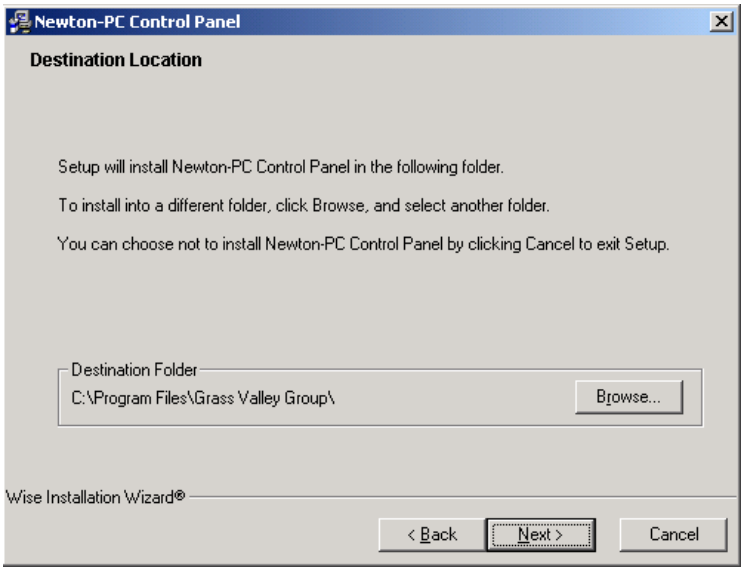
   Pressing the **I Disagree** button will halt the install.

Figure 7. License Agreement Screen



5. Select the destination location for installing the applications (Figure 8). (The default is recommended.) Use the **Browse** button to select another folder. When finished, select the **Next >** button.

Figure 8. Installation Destination Location

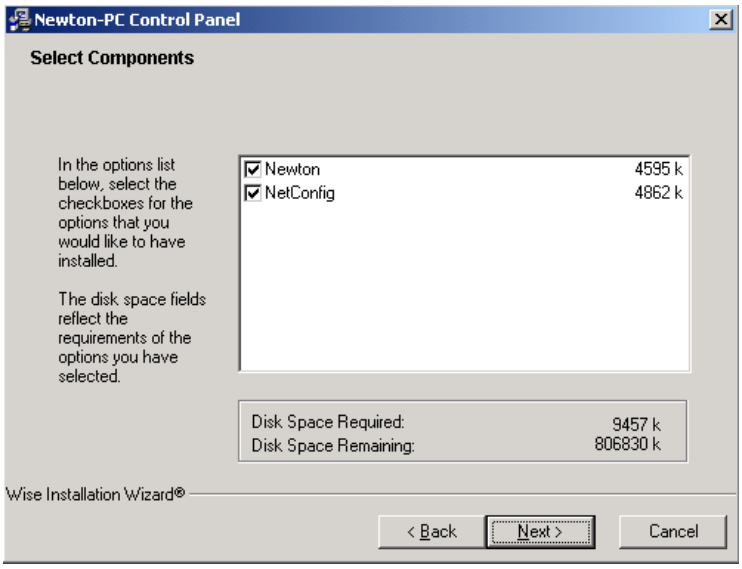


6. In the Select Components screen (Figure 9), select the Newton and NetConfig checkboxes for every installation. NetConfig is required for Newton panel configuration.

Note If you have an older version of NetConfig update to this version for proper Newton configuration capability. Always update from the Newton CD to get the latest released version of NetConfig.

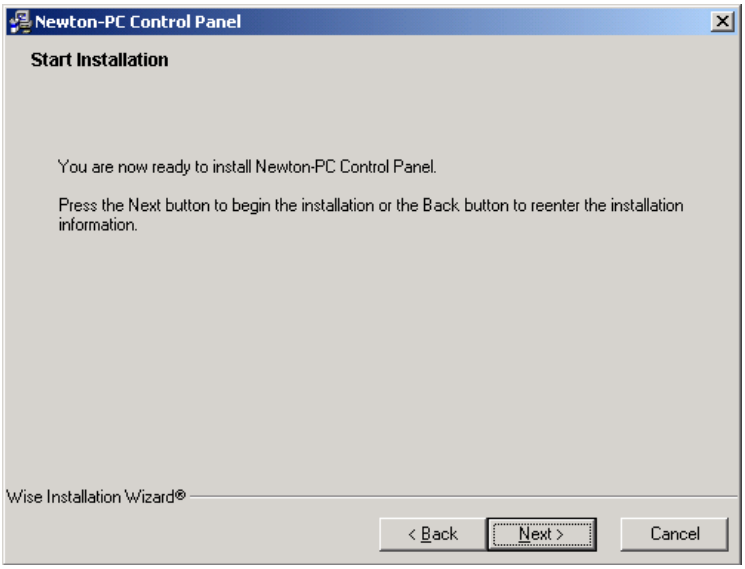
7. Press the **Next >** button.

Figure 9. Installation Select Components Screen



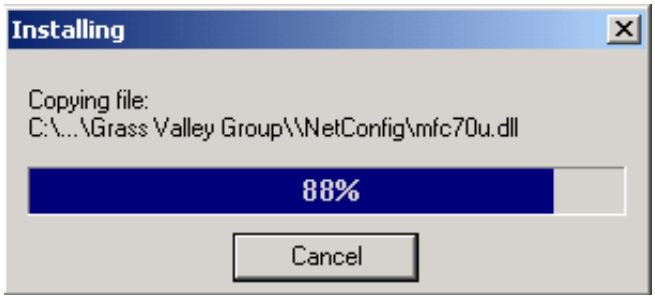
8. In the Start screen (Figure 10), select the **Next >** button to begin the installation.

Figure 10. Installation Start Screen



The Installing progress screen will be displayed (Figure 11).

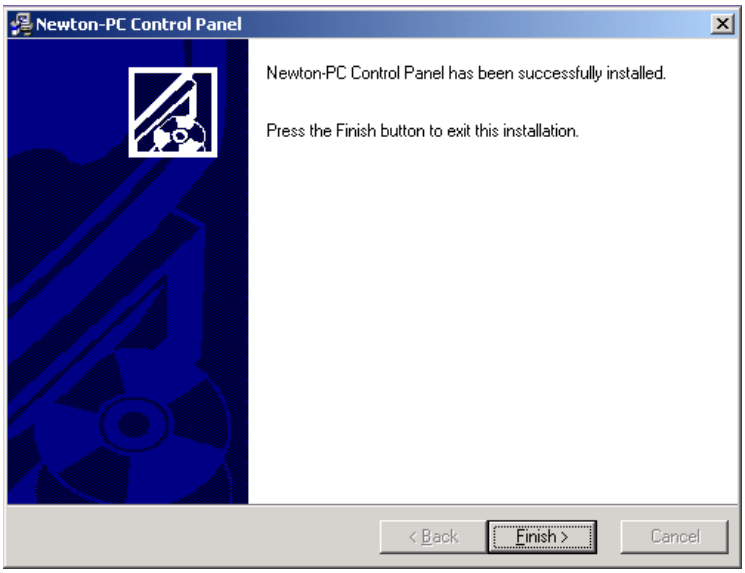
Figure 11. Installation Progress Screen



Once installation is completed and successful, a Finish screen will be displayed (Figure 12).

9. Press the **Finish >** button to exit.

Figure 12. Installation Finish Screen



Shortcuts

Once software is loaded, a shortcut to NetConfig and NewtonPC will be automatically installed on the PC desktop.

The NetConfig icon is illustrated at left.

The NewtonPC icon is illustrated at left.

Monitor Settings For Viewing NewtonPC

The following monitor settings are recommended for optimal viewing of the NewtonPC software panel application:

- From the Windows Start menu, select Control Panels/Display/Advanced/Small Fonts
- Set the screen resolution to 1024 x 768 or higher

Enable Router Interface on NewtonPC

To enter the License Key to enable the option on the NewtonPC software panel, do the following:

1. Open the application by double-clicking on the NewtonPC icon to bring up the main application screen
2. Right-click on the blue bar at the top of the application to bring up the pulldown menu shown in Figure 13.
3. Select the Options choice.

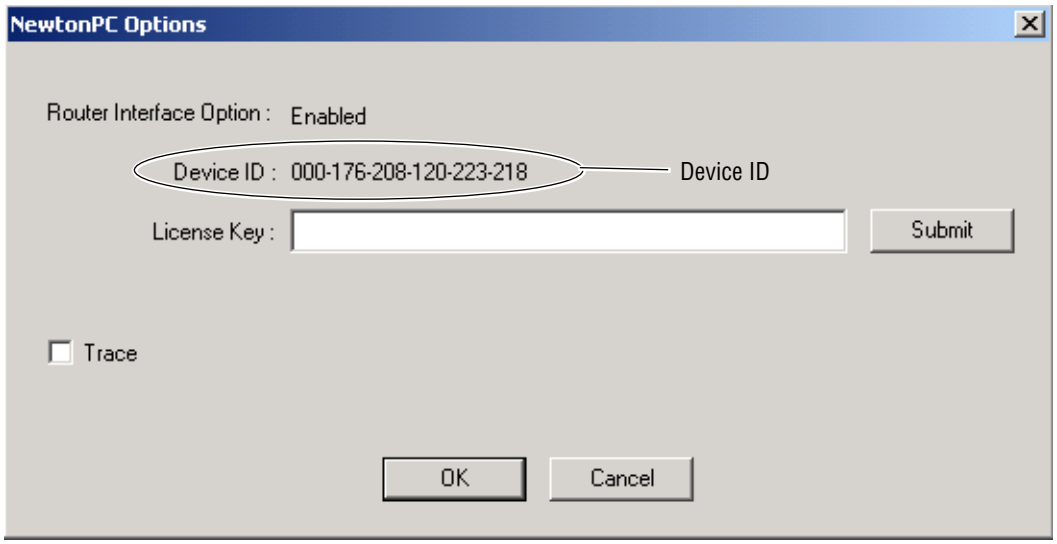
Figure 13. NewtonPC Router Interface Option Enable

4. A software License Key is required to enable the option. For NewtonPC, you must first identify the Device ID on the PC on which you will be using Newton to obtain this code. The Device ID is given on the NewtonPC Options screen (Figure 14). Record this number and contact Customer Service to obtain the License Key if you have not been given this number already. Refer to *Contacting Grass Valley on page 2* for contact information.

Note When the Newt-Route option is ordered, a License Key form should accompany the option when it is shipped. This document will also describe how to obtain the License Key.

5. Enter the License Key code you have been given and select the **Submit** button.

Figure 14. NewtonPC Options Screen



A confirmation message will appear if the License Key was accepted and the Router Interface Option will report **Enabled** on the NewtonPC Options screen (Figure 14).

If an invalid code was entered, the message shown in Figure 15 will appear.

Figure 15. Invalid License Key Entered

Once a router configuration is completed in the Newton Panel Configurator and downloaded to the soft panel, the **Route** and **Monitor** buttons and the Router LED will become visible as shown in Figure 16. Refer to *Router Interface Option Configuration* on page 63.

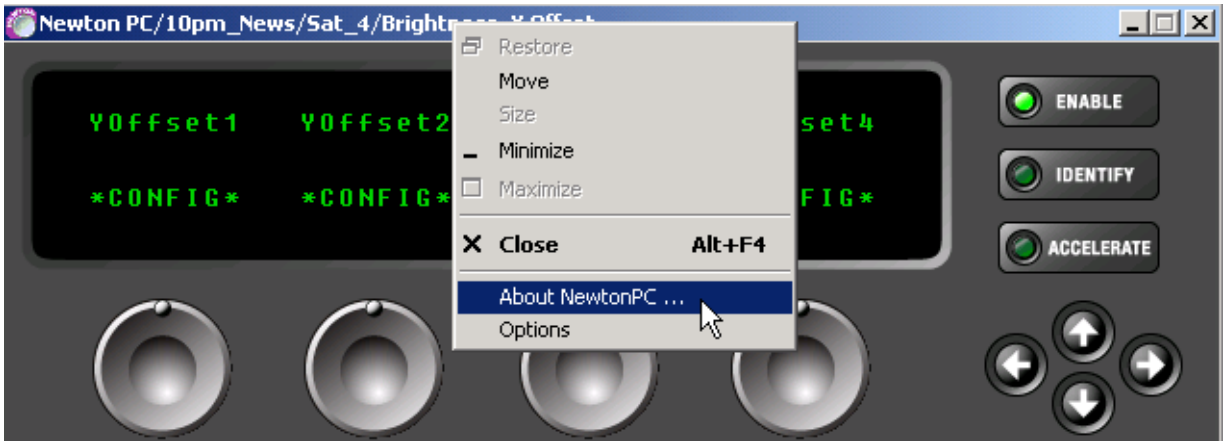
For router operation, refer to *Router Interface Operation* on page 86.

Figure 16. Router Interface Option Enabled

Checking Software Version of Software Panel

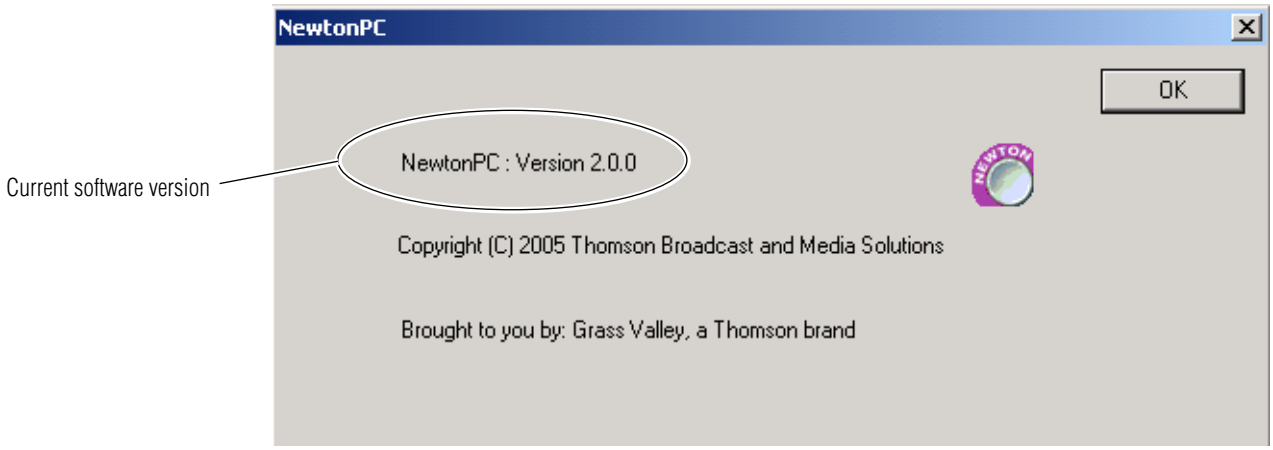
To check the currently loaded software version on the software panel, right click on the blue bar at the top of the application to access the pulldown menu and select the About NewtonPC selection (Figure 17).

Figure 17. NewtonPC Pulldown



This will bring up the screen shown in Figure 18. The current software version loaded on this panel will be reported.

Figure 18. NewtonPC Software Version



Updating Software

NewtonPC software must be updated from a CD. Insert the updated CD and install the latest NewtonPC and NetConfig over the old version. License Keys entered for enabling the Router Interface option will be maintained and do not need to be re-entered.

Newton Rack Mount Control Panel Installation

Installation of the Newton 1 RU rack mount control panel is a process of:

- Rack mounting the panel,
- Making two simple rear connections: LAN and AC power, and
- Installing NetConfig software and Newton Panel Configurator.

Rack Mounting

The Newton rack mount panel is 1 RU high and designed to fit in a standard 19 inch equipment rack with customer-supplied rack mounting screws.

Rear Connections

There are two rear connections to the Newton rack mount panel:

- IEC AC Mains – auto-sensing 90-260 VAC input, and
- LAN – a standard RJ-45 Ethernet connection.

Installing Newton Rack Mount Control Panel Software

The NewtonRM (1 RU Rack Mount panel) comes with a CD-ROM with the Newton rack mount panel software along with the NetConfig networking application and the Newton Panel Configurator necessary for configuring panels.

Install the NewtonRM Control Panel software and additional components on a networked PC in the same manner as the NewtonPC, following the prompts given in the installation process. The installation process is the same. Refer to *Installing NewtonPC Control Panel Application* on page 25 for step-by-step instructions.

This installation will load the NetConfig application with the Newton Panel Configurator and will place a NewtonRM folder in the destination directory.

This NewtonRM folder contains a newton_APP.bin file that can be downloaded to a rack mount control panel for any necessary updates using NetConfig. This is only necessary when you have received updated software on a CD or from the web site. The Newton rack mount control panel ships from the factory with the latest software release. If you are installing a new panel direct from the factory, there is no need to update the panel software, unless you have been advised to do so.

Checking Software Version of Rack Mount Panel

To check the currently loaded software version on the rack mount panel, hold down the **Ident** button. The screen will shown the current software version and the IP Address of the panel (Figure 19).

Figure 19. Software Version of Rack Mount Panel

Updating Software on Rack Mount Panel With NetConfig

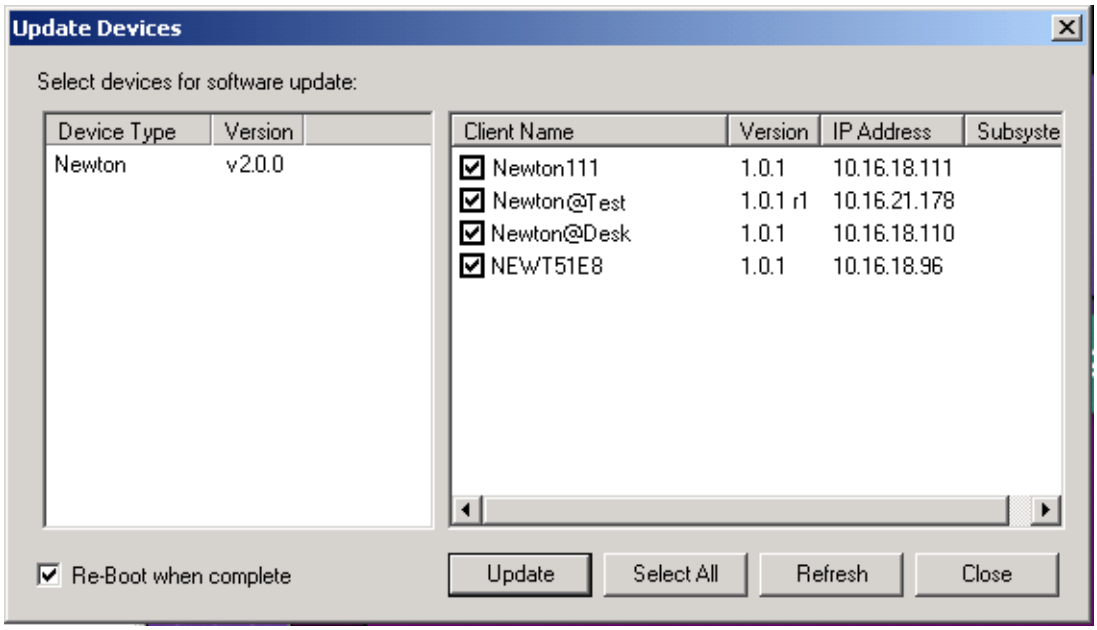
If you have received a CD with a NewtonRM update, use the following procedure to install updated software to the rack mount control panel:

1. Open NetConfig and select the Load SW icon in the toolbar.
2. The Update Devices window will come up as shown in Figure 20.

   The latest version of NewtonRM rack mount panel software should appear in the Device Type list.

   The Newton rack mount panels accessible on the NetConfig LAN will appear in the Client Name list along with the software version currently installed and the IP Addresses of each device.

Figure 20. NetConfig Update Devices Window



3. Highlight the Device Type of the software version you wish to update.
4. Check the box for the Newton rack mount panel to update in the Client Name list. You may update any or all devices. Use the **Select All** button to highlight all of the devices.
5. Check the **Re-Boot when complete** checkbox in the lower lefthand corner to have the panel(s) re-boot when the software update is complete.
6. Click the **Update** button to begin the update.
7. Once all downloads are complete, use the **Refresh** button to update the window and check that the version of software has been downloaded to each selected device successfully.
8. When finished, select the **Close** button.

Enable Router Interface on Rack Mount Panel

The Newton Router Interface option comes bundled with the latest software and is installed when the Newton Rack Mount Control Panel software is installed. It must be enabled by the user with a License Key code provided by Grass Valley.

To install the License Key code to active the option on the Newton rack mount panel, refer to *Enable Router Interface on Rack Mount Panel* on page 42.

Uninstalling Software

To uninstall NewtonPC or NetConfig use the Windows Add/Remove Programs utility.

Note If a router option License Key has been enabled, it will not be deleted when the NewtonPC application is removed. Updating or installing new software will maintain the License Key.

Configuration

This completes software installation for both software and rack mount panels. Proceed to *Section 3-Configuration* for complete details on configuring and downloading configurations to the Newton panels.

Section 3

Configuration

This section describes configuration of the control panel for:

- Networking the panel(s) to the modules in your facility (setting IP Addresses) and adjusting the rack mount panel operating parameters (name, lamp intensity, Router option enable etc.),
- Defining channels and setups for module control by the panels, and
- Setting up soft key assignments for both channel setups and Newton router interface functions.

Network and Operating Parameter Configuration

The first step in using either the rack mount or software panel is networking the panels to access the frames containing the 8900 and 2000 modules you wish to control. This is done by setting the Ethernet IP Addresses to put the panels on the same subnet as the modular frames.

Once the panel is connected to the network, you can then set the overall panel operating parameters for lamp and display brightness etc.

Newton Rack Mount Panel Configuration

Once a rack mount panel has been installed and cabled, you will need to configure it to the network where the modules to be controlled reside.

To access and configure a rack mount panel on the network:

1. Open NetConfig on the PC connected to the modular LAN where the modules to be controlled reside. Your Newton rack mount panel should be hard-wired to this LAN.
2. Select the **Device View** from the NetConfig toolbar (Figure 21 on page 38). Expand the **Device View** to see the Module and Router devices on the LAN.
3. Expand the Module view to access the Newton rack mount panels.

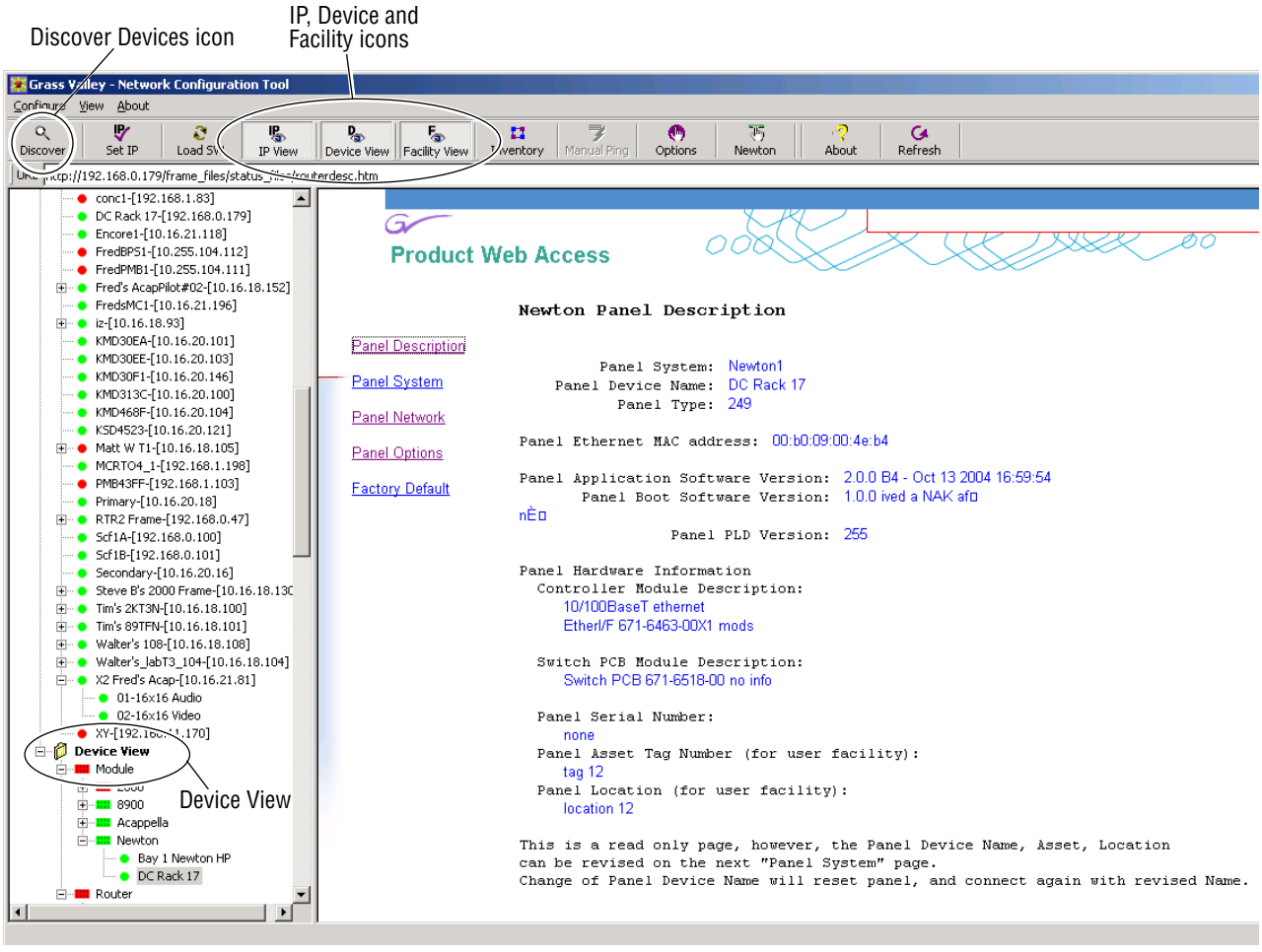
4. Select the **Discover Devices** icon in the upper left corner of the window. All Newton rack mount panels present on the network should be listed under the Newton list.

Note Software panels are not seen in the tree structure.

5. Locate the Newton rack mount panel you want to configure. New panels will appear with a red indicator dot, showing a default IP Address.

6. Highlight the Newton rack mount panel name. The Newton Panel Description page (Figure 21) will come up and display read-only information about the panel. This page also provides links to other panel pages.

Figure 21. Locating Newton Panels With NetConfig



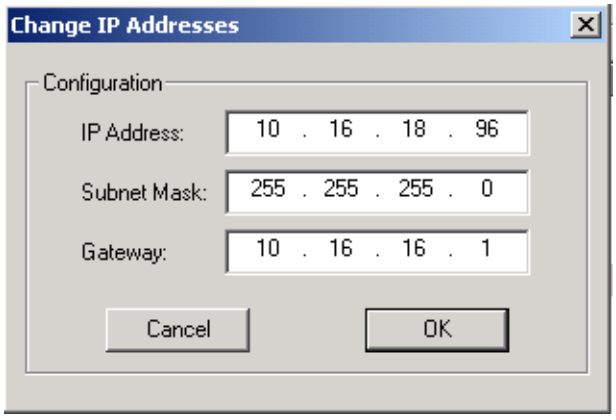
Set Rack Mount Panel IP Address

Before proceeding to the other links on the page, use NetConfig to set the IP Address for this Newton panel as follows.

1. Select the **Set IP Address** icon in the Netconfig toolbar to set the IP Address of this panel.
2. In the Change IP Address window, select Newton Panel in the Select Device Type pulldown.
3. Double-click on the Newton panel in the list of devices that comes up in NetConfig and enter the desired IP Addresses in the Change IP Addresses box (Figure 22).

   The default Subnet mask setting of 255.255.255.0 is recommended for a Class C network, 255.0.0.0 for a Class A network. A Gateway IP Address is only required if the local network uses a gateway to link to an external network. Check with your system administrator for how to set the IP Addresses to put this panel on the correct network.
4. Select **OK** to save this configuration.

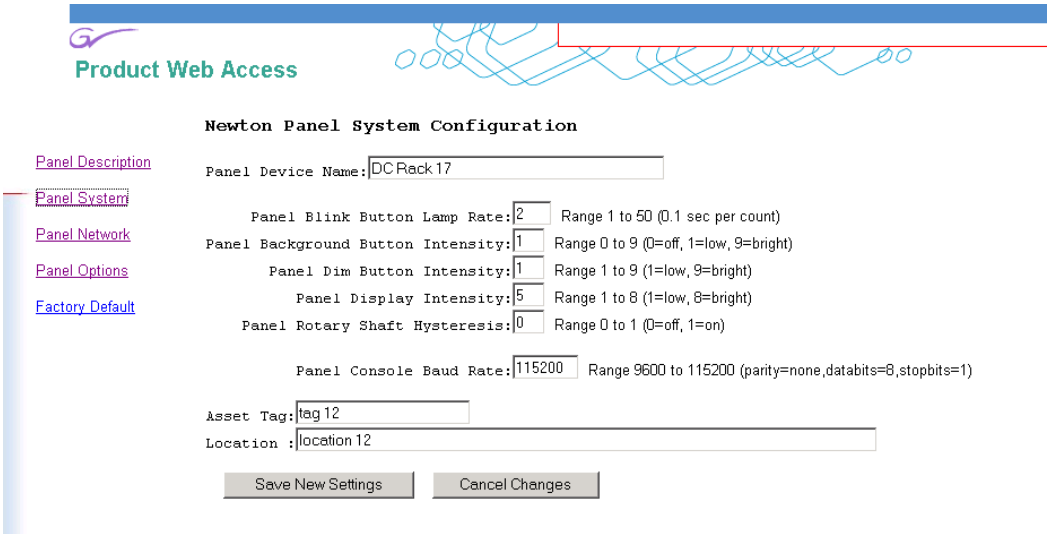
Figure 22. Change IP Addresses Box



Set Rack Mount Panel System Configuration

Select the **Panel System** link on the left of the Newton Panel Description web page to bring up the Newton Panel System Configuration web page (Figure 23). The configuration will be the factory default values.

Figure 23. Newton Panel System Configuration Web Page

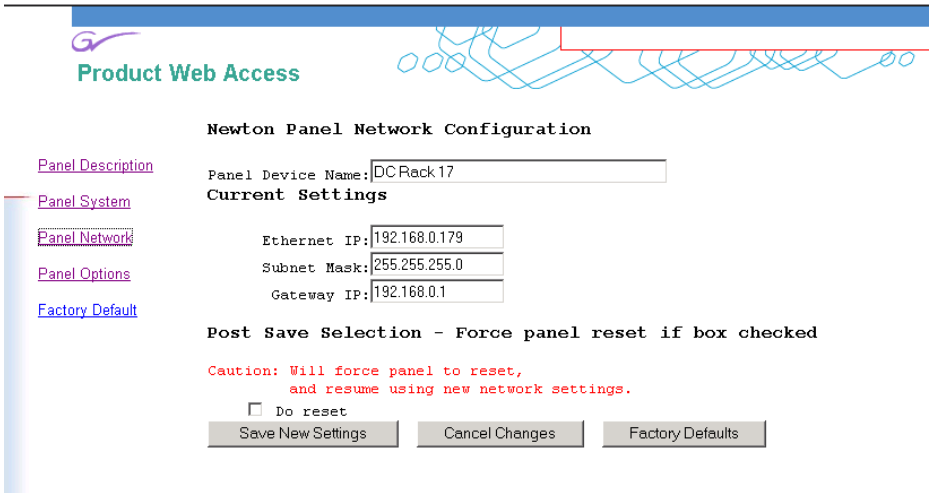


1. Type in the desired name for the panel in the **Panel Device Name** box.
2. Adjust the following parameters for the selected rack mount panel as desired:
   - Panel Blink Button Lamp Rate – currently not implemented.
   - Panel Background Button Intensity – sets the LED intensity on the panel for use in a dark environment.
   - Panel Dim Button Intensity – currently not implemented.
   - Panel Display Intensity – sets the brightness of the display.
   - Panel Rotary Shaft Hysteresis – use this control to adjust the sensitivity and smoothness of the panel knobs if required.
   - Panel Console Baud Rate – currently not implemented.
3. Select the **Save New Settings** button to save your changes or the **Cancel Changes** to return to the previous values.

Set Rack Mount Network Configuration

Select the **Panel Network** link on the left of the web page. This will bring up the Newton Panel Network Configuration web page (Figure 24). The current Ethernet IP, Subnet Mask IP and Gateway IP addresses set on page 39 will be displayed.

Figure 24. Newton Panel Network Configuration Web Page



You can also use this web page to set the IP Addresses of the panel as follows:

1. Enter the desired IP addresses to put this device on the same LAN and subnet as the modules you wish to control.
2. Check the **Do reset** box if you would like to force the panel to reset upon saving and resume (reboot) using the new network settings.
3. Select **Save New Settings** to save the new IP addresses.
4. Select **Cancel Changes** to cancel any changes made and return to the previous value.
5. Select **Factory Defaults** to return all IP values to the factory settings.

Note Returning to factory default IP Addresses will put the panel on a different network and may cause loss of communication to the panel.

Enable Router Interface on Rack Mount Panel

Select the **Panel Options** link to enable the Newton Router Interface option on this rack mount panel. This will bring up the Newton Router Interface Option web page (Figure 25).

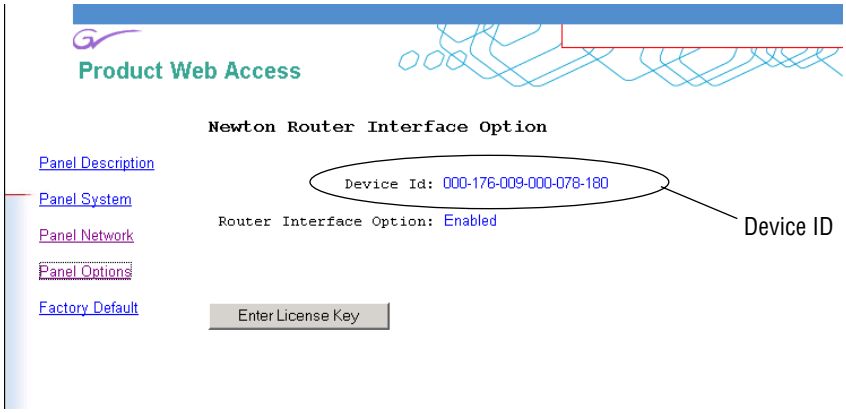
A software License Key is required to enable the option. For a NewtonRM panel shipped from the factory with the option, you will receive a License Key form with the code you must enter to enable the option.

If you are updating a panel in the field and adding the option, you will need to first update to version 2.0 software then acquire the Device ID of the panel (Figure 25) in order to receive a License Key from the factory. Record this number from the panel you wish to run the option on and contact Customer Service to obtain the License Key. Refer to *Contacting Grass Valley on page 2* for contact information.

Note When the Newt-Route option is ordered, a License Key form should accompany the option when it is shipped. describing how to obtain the License Key.

1. To enable the Router Interface option, select the **Enter License Key** button.

Figure 25. Newton Panel Options Web Page



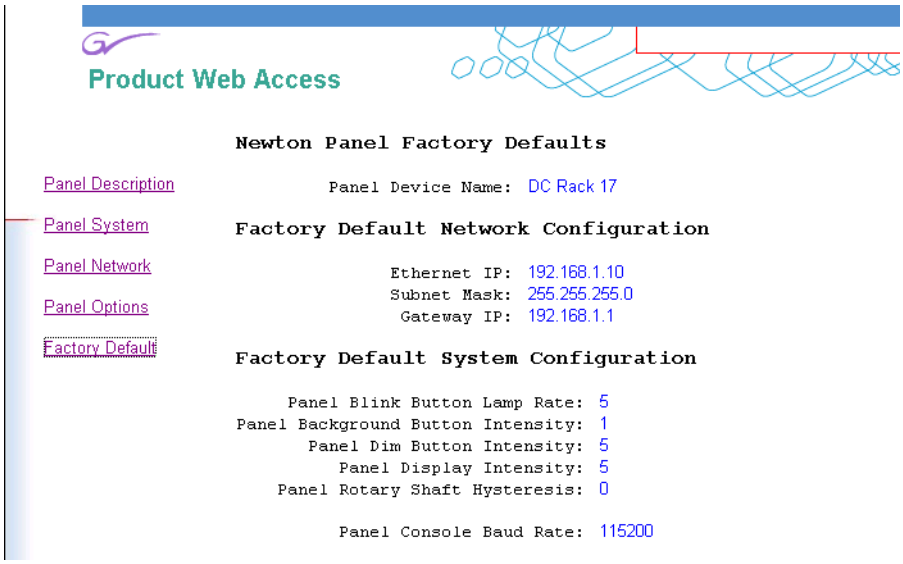
2. In the screen that comes up, enter the License Key code provided from Grass Valley in the blank field and press the **Submit** button (Figure 26).

Figure 26. Enter License Key

Rack Mount Factory Defaults

Select the **Factory Default** link to view a read-only listing of the factory defaults that are set for the Newton panel at the factory and will appear if the **Factory Defaults** button is selected on the Panel Network web page (Figure 27).

Figure 27. Newton Panel Factory Defaults Page



Panel Configuration

The overall concept of Newton operation is based on Engineering configuration of the knobs and soft key buttons on each panel. Once channels and setups are defined, operators can use the navigation buttons and configurable soft keys to access the parameters. Before operation of a panel is possible, a panel configuration must be defined with NetConfig using the Newton Panel Configurator, then sent to a panel on the network.

Configuration is usually performed by Engineering staff. Once the configuration process is planned and executed, panel setups can be utilized by operators.

Channel and Setup Definitions

Creating a configuration for a Newton panel is accomplished with the Newton Panel Configurator in NetConfig. To do this, you first name a signal processing path—a channel—that includes an individual module or a string of modules. Next, the adjustable parameters—setups—are defined for each channel. Setups could include such thing as audio modes, video processing, or timing. Each setup contains the assignment for each of the four control knobs.

The channels with their defined setups are then saved to a configuration which is downloaded to a panel. Each panel supports up to 128 channels with 12 setups each.

Note The number of channels allowed varies according to setup complexity when more than about 70 channels are used.

Configuring Channels and Setups

This section describes how to configure channels and setups for a Newton Control Panel. It is divided into the following sections:

- Newton Panel Configurator Overview
- Creating a Configuration
- Soft Key Functions and Assignments
- Adding or Changing a Configuration

Newton Panel Configurator Operation Overview

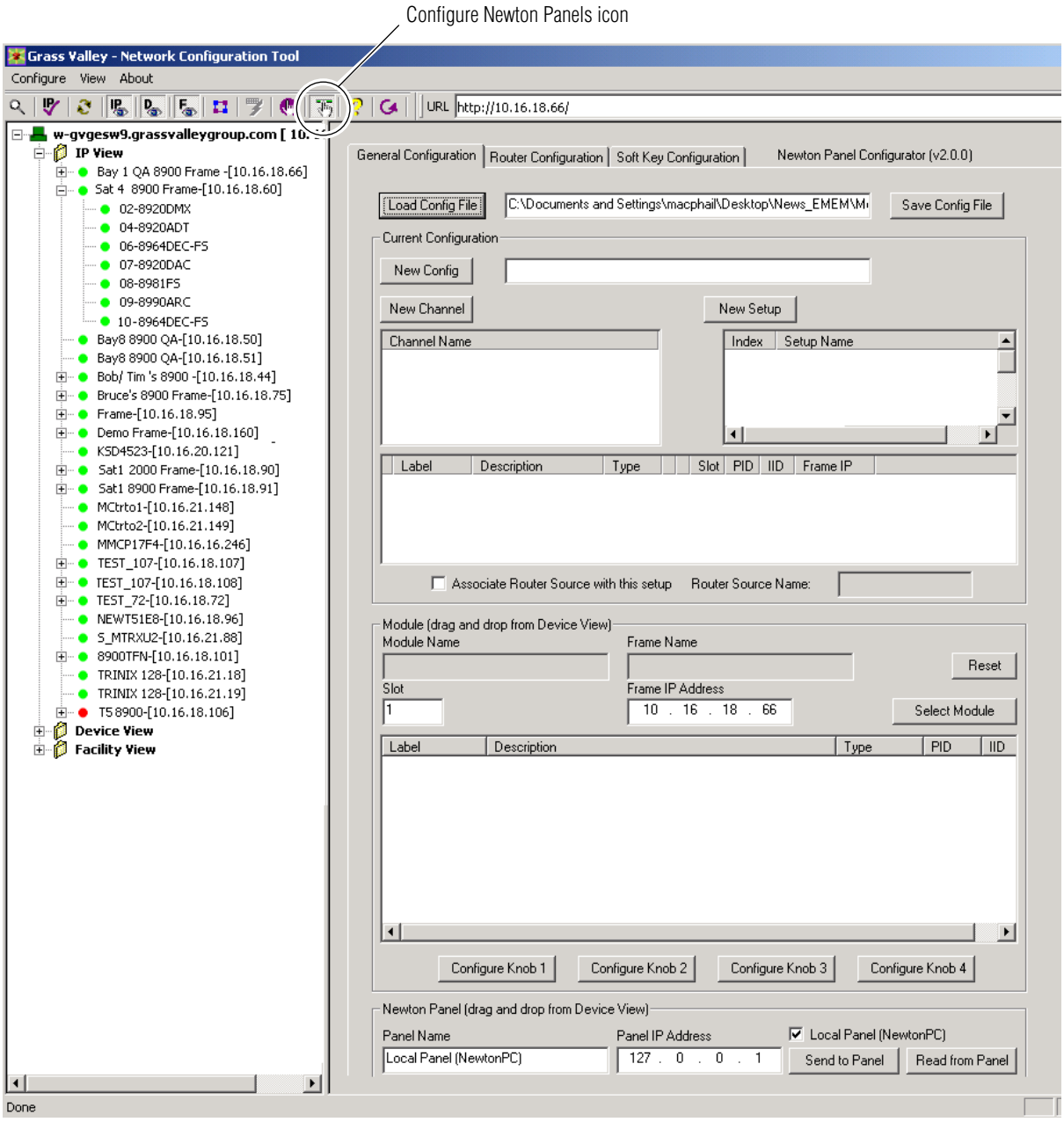
This section provides a brief overview of each of the components in the NetConfig Newton Panel Configurator for reference. Configuration is explained step-by-step in *Creating A Configuration* on page 56. The Newton Panel Configurator is divided into four main tabs, each described in this section.

To use the Newton Panel Configurator, open NetConfig and select the **Configure Newton Panels** icon in the toolbar. This will bring up the Newton Panel Configurator screen (Figure 28).

De-select the icon to turn the Newton Panel Configurator off. If panels have been configured previously, the last saved configuration will be loaded into Newton Panel Configurator.

Note There are three different view settings available for the NetConfig toolbar: Image and Text, Image Only, and Text Only. They are selected under the Configure pulldown, NetConfig options, Configuration Options, Tool Bar.

Figure 28. Newton Panel Configurator Screen



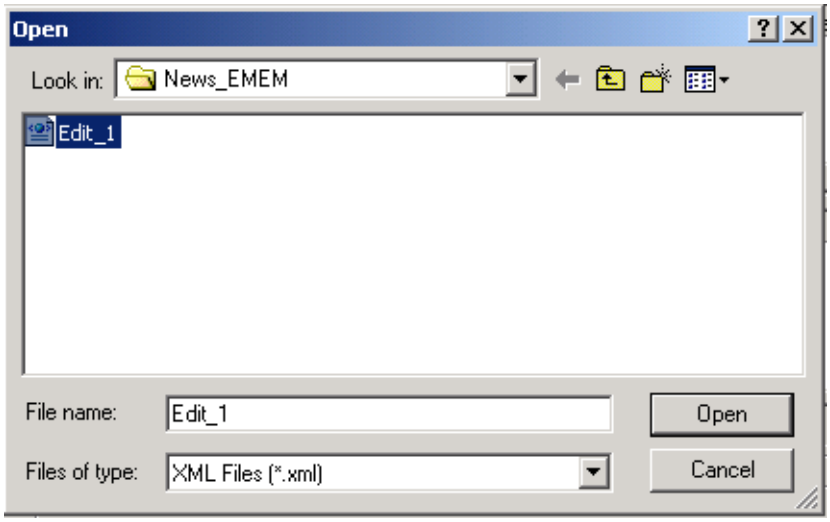
General Configuration Tab

The General Configuration tab contains the main setup controls for creating a configuration with the components described below.

- **Load Config File** button– a previously saved configuration file can be loaded into the Configurator for download to a panel. If you know the location of the file, enter a path and filename into the box or select the **Load Config File** button to bring up an Open dialog box (Figure 29).

  In the Open dialog window, browse to a saved file and select it. Press the **Open** button to load this file into the Load Config File field.

Figure 29. Load Previously Saved Config File

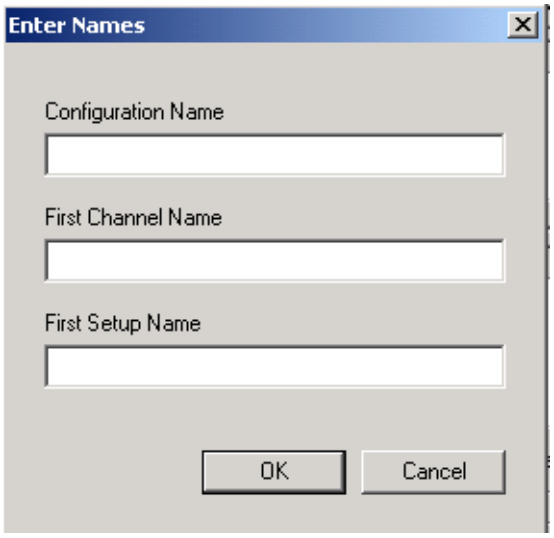


The area labeled Current Configuration contains the following controls for creating or editing a configuration:

- **New Config** button – select this button to bring up a window (Figure 30) to enter a name for a new configuration. Enter a First Channel Name and First Setup Name for that configuration.

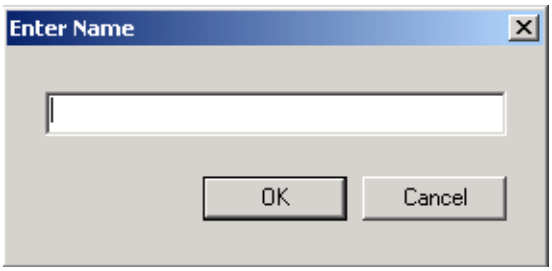
Note It is recommended to use standard PC naming conventions (no spaces, forward or back slashes, or other characters that can create conflicts).

Figure 30. New Config Window



- **New Channel** – select this button to name a new channel in the Enter Name window (Figure 31). Select **OK** when finished to enter the name in the Channel Name list under the **New Channel** button on the main screen.

Figure 31. New Channel Window



Up to 128 channels are possible in a configuration. If the maximum number of channels has been created, attempting to create another channel will bring up the warning message shown in Figure 32.

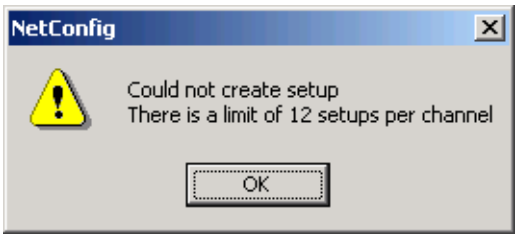
Figure 32. Channel Limit Warning

- **New Setup** – select this button to name a new setup once a channel has been defined above. The Enter Name window is identical to Figure 31 on page 48. Select **OK** when finished to enter the name in the Setup Name list under the **New Setup** button on the main screen.

  There is a limit of 12 setups per channel. If the maximum number of setups are already created, attempting to create a setup will bring up the warning message shown in Figure 33.

Note Creating complex setups can limit the number of channels that can be created when using more than about 70 channels.

Figure 33. Setup Limit Warning

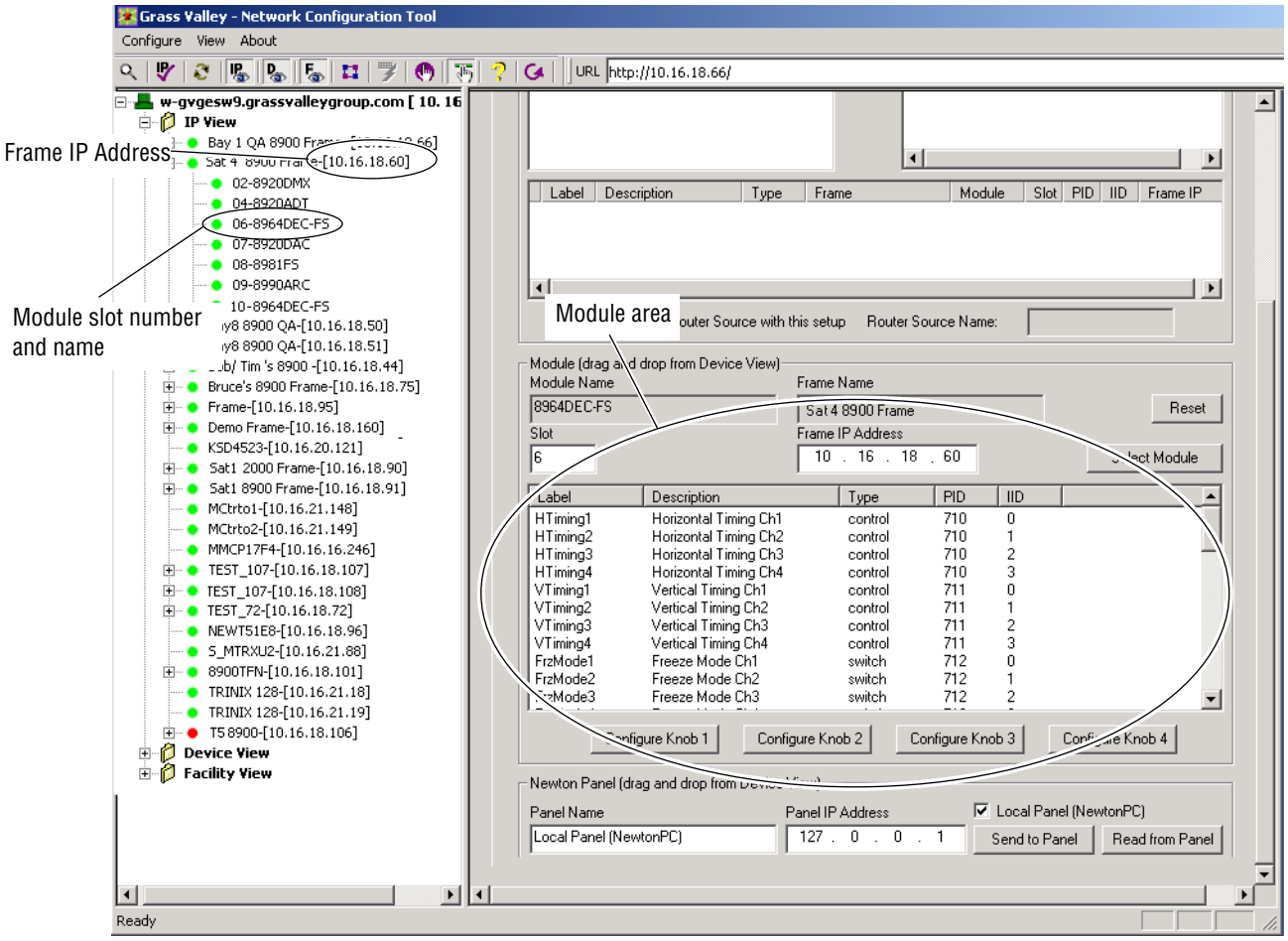


- **Associate Router Source with this setup** checkbox – when the Newton Router Interface option is enabled, any setup can be associated with a router source. When the router source is selected on the router, this setup will automatically become active on the Newton control panel.
- **Router Source Name –** a valid router source must be entered in the field from the Router configured under the Router Configuration tab.

The Module area shown in Figure 34 displays a selected module and its published parameters available for configuring setups. Any media module in an 8900 or 2000 frame that appears in the main tree structure on the left can be selected and dragged to this window.

Note Not all modules will have configurable parameters.

Figure 34. Newton Module and Panel Areas



The following information about a module is displayed in the window (Figure 35):

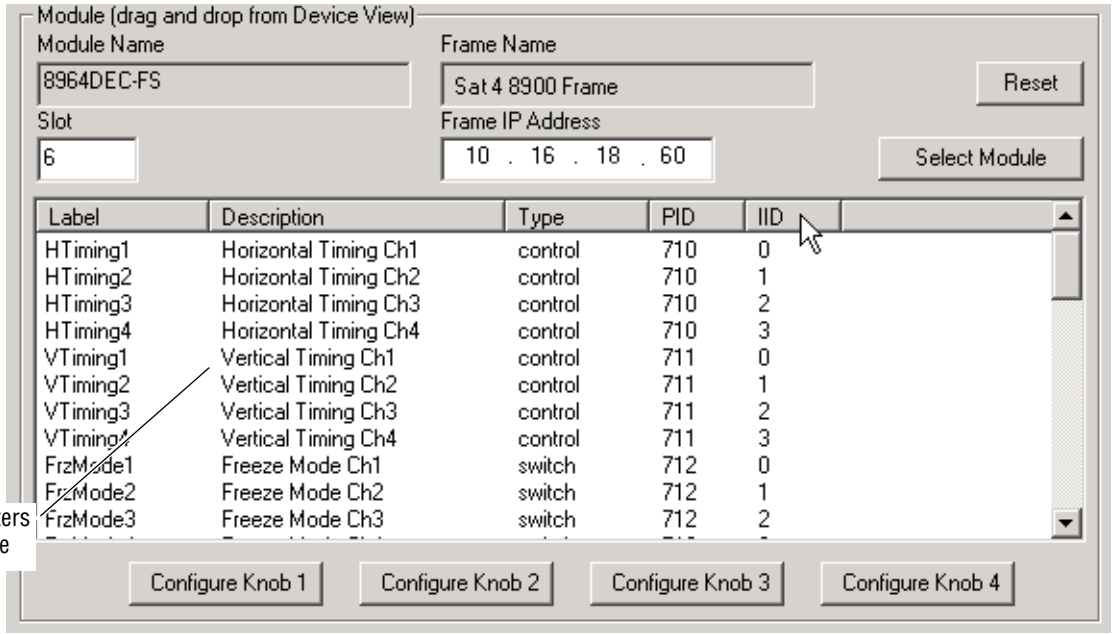
- **Module Name** – displays the name of the module that has been dragged and dropped into the parameter window.
- Frame Name – displays the name of the 8900 or 2000 frame containing the selected module.
- **Slot Number** – displays the slot number in the frame of the selected module.
- **Frame IP Address** – displays the IP Address of the frame containing the displayed module.

A module can also accessed by entering the frame IP Address and module slot number and clicking on the **Select Module** button.

Use the **Reset** button to clear the parameter window.

For example, the 8964DEC-FS module selected in the IP View in Figure 34 on page 50 can be dragged and dropped to the window where the parameters that are available from this module will be published (Figure 35).

Figure 35. Published Parameters In Module Window

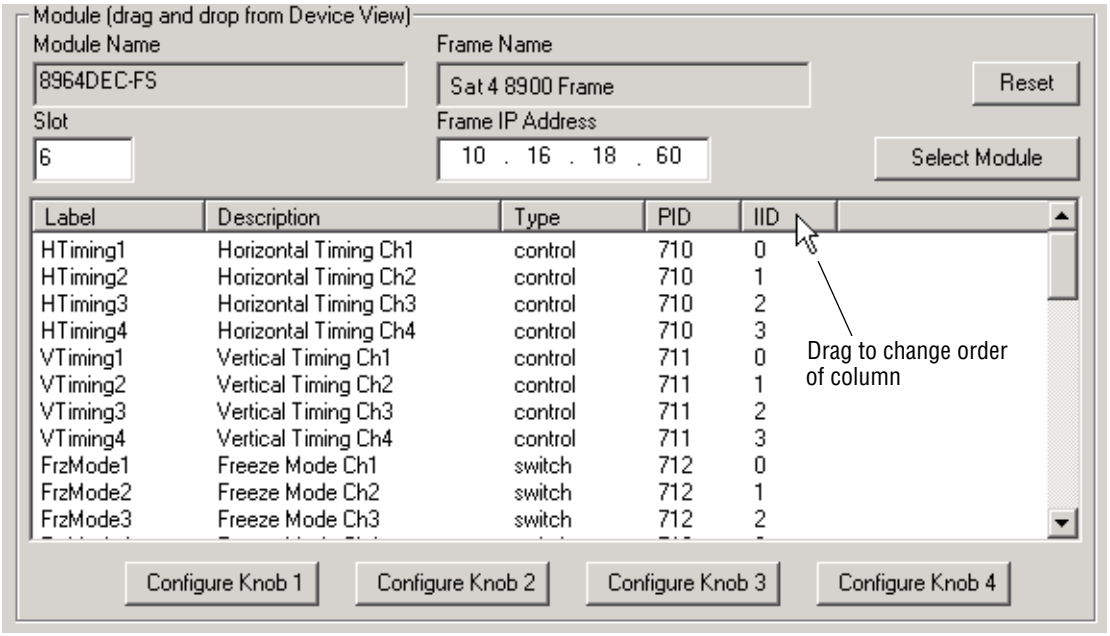


The published parameters include the following information:

- **Label** – the name that will appear on the control panel display. (This name can be changed by right-clicking on the control.)
- **Description** – a description of the parameter from the module. Information on what this control does on the module is available in the specific module instruction manual.
- **Type** – the type of control is either a variable control (such as gain) or a switch (on or off).
- **PID** and **IID** numbers – parameter and instance identifiers for software development.

The order of the information columns for the parameters can be changed by dragging a control to a different location as shown in Figure 36.

Figure 36. Changing Order of Parameter Information



Once a channel and a setup have been named, a parameter listed for the module can be associated with a knob creating a setup using the following controls:

- **Configure Knob 1-4** buttons – use the four **Configure Knob** buttons to select the parameters to control from the module list published in the Module window.

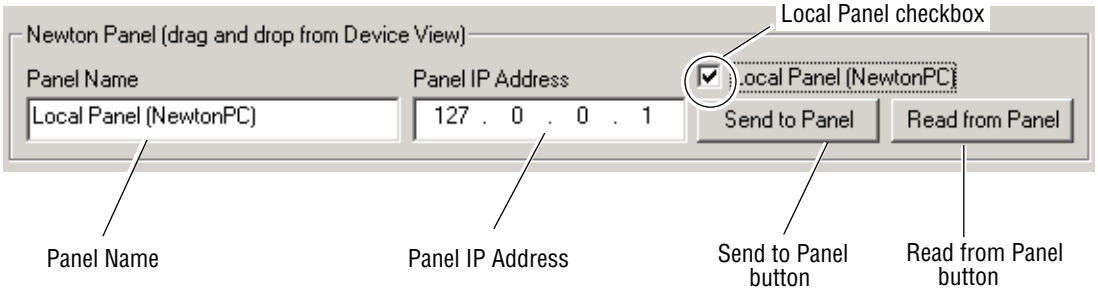
  You may also right-click on a parameter in the list to assign a knob to a control or switch. This process is explained in detail in *Creating A Configuration* on page 56.

The Newton Panel area at the bottom of the Newton Panel Configurator window shown in Figure 37 allows a configuration to be sent to, or read from, a panel present on the LAN.

When a panel is dragged and dropped to the Newton Panel area, the following information about the panel is displayed:

- **Panel Name** field– displays the name of the panel that has been dragged and dropped into the parameter window.
- **Panel IP Address** field – lists the IP Address of the displayed panel.
- **Send to Panel** button – will download the current configuration to the panel.
- **Read from Panel** button – will upload the configuration from the panel in the display to the Newton Panel Configurator.
- **Local Panel (NewtonPC)** checkbox – checking this box will connect the Newton Panel Configurator to the Newton software panel installed on the resident PC running NetConfig. The IP Address shown is a loopback address from the local PC and should not be changed.

Figure 37. Newton Panel Area

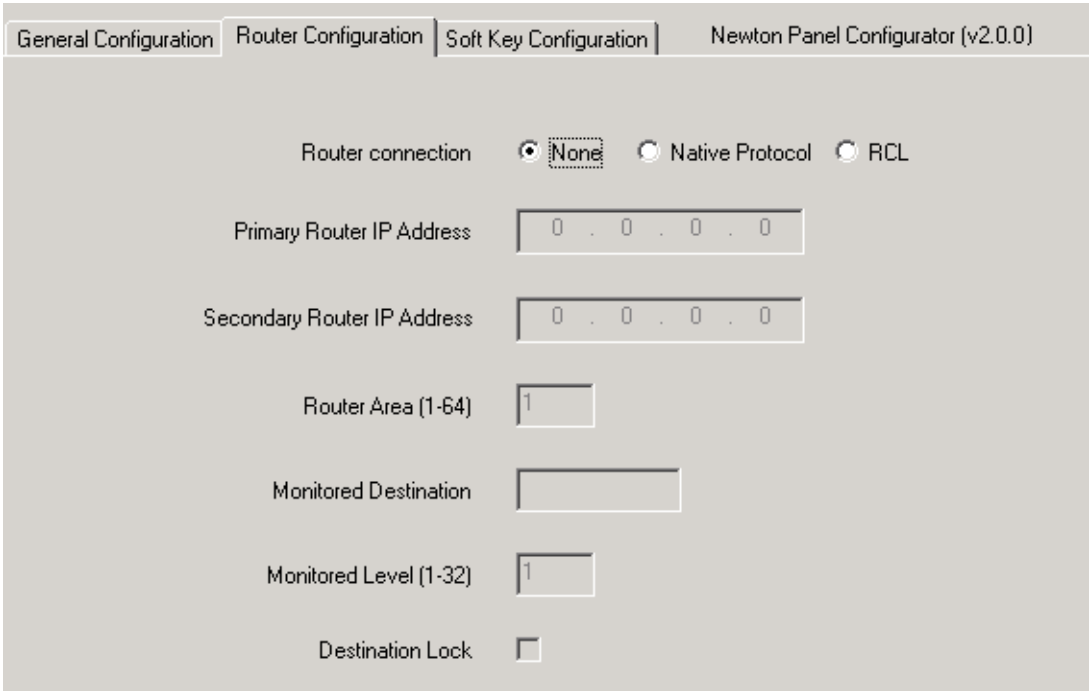


Router Configuration Tab

This tab in the Newton Panel Configurator (Figure 38) accesses the Router Configuration interface. Newton will interface to a routing system with either Native (with ethernet connection to MCPU or system controller) or RCL protocols.

For a detailed description of router configuration refer to *Router Interface Option Configuration* on page 63.

Figure 38. Router Configuration Tab



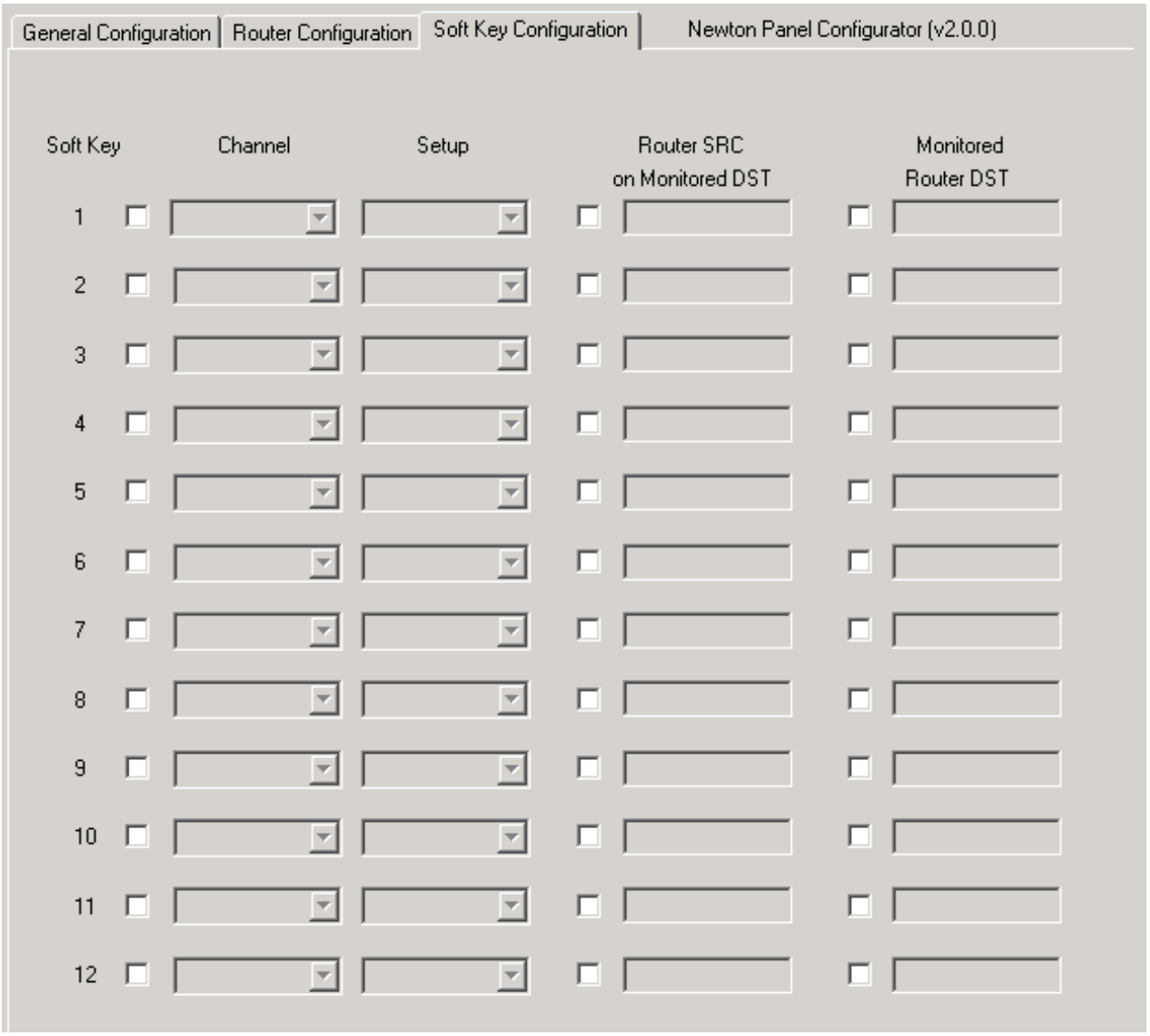
Soft Key Configuration Tab

The Soft Key Configuration tab (Figure 39) provides a method to assign soft keys to recall channels and setups and/or router sources and destinations. This process can also be performed locally at the panel. Refer to *Soft Key Functions and Assignments* on page 65 for a more detailed explanation.

The following can be configured for each of the 12 soft keys:

- **Channel/Setup** – select a channel from the current configuration, and select a setup from the channel to assign to a soft key.
- **Router SRC on Monitored DST** – a router source can be taken to the Monitored Destination using a soft key.
- **Monitored Router DST** – a Monitored Destination (the destination monitored by the control panel) can be selected using a soft key.

Figure 39. Soft Key Configuration Tab



Creating A Configuration

There are many ways to configure a Newton Control Panel, from a simple configuration for one module to extremely complex ones involving many modules. A configuration example is provided below to learn the concepts for using the Newton Panel Configurator.

Use the procedure below to learn a sample panel configuration. This example is based on setting controls for a single module with one channel and four setups.

1. Open NetConfig and select the **Configure Newton Panels** button in the toolbar to open the Newton Panel Configurator.

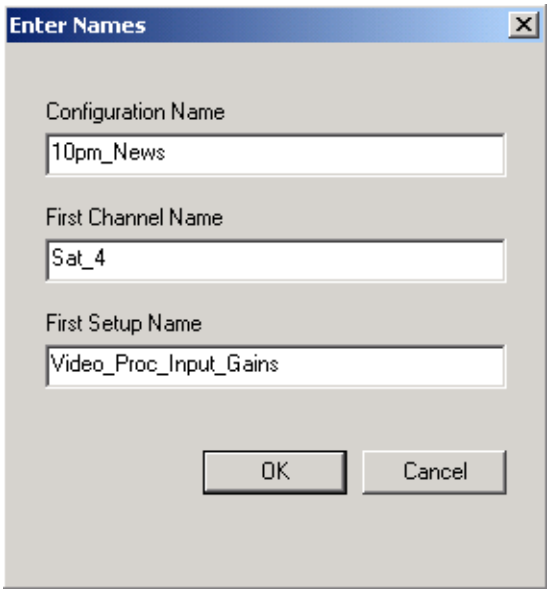
2. Select the **New Config** button in the Current Configuration area of the General Configuration tab to bring up the Enter Names dialog box (Figure 40 on page 57). Enter a name for the configuration. The configuration name is used to summarize the functions of the configuration or can be tied to the panel function itself.

   For the example we will name the configuration 10pm_News.

3. Enter a name for the first channel and the first setup if known or leave these boxes blank if the first channel and setup has not been determined. Click on **OK** to enter these names into the Current Configuration area of the Newton Panel Configurator.

   For the example we will use Sat_4 (Satellite 4) and Video Proc Input Gains for the names.

Figure 40. Enter Names Dialog Box



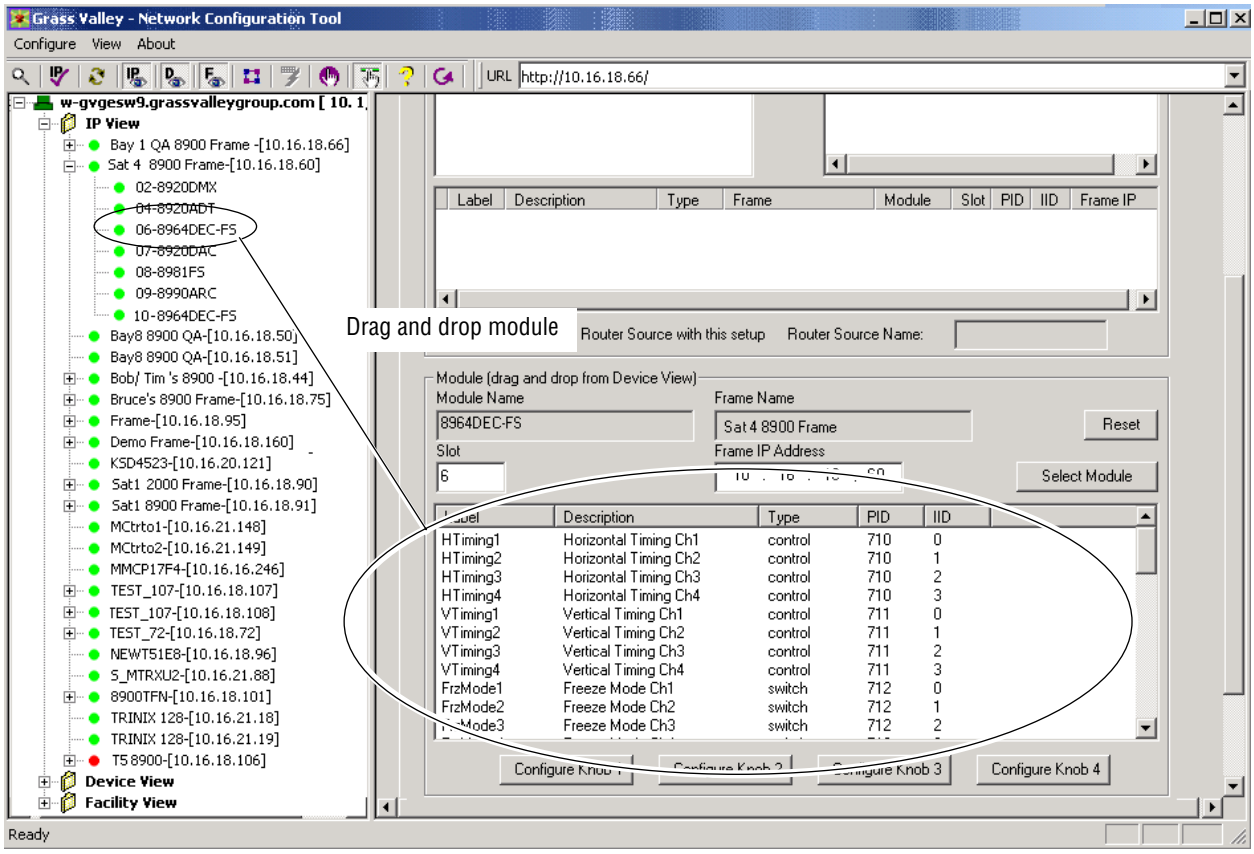
The channel in the example is going to contain various setups to control the modules shown in Figure 41.

4. Locate a module in the tree structure on the left of the NetConfig screen (Figure 41). In this case, we will use the 8964DEC quad decoder. This is a module with four NTSC/PAL to SDI decoders.

5. Select the module and drag it to the lower window in the Module area.

   This will publish the available control parameters on the 8964DEC to the window as shown in Figure 41. Note that the **Module Name**, **Frame Name**, **Frame IP Address**, and **Slot** fields in the Module area are now filled in.

Figure 41. Dragging Module to Configure Knob Window

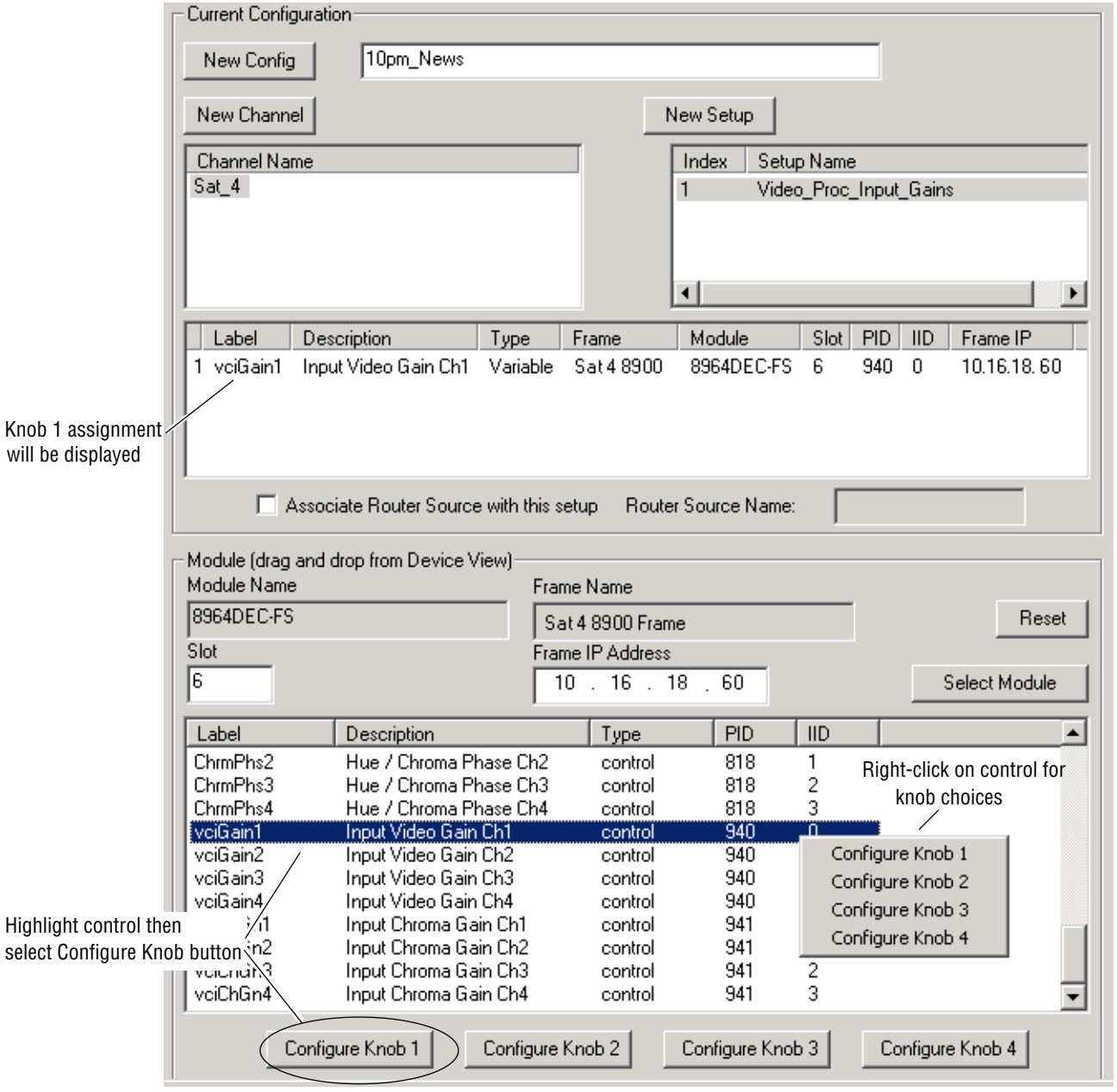


The first setup in the Sat_4 channel will assign the video composite input gain controls for Channel 1 of the four decoders to the a knob on the control panel.

6. Scroll down the Module parameter window and find nd select the **vciGain1** control (Figure 42).

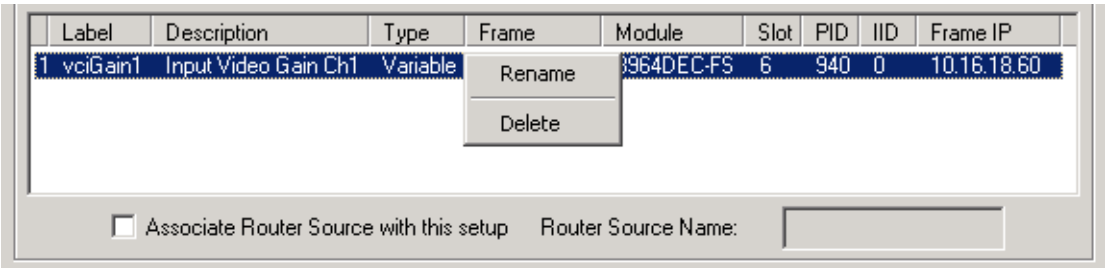
7. Right-click anywhere on the highlighted control area to bring up the knob menu or select the **Configure Knob 1** button under the window. This assigns Knob 1 to control this parameter and places the **vciGain1** parameter information in the Current Configuration area.

Figure 42. Sample Configuration Example



You can rename or delete the assignment that now appears in the Current Configuration area by right-clicking anywhere on the highlighted control area and selecting **Rename** and entering a new name or choosing **Delete** (Figure 43).

Figure 43. Rename or Delete Knob Assignment



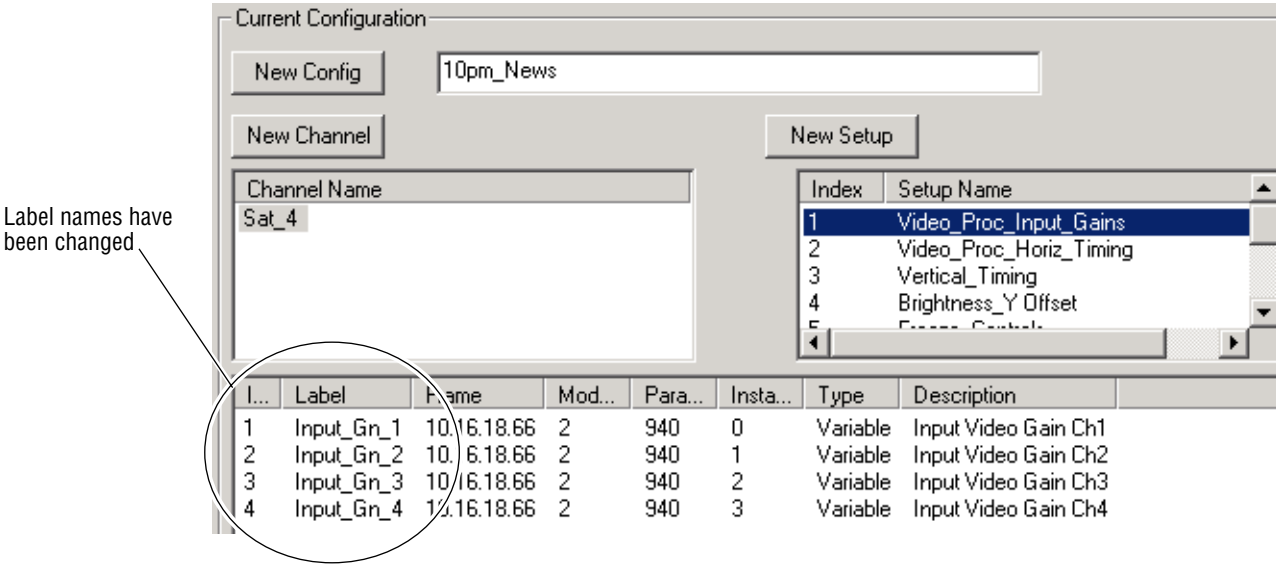
8. Change the name of the **vciGain** control to **Input_Gn_1**.

9. Highlight the Input Video Gain **vciGain2** control in the Module area and associate it to the **Configure Knob 2** button or right-click to bring up the knob menu. Change the name to **Input_Gn_2**.

10. Do the same for **vciGain3** and **vciGain4** controls associating them to Knob 3 and Knob 4 respectively.

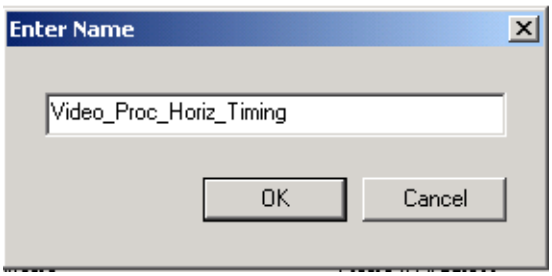
11. This will result in the Newton Panel Configurator screen as shown in Figure 44. Note that the label names in the list have been renamed.

Figure 44. Sample Configuration Example – First Setup



12. Select the **New Setup** button to create the next setup in this channel. The next setup will be called Video_Proc_Horiz_Timing in the example (Figure 45).

Figure 45. New Setup Window



13. Now assign the four knobs in this setup to control the four available Horizontal timing controls for each of the decoders on the module simliar to the steps for the gain above.

14. Create a new setup for the vertical timing controls on each decoder.

15. Create a setup for the brightness/Y offset controls.

This creates a configuration with one channel and four setups for adjusting Input Video Gains, Horizontal Timing, Video Timing, and Brightness/Y Offset for each of the four decoders on the module.

Associate Router Source with Setup

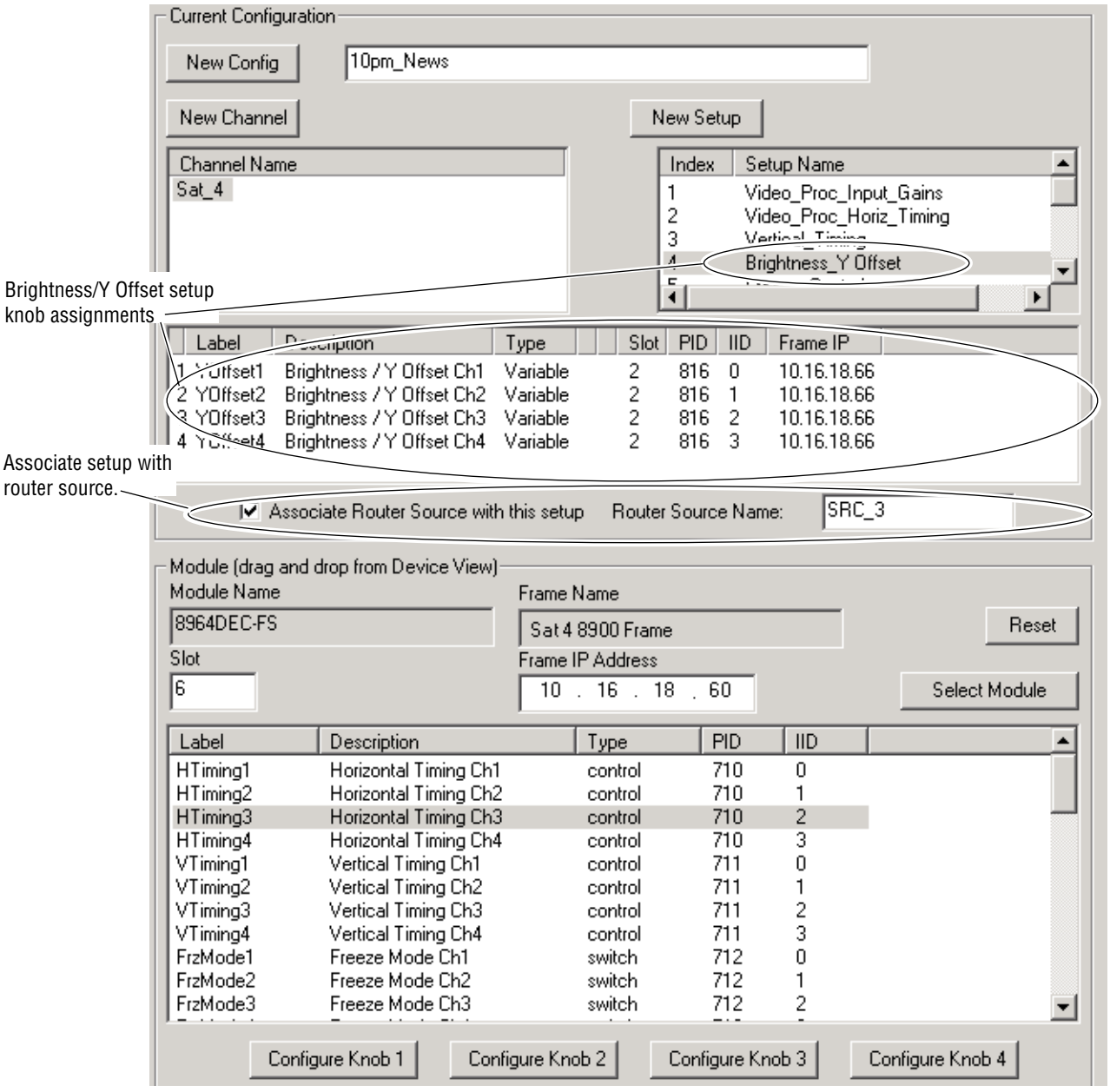
When the Newton Router Interface option is enabled, any of the setups in the channel created with the Newton Panel Configurator can be associated with a router source. When that source is selected on the router, this setup will be delegated automatically on the targeted Newton Control Panel(s) so changes can be made with the control knobs. This is an aspect of the router following and monitoring function.

This function is enabled by highlighting a setup then checking the **Associate Router Source with this setup** checkbox and entering a valid router source name from the configured router in the **Router Source Name** field.

Note The router source name must be entered by the user and match a valid source from the router source list.

In the example shown in Figure 46, Setup 4, Brightness_Y Offset has been associated with Router source, SRC_3 for the configured router. When this source is selected on the router, and the **Monitor** button is selected on the control panel, this Newton Control Panel will be delegated to this setup and the controls can be adjusted using the control panel knobs assigned. Any setup can be associated with a router source as long as the source name matches a source in the router list.

Figure 46. Associate Router Source with Setup



Router Interface Option Configuration

To use the Newton Router Interface, first enable the option for the rack mount (*Enable Router Interface on Rack Mount Panel* on page 42) and/or soft panel (*Enable Router Interface on NewtonPC* on page 30).

In Newton Panel Configurator, select the Router Configuration tab, then select the type of router connection to be used as one of the following:

None

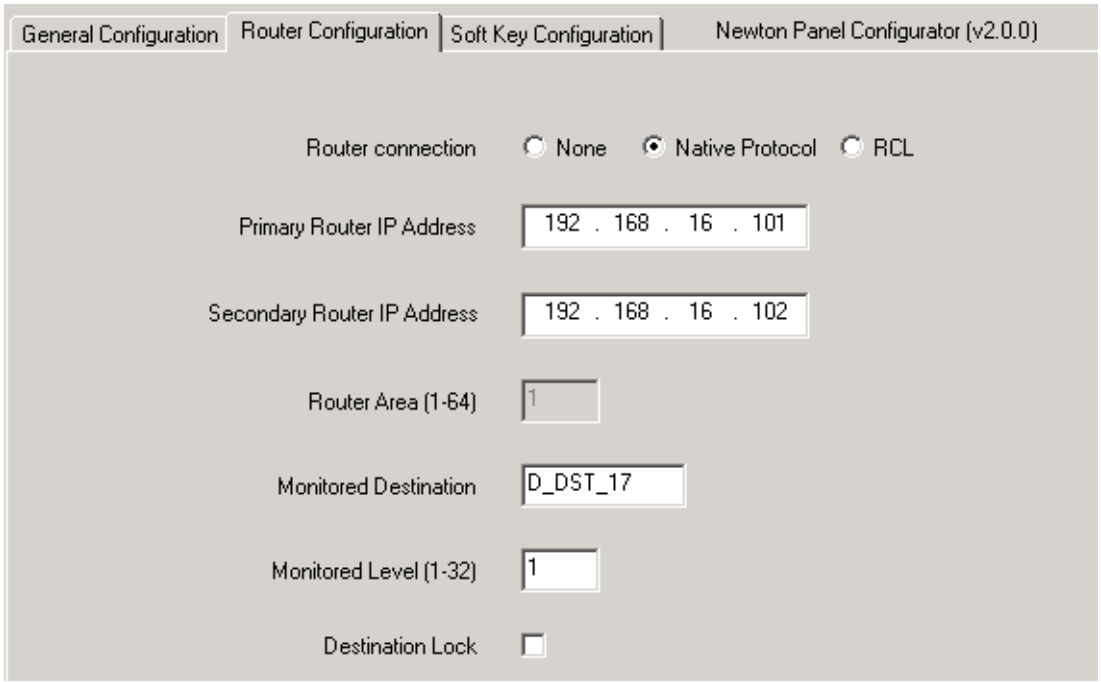
If not using the router interface, select **None** and all fields will be grayed out,

Native Protocol

Enter the following for a Native Protocol connection (Figure 47):

- **Primary Router IP Address** – enter the IP Address of the Primary MCPU in this field.
- **Secondary Router IP Address** – enter the IP Address of the Secondary MCPU in this field.
- **Monitored Destination** – enter the name of the destination to be monitored by the Newton panels exactly as it appears on the router list.
- **Monitored Level** – enter the router level to monitor for the destination (a number between 1-64).
- **Destination Lock** – selecting this checkbox locks the Monitored Destination from being changed from the panel.

Figure 47. Configure Router Interface – Native Protocol

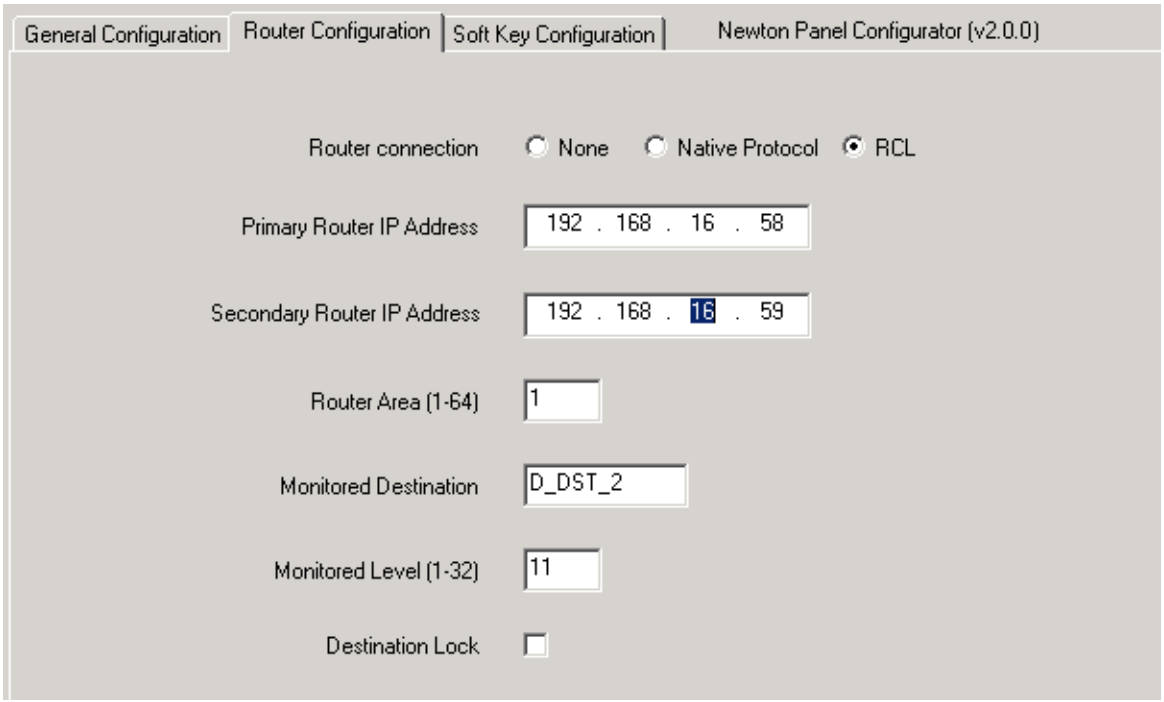


RCL Connection

Enter the following information for an RCL connection (Figure 48):

- **Primary Router IP Address** – enter the IP Address of the Primary system controller in this field.
- **Secondary Router IP Address** – enter the IP Address of the Secondary system controller in this field.
- **Router Area** – enter the index number of the router area (a number between 1-64).
- **Monitored Destination** – enter the name of the destination to be monitored by the Newton panels exactly as it appears on the router list.
- **Monitored Level** – enter the router level to monitor for the destination (a number between 1-32).
- **Destination Lock** – selecting this checkbox locks the monitored destination from being changed from the panel.

Figure 48. Configure Router Interface – RCL Connection



Soft Key Functions and Assignments

The twelve configurable soft keys on the left of the Newton rack mount and software panel (Figure 49) operate in conjunction with the **Learn** and **Recall** buttons on the panel.

The **Recall** button provides the following functionality:

- Recall Channel Setup – soft keys will recall user-assigned setups when the **Recall** button on the panel is on (enabled).
- Setup Index mode – when the **Recall** button is off (disabled), the soft keys will act as setup index keys. Refer to *Soft Keys – Setup Index Mode* on page 68.
- Recall Router Source on Monitored DST – when the Router Interface option is enabled and a valid router connection is configured, a soft key can be assigned to take a named router source on the Monitored Destination.
- Recall Monitored Router Dst – when the Router Interface option is enabled and a valid router connection is configured, a soft key can be configured to select a Monitored Destination.

  The router functions can be used in conjunction with saved setups to allow setup recall and simultaneous router switching from one soft key press.

Figure 49. Soft Keys on Panels

Soft Keys – Recall Channel Setup Mode

The assignment of soft keys for setup recall can be made from the Newton Panel Configurator during the configuration process and sent to a panel or made at a panel and sent back to the Newton Panel Configurator.

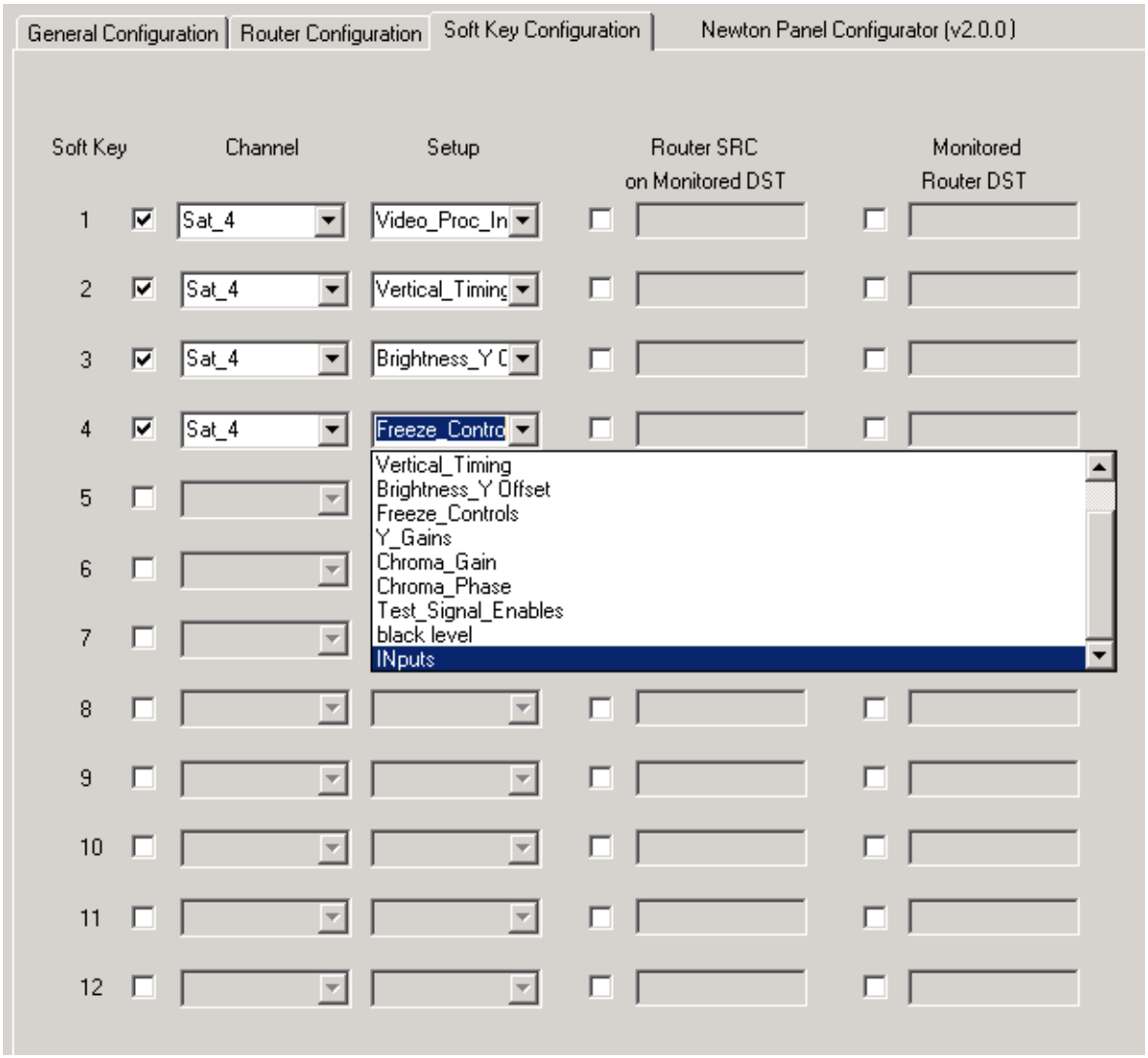
To delegate soft keys to specific setups using the Newton Panel Configurator:

1. Select the Soft Key Configuration tab in Newton Panel Configurator (Figure 50 on page 67).
2. Select a Soft Key to be assigned by checking the corresponding checkbox to activate the Soft Key functions. Soft Keys 1-4 are used for this example.
3. From the Soft Key list, open the Soft Key 1 **Channel** pulldown and select Sat_4.

Note In the **Channel** pulldown, the Sat_4 channel will be the only choice since this configuration has only one channel.

4. In the **Setup** pulldown, select a setup from the list to assign to this soft key. The Video_Proc_Input_Gains setup will be delegated to Soft Key 1 in this example.
5. Continue to delegate using Soft Keys 2, 3, and 4 for the example to the Video_Proc_Horiz_Timing, Vertical_Timing, and Brightness_Y Offset setups respectively as shown in Figure 50 on page 67.
6. When this configuration is saved and downloaded to a panel, Soft Keys 1-4 will bring up the corresponding setups when pressed and the **Recall** button is on.

Figure 50. Soft Key Channel/Setup Configuration Tab



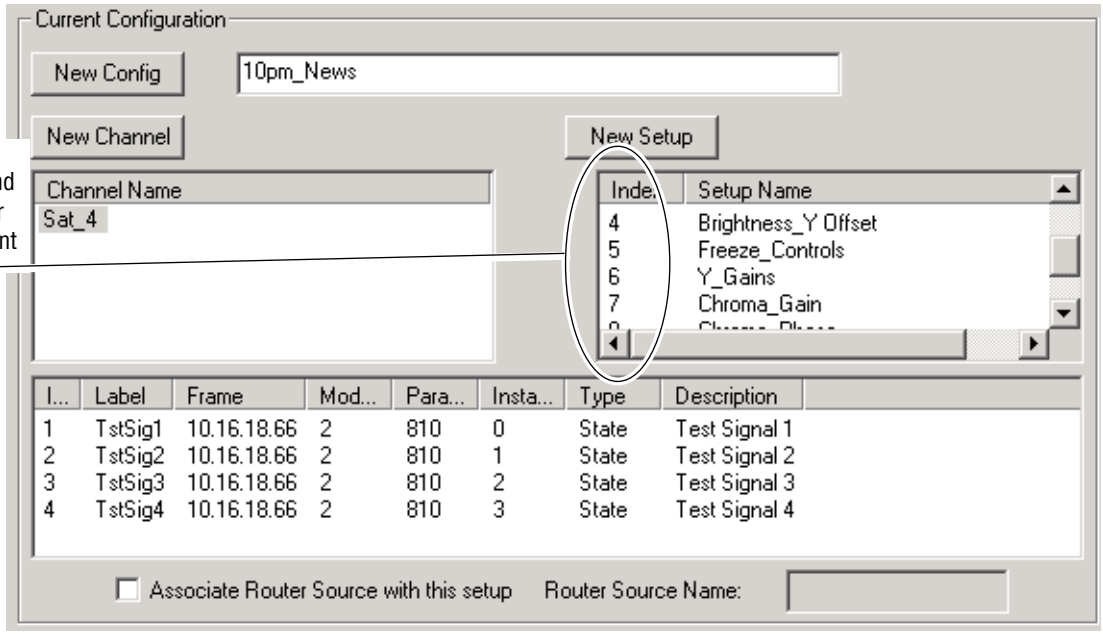
Soft Keys – Setup Index Mode

When the **Recall** button on a panel is off, the soft keys act as setup index keys. Each soft key corresponds to a index number in the Setup list in the Newton Panel Configurator.

For example, we have created more setups in the Sat_4 channel. Each setup corresponds to an index number as shown in Figure 51. When the panel is in Setup Index mode (**Recall** button off), selecting a soft key on the panel will display the corresponding setup in the panel display. Up to twelve setups can be created in a channel, corresponding to the twelve soft keys.

On the rack mount panel, the soft keys that have corresponding setups created in the Newton Panel Configurator will be low tally, those with no corresponding setup will be off. This allows the user to view all of the setups created in a channel while at the panel. It also allows them to see what setups have not been made (soft keys lamps with tally off).

Figure 51. Soft Key Setup Index Example



Soft Keys – Recall Take Router Source

The soft keys can be utilized with the Newton Router Interface option to be assigned to take specific router sources to the configured Monitor Destination in the Router Configuration tab.

To set up a router source to be recalled by a soft key, do the following:

1. In the Soft Key Configuration tab of Newton Panel Configurator, select an unassigned soft key to recall a router source by checking the **Router SRC on Monitored DST** checkbox in the corresponding soft key row to activate the function. For this example, Soft Key 4 will be used (Figure 52 on page 70).
2. In the blank enabled field, enter a valid source from the configured router exactly as the source is named on the router list. The example will use SRC_14.
3. This source will be taken to the currently selected Monitored Destination when the **Recall** button is on and Soft Key 4 is pressed.

Soft Keys – Recall Select Monitored Router Destination

The soft keys can be utilized with the Newton Router Interface option to be assigned to select a different monitored router destination than the one configured in the Router Configuration tab.

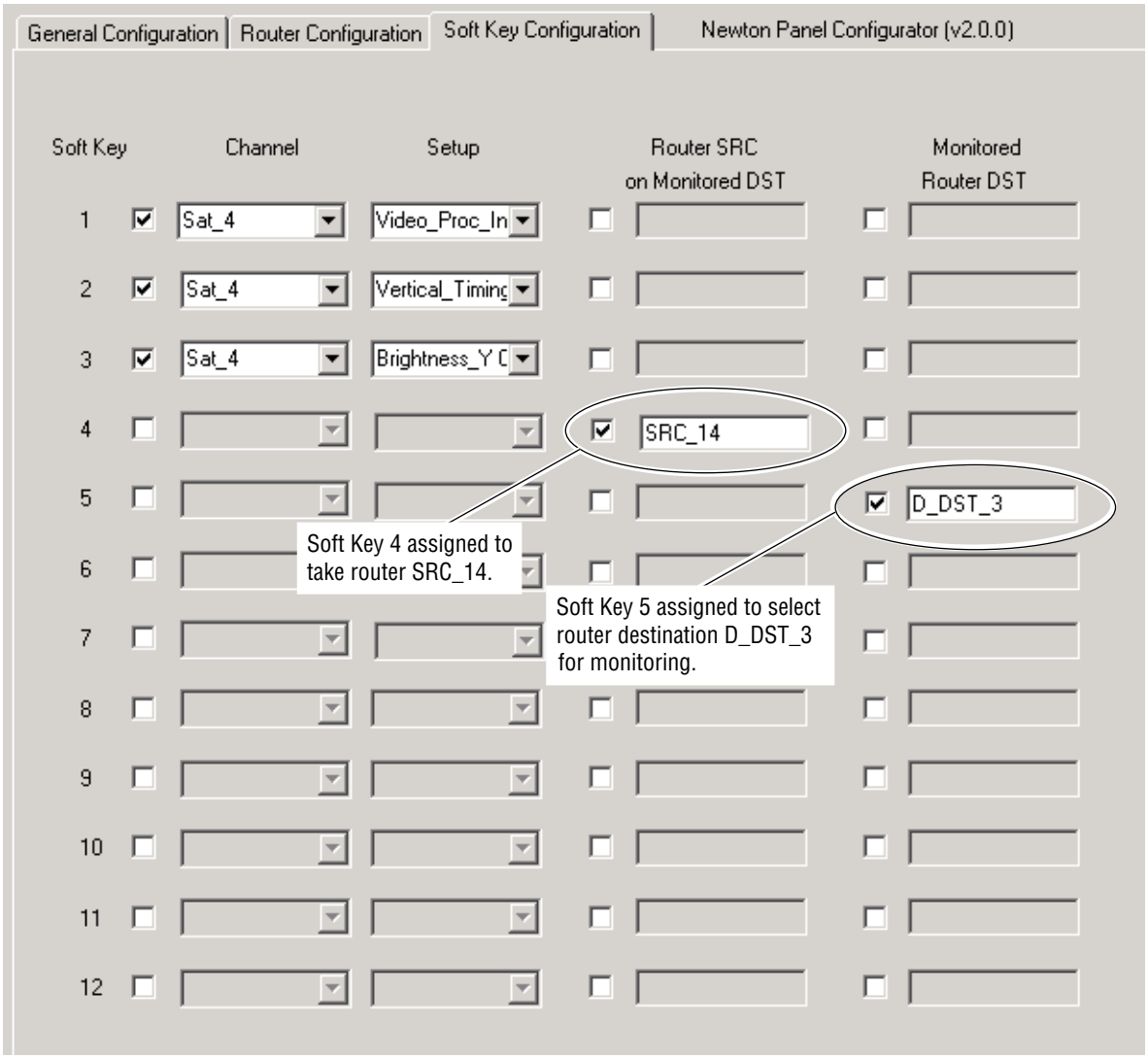
To set up a router destination to be selected by a soft key, do the following:

1. In the Soft Key Configuration tab of Newton Panel Configurator, select an unassigned soft key to select a monitored destination by checking the **Monitored Router DST** checkbox in the corresponding soft key row to activate the function. For this example, Soft Key 5 will be used (Figure 52 on page 70).
2. In the blank enabled field, enter a valid destination from the configured router exactly as the destination is named on the router list. The example will use D_DST_3.
3. When the **Recall** button is on and Soft Key 4 is pressed, the Monitored Destination will be changed to the configured destination.

Soft Keys Summary

The three soft key controls can be set independently as explained in the above examples or any of the three soft key controls can be configured to the same soft key. This allows combining the recall of a channel setup, taking of a router source, and selecting a specific destination in one key press. This also allows router source/destination control with a single key press if desired.

Figure 52. Assign Soft Keys For Router Functions

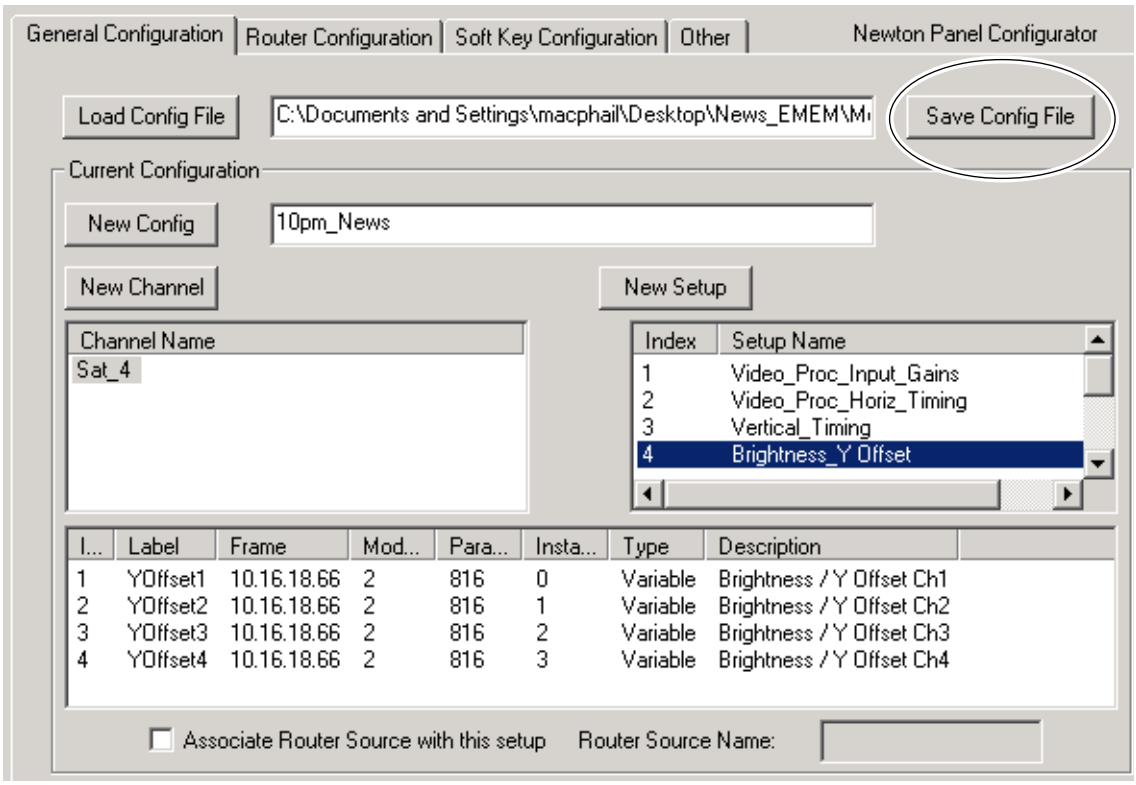


Save Configuration to File

After configuration is complete, the configuration can be saved to a file for download to a panel and/or for recall at a later time.

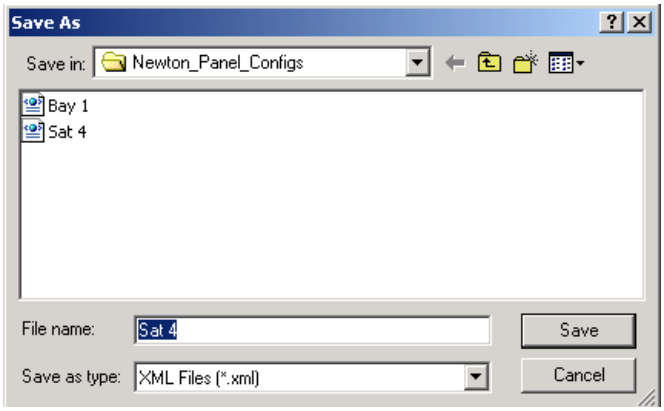
1. Save this configuration to a file by selecting the **Save Config File** button in the upper right corner of the screen (Figure 53).

Figure 53. Save Configuration File



2. This will bring up a Save As window similar to Figure 54. Enter the name of the file to be saved, create a folder for saved files, and click the **Save** button. All configuration files are saved in .xml format.

Figure 54. Configuration Save As Window



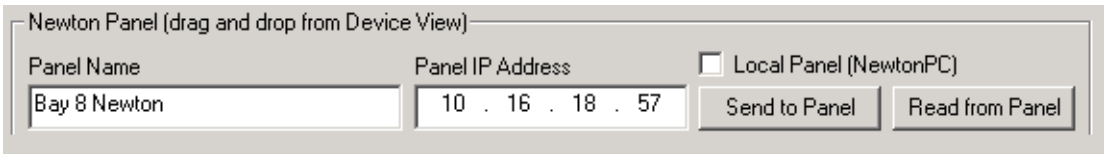
Download Configuration To Panel

Use the Newton Panel area at the bottom of the Newton Panel Configurator screen to send the configuration to a specific Newton Control Panel on the network or a local software panel version of NewtonPC.

To send the configuration to a rack mount panel installed on the network:

1. Find the panel on the tree structure in NetConfig and drag and drop it to the Newton Panel area at the bottom of the Newton Panel Configurator screen. Panel Name and IP Address information will be displayed for the remote panel (Figure 55).
2. Select the **Send to Panel** button to download to the networked panel.

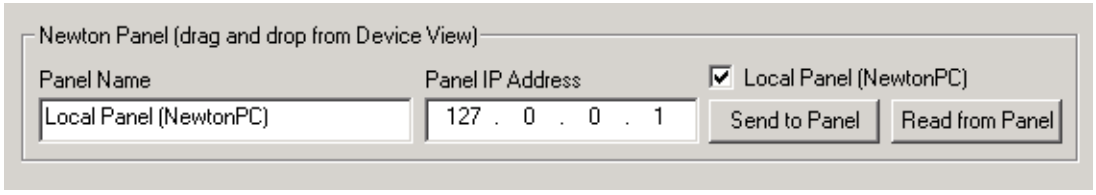
Figure 55. Newton Panel Area with Rack Mount Panel



To send the configuration to a local software panel installed on the PC:

3. Select the **Local Panel (NewtonPC)** checkbox as illustrated in Figure 56. The IP Address shown is a loopback address of the local PC on which it is residing and should not be changed.
4. Select the **Send to Panel** button.

Figure 56. Newton Panel Area For Local Panel (Newt-PC)

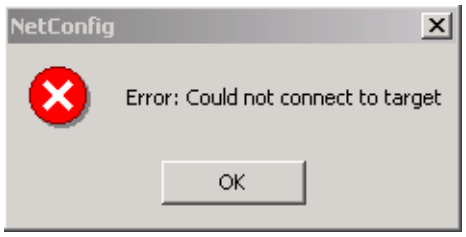


5. When the Download OK message comes up, click **OK** in the NetConfig download popup (Figure 57).

Figure 57. Download OK Popup

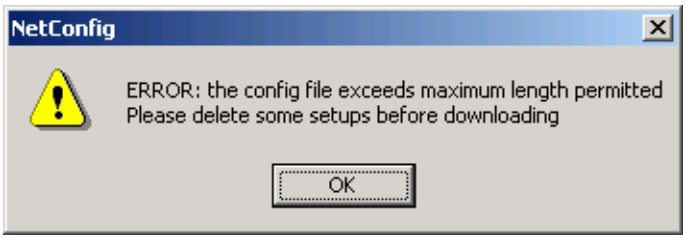
If a download failure occurs because of a target error (panel not found), the software panel will display an error message (Figure 58).

Figure 58. Send to Panel Error



If the maximum configuration file size has been exceeded in the configuration being downloaded, the warning message in Figure 59 will appear. Size of the configuration will vary according to the complexity of setups as a function of memory size. If this message appears, the configuration can be made smaller by deleting unused channels or setups or moving some channels to another configuration if necessary.

Figure 59. Configuration File Size Error Message



For this example, a local NewtonPC Control Panel will be used to illustrate the configuration download and will appear similar to Figure 60. Note that the channel and setup name now appear in the top line of the software panel window in addition to the main display.

Figure 60. Local NewtonPC Loaded with Configuration

Adding To or Revising A Configuration

Configurations can be revised by adding channels and setups or revising settings using the Newton Panel Configurator. Up to 128 channels each with up to 12 setups (one for each soft key) can be created in a configuration for download to a panel.

Note The number of channels allowed varies according to setup complexity when more than about 70 channels are used.

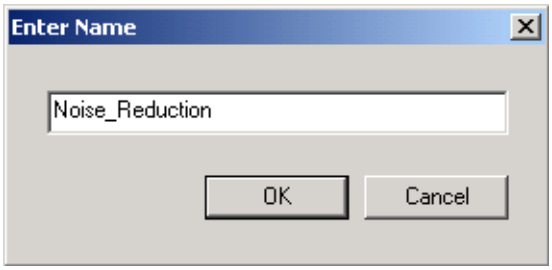
Adding Channels

To add a channel to an existing configuration:

1. Load the configuration into the Newton Panel Configurator and select the **New Channel** button to bring up the Enter Name dialog box (Figure 61).

   For this example we will add a channel to 10pm_News for controlling noise reduction with another module from the a different frame on the network.

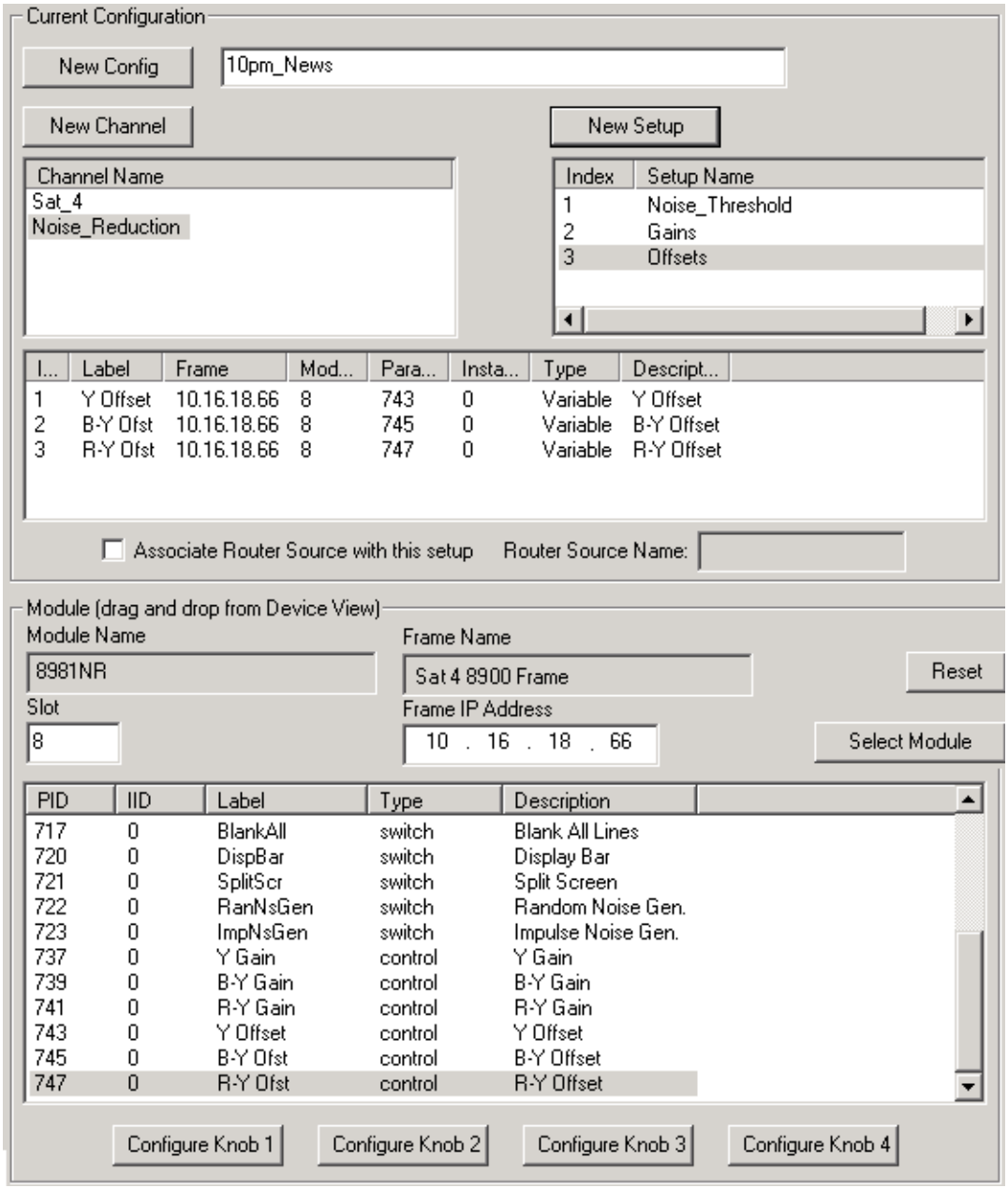
Figure 61. Add Channel to Configuration



2. Locate the module on the NetConfig tree structure and drag and drop the module, the 8981NR in this example, to the Module area to publish the available parameters.
3. Name a first setup for the channel by selecting the **New Setup** button. Noise_Reduction will be used for the first setup in the example.
4. Assign parameters to each knob. In this case we will assign the two noise threshold controls to Knobs 1 and 2.
5. Create two more setups for Y, R-Y, B-Y gains and offsets and make knob assignments.
6. Save the configuration to the 10pm_News file and download it to the local panel.

The resulting configuration will now appear in the Newton Panel Configurator as shown in Figure 62. You can then assign soft keys to this channel in the same manner as the first channel.

Figure 62. Channel Added to Configuration



The Newton local panel will now shown the additional Noise_Reduction channel in addition to the first Sat 4 channel when scrolling through the channels with the up and down arrow buttons (Figure 63).

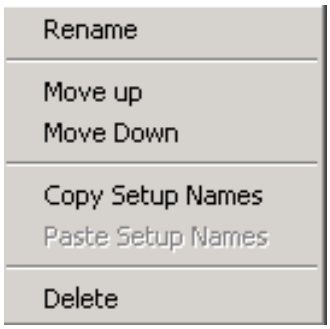
Figure 63. New Channel on Newton Software Panel

Revising Channels

To revise a channel:

Right-click on the channel name in the Channel List in the Current Configuration window to bring up the pulldown menu shown in Figure 64.

Figure 64. Revise Channel or Setup Pulldown



Use these functions in the pulldown to revise a currently defined channel:

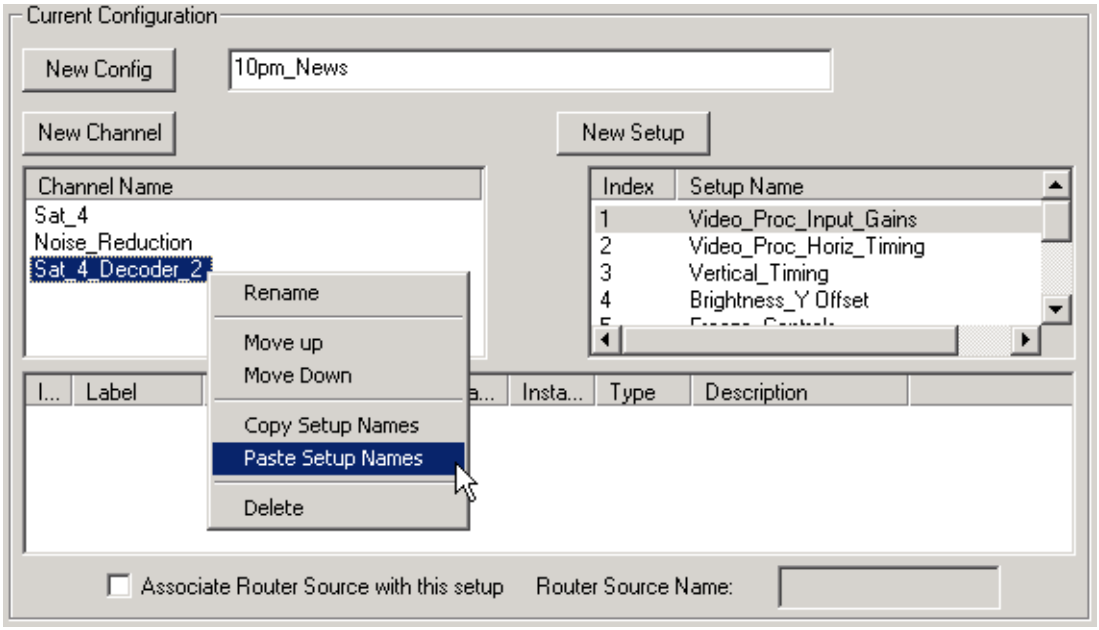
- **Rename** – brings up a dialog box to rename the channel.
- **Move Up** or **Down** – move the channel name up or down in the Channel Name list by selecting the Move Up or Move Down control or with the arrow keys on the PC keyboard.
- **Copy/Paste Setup Names** – copy the selected channel setup names and paste them into a new channel. The knob assignments will not carry over and will need to be assigned for the new channel.

  For example, if we need another Decoder channel in the 10pm_News configuration and would like to create the same setups as the Sat_4 channel, we can create a new channel and copy the setup names.

  To do this, create a new channel, such as Sat_4_Decoder_2. Right click on the Sat_4 channel and select **Copy Setup Names**.

  Right-click on the new Sat_4_Decoder_2 name in the list and select the **Paste Setup Names** function (Figure 65 on page 79).

Figure 65. Copy and Paste Setup Names into New Channel



This will paste the setup names from the Sat_4 channel into the new Sat 4_Decoder_2 channel. The corresponding controls from the new module will now have to be assigned for each of these setups.

- **Delete** – deletes the entire channel and all associated setups.

Adding or Revising Setups

Setups can be added or revised in a channel using the Configurator.

To add a setup to a channel:

1. With the configuration present in the Newton Panel Configurator screen, highlight the channel to add the setup to and select the **New Setup** button.

2. Name the setup and create knob assignments as desired with Newton Panel Configurator.

   Up to twelve setups can be present in a single channel.

To revise a setup:

You can rename a setup, reposition the name up or down in the setup list, or delete a setup by right-clicking on the setup name in the Newton Panel Configurator window to bring up the menu shown in Figure 64 on page 78.

Save Configuration After Changes

After any changes, be sure to resave the new configuration to the 10pm_News file and download it to the panel again for changes to be reflected on the panel.

Section 4

Operation

Introduction

This section of the Newton Modular Control System is designed to explain operation of the rack mount and software panels once they have been configured. Configuration of channels, setups, and knob assignments is done using the Newton Panel Configurator in the NetConfig PC application. Soft key setup assignments can be done during the configuration process with the Newton Panel Configurator or from the panel itself as described in this section.

Refer to *Section 3-Configuration* for compete details on how to configure a Newton panel. This operation section will reference the same configuration examples set up in Section 3.

Overview

Operation of the rack mount and software panels is similar. This operation section covers both panel types and will point out the differences when required.

Each Newton panel has four knobs and several buttons that form a control surface. A configuration consists of channels containing setups. For each defined setup, up to four knob assignments can be made which can control a switch or parameter on a module. Setups can control any module that is present on the network. Configuration of knob assignments can only be done using the Newton Panel Configurator in the NetConfig application.

Newton panels allow you to navigate between channels and setups with arrow buttons or using the configured soft keys on the panel.

To open the Newton software panel application, double-click on the shortcut to the NewtonPC icon.

If no configuration has been downloaded to the software panel, the display will report `Setup not configured.` You will need to download a configuration from the Newton Panel Configurator.

Newton Panel Description

A general overview of each component and its operation on the panel is given below. Refer to the rack mount panel (Figure 66) and software panel (Figure 67) illustrations.

Figure 66. Newton Rack Mount Panel Control Surface

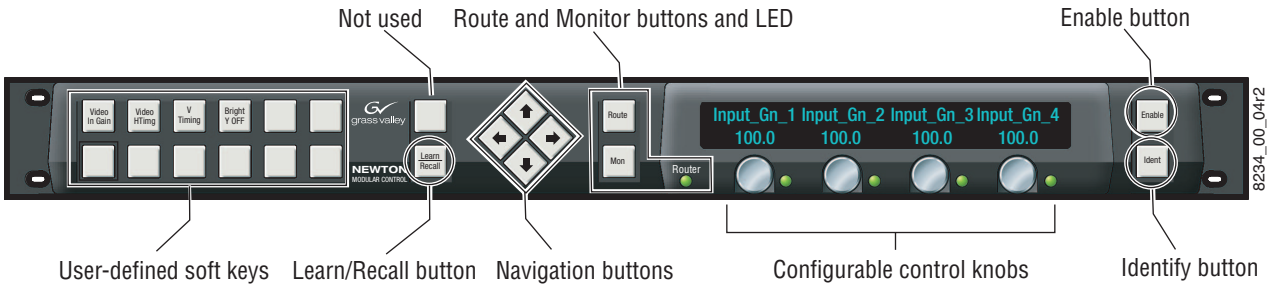


Figure 67. Newton Software Panel Control Surface

Enable Button

This button enables or disables the control panel surface communication with the modules. When disabled (button tally off) rotating a knob or pushing a button does not affect any modules. This prevents knobs from being adjusted inadvertently causing unwanted parameter changes.

When enabled (high tally) the knobs will communicate with the modules and adjust the assigned parameters.

Panel Knobs

The four configurable knobs on the panels control the currently displayed parameters when the **Enable** button is on (high tally). Knobs are configured to control specific parameters using the Newton Panel Configurator with the NetConfig application.

Accelerate Button/Knob Function

On the rack mount panel, pushing a knob in accelerates the adjustment by ten times (multiplies the knob rotation by a factor of 10). The software panel has an **Accelerate** button that when enabled, performs the same multiplication of knob rotation.

The software panel also has **Plus** (+) and **Minus** (–) buttons for adjusting parameters.

Knob LED Indicators

Each knob has a tri-color LED associated with it to indicate to the user the status of the associated parameter. The status of the parameter is indicated by the following colors:

Green – module is communicating with panel.

Yellow – module configuration error such as parameter not found.

Red – failure to connect to module or temporarily disconnected.

The display will also indicate the error with text in place of the current parameter (see Figure 66 on page 82 and Figure 67 on page 82).

Identify Button

When the **Identify** button is selected (high tally or LED on), selecting a control on the display shows information about the panel controls and the currently loaded configuration. This includes the function of each button, the channel name, current setup name, soft key assignments, knob assignment information (if knob is configured) and parameters and ranges of adjustment. Pushing the rack mount panel knob in while in this mode will report the current knob configuration settings.

The example in Figure 68 illustrates the **Identify** button function on the software panel with the **Learn** button selected.

Figure 68. Identify Button Function

On the rack mount panel, select the **Ident** button (high tally) and operate any control to display its function or current configuration.

Holding the **Ident** button down will also display the current software version loaded on the rack mount panel and the panel IP Address.

Navigation Arrow Buttons

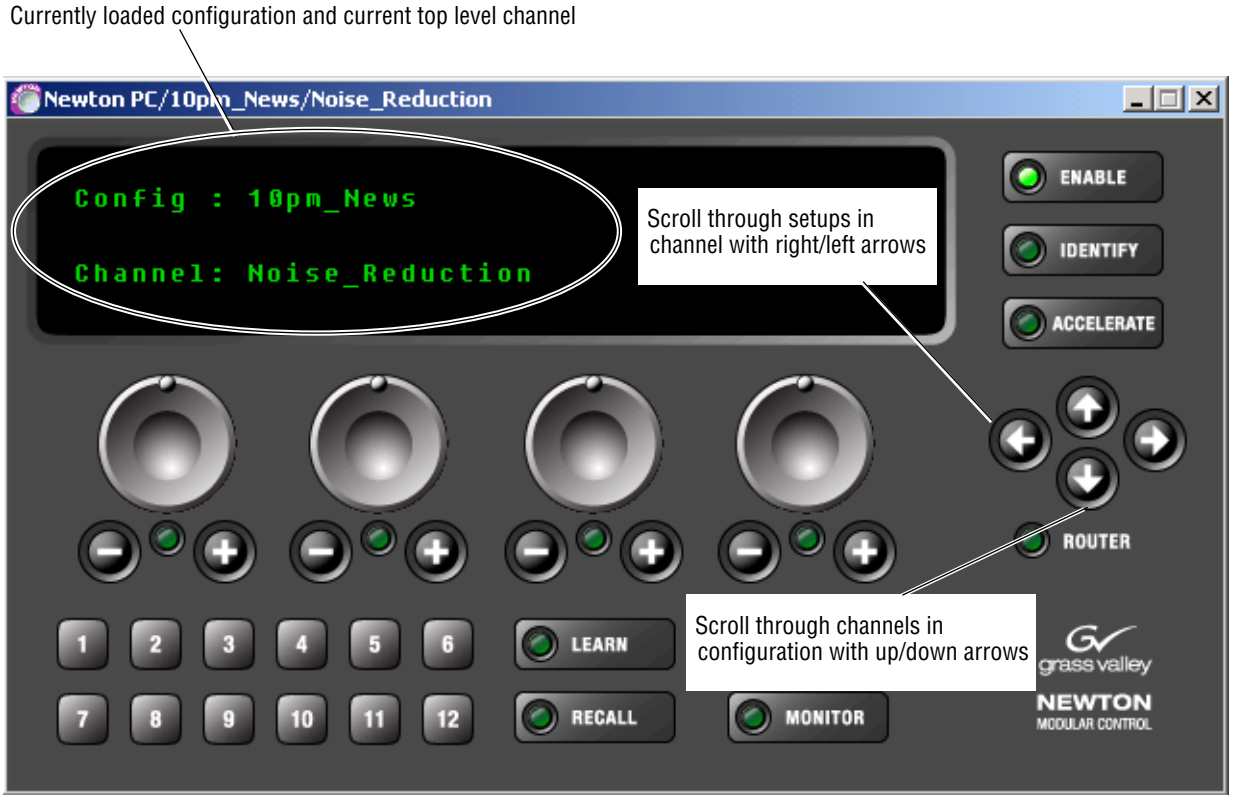
Four directional arrow buttons allow the user to scroll between channels (up and down) and setups (left and right).

Each channel has a top level display indicating the name of the loaded configuration and the currently selected channel (Figure 69).

The left and right navigation arrow buttons will scroll through the setups in that channel. The arrows will scroll through all setups in the channel, returning to the top level Config and Channel name.

To scroll through channels in the configuration, use the up and down arrow buttons.

Figure 69. Navigation Buttons – Software Panel



Router Interface Operation

The Router Interface option must be installed and enabled before the router components will appear on the Newton PC control Panel (see *Enable Router Interface on NewtonPC* on page 30) or become active on the rack mount panel (see *Enable Router Interface on Rack Mount Panel* on page 42). Router connection configuration for both panels is done using the Newton Panel Configurator as described in *Router Interface Option Configuration* on page 63.

The basic router functions available with this option are the following:

- Direct router control – provides simple X-Y router control for changing sources and destinations for all-level takes, and
- Modular source chain control – provides router following and control functionality where the Newton Control Panel will delegate (activate) a setup when a particular router source is taken to the configured Monitored Destination.

Note A valid router configuration must be entered into Newton Panel Configurator and downloaded to a panel before the router buttons and LED will be visible on NewtonPC.

Router LED

Router connection status is indicated by the Router LED shown in Figure 75 on page 90 (Newton PC) and Figure 76 on page 90 (Rack Mount Panel).

The LED indicates the following router connection states:

- Off – router connection is not configured.
- Green – router is connected and reporting current status.
- Red – router is not connected.

Route Button

Using the **Route** button enables simple X-Y control of a router configured to communicate with the Newton Control panel. Simple X-Y control allows all level source takes to a single selectable destination.

The **Route** button has three modes of operation as follows:

- Pressing the **Route** button the first time erases the status display and places the display in Source/Destination select mode.
- The second press puts the display into the Monitored Destination select mode. This is the destination the Newton panels will follow in Monitor mode. See *Monitor Button* on page 92.
- The third press restores the display to the normal operating mode and turns off the green LED in the **Route** button.

Preset Source Select Mode

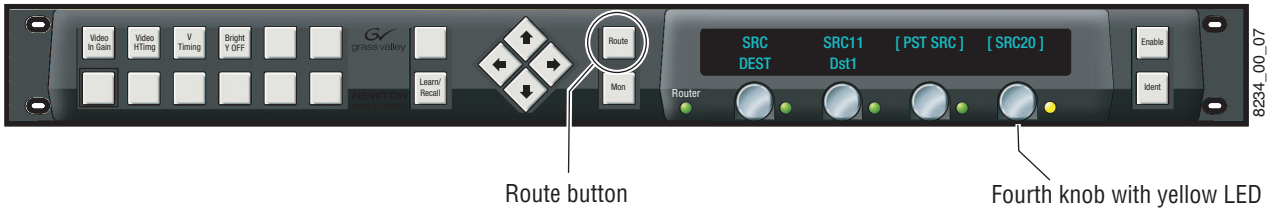
The first press of the **Route** button brings up the Preset Source select mode. Preset Source select mode provides the means of taking a source using the fourth control knob (indicated by a yellow LED) on a Newton panel. In this mode, the current source on the selected destination is indicated at left as shown in Figure 70 for the Newton PC software panel and Figure 71 for the rack mount panel.

The Preset Source to be selected is indicated in brackets on the right of the screen. This example shows SRC11 active on Dst1. Rotate the fourth knob with the yellow LED (or use the **Plus** and **Minus** buttons on NewtonPC) to bring another source into the source preset brackets, in this case, SRC20.

Note The display may report NO STATUS for the source when the router connection is first established. Use the fourth knob (yellow LED) to select a source, then also select a destination if required.

Figure 70. Source Select Mode on Newton PC

Figure 71. Source Select Mode on Rack Mount Panel



Right click on the fourth knob (Newton PC) or push in the fourth knob on the rack mount panel to send an all-level take to the router control system putting the preset source on the selected destination. The display will now show the current router status as illustrated in Figure 72. The preset source will now show on the current destination.

Figure 72. Router Source Take

Preset Destination Mode

A named router destination may also be selected using the **Route** button. (This is not the Monitored Destination, see Note below.) To change destinations, use the third knob (green LED) to switch the display to the Preset Destination mode as shown in Figure 73 on page 89.

The current destination is Dst1. Use the fourth knob to select a different destination in the PST DST area, such as Dst2 as used in this example, and right click on NewtonPC or push the knob in on the rack mount panel to select this destination on the router.

Tally status for the source and destination selected must be determined from the router panel. Newton cannot report router status when switching sources or destination in this manner.

Note The destination selected in this mode does not change the Monitored Destination that has been configured in Router Configuration. Refer to *Preset Monitored Destination* on page 90 for these instructions.

Figure 73. Preset Destination Mode

The display will now show the current destination as Dst2 as shown in Figure 74. Right click on the third knob to return to the Preset Source mode.

Figure 74. Router Destination Changed

Preset Monitored Destination

To change the Monitored Destination from a panel, press through the **Route** button twice to bring up the Monitoring Destination mode shown in Figure 75 (Newton PC) or Figure 76 (rack mount panel). This example shows the current Monitored Destination as Dst11.

To change the Monitored Destination, use the third knob (yellow LED) to enter a preset destination into the Monitoring PST (in brackets). This example will use Dst12 as shown in Figure 75.

If the Monitored Destination has been locked in the Newton Panel Configurator, it cannot be changed from the NewtonPC or rack mount panel and will show a **Monitored Destination is LOCKED** message (not shown). To unlock the Monitored Destination, refer to *Router Interface Option Configuration* on page 63.

Figure 75. Monitored Destination Display on Newton PC

Figure 76. Monitored Destination Display on Rack Mount Panel

Right click (Newton PC) or push in (rack mount) the third knob (yellow LED) to assign this destination as the new Monitored Destination. The display will change to show the new Monitored Destination (Figure 77).

Note This Monitored Destination change can b e uploaded to the Router Configuration tab in Newton Panel Configurator with the **Read from Panel** button (Figure 37 on page 53).

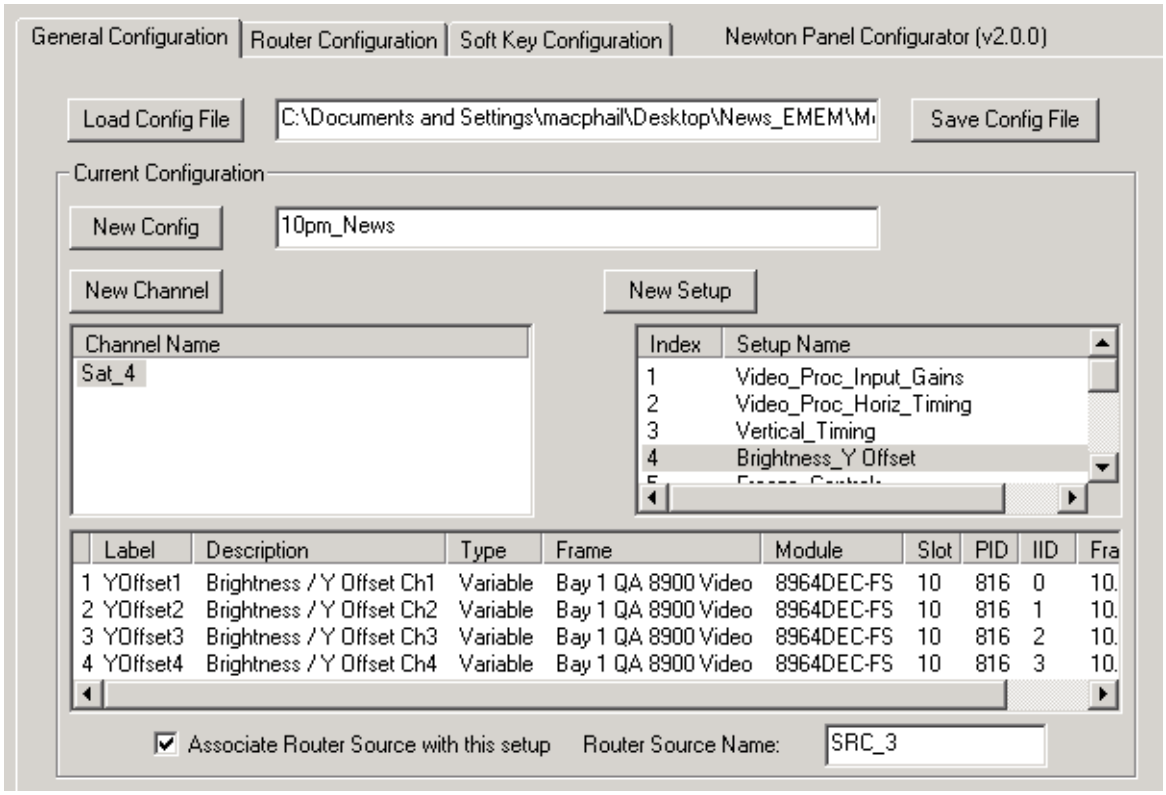
Figure 77. Enter Monitoring PST Destination

Monitor Button

The **Monitor** button enables the Newton Control Panel router following and monitoring mode. In this mode, the Newton Control Panel follows the router source selection made on the configured Monitored Destination when a setup has been associated with a router source in Newton Panel Configurator.

In this example, a setup made in Newton Panel Configurator for the Sat_4 channel shown in Figure 78 (Brightness_Y Offset) has been associated with Router Source, SRC_3. With a valid router configuration, when SRC_3 is taken to the Monitored Destination on the router, the setup will appear on the configured Newton Control Panel(s). Refer to *Associate Router Source with Setup* on page 61 for configuration details.

Figure 78. Newton Setup Associated with Router Source



In this case, the setup will appear on NewtonPC as shown in Figure 79 and the Rack Mount panel as shown in Figure 80 when the **Monitor** button is selected.

If the user manually changes the panel's delegation to a setup which does not match the current source, the **Monitor** button tally will turn off. Pressing the **Monitor** button again turns on the monitoring function, the button tally and the panel delegates to a setup which has been assigned to the source.

Note Within a channel if more than one setup is associated with the same source, the first setup in the channel for that source will be delegated.

Parameters for the setup can now be adjusted using the knobs assigned in configuration.

Switching to a new router source assigned to a setup will cause the panel to display a different configured setup.

Figure 79. Newton PC – Monitor Mode

Figure 80. Rack Mount Panel – Monitor Mode

Soft Key Operation

There are twelve soft key buttons on the panel illustrated in Figure 81 for the software panel and Figure 82 for the rack mount panel. Soft keys allow the user to either recall channel setups assigned to a soft key or scroll through an index of setups from the Newton Panel Configurator application. Soft keys may also be assigned to take named router sources or select Monitored Destinations when the Router interface option is enabled. The soft keys are used in conjunction with the **Learn/Recall** button(s) on the panel.

Soft keys can be configured in the Newton Panel Configurator or from the rack mount or software panel directly. For a complete description of Newton Panel Configurator instructions for soft key assignment refer to *Soft Key Functions and Assignments* on page 65. Assignment of software and rack mount panel soft keys from the panel is described later in this section.

Figure 81. Software Panel Soft Keys and Learn/Recall Buttons

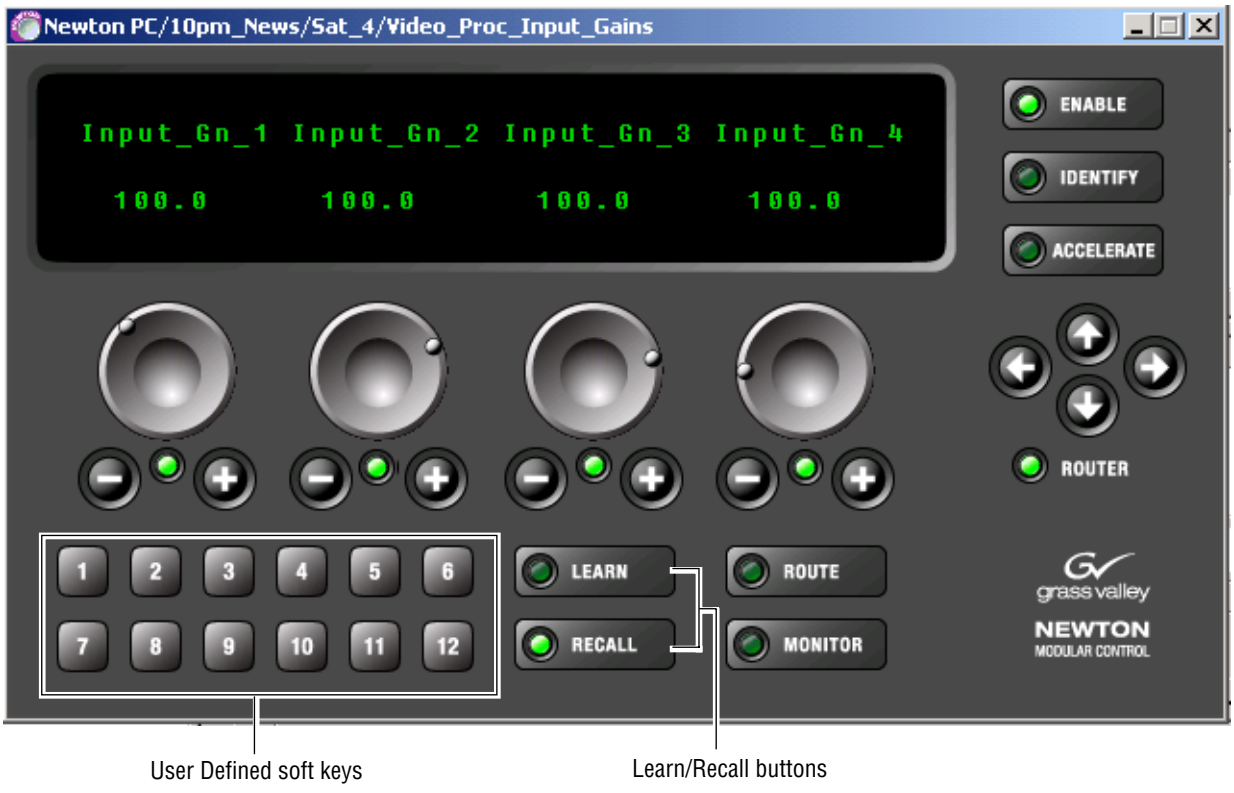


Figure 82. Rack Mount Panel Soft Keys and Learn/Recall Buttons

Learn/Recall Button(s)

The **Learn/Recall** button on the rack mount panel and the **Learn** and **Recall** buttons on the NewtonPC software panel control the operating state of the 12 soft keys on the panel.

Learn Button

The **Learn** button enables the soft key assignment mode. When the **Learn** button green LED is lit on the soft panel or the **Learn/Recall** button is held down on the rack mount panel, you may learn the present setup or a router source or monitored destination selection to one of the soft key buttons on the panel.

With a soft key selected, holding the **Learn/Recall** button on the rack mount panel until the tally light goes out will erase the current soft key assignment on that button.

Soft key assignments can be made during configuration and downloaded to a panel or be made directly from the panel and uploaded to the Newton Panel Configurator to be saved to a file.

Refer to *Soft Key Functions and Assignments* on page 65 for the soft key assignment steps using the Newton Panel Configurator.

To upload and save any soft key assignments to the Newton Panel Configurator, refer to *Upload Soft Key Assignments to Newton Panel Configurator* on page 104.

Note Soft key assignments made at the panel are saved on the panel until downloaded with another configuration.

This section describes using the software and rack mount control panels to assign soft keys to the following,:

- Setups (page 96)
- Router Sources (page 98)
- Router Monitored Destinations (page 101)

Soft Key Setup Assignment From Control Panel

Use the procedures below to delegate a setup to a soft key from the NewtonPC or rack mount control panels.

NewtonPC – Soft Key Setup Assignment

To make soft key setup assignments from the software panel:

1. Scroll to the desired setup you wish to delegate to a soft key with the left and right navigation arrow buttons until it appears in the display.
2. Select the **Learn** button to the right of the soft keys. The display will instruct you to **Press the soft key to use with this setup** (Figure 83).

Figure 83. Delegate Soft Key to Setup at Software Panel

3. Press a soft key button to delegate it to this setup. The display will return to the assigned setup parameters.
4. Scroll to a different setup, then press the **Recall** button and the soft key to verify the correct setup is recalled.

Rack Mount Panel – Soft Key Setup Assignment

To make soft key setup assignments from the rack mount panel:

1. Scroll to the desired setup you wish to assign to a soft key with the left and right navigation buttons (arrows) until it appears in the display (Figure 84).

2. Assign this displayed setup to a soft key by holding down the **Learn/Recall** button until the display shows the **Press soft key to use with this setup** message.

Figure 84. Delegate Setups to Soft Keys at Rack Mount Panel

3. Press the desired soft key to assign this setup. The display will return to the assigned setup parameters.

4. Scroll to a different setup, then press the **Recall** button and the soft key to verify the correct setup is recalled.

Soft Key Router Source Assignment From Control Panel

Use the procedures below to delegate a router source take to a soft key from the NewtonPC or rack mount control panels.

NewtonPC – Soft Key Router Source Assignments

To make soft key router source assignments from the software panel:

1. Press the **Route** button to enable the router interface Preset Source mode (Figure 85).
2. Rotate the fourth knob (yellow LED) or use the **Plus** and **Minus** buttons, to bring up the Preset router source (in brackets) you wish to delegate to a soft key.

Figure 85. Router Source Preset Mode

3. Press the **Learn** button to the right of the soft keys. The display will instruct you to **Press the soft key for PST router source** (Figure 86).

Figure 86. Delegate Soft Key to Router Source at Software Panel

4. Press the desired soft key to assign to this router source. The display will return to the Preset Source mode.

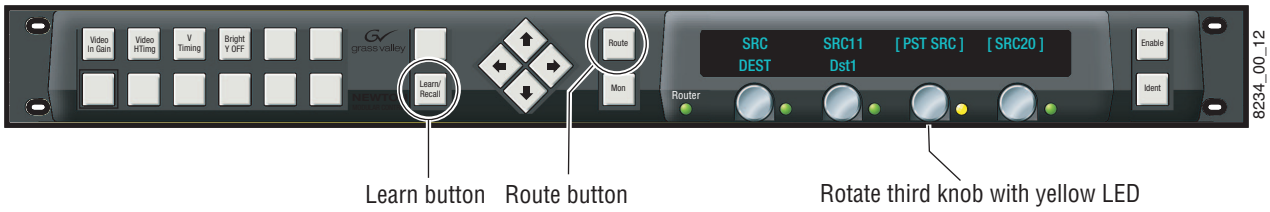
5. Select a different router source, then press the **Recall** button and the soft key to verify the correct router source is recalled.

Rack Mount Panel – Soft Key Router Source Assignment

To make soft key source assignments from the rack mount panel:

1. On the Newton rack mount panel (Figure 87), select the **Route** button to bring up the Preset Source mode.
2. Rotate the fourth knob (yellow LED) to bring up the preset source (in brackets) you wish to delegate to a soft key.
3. Assign this displayed source to a soft key by holding down the **Learn/Recall** button until the display shows the **Press the soft key for PST router source** message (not shown).

Figure 87. Delegate Router Source to Soft Keys at Rack Mount Panel



4. Press the desired soft key to assign to this router source. The display will return to the Preset Source mode.
5. Select a different router source, then press the **Recall** button and the soft key to verify the correct router source is recalled.

Soft Key Monitored Destination Assignment From Control Panel

Use the procedures below to assign a Monitored Destination to a soft key from the NewtonPC or rack mount control panels.

Note The Monitored Destination can be locked in the Newton Panel Configurator preventing it from being changed from a panel. To unlock the Monitored Destination, refer to *Router Interface Option Configuration* on page 63.

NewtonPC – Soft Key Monitored Destination Assignments

To make soft key Monitored Destination assignments from the software panel:

1. Press the **Route** button to enable the router interface mode.
2. Press the **Route** button again to bring up the Monitoring Dest mode (Figure 88).
3. Rotate the third knob (yellow LED) or use the **Plus** and **Minus** buttons to select the Monitored Destination (in brackets) you wish to delegate to a soft key.

Figure 88. Router Preset Monitored Destination Mode

4. Press the **Learn** button to the right of the soft keys. The display will instruct you to **Press the soft key to PST router destination** (Figure 89).

Figure 89. Delegate Soft Key to Monitored Destination at Software Panel

5. Press the desired soft key to assign to this destination. The display will return to the Monitoring Destination mode.

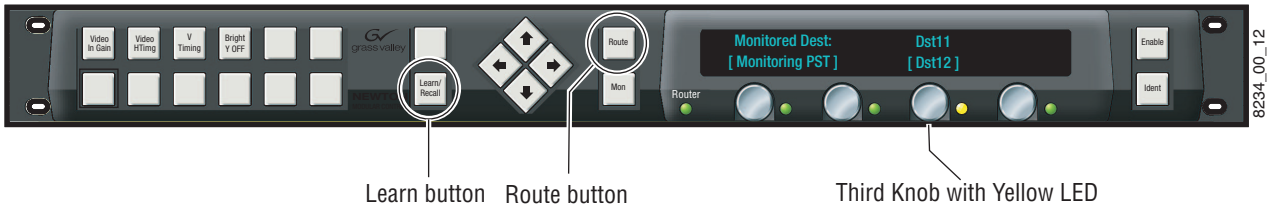
6. Select a different Monitored Destination, then press the **Recall** button and the soft key to verify the correct Monitored Destination is recalled.

Rack Mount Panel – Soft Key Router Destination Assignment

To make soft key Monitored Destination assignments from the rack mount panel:

1. Press the **Route** button to enable the router interface mode.
2. Press the **Route** button again to bring up the Monitoring Dest mode (Figure 90).
3. Rotate the third knob (yellow LED) to select the preset Monitored Destination (in brackets) you wish to delegate to a soft key.

Figure 90. Delegate Soft Key to Monitored Destination at Rack Mount Panel



4. Hold down the **Learn/Recall** button until the display shows the **Press the soft key to PST router destination** message in the display (not shown).
5. Press the desired soft key to assign to this router destination. The display will return to the Monitoring Destination mode.
6. Select a different Monitored Destination then press the **Recall** button and the soft key to verify the correct Monitored Destination is recalled.

Upload Soft Key Assignments to Newton Panel Configurator

The soft key assignments or any other configuration made from the panels can be uploaded to Newton Panel Configurator in NetConfig for saving and/or downloading to another panel.

Note Uploading a configuration from a panel to Newton Panel Configurator will override the current configuration entered in the application. Create a new configuration before uploading to avoid overwriting an existing one if required.

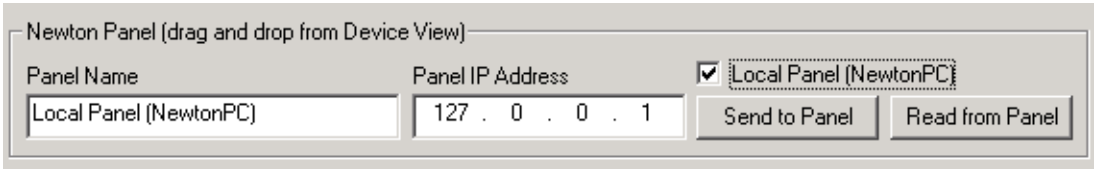
After uploading, save the configuration by selecting the **Save Config File** button at the top of the screen. The soft key assignments uploaded from the panel should now appear under the Soft Key Configuration tab.

NewtonPC Panel

To upload and save soft key (and any other) assignments made at a software panel to the existing configuration or a new configuration in Newton Panel Configurator, return to the Newton Panel Configurator and scroll to the Newton Panel area at the bottom of the screen.

With the **Local Panel (NewtonPC)** checkbox selected (Figure 91), click on the **Read from Panel** button to upload assignments made on this panel to the Newton Panel Configurator.

Figure 91. Upload Newton Software Panel Configuration

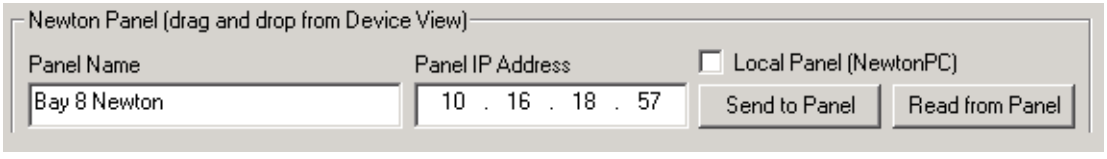


Rack Mount Panel

To upload and save soft key (and any other) assignments to the Newton Panel Configurator from the rack mount panel, open the Newton Panel Configurator and drag the targeted rack mount panel icon into the Newton Panel area at the bottom of the screen (Figure 92). This loads the Panel Name and IP Address of the panel you are working on.

Press the **Read From Panel** button to upload assignments made on this panel into the Newton Panel Configurator.

Figure 92. Upload Newton Rack Mount Configuration



Recall Button

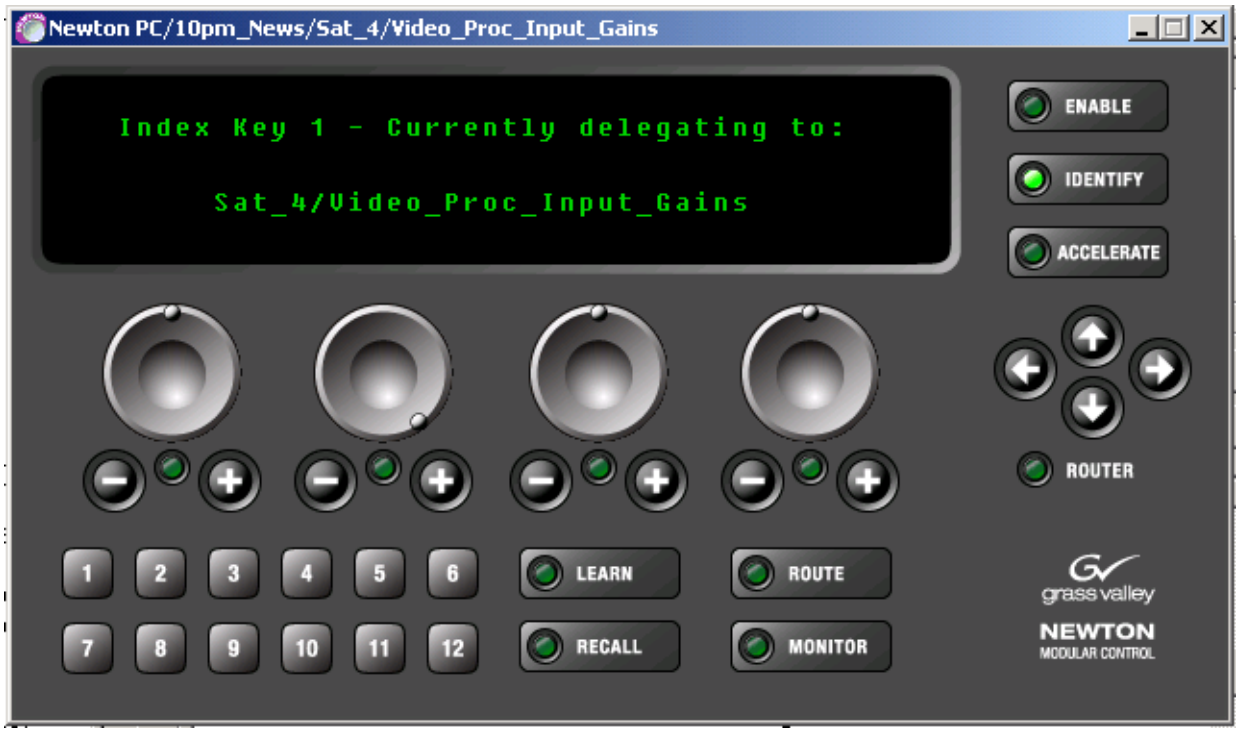
The **Recall** button has two modes of operation in conjunction with the soft keys, the Setup Index mode and the Enable Soft Key (Recall) mode.

Setup Index Mode

When the **Recall** button is off (disabled), the soft keys will act as setup index keys. In Setup Index mode, each soft key corresponds to a setup in the Newton Panel Configurator.

In the Setup Index mode, the software panel display will appear as shown in Figure 93. This display indicates the first setup corresponding to the Index list in the Sat_4 channel configuration.

Figure 93. Software Panel in Setup Index Mode (Recall Button Off)



When no setup assignment has been made for a corresponding index entry in the Newton Panel Configurator, selecting the soft key will show a Not Currently Active message (Figure 94). The display in the figure indicates the Index entry for Index Key 10 has not been created in Newton Panel Configurator.

Figure 94. Software Panel with Setup Index Indicating No Setup

On the rack mount panel, the soft key buttons will be low tally to show the presence of a setup in the Newton Panel Configurator. If no knob assignments have been made in a setup or no setup has been created to correspond to that soft key, the lamp will be off. The rack mount panel display will also show the Index Key status messages.

Refer to *Soft Keys – Setup Index Mode* on page 68 for an illustration of this relationship between soft keys and the setup index number in Newton Panel Configurator.

Enable Soft Key (Recall) mode

When the **Recall** button is on (enabled), selecting soft keys will recall user-assigned setups. If soft key assignments have been made in the Newton Panel Configurator and downloaded to a panel, or made at the panel after the configuration was downloaded, when the **Recall** button on the panel is enabled, selecting a soft key with a setup, router source, or router destination (or any combination of these) assigned to it will recall that setup into the panel display.

Refer to the NewtonPC panel example in Figure 95. With the **Recall** button on, pressing Soft Key 1 will bring up the Video Proc Input Gain setup. This setup was assigned to Soft Key 1 during the configuration process and downloaded to the panel.

Figure 95. NewtonPC Soft Key 1 Recall

Appendix A

Specifications

Table 3. Newt-PC and Newt-RM Specifications

Parameter	Value
Newton Software Control Panel	
Platforms	Windows XP or 2000
Web browser	Internet Explorer v5.5 or later
Monitor Resolution	Minimum 1024 x 768
Newton Rack Mount Control Panel	
Connectors	RJ-45 10/100 BaseT Ethernet
Height	1.7 in. (4.4 cm), 1 RU
Width	19 in. (48.3 cm)
Depth	6.0 in. (15.2 cm)
Weight	3.0 lb. (1.4 kg)
Power	90 to 265 VAC, 47 Hz to 63 Hz, 15 W maximum

Appendix B

Updating 8900/2000NET Software

8900/2000NET Software Requirements

Operation of the Newton Control Panels requires that the 8900NET and 2000NET Network Interface modules be running version 3.2.0 software or later for proper operation. Instructions for acquiring and updating software for both of these modules is given in this section.

Acquiring and Installing 8900NET Software

The latest software for the 8900NET module is available from the Grass Valley Customer Service FAQ web site at the following URL:

`http://gvg.custhelp.com`

This will take you to the Grass Valley Customer Service FAQ database. The information provided here is the most up-to-date. You may also subscribe to software updates through the FAQ site. This is recommended so that when new versions of software are released, you are notified by E-mail.

To download the latest 8900NET software, do the following:

1. Navigate to the FAQ site and click on the first FAQ, **DOWNLOAD THE LATEST SOFTWARE?**
2. Select the **8900 Series** link.
3. Select the link to the latest 8900NET Interface module software.
4. Select the 89NET3.2.2.zip (or latest version of 8900NET) file and save it to your PC.
5. Extract the zipped file to access five files (modular/89net2.1.2.bin, modular/89net3.0.1b.bin, modular/89net3.2.2.bin, modular/READ THIS FIRST.txt)

6. Open the READ THIS FIRST.txt file and read the information.

7. It will tell you to load the software in the following order depending on your current 8900NET software version:

   For 8900NET modules running version 2.1.2 or earlier:

   - Load version 2.1.2 (89net2.1.2.bin) if you are not already at this version or higher.
   - Load version 3.0.1b (89net3.0.1b.bin). Do not skip this step!! Do not go directly 3.2.2 or the Flash RAM on the 8900NET may be corrupted.
   - Load version 3.2.2 (89net3.2.2.bin)
   - For 8900NET modules running version 3.2.0:
   - Load version 3.2.2 (89net3.2.2.fld)

Use the 8900NET Software Update web page to load software. This procedure is described in the 8900NET Instruction Manual available on-line at the following URL:

http://www.thomsongrassvalley.com/docs

Select Broadcast Products, then Modular Products. Scroll down the page to Gecko 8900 Signal Processing System Products/Control and Monitoring Products and click on the 8900NET Interface Module. Scroll down to find the manual in this section.

Acquiring and Installing 2000NET Software

The latest software for the 2000NET module is available from the Thomson Grass Valley FAQ web site at the following URL:

`http://gvg.custhelp.com`

This will take you to the Grass Valley Customer Service FAQ database. The information provided here is the most up-to-date. You may also subscribe to software updates through the FAQ site. This is recommended so that when new versions of software are released, you are notified by E-mail.

To download the latest 2000NET software, do the following:

1. Navigate to the FAQ site and click on the first FAQ, **DOWNLOAD THE LATEST SOFTWARE?**
2. Select the **2000 Series** link.
3. Select the link to the latest 2000NET Interface module software.
4. If you are updating from version 3.2.0 to version 3.2.2, you may use either the .fld or .bin file. If you are updating from an earlier version than 3.2.0, use the .bin file and the FTP Server procedure described in detail in the 2000NET Instruction Manual available on-line.
5. You may also use the NetConfig Networking Application option to update from version 3.2.0 to later versions as described in the NetConfig Instruction Manual.

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