Imagine COMMUNICATIONS™

Installation and Operation Manual

Neo Suiteview™
Multiviewer Hardware

Edition C

175-000324-00

Delivering the Moment

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Publication Information

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Contents

Chapter 2: Installation

Chapter 3: Modules and Back Panels

Chapter 4: Parameters and Card-Edge Operation

Chapter 5: Using NEO SuiteView with CCS Software

Chapter 6: Specifications

Appendix A: Frequently Asked Questions

Appendix B: Servicing Instructions

Appendix C: UMD/Tally Option

Index

Preface

Manual Information

Purpose

This manual details the features, installation, operation, maintenance, and specifications for the NEO SuiteView™ multiviewer.

Audience

This manual is written for engineers, technicians, and operators responsible for installation, setup, maintenance, and/or operation of the NEO SuiteView multiviewer.

Revision History

Table i-1. Revision History of Manual

Edition	Date	Comments
A	June 2006	Full release with feature additions
B	September 2006	Revisions for the Layout Designer software application release
C	June 2007	Full release with feature additions and enhancements

Writing Conventions

To enhance your understanding, the authors of this manual have adhered to the following text conventions:

Table i-2. Writing Conventions

Term or Convention	Description
Bold	Indicates dialog boxes, property sheets, fields, buttons, check boxes, list boxes, combo boxes, menus, submenus, windows, lists, and selection names
Italics	Indicates E-mail addresses, the names of books or publications, and the first instances of new terms and specialized words that need emphasis
CAPS	Indicates a specific key on the keyboard, such as ENTER, TAB, CTRL, ALT, or DELETE
Code	Indicates variables or command-line entries, such as a DOS entry or something you type into a field
>	Indicates the direction of navigation through a hierarchy of menus and windows
hyperlink	Indicates a jump to another location within the electronic document or elsewhere
Internet address	Indicates a jump to a Web site or URL
 Note	Indicates important information that helps to avoid and troubleshoot problems

Obtaining Documents

Product support documents can be viewed or downloaded from our website. Alternatively, contact your Customer Service representative to request a document.

Unpacking/Shipping Information

Unpacking a Product

This product was carefully inspected, tested, and calibrated before shipment to ensure years of stable and trouble-free service.

1. Check equipment for any visible damage that may have occurred during transit.
2. Confirm that you have received all items listed on the packing list.
3. Contact your dealer if any item on the packing list is missing.
4. Contact the carrier if any item is damaged.
5. Remove all packaging material from the product and its associated components before you install the unit.

Keep at least one set of original packaging, in the event that you need to return a product for servicing.

Product Servicing

Except for firmware upgrades, NEO SuiteView multiviewer modules are not designed for field servicing. All hardware upgrades, modifications, or repairs require you to return the modules to the Customer Service center.

Returning a Product

In the unlikely event that your product fails to operate properly, please contact Customer Service to obtain a Return Authorization (RA) number, then send the unit back for servicing.

Keep at least one set of original packaging in the event that a product needs to be returned for service. If the original package is not available, you can supply your own packaging as long as it meets the following criteria:

- The packaging must be able to withstand the product's weight.
- The product must be held rigid within the packaging.
- There must be at least 2 in. (5 cm) of space between the product and the container.
- The corners of the product must be protected.

Ship products back to us for servicing prepaid and, if possible, in the original packaging material. If the product is still within the warranty period, we will return the product prepaid after servicing.

Restriction on Hazardous Substances (RoHS) Compliance

Directive 2002/95/EC—commonly known as the European Union (EU) Restriction on Hazardous Substances (RoHS)—sets limits on the use of certain substances found in electrical and electronic equipment. The intent of this legislation is to reduce the amount of hazardous chemicals that may leach out of landfill sites or otherwise contaminate the environment during end-of-life recycling. The Directive, which took effect on July 1, 2006, refers to the following hazardous substances:

- Lead (Pb)
- Mercury (Hg)
- Cadmium (Cd)
- Hexavalent Chromium (Cr-V1)
- Polybrominated Biphenyls (PBB)
- Polybrominated Diphenyl Ethers (PBDE)

According to this EU Directive, all products sold in the European Union will be fully RoHS-compliant and “lead-free.” (See our website, for more information on dates and deadlines for compliance.) Spare parts supplied for the repair and upgrade of equipment sold before July 1, 2006 are exempt from the legislation. Equipment that complies with the EU directive will be marked with a RoHS-compliant emblem, as shown in Figure P-1.

Figure P-1. RoHS Compliance Emblem

Waste from Electrical and Electronic Equipment (WEEE) Compliance

The European Union (EU) Directive 2002/96/EC on Waste from Electrical and Electronic Equipment (WEEE) deals with the collection, treatment, recovery, and recycling of electrical and electronic waste products. The objective of the WEEE Directive is to assign the responsibility for the disposal of associated hazardous waste to either the producers or users of these products. Effective August 13, 2005, producers or users will be required to recycle electrical and electronic equipment at end of its useful life, and may not dispose of the equipment in landfills or by using other unapproved methods. (Some EU member states may have different deadlines.)

In accordance with this EU Directive, companies selling electric or electronic devices in the EU will affix labels indicating that such products must be properly recycled. (See our website, for more information on dates and deadlines for compliance.) Contact your local sales representative for information on returning these products for recycling. Equipment that complies with the EU directive will be marked with a WEEE-compliant emblem, as shown in Figure P-2.

Figure P-2. WEEE Compliance Emblem

Safety

Carefully review all safety precautions to avoid injury and prevent damage to this product or any products connected to it. If this product is rack-mountable, it should be mounted in an appropriate rack using the rack-mounting positions and rear support guides provided. It is recommended that each frame be connected to a separate electrical circuit for protection against circuit overloading. If this product relies on forced air cooling, it is recommended that all obstructions to the air flow be removed prior to mounting the frame in the rack.

If this product has a provision for external earth grounding, it is recommended that the frame be grounded to earth via the protective earth ground on the rear panel.

IMPORTANT! Only qualified personnel should perform service procedures.

Safety Terms and Symbols in this Manual

WARNING

Statements identifying conditions or practices that may result in personal injury or loss of life. High voltage is present.

CAUTION

Statements identifying conditions or practices that can result in damage to the equipment or other property.

Chapter 1

Introduction

Overview

NEO SuiteView™ is an advanced, multi-signal display controller that multiplexes, scales, and presents multiple signals on a single output signal for display. NEO SuiteView works in 3RU or 1RU modular frames, supporting up to 44 video inputs of different formats, and up to 64 stereo audio pair inputs. Supported video input signal formats include SDI, HD-SDI, composite analog video, DVI-I, VGA (RGBHV). Supported audio input signals include stereo analog audio and AES discrete audio, as well as embedded audio support from SD-SDI and HD-SDI inputs.

This chapter covers the following topics:

See the *FR-3901, FR-3903, and FR-3923 Installation and Operation Manual* for information about NEO frames. The frame manual includes information about these items:

- General information about module unpacking, installation, removal, navigation, configuration, and setup
- Card-edge screen savers

- State recovery parameters
- Fan modules
- Resource modules
- Alarm interconnect modules
- Power supplies
- Servicing instructions

Product Description

Using NEO Suiteview, you can combine most video signal formats within the same NEO frame. Audio ballistic data from embedded audio, analog audio, and AES discrete audio is used by the system to drive on-screen audio meters. In addition, embedded audio output can be monitored externally through the NEO SuiteView audio link.

NEO SuiteView provides the multiplexed output as an RGBHV, 10-bit signal presented on separate HD-D15 connectors, providing one main and one redundant output signal. The output signal can be programmed for display resolutions that range from XGA (1024×768) to 1080p (1920×1080).

NEO SuiteView can be ordered as a complete system or as a combination of separate plug-in modules and back panels.

Main Features

NEO SuiteView 3RU and 1RU systems have the following features:

- Total capacity of twelve modules in the 3RU NEO FR-3923 and FR-3903 frames, and a total of four modules in the 1RU NEO FR-3901 frame
- Supported input signal formats include SD-SDI, HD-SDI, analog video, DVI, and VGA (RGBHV)
- Full-screen view of a selected video input channel picture-in-picture (PiP)
- Support for the embedded audio on SD-SDI and HD-SDI inputs
- Support for up to 64 analog stereo audio inputs or 64 AES discrete digital stereo audio inputs, depending on the number of audio modules installed in the NEO SuiteView system
- Audio bar metering for each audio input channel; up to 8 audio channels can be metered and associated to each PiP
- Ability to mix and match numerous combinations of signal formats within the same frame in groups of four (groups of three for DVI/VGA inputs)
- On-screen audio and video signal alarms for each audio and video input channel
- On-screen digital clock that displays internal time or time from an external reference

- Detection and reporting of V-Chip and Closed Caption data presence in video input channels
- On-screen audio bar metering for embedded, analog, and AES discrete audio inputs
- Power and cooling capabilities for any module combination
- RS-232 and 10Base-T Ethernet interface for Layout Designer software application for configuration, monitoring, and control (3901RES-E module is required for the Ethernet interface)
- Ethernet interface for remote control and monitoring using local and CCS control panels as well as CCS software applications (3901RES-E resource card is required)
- Front-loading, hot-swappable modules, fans, and power supplies
- Mid-plane design with intermodule connectivity
- Major alarms with on-screen alarm notification in CCS software applications
- Auto-ranging, highly energy-efficient power supply

Frame Options

The NEO SuiteView system comes in either a 3RU or 1RU version. There are many options available for these systems, depending on the different combinations of the following features:

- Number of available module slots (twelve in the 3RU FR-3923 and FR-3903 frames, and four in the 1RU FR-3901 frame)
- Type of front panel installed (blank 3901BFP-1U, blank 3903BFP-3U, or local control panel LCP-3901-1U)
- Type of communication device (3901AIC alarm interconnect or 3901RES-E resource module)
- Number of alarm interconnects or resource modules installed (maximum of two in the 3RU FR-3923 and FR-3903; maximum of one in the 1RU FR-3901)
- Number of power supplies installed (maximum of two in the 3RU; maximum of one in the 1RU)

Configuring and Controlling Your NEO SuiteView System

You can configure, control, and monitor your NEO SuiteView system using card-edge controls, control panels, CCS software applications (such as Navigator), and Layout Designer for NEO SuiteView software. Layout Designer for NEO SuiteView interfaces with NEO frames via RS-232 serial connection, or with a network or stand-alone PC using a TCP/IP Ethernet connection.

All NSV-OUT card-edge controls are also available in CCS software applications, local control panels, or remote control panels. For more information about using NSV-OUT module card-edge controls, see "Chapter 4: Parameters and Card-Edge Operation" on page 95. For more information about using CCS software with NEO SuiteView, see "Chapter 5: Using NEO SuiteView with CCS Software" on page 121.

Input modules (such as the NSV-H4) do not have card-edge controls, although they do have card-edge LEDs that indicate a major alarm and whether the input signal is present.

Detailed alarm information and configuration is only available using the supplied Layout Designer for NEO SuiteView software or a CCS software application.

About Layout Designer for NEO SuiteView

Layout Designer is a stand-alone application that you can use to create and edit display layouts for your NEO SuiteView hardware. Using Layout Designer for NEO SuiteView, you can also configure on-screen audio and video signal alarms, and configure audio meters for your system audio sources.

It provides an integrated computer interface for the control and configuration of one or more NEO SuiteView display systems over a LAN (local area network).

See your *Layout Designer for NEO SuiteView Software Application User Guide* for detailed descriptions of Layout Designer features.

Ensuring the Use of Compatible CCS Application Versions

Only version-compatible NEO 3901RES-E resource cards and CCS software applications can be used with NEO SuiteView.

Note

Version numbers are found within the **Version** tab of the device configuration window in your CCS software application. See your related CCS Online Help or User's Guide for more information.

All versions of CCS CoPilot are compatible with NEO SuiteView. The following CCS Pilot and Navigator versions support NEO SuiteView:

- Pilot 3.13 and later
- Navigator 3.13 and later

Front Panels

Front panels for 3RU and 1RU NEO frames use status LEDs; they do not have any additional attached controls. However, you can order an optional local control panel for 1RU frames. For more information about NEO frame front panels, see the *FR-3901, FR-3903, and FR-3923 Installation and Operation Manual*.

Back Panels

The back of each NEO SuiteView system consists of two main areas:

- Back module area (see “3RU Back Panel” on page 7 and “1RU Back Panel” for details)
- Frame interconnect area (see “Frame Interconnect Area” for details)

3RU Back Panel

The back module area of the 3RU NEO FR-3923 and FR-3903 frames is populated with back panels that correspond to the ordered front processing audio and video modules. However, you can also add individual back modules and stack various 1RU back panels according to your needs.

Figure 1-1 shows a NSV-V32G3BP back panel. In this configuration, two NEO slots are available for NVS discrete audio modules or other NEO modules.

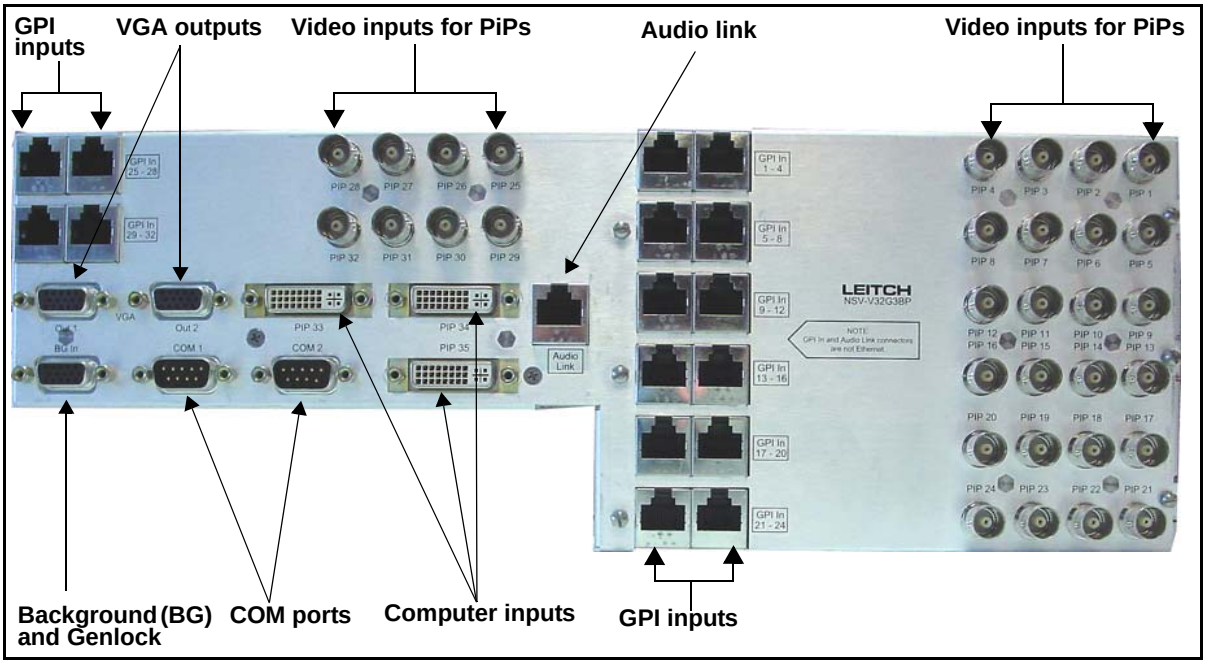

Figure 1-1. Example of 3RU Back Panel (NSV-V32G3BP)

For more information on this and other back panels that can be used in a 3RU system, see the following:

- "NSV-V4BP" on page 55
- "NSV-V12BP" on page 58
- "NSV-V8G3BP" on page 59
- "NSV-V16G3BP" on page 61
- "NSV-V32G3BP" on page 63
- "NSV-V44BP" on page 64
- "NSV-AUD16-BM" on page 66
- "NSV-AUDIO-BO Breakout Module" on page 67

1RU Back Panel

The back module area of the 1RU NEO FR-3901 frames is populated with back panels that correspond to the ordered front processing audio and video modules. Figure 1-2 shows a NSV-V8G3BP back panel.

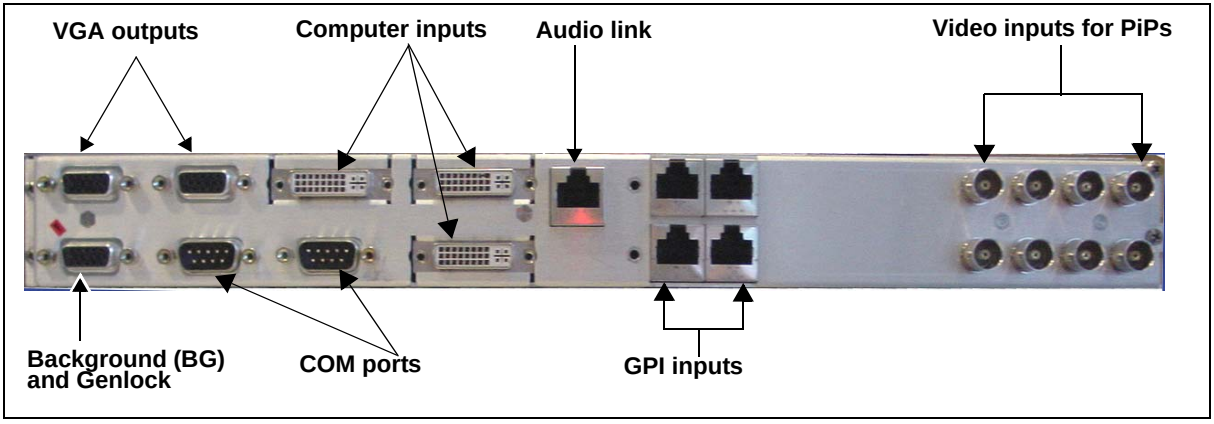

Figure 1-2. Example of 1RU Back Panel (NSV-V8G3BP)

For more information on this and other available 1RU back panels, see the following:

- "NSV-V4BP" on page 55
- "NSV-V12BP" on page 58
- "NSV-V8G3BP" on page 59
- "NSV-AUD16-BM" on page 66
- "NSV-AUDIO-BO Breakout Module" on page 67

Frame Interconnect Area

On the 3RU and 1RU back panels, the frame interconnect area contains these connections:

- Major/minor alarms
- Serial port
- LCN loop through
- AUX loop through (3RU frames only)
- AC mains input
- Ethernet port
- Ground terminal

The serial port, LCN loop through, and AUX loop through connectors in the frame interconnect area are reserved for future use. For more information, contact your customer service representative.

Figure 1-3 (below) and Figure 1-4 and Figure 1-5 on page 13 respectively illustrate the interconnect areas on the back of NEO FR-3923, FR-3901, and FR-3903 frames.

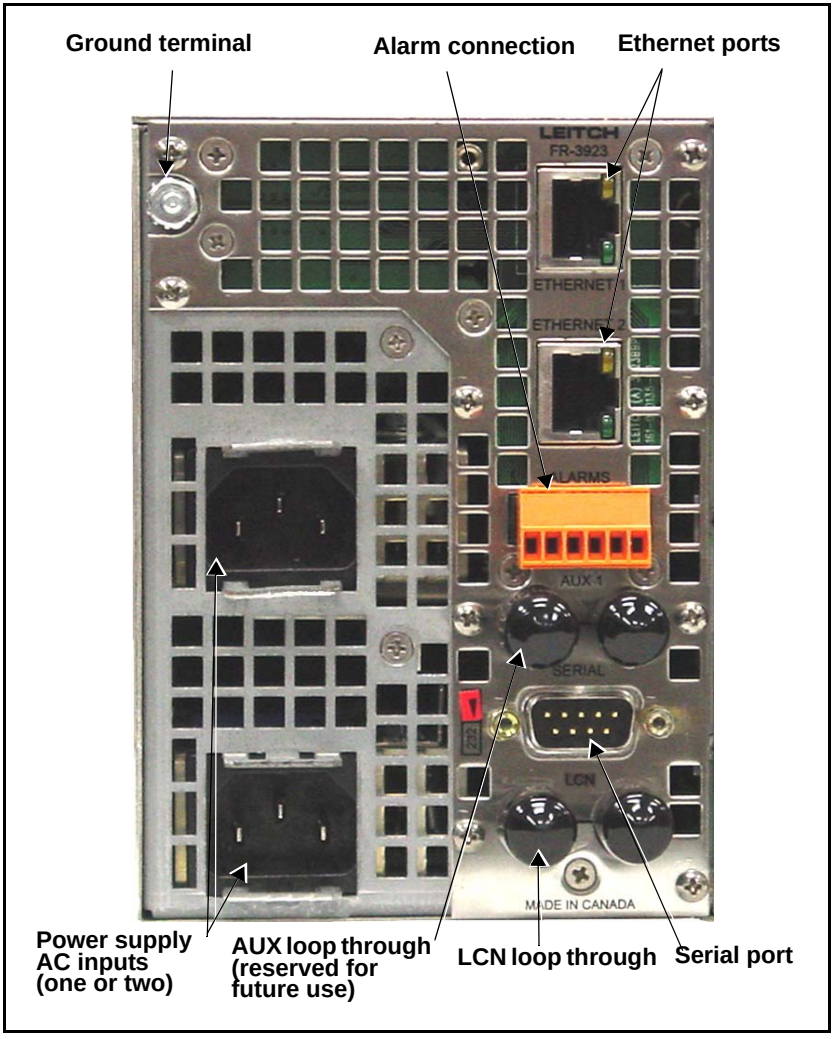

Figure 1-3. FR-3923 Frame Interconnect Area

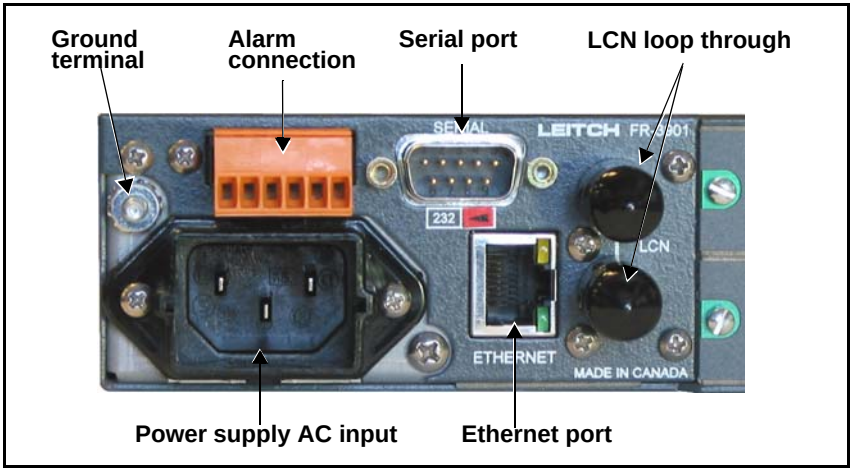

Figure 1-4. FR-3901 Frame Interconnect Area

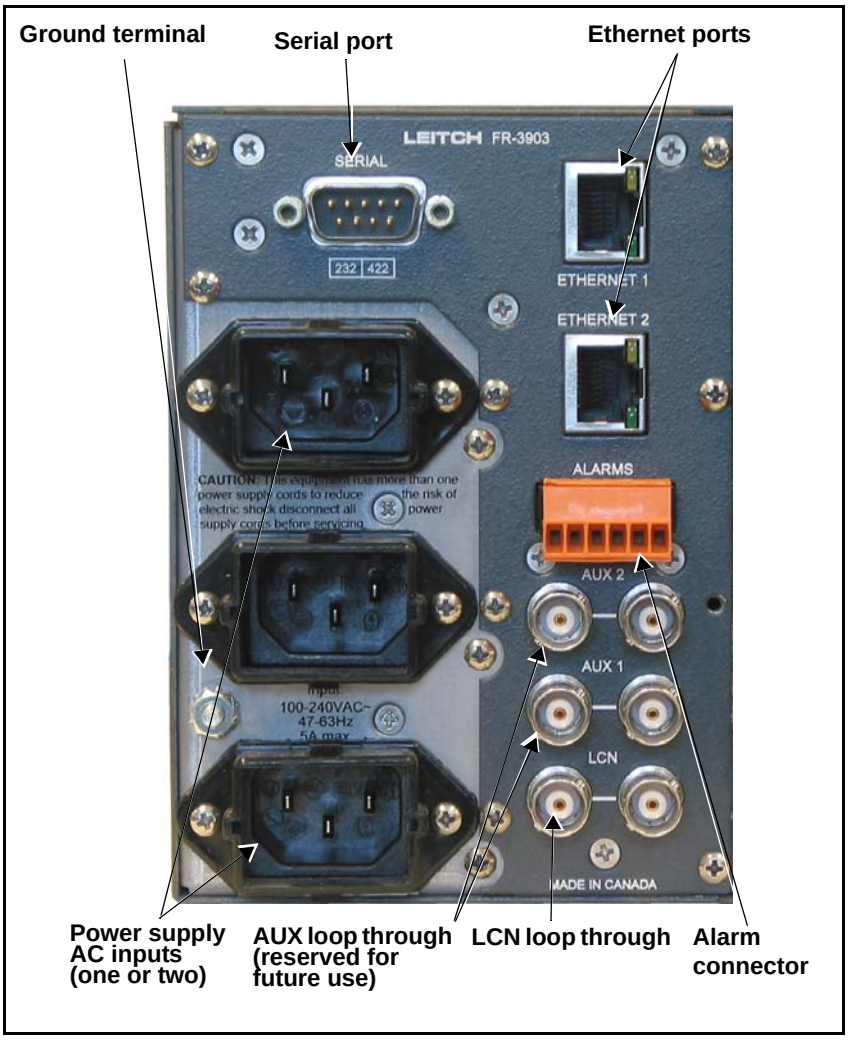

Figure 1-5. FR-3903 Frame Interconnect Area

Signal Flow

For information about the signal flow of the FR-3923, FR-3903, and FR-3901 (including LCP-3901), NEO frames, see your *NEO FR-3901, FR-3903, and FR-3923 Installation and Operation Manual*.

NEO SuiteView Systems

Each system consists of a NEO frame with a NSV back panel populated with the following modules:

- One NSV-OUT module
- One or more video input modules, depending upon back panel type
- Optional graphics input module
- Optional audio input modules
- Optional control resource modules for Ethernet control and monitoring connectivity or for local control

Product code items that are in parenthesis indicate available option types for a system. For example, system options for the NEO SuiteView 8 Video, 3 Computer Input “Solo” System include an NSV-H4 (H), and/or NSV-S4 (S), and/or an NSV-V4 (V) front input module in a 1RU frame (“solo” designation) as part of the product package. The 8 indicates the number of video inputs. Items in square brackets indicate local and remote control options.

Table 1-1 on page 15 describes the available systems. Each system is based on a specific back panel.

Note

If you have purchased your NEO SuiteView system components individually (not as a complete system), your NEO SuiteView will not have the product codes listed in Table 1-1. See “NEO SuiteView Components” on page 21 for information about NEO SuiteView components.

Table 1-1. Complete NEO SuiteView Systems

System Name/Product Code	System Component Descriptions
NEO SuiteView 8 Video “Solo” System NSVS-8-(H,S,V)(8)[E][P] **Note** A maximum of 8 video inputs can be selected in this system package.	1RU FR-3901 NEO frame
	NSV-V8G3BP back panel See page 59 for more information.
	Input modules • NSV-H4 four input auto-detecting HD/SD-SDI and composite video module and/or • NSV-S4 four input SD-SDI and composite video module and/or • NSV-V4 four input composite video module See page 21 for more information.
	NSV-OUT output display and signal processing module See page 22 for more information.
	Optional audio modules • NSV-AUD16 16-channel stereo analog audio input module • NSV-AES16 16-channel discrete AES audio input module **Note** There are no available NEO slots in the NEO SuiteView 8 Video “Solo” System for installing the optional NSV-AUD16 analog audio and NSV-AES16 AES audio input modules. • NSV-AUDIO-BO breakout module for wiring balanced twisted-pair audio cables See page 21 for more information.
	Control options • E: 3901RES-E resource card for Ethernet control and monitoring connectivity (CCS); blank front pane • EP: 3901RES-E resource card and local control panel • P: LCP-3901-1U local control panel

Table 1-1. Complete NEO SuiteView Systems *(Continued)*

System Name/Product Code	System Component Descriptions
NEO SuiteView 8 Video, 3 VGA/DVI Graphics Input “Solo” System NSVS-8G-(H,S,V)(4,8)[E][P] **Note** A maximum of 8 video inputs can be selected in this system package.	1RU FR-3901 NEO frame
	NSV-V8G3BP back panel (spans four slots) See page 59 for more information.
	Input modules • NSV-H4 four input auto-detecting HD/SD-SDI and composite video module and/or • NSV-S4 four input SD-SDI and composite video module and/or • NSV-V4 four input composite video module • NSV-G3 three input graphics module **Note** Only one NSV-G3 module can be installed in each NEO SuiteView system. See page 21 for more information.
	Output module: NSV-OUT output display and signal processing module See page 22 for more information.
	Optional audio modules • NSV-AUD16 16-channel stereo analog audio input module • NSV-AES16 16-channel discrete AES audio input module • NSV-AUDIO-BO breakout module for wiring balanced twisted-pair audio cables See page 21 for more information
	Control options • E: 3901RES-E resource card for Ethernet control and monitoring connectivity (CCS); blank front panel • P: LCP-3901-1U local control panel • EP: 3901RES-E resource card and local control panel

Table 1-1. Complete NEO SuiteView Systems *(Continued)*

System Name/Product Code	System Component Descriptions
NEO SuiteView 12 Video Input "Solo" System NSVS-12-(H,S,V)(4,8,12)[E][P] **Note** At least four, but no more than 12, total video inputs can be selected in this system package.	1RU FR-3901 NEO frame
	NSV-V12BP back panel (spans four slots) See page 58 for more information.
	Input modules • NSV-H4 four input auto-detecting HD/SD-SDI and composite video module and/or • NSV-S4 four input SD-SDI and composite video module and/or • NSV-V4 four input composite video module See page 21 for more information.
	NSV-OUT output display and signal processing module See page 22 for more information.
	Optional audio modules • NSV-AUD16 16-channel stereo analog audio input module • NSV-AES16 16-channel discrete AES audio input module • NSV-AUDIO-BO breakout module for wiring balanced twisted-pair audio cables See page 21 for more information.
	Control options • E: 3901RES-E resource card for Ethernet control and monitoring connectivity (CCS); blank front panel • P: LCP-3901-1U local control panel • EP: 3901RES-E resource card and local control panel

Table 1-1. Complete NEO SuiteView Systems *(Continued)*

System Name/Product Code	System Component Descriptions
NEO SuiteView 32 Video System NSV-32-(H,S,V)(4,8,12,16,20, 24,28,32)[E] **Note** At least four, but no more than 32, total video inputs can be selected in this system package.	3RU FR-3923 or FR-3903 NEO frame
	NSV-V32G3BP back panel (spans ten slots) See page 63 for more information.
	Input modules • NSV-H4 four input auto-detecting HD/SD-SDI and composite video module and/or • NSV-S4 four input SD-SDI and composite video module and/or • NSV-V4 four input composite video module See page 21 for more information.
	NSV-OUT output display and signal processing module See page 22 for more information.
	Optional audio modules • NSV-AUD16 16-channel stereo analog audio input module • NSV-AES16 16-channel discrete AES audio input module • NSV-AUDIO-BO breakout module for wiring balanced twisted-pair audio cables See page 21 for more information.
	Control options E: 3901RES-E resource card for Ethernet control and monitoring connectivity (CCS); blank front panel

Table 1-1. Complete NEO SuiteView Systems *(Continued)*

System Name/Product Code	System Component Descriptions
NEO SuiteView 32 Video, 3 VGA/DVI Graphics Input System NSV-32G-(H,S,V)(4,8,12,16,20, 24,28,32)[E] **Note** At least four, but no more than 32, total video inputs can be selected in this system package.	3RU FR-3923 or FR-3903 NEO frame
	NSV-V32G3BP back panel (spans ten slots) See page 63 for more information.
	Input modules • NSV-H4 four input auto-detecting HD/SD-SDI and composite video module and/or • NSV-S4 four input SD-SDI and composite video module and/or • NSV-V4 four input composite video module • NSV-G3 three input graphics module **Note** Only one NSV-G3 module can be installed in each NEO SuiteView system. See page 21 for more information.
	NSV-OUT output display and signal processing module See page 22 for more information.
	Optional audio modules • NSV-AUD16 16-channel stereo analog audio input module • NSV-AES16 16-channel discrete AES audio input module • NSV-AUDIO-BO breakout module for wiring balanced twisted-pair audio cables See page 21 for more information.
	Control options E: 3901RES-E resource card for Ethernet control and monitoring connectivity (CCS); blank front panel

Table 1-1. Complete NEO SuiteView Systems *(Continued)*

System Name/Product Code	System Component Descriptions
NEO SuiteView 44 Video Input System NSV-44-(V,S,H)(4,8,12,16,20, 24,28,32,36,40,44)[E] **Note** At least four, but no more than 44, total video inputs can be selected in this system package.	3RU FR-3923 or FR-3903 NEO frame
	NSV-V44BP back panel (spans 12 slots) See page 64 for more information.
	Input modules • NSV-H4 four input auto-detecting HD/SD-SDI and composite video module and/or • NSV-S4 four input SD-SDI and composite video module and/or • NSV-V4 four input composite video module See page 21 for more information.
	NSV-OUT output display and signal processing module See page 22 for more information.
	Optional audio modules • NSV-AUD16 16-channel stereo analog audio input module • NSV-AES16 16-channel discrete AES audio input module • NSV-AUDIO-BO breakout module for wiring balanced twisted-pair audio cables See page 21 for more information.
	Control options E: 3901RES-E resource card for Ethernet control and monitoring connectivity (CCS); blank front panel

NEO SuiteView Components

You can upgrade a previously purchased and configured system to hold the maximum number of inputs allowed by a corresponding NEO SuiteView back panel. You can also replace your current back panel with a different one. In either case, back panel connections will need to change as a result of system upgrades. See “Chapter 3: Modules and Back Panels” for more information.

To upgrade firmware on a NEO SuiteView module, see “Upgrading NEO SuiteView Using the Wizard” on page 44.

Front Modules

Table 1-2 briefly describes individual input and output front modules. See “Chapter 3: Modules and Back Panels” for more detailed information on each front module.

Table 1-2. Input and Output Front Modules

Front Module/Product Code	Description
NEO SuiteView Quad HD/SDI/ Composite Video Input Module NSV-H4	Provides four HD/SDI/composite inputs supporting and auto-selecting between SMPTE 292 (1080i and 720p at 59.94 and 60), and SMPTE 259 signals (525/625), and analog composite video (NTSC, PAL-B, and PAL-M)
NEO SuiteView Quad SDI/Composite Video Input Module NSV-S4	Provides four SDI inputs supporting and auto-selecting between SMPTE 259 signals (525/625) and analog composite video (NTSC, PAL-B, and PAL-M)
NEO SuiteViewQuad Composite module NSV-V4	Provides four analog composite video inputs (for NTSC, PAL-B, and PAL-M). This module supports auto-selecting feature between NTSC and PAL-B.
NEO SuiteView Triple VGA/DVI Graphics Input Module NSV-G3	Provides three computer inputs supporting RGBHV, RGBS, or DVI formats. Each input auto-selects based on the signal fed to it. It supports resolutions up to SXGA (1280×1024).
NEO SuiteView Analog Audio Processing Module NSV-AUD16	Provides audio signal processing for 16 channels of balanced analog stereo audio for audio metering. Audio is input to the module through the NSV-AUDIO-BO breakout module.

Table 1-2. Input and Output Front Modules *(Continued)*

Front Module/Product Code	Description
NEO SuiteView AES Discrete Digital Audio Processing Module NVS-AES16	Provides audio signal processing for 16 channels of AES discrete audio for audio metering. Audio is input to the module through the NVS-AUDIO-BO breakout module.
NEO SuiteView Output Module NSV-OUT	Provides both output display and processing and has redundant outputs; takes input signals processed from each input module and multiplexes their signals into an RBGHV, 10-bit output signal programmable from XGA (1024×768) to 1080p (1920×1080) resolution

Back Panels and Breakout Modules

Each video back panel includes one OUT (output) slot, an optional G3 slot, and one or more V4/S4/H4 slots to accommodate required input modules. Labelled slots consist of the following connectors:

- OUT slot: One HD DB-15 connector for VGA input, two HD DB-15 connectors for VGA output, two DB-9 connectors for RS-232 or RS-422 (COM 2 only), and one RJ-45 connector for Audio-Link (monitoring embedded audio)
- H4/S4/V4 slot: Four BNC connectors for video and two RJ-45 connectors for GPI input
- G3 slot: Three DVI connectors for VGA/DVI input

Table 1-3 describes the available NEO SuiteView back panels.

Table 1-3. Back Panel Descriptions

Item	Description
NEO SuiteView 4 Video Back Panel NSV-V4BP	Allows four video inputs using any video input modules (NSV-H4, NSV-S4, NSV-V4); spans two vertical frame slots
NEO SuiteView 12 Video Back Panel NSV-V12BP	Allows up to 12 video inputs using any three video input modules (NSV-H4, NSV-S4, NSV-V4); spans four frame slots
NEO SuiteView 8 Video, 3 VGA/DVI Graphics Back Panel NSV-V8G3BP	Allows up to eight video inputs using any two video input modules (NSV-H4, NSV-S4, NSV-V4) and three graphic inputs (VGA or DVI) from one triple VGA/DVI graphics input module; spans four frame slots
NEO SuiteView 16 Video, 3 VGA/DVI Graphics Back Panel NSV-V16G3BP	Allows up to 16 video inputs using any four video input modules (NSV-H4, NSV-S4, NSV-V4) and three graphic inputs (VGA or DVI) from one triple VGA/DVI graphics input module; spans six frame slots (3RU only)

Table 1-3. Back Panel Descriptions *(Continued)*

Item	Description
NEO SuiteView 32 Video, 3 VGA/DVI Graphics Back Panel NSV-V32G3BP	Allows up to 32 video inputs using any eight video input modules (NSV-H4, NSV-S4, NSV-V4) and three graphic inputs (VGA or DVI) from one triple VGA/DVI graphics input module; spans ten frame slots (3RU only)
NEO SuiteView 44 Video Back Panel NSV-V44BP	Allows up to 44 video inputs using any 11 video input modules (NSV-H4, NSV-S4, NSV-V4); spans twelve frame slots (3RU only)
NEO SuiteView Audio Back Module NSV-AUD16-BM	Consists of two female HD DB-44 connectors each providing 8 stereo audio input channels. A female serial RS-232 connector inputs audio ballistic data for audio metering and alarm monitoring.
NEO SuiteView Audio Input Breakout Module NSV-AUDIO-BO	Consists of two male HD DB-44 connectors and a male serial RS-232 that attach to the NSV-AUD16-BM. The breakout module provides terminal block connections for 16 audio channels. An Audio Link RJ-45 connector outputs audio ballistic information to the NSV-OUT module.

Options

Table 1-2 lists a selection of NEO SuiteView software license key options.

Table 1-4. Options Descriptions

Item	Description
NEO SuiteView UMD NSV-UMD	Optional Under Monitor Display (UMD) protocol support providing dynamic caption names (follow router) See "Appendix C: UMD/Tally Option" for more information.
NEO SuiteViewEmbedded Audio NSV-EAx	Optional in-picture monitoring of SDI embedded audio channels (two or four audio channels per video channel); can be purchased with support in groups of four inputs without requiring additional hardware; x=4 or 8

Chapter 2

Installation

Overview

This chapter describes how to unpack and properly install your NEO SuiteView system modules and back panels. It includes the following topics:

Caution

Before installation, please read the *NEO Safety Instructions and Precautions Manual*. This document contains important information about the safe installation and operation of all NEO products.

See your *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* for information on the following topics:

- Electrical and environmental requirements
- Installing frames in a rack
- Installing power supplies
- Installing resource and alarm interconnect modules
- Replacing fan modules and fuses

Installation Summary

The following procedures outline the general steps required to prepare your NEO SuiteView system and Layout Designer for NEO SuiteView software for first-time use. If you encounter any difficulties, see “Appendix A: Frequently Asked Questions” on page 151 before contacting your Customer Service representative.

1. Unpack and install NEO SuiteView hardware, including modules and back panels.
2. Mount the NEO frame in a rack, and then connect all required power and communication connections, including RS-232 serial port and/or Ethernet connections.

   For more information, see the following topics:

   - “Installing a NEO SuiteView Frame” on page 32
   - “Positioning Modules” on page 33
   - “Making NEO Frame Connections” on page 40
3. Connect your input and output devices to your NEO SuiteView system.

   For more information, see the following “Connecting Input and Output Devices” on page 84.
4. Install the Layout Designer for NEO SuiteView software on your PC and make the appropriate network connections.

   For more information, see the “Installation” section in your *Layout Designer for NEO SuiteView Software Application User Guide*.

5. Using Layout Designer, configure your NEO SuiteView system.

   For more information, see the “Configuring Multiviewers” section of your *Layout Designer for NEO SuiteView Software Application User Guide*.

Checking the Packing Lists

3RU System

The 3RU NEO SuiteView system is packed in a box containing these items:

- One 3RU NEO FR-3923 frame
- Front/back module product packages (installed), including at least one of these back panels:
  - NSV-V4BP
  - NSV-V8G3BP
  - NSV-V12BP
  - NSV-V16G3BP
  - NSV-V32G3BP
  - NSV-V44BP
  - NSV-AUD16-BM
- One AC power cord
- One six-pin terminal block connector plug
- One 3901BFP-3U blank front panel (installed)
- One 3901FAN-3U or 3923FAN fan module (installed)
- One 3901AIC alarm interconnect module, and/or one or two 3901RES-E resource cards (two installed)
- One or two 3923PS power supplies (installed)
- One left (FR-3900-ISB-M) and one right (FR-3900-ESB-M) rear support bracket, each with mounting screws (attached to the frame) and a corresponding slotted bracket
- Sufficient 3901BBM blank back modules and several extras
- One *NEO SuiteView Hardware Installation and Operation Manual*
- One *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual*
- One *NEO Safety Instructions and Precautions Manual* (bundled with the *NEO Installation and Operation Manual*)

- Optional NSV-AUD16 and NSV-AES16 input processing modules, NSV-AUD16-BM back module, and one NVS-AUDIO-BO breakout module

1RU System

The 1RU NEO SuiteView is packed in a box containing these items:

- One 1RU NEO FR-3901 frame
- Four front/back module product packages (installed), including one of these back panels:
  - NSV-V4BP
  - NSV-V8G3BP
  - NSV-V12BP
  - NSV-AUD16-BM
- One AC power cord
- One six-pin terminal block connector plug
- One 3901BFP-1U blank front panel or one LCP-3901-1U local control panel (installed)
- One 3901FAN-1U fan module (installed)
- One 3901AIC alarm interconnect module or one 3901RES-E resource card (installed)
- One 3901PS power supply (installed)
- One left (FR-3900-ISB-M) and one right (FR-3900-ESB-M) rear support bracket, each with mounting screws (attached to the frame) and a corresponding slotted bracket
- Sufficient 3901BBM blank back modules and several extras
- One *NEO SuiteView Installation and Operation Manual*
- One *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual*
- One *NEO Safety Instructions and Precautions Manual* (bundled with the *NEO Installation and Operation Manual*)
- Optional NSV-AUD16 and NSV-AES16 input processing modules, NSV-AUD16-BM back module, and one NVS-AUDIO-BO breakout module

Installing a NEO SuiteView Frame

See “Chapter 2: Installing a NEO Frame” in your *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* for information on the following topics:

- Electrical requirements, including power supply load limitations and maximum power dissipation
- Installing the frame, including environmental requirements—ventilation, ambient temperature, rack space—and rack-mounting installation procedure
- Installing NEO back modules that are not considered NEO SuiteView back panels, such as distribution amplifier and broadcast upconverter back modules

Installing NEO SuiteView Modules and Back Panels

Positioning Modules

Although most modules can be installed in any NEO frame slot, some have fixed positions within the frame. Installing certain modules in specific frame slots ensures proper signal flow and communication between modules.

Video Input Modules

In 3RU systems, the NSV-G3 module (VGA input module) slot position is not fixed, but is based on the back panel configuration you have purchased. The NSV-G3 module is always installed in the top right slot (front view) of a 1RU NEO SuiteView system, directly above the NSV-OUT module.

Other video input modules, such as the NSV-H4, NSV-S4, and NSV-V4 modules, are interchangeable and can fill any remaining slots that are not occupied by the NSV-OUT and NSV-G3 modules.

Video Output Modules

In 3RU systems, the slot position of the NSV-OUT module is not fixed, but is based on the back panel configuration you have purchased. In 1RU frames, the NSV-OUT module is most often installed in the bottom right slot (front view) of the frame. For 1RU systems with an NSV-V4 back panel, the NSV-OUT module can be installed in the bottom left slot.

Audio Modules

The NVS-AUD16 and NVS-AES16 audio input modules must be installed directly below your NEO SuiteView system's NSV-OUT module. The following sections provide pre-installation information about your NSV-AUD16 and NVS-AES16 modules:

- When installed, the audio input modules cascade their outputs through other audio input modules (if any) *up* to the NSV-OUT module via an internal NEO bus. Figure 2-1 shows two audio modules installed in a NEO SuiteView system with an NSV-V32G3BP back panel.

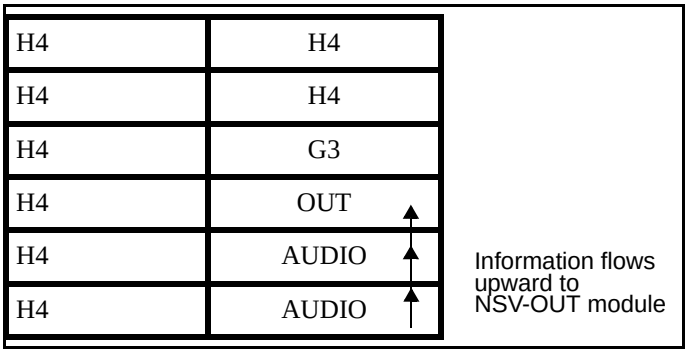

Figure 2-1. Audio Support (Front View)

Installing NEO SuiteView Back Panels

There are seven different NEO SuiteView back panels available. Only three of these back panels can be installed in a 1RU system due to slot space restrictions:

- NSV-V4BP (1RU or 3RU)
- NSV-V12BP (1RU or 3RU)
- NSV-V8G3BP (1RU or 3RU)
- NSV-V16G3BP (3RU only)
- NSV-V32G3BP (3RU only)
- NSV-V44BP (3RU only)
- NSV-AUD16-BM (1RU or 3RU)

Most of the 3RU back panels may not take up every slot in a frame. In such cases, you can populate the frame with NEO SuiteView audio modules or other NEO modules. You can also install another NEO SuiteView back panel (if space allows) or leave unoccupied slots empty. You can install NEO SuiteView back panels with the power supply turned on or off.

See “Chapter 3: Modules and Back Panels” on page 47 for more information.

Installing a Back Panel to Your NEO Frame

To install a fixed back panel on a NEO frame, follow these steps:

1. Remove any back modules or existing back panels to make room for the NEO SuiteView back panel you wish to install.

   Do not discard any blank back modules or their captive screws. You may need them for future configurations.

2. Attach the new back panel over the empty slots, using the captive mounting screws. (See Figure 2-2 on page 36.)

   Back panels have three rows of mounting screws: on the left side, the middle, and the right side of the panel.

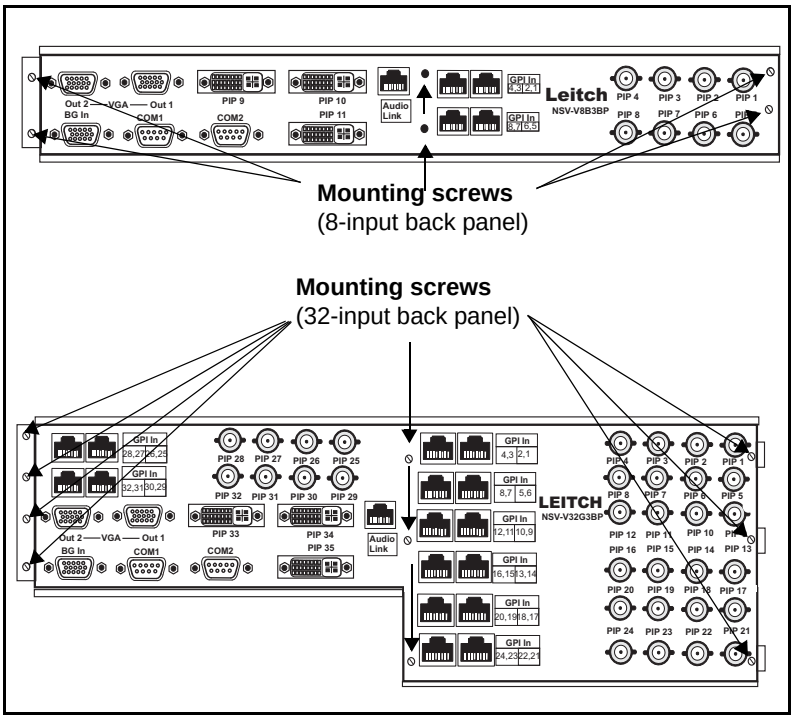

Figure 2-2. Installation of Sample Back Panels (Rear View)

3. To ensure that the front modules mate with their corresponding internal back panel connections, write down the required placement of the front modules. Use the diagrams provided in Figure 3-7 on page 56 through to Figure 3-17 on page 65.

Caution

Do not mix and match NEO SuiteView back panels and front modules. The front module must mate with their respective back panel connections.

4. Install corresponding front modules (see “Installing Front Modules” on page 37) and any remaining individual back panels (see “Installing NEO SuiteView Modules and Back Panels” on page 33).

5. Make all of the necessary power, communication and device connections.

   Use shielded CAT-5 cabling when connecting to NEO SuiteView systems, particularly when making connections to the RJ-45 port, in order to meet emission specifications.

   For information on connecting power and making communication connections to NEO SuiteView, see "Making NEO Frame Connections" on page 40.

   For information about making input and output device connections, see "Connecting Input and Output Devices" on page 84.

See your *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* about installation procedures for NEO back modules that are not considered NEO SuiteView back panels, such as distribution amplifier and broadcast upconverter back modules.

Installing Front Modules

You can insert NEO front modules into a frame with the power supply turned on or off.

Caution

To prevent overheating during frame operation, keep the front panel closed and all back module slots covered.

To install front modules in a frame, follow these steps:

1. Open the front panel and allow it to hang freely from its hinges.
2. Identify the correct front modules, and slide them into the slots that match the installed back panels.

   To assist in verifying slot positions, follow these tips:

   - Look through the front of the frame for the largest connector (in 1RU systems, it will always be in the bottom right slot)—this connection is reserved for the NSV-OUT front module.
   - The NSV-G3 module always installs immediately above the NSV-OUT module.
   - Install the NSV-AUD16 and/or NSV-AES16 modules directly below the NSV-OUT module.

- Remaining input slots can be populated with NSV-H4, NSV-S4, or NSV-V4 modules (the slot positions are interchangeable).

Ensure that the front modules slide inside the module guides. (See Figure 2-3 on page 38.)

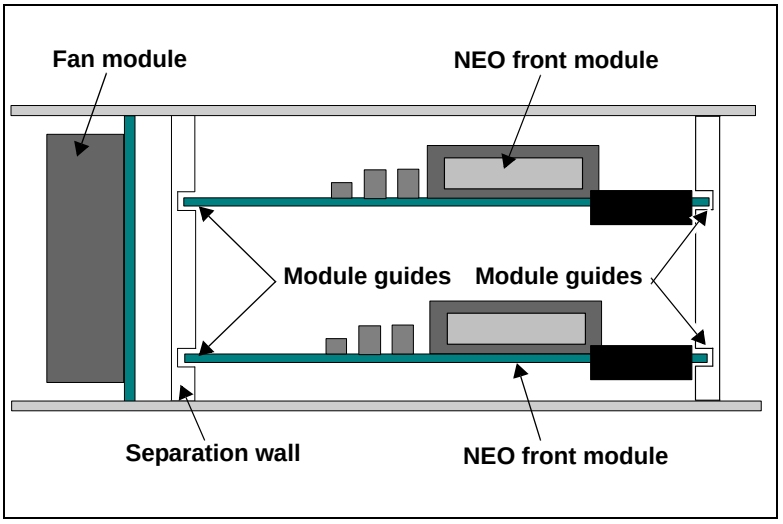

Figure 2-3. Front Modules in Module Guides, Front View

3. Push the module firmly until it seats properly.

   Make sure the edge of the module is flush with the edge of the module guides.

4. Close the extractor handle. (See Figure 2-4.)

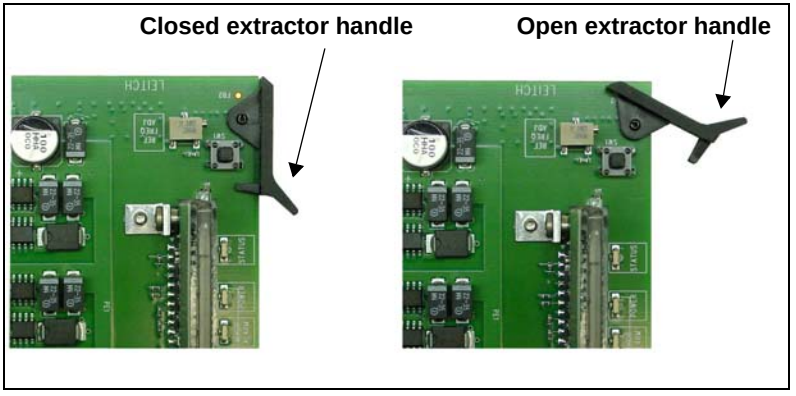

Figure 2-4. Extractor Handle in Closed and Open Positions

5. Install the remaining front and back modules (see “Installing NEO SuiteView Back Panels” on page 35), and then make all of the necessary rear connections.
6. Close the front panel to ensure proper frame ventilation.

Making NEO Frame Connections

This section provides information about how to connect your NEO SuiteView frame to power sources and how to make connections for remote monitoring and control. All of the connections described in this section are made in the frame interconnect area of your NEO frame's back panel. For connector illustrations, see "Frame Interconnect Area" on page 10.

Grounding the Frame

Instances where electrical codes require the use of a ground terminal to electrically bond the NEO SuiteView frame to the ground (for example, the power cable does not provide a suitable grounding connection), follow these steps:

1. Locate the ground stud and nut in the interconnect area on the left, back of the frame.
2. Connect the ground stud to an appropriate ground connection source before connecting power to the frame.

See your *NEO Safety Instructions and Precautions Manual* for more information on grounding cautions and requirements.

Connecting Power to the Frame

A supply of 100 to 240 V AC, at 47 to 63 Hz (nominal) is required for both 3RU and 1RU frames. The FR-3901 allows a maximum output of 200 W; the FR-3923 allows a maximum output of 330 W.

To connect power to your NEO frame, follow these steps:

1. Connect one end of the main power cable to the IEC power connector at the back of the NEO frame.
2. Plug the other cable end into a grounded electrical source.
3. Repeat this procedure for 3RU frames with a redundant power supply.
4. Apply power to the unit by moving the switch on the front each power supply to the "On" position.

Connecting the 3901AIC Alarm Interconnect Module or 3901RES-E Resource Card

NEO frames require either a 3901AIC alarm interconnect module or a 3901RES-E resource card to provide feedback on alarms and power confirmation. Connectors for these modules are found in the frame interconnect area on the left, rear side of the both 1RU and 3RU frames.

Both of these modules require a connection to the frame's alarm connector, while the 3901RES-E module requires a connection to the Ethernet port.

See "Chapter 4: 3901RES-E and 3901AIC Modules" in your *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* for more information.

Alarm Connector

You do not need to make any specific connections to the alarm connector at the back of the NEO frame in order to provide alarm feedback and power confirmation in the following ways:

- LEDs on the front of the frame
- Module card-edges
- Local control panel
- PC display where a NEO SuiteView control and monitoring software application, such as CCS Navigator has been installed.

Note

You can use Layout Designer for NEO SuiteView to configure alarms, however the application does not provide alarm monitoring capabilities.

However, to provide feedback via an external or third-party device, you need to connect one end of a suitable cable to the alarm connector (alarm contact closures) at the back of the frame and the other end of the cable to the external device.

Connecting to Remote Monitoring Devices

If you are on a network and require remote monitoring of your NEO SuiteView system (using either a GUI-based control software application such as Layout Designer for NEO SuiteView or CCS Pilot, or a remote control panel such as the RCP-CCS-1U).

For more information about connecting your NEO SuiteView system to remote monitoring devices, see “Making System Control Connections” on page 88.

Direct RS-232/TCP Connection

You can connect your NEO SuiteView system to a network using a RS-232 connection or an Ethernet connection. To connect your system to a network using an RS-232 connection, connect one end of an RS-232 cable to the **COM 1** or **COM 2** port of your system’s back panel, and the other end of the cable to a remote monitoring device (either a remote control panel or a PC with installed client/server software applications). To connect your system to a network using an Ethernet connection, connect one end of a shielded CAT-5 Ethernet cable to the Ethernet connection of your system’s frame. Connect the other end of the cable to a remote monitoring device (either a remote control panel or a PC with installed client/server software applications).

For more information about COM port connections, see “COM Port Connection” on page 88.

Network Hub or Switch Connection

To connect your NEO frame to a network via a network hub or switch follow these steps:

1. Connect one end of a shielded CAT-5 Ethernet cable to the network hub or switch.
2. Connect the other end of the cable to the RJ-45 Ethernet port at the back of the NEO frame.
3. Connect your remote monitoring device (either a remote control panel or a PC with installed client/server software applications) to the network hub or switch using a CAT-5 Ethernet cable.

Removing NEO SuiteView Modules and Back Panels

Front and Back Modules

NEO SuiteView modules do not require specialized removal procedures. For general information about installing and removing NEO modules, see your *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual*.

Back Panels

To remove a back panel from a NEO frame, follow these steps:

1. Unscrew the back, and then pull it straight off the frame.
2. Reattach blank back modules, another back panel, or individual back modules to ensure proper frame ventilation.

   The screws on the back panel are captive. Do not separate them from the panel.

Upgrading NEO SuiteView Using the Wizard

Using the Software Upgrade tool, you can upgrade the entire NEO SuiteView frame including all modules. Because of the extensive nature of this upgrade, it can take considerably longer than other upgrades—minutes rather than seconds. Ensure that you have sufficient time to complete the upgrade. The maximum time required to complete the upgrade is as follows:

- NSV-OUT output module-10 minutes per system
- NSV-H4, NSV-S4, NSV-V4, and NSV-G3 input modules-10 minutes total per system
- NSV-AUD16 and NSV-AES16- 10 minutes per module

Note

If you are upgrading from firmware version 1.xx to version 2.0 or later, during the upgrade, you will need to set your NSV-OUT module to fail-safe loader mode. Instructions about how and when to do this are provided below.

You will need to be able to physically access your NEO SuiteView frame in order to complete the upgrade process.

Preparing Your NEO SuiteView System for a Firmware Upgrade

To prepare your NEO SuiteView system for a firmware upgrade, follow these steps:

1. Back up all your layouts stored on the NSV-OUT using the Layout Designer.

Note

If you do not back up your layouts, they will be lost forever, because the upgrade utility performs a factory recall on the system.

2. If you have an audio module installed directly below your system's NSV-OUT module, you must remove the audio module from the frame.

   If you do not remove this audio module, your upgrade will fail.

3. While in Build mode in CCS CoPilot, Pilot, or Navigator, choose **Tools** > **Software Upgrade** from the main menu.

   The **Software Upgrade** tool opens.

4. Click **Add** and select the NSV-OUT module.

5. Press **Browse...** and select the software upgrade package (ZIP file).

   If the upgrade package shows that you are upgrading from firmware version 1.xx to version 2.0 or later, you will need to set your NSV-OUT module to fail-safe loader mode. For more information, see "Setting the Module to Fail-Safe Loader Mode". If you are upgrading from version 2.0 to a later firmware version, go to "Running the Upgrade Wizard" on page 45.

Setting the Module to Fail-Safe Loader Mode

If you are upgrading from firmware version 1.xx to version 2.0 or later, you will need to set your NSV-OUT module to fail-safe loader mode as follows:

1. Remove the NSV-OUT module from the NEO frame.
2. Press the **Nav** switch down while simultaneously pressing both the **Escape** and **Enter** buttons.
3. While still pressing the buttons and the **Nav** switch, reinsert the module into the frame and hold for approximately three seconds until the display on the module reads **Offline-H** (or **Offline-L**) **Upload Required**.

Running the Upgrade Wizard

After you have either set your NSV-OUT module to fail-safe mode, or determined to that you do not need to (your current firmware version is 2.0 or later), you can run the Upgrade Wizard.

To run the Upgrade Wizard, press **Submit Transfer**.

The **NEO SuiteView Upgrade** wizard opens.

The wizard will take you through the steps of upgrading your NEO SuiteView and all the modules in it. Follow the instructions that appear on the screen.

Modules will only be updated as required, and in the following order:

- NSV-OUT module
- NSV-IN module
- NSV-AUD module(s)

In the event that an upgrade fails (perhaps because of a power failure), modules can be upgraded individually. See your "What are FPGA Errors?" on page 152 for information about using Internal Ungrade mode to correct a failed software upgrade or to upgrade modules individually. If you backed up your layouts to a computer, you can now use Layout Designer to transfer them back onto the NSV-OUT module. See your *Layout Designer for NEO SuiteView Software Application User Guide* for more information.

Chapter 3

Modules and Back Panels

Overview

This chapter describes NEO SuiteView front modules and available system back panels. It contains information about how to connect your NEO SuiteView system to input and output devices. The following topics are found in this chapter:

Video Input Modules

Input video is received, processed, and scaled by each respective video input module. Under the direction and timing of the NSV-OUT output module, each input module drives out its video data at the correct time resulting in the assembly of the final output video signal.

Video modules covered in this section include the following:

NSV-H4 Module

The NEO SuiteView NSV-H4 module provides four high definition or standard definition SDI/analog inputs supporting and auto-selecting between SMPTE 292 (1080i and 720p at 59.94 and 60 Hz), SMPTE 259 (525/625), and analog video signals (as specified for the NSV-V4). Each input provides equalization of up to 328 ft (100 m) for SMPTE 292 signals and up to 984 ft (300 m) for SMPTE 259 signals.

This module also provides eight GPI inputs for two separate tallies per input signal. In addition, the NSV-H4 supports the detection and display (audio meters) of up to eight channels of embedded audio derived from each video signal.

The NSV-H4 plugs into any V4 back panel slot.

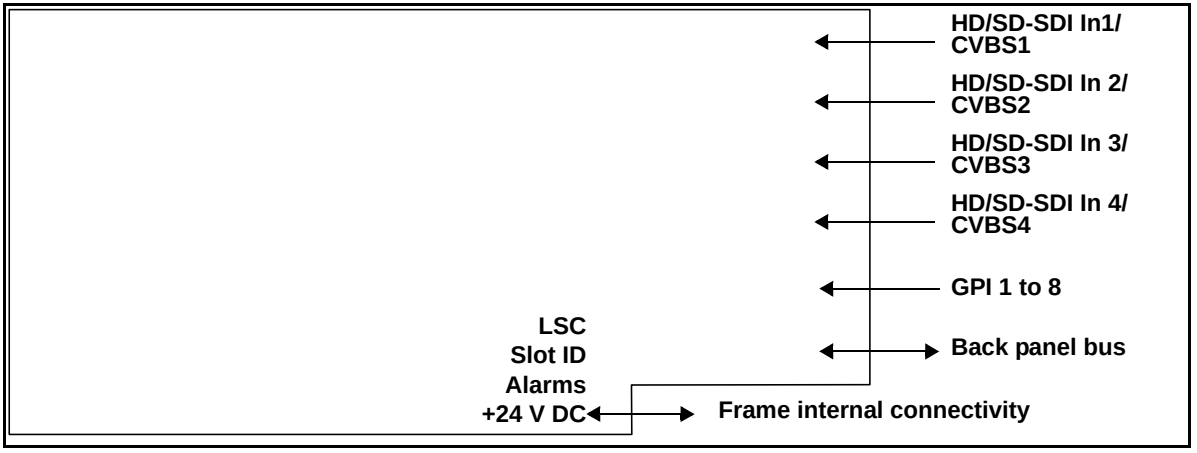

Figure 3-1. NSV-H4 Input Module

See “Input Module Status Parameters” on page 104 for details on status parameters for the NSV-H4 module when using a software control application such as CCS Navigator.

Some indicators are also accessible on the module’s card edge, as indicated by the statement “LED on card edge.” See “LED and Indicator Locations” on page 115 for more information on the location and description of card-edge LEDs.

NSV-S4 Module

The NEO SuiteView NSV-S4 module provides four SDI/analog inputs supporting and auto-selecting between SMPTE 259 signals (525/625) and analog video signals (as specified for the NSV-V4 module). The NSV-S4 provides eight GPI inputs for two separate tallies per input signal. It also supports the pseudo real-time detection and display (audio meters) of up to eight channels of embedded audio derived from each video signal.

Each input provides equalization of up to 984 ft (300 m) for SMPTE 259 signals. The NSV-S4 module plugs into any V4 back panel slot.

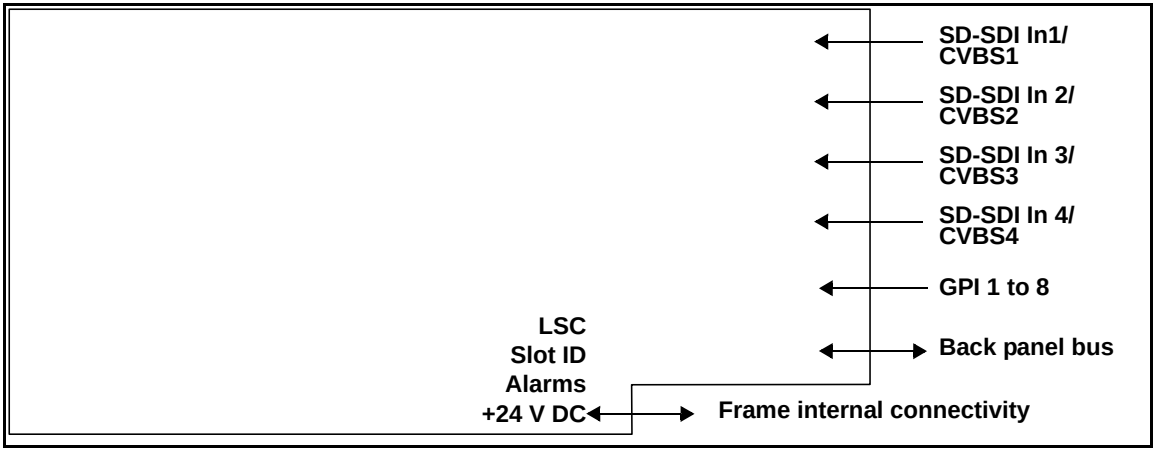

Figure 3-2. NSV-S4 Video Input Module

See “Input Module Status Parameters” on page 104 for details on status parameters for the NSV-H4 module when using a software control application such as CCS Navigator.

Some indicators are also accessible on the module’s card edge, as indicated by the statement “LED on card edge.” See “LED and Indicator Locations” on page 115 for more information on the location and description of card-edge LEDs.

NSV-V4 Module

The NEO SuiteView NSV-V4 module provides four analog video inputs, auto-selectable between composite 525 and composite 625 signals. It provides enough GPI inputs for a minimum of two separate tallies per input signal.

The NSV-V4 module plugs into any V4 back panel slot.

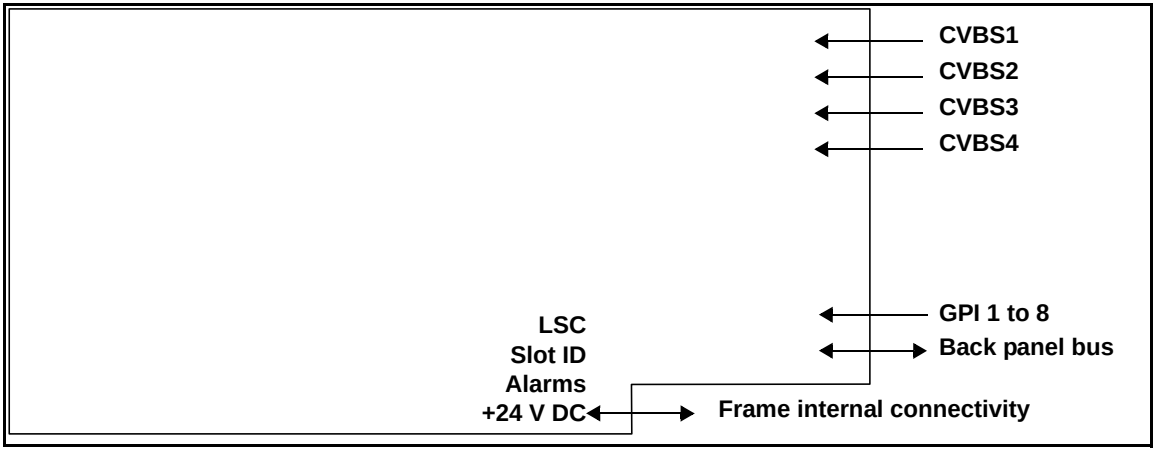

Figure 3-3. NSV-V4 Video Input Module

See “Input Module Status Parameters” on page 104 for details on status parameters for the NSV-V4 module when using a software control application such as CCS Navigator.

Some indicators are also accessible on the module’s card edge, as indicated by the statement “LED on card edge.” See “LED and Indicator Locations” on page 115 for more information on the location and description of card-edge LEDs.

NSV-G3 Module

The NEO SuiteView NSV-G3 module provides three computer inputs supporting RGBHV, RGBs or DVI formats. Each input will auto select based on the signal fed to it, and can support resolutions up to SXGA (1280×1024).

The NSV-G3 module plugs into a G3 back panel slot.

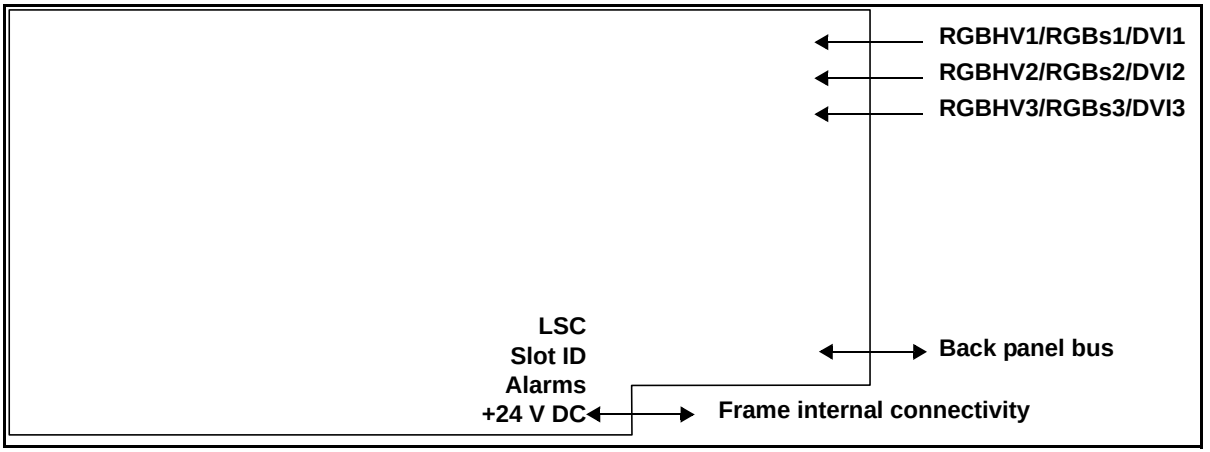

Figure 3-4. NSV-G3 Graphic Input Module

See “Input Module Status Parameters” on page 104 for details on status parameters for the NSV-G3 module when using a software control application such as CCS Navigator.

Some indicators are also accessible on the module’s card edge, as indicated by the statement “LED on card edge.” See “LED and Indicator Locations” on page 115 for more information on the location and description of card-edge LEDs.

NSV-AUD16 and NSV-AES16 Audio Input Modules

The NSV-AUD16 and NSV-AES16 front modules provide input audio data processing for audio alarms and audio metering. The NSV-AUD16 module provides audio signal processing for 16 stereo analog pairs. The NSV-AES16 provides audio signal processing for 16 channels of AES digital stereo audio.

Input audio is routed from the audio source to the audio front module through the supplied NVS-AUD16-BM back module and NSV-AUD-BO breakout module. Up to four audio input modules (any combination of NSV-AUD16 and NSV-AES16 modules) can be added to the same frame, providing a total of 64 stereo audio channels. For more information about the NSV-AUD16-BM back module and the NSV-AUD-BO breakout module see, “NSV-AUD16-BM” on page 66 and “NSV-AUDIO-BO Breakout Module” on page 67.

Note

Your analog audio inputs have been factory calibrated. Therefore, to ensure that your analog audio modules work properly, it is important that you use the NSV-AUDIO-BO breakout module that was shipped with your NSV-AUD16 modules.

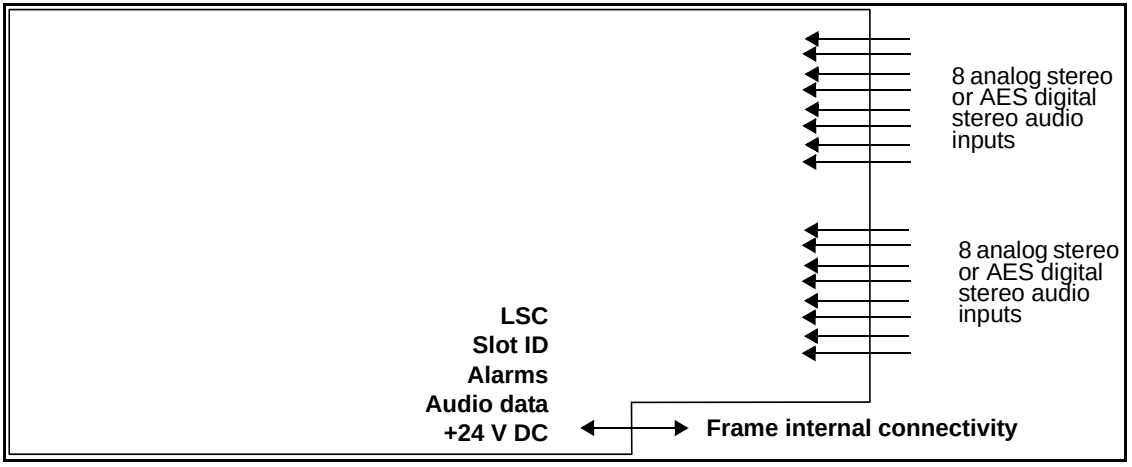

Figure 3-5. NSV-AUD16 and NSV-AES16 Audio Input Modules

The audio data for each input channel is internally output to the NVS-OUT module for display on audio bar meters and for audio alarms. Audio alarms and audio bar meters can be configured for each audio input channel, and then displayed in PiP layouts.

The NSV-AUD16 and NSV-AES16 audio input modules are not hotswappable.

Output Module—NSV-OUT

The NEO SuiteView NSV-OUT module provides both output display and processing. The NSV-OUT module takes input signals processed from each NEO SuiteView input module and multiplexes their signals into an RBGHV, 10-bit output signal programmable from XGA (1024×768) up to WUXGA (1920×1080) resolution.

Two separate HD DB-15 connectors on the NEO SuiteView back panel provide the output RBGHV signal. This module also provides an external graphics input supporting RBGHV, 24-bit signal with resolutions from SVGA to WUXGA on a separate HD DB-15 connector provided by the NEO SuiteView back panel.

The NSV-OUT module provides two serial ports. Each serial port is capable of being used for external configuration, control and monitoring, or for interfacing with a router protocol to provide dynamic updates for UMD and tally information.

The Ethernet port supported by the NEO frame resource module itself provides configuration, control and monitoring.

The NSV-OUT module plugs into the OUT back panel slot.

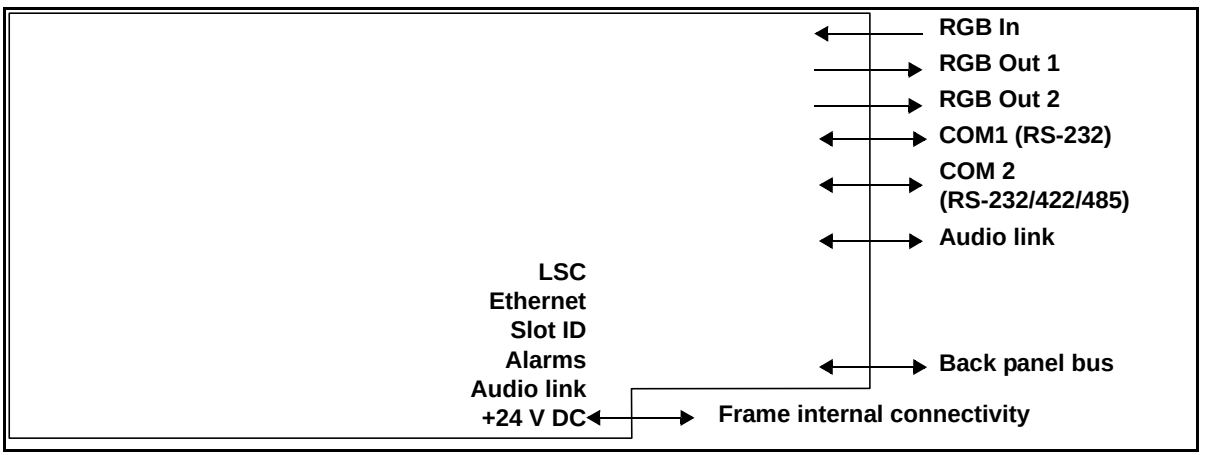

Figure 3-6. NSV-OUT Video Output Display and Processing Module

Some indicators and controls are also accessible on the module's card edge. See "LED and Indicator Locations" on page 115 for more information on the location and description of card-edge LEDs.

See "Operator and All List Parameters" on page 99 for a list of card-edge and control panel parameter names and options.

Back Panels/Modules

A NEO SuiteView system consists of at least one back panel populated with one NSV-OUT module and one or more video input modules.

Audio input modules, if any, are installed with the supplied NSV-AUD16-BM back module. Input audio coming from an NSV-AES16 audio module or NSV-AUD16 can be connected directly to the back module's DB-44 connectors or routed through the NSV-AUDIO-BO breakout module (see Table 1-2 on page 21for details about specific NSV-AUD16 part numbers).

Input audio coming from an NSV-AUD16 audio module must be routed through the NSV-AUDIO-BO breakout module. Audio input modules may be installed in the same frame as the video back panel, or in a separate frame.

The following sections detail available NEO SuiteView back panels and the slot arrangement in each back panel:

NSV-V4BP

The NSV-V4BP's four video inputs can be used with any video input module (NSV-H4, NSV-S4, NSV-V4), and is made up of the following connectors and ports:

- Four BNC video inputs (HD, SD, and/or analog depending on the input module used)
- One HD DB-15 VGA input for supplying background graphics
- Two HD DB-15 VGA outputs to supply signal to studio monitor
- Two DB-9 COM ports configurable to be used for control, UMD data, or LTC signals

- One RJ-45 connector configurable for use as an AES audio output for monitoring embedded audio signals

See Figure 3-7 for a visual representation of the NSV-V4BP.

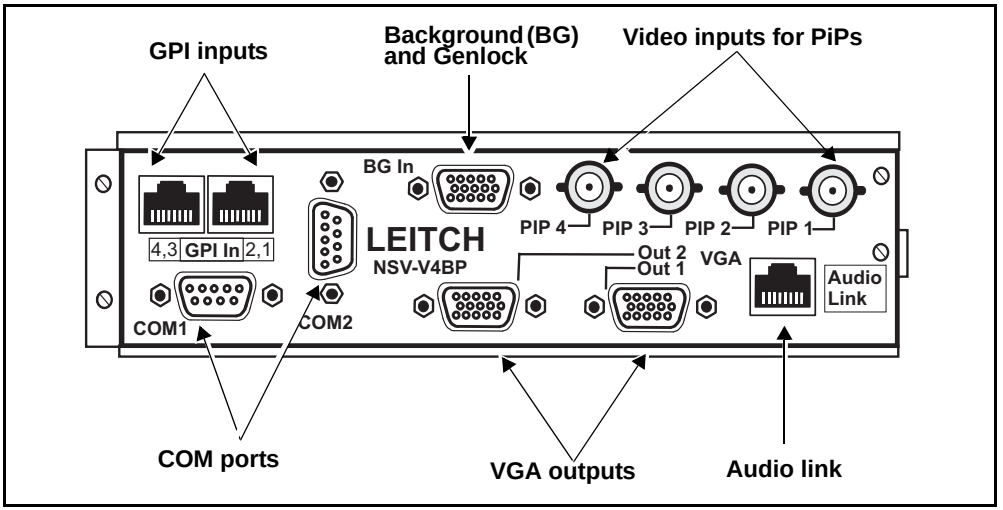

Figure 3-7. NSV-V4BP Back Panel

This back panel spans two NEO slots from top to bottom, and can be installed in a 1RU or 3RU frame. Once installed, there will be two unfilled slots in a 1RU frame and 10 unfilled slots in a 3RU frame (see Figure 3-8).

If you require audio metering for discrete AES or analog audio, you can install audio modules in the same frame as your other NEO SuiteView input modules. Install the NSV-AUD16 or NSV-AES16 module below the NSV-OUT module.

1RU Frame	
NSV-H4/S4/V4	NSV-AES16
NSV-OUT	Empty

3RU Frame	
Empty	Empty
Empty	Empty
Empty	NSV-H4/S4/V4
Empty	NSV-OUT
Empty	NSV-AES16
Empty	NSV-AUD16

Figure 3-8. NSV-V4BP Back Panel Layout (Front View)

NSV-V12BP

The NSV-V12BP's 12 video inputs can be used with any three video input modules (NSV-H4, NSV-S4, NSV-V4), and is made up of the following connectors and ports:

- Twelve BNC video inputs (four inputs per HD, SD, and/or analog depending on the input module used)
- One HD DB-15 VGA input for supplying background graphics
- Two HD DB-15 VGA outputs to supply signal to studio monitor
- Two DB-9 COM ports configurable to be used for control, UMD data, or LTC signals
- One RJ-45 connector configurable for use as an AES audio output for monitoring embedded audio signals

See Figure 3-9 for a visual representation of the NSV-V12BP.

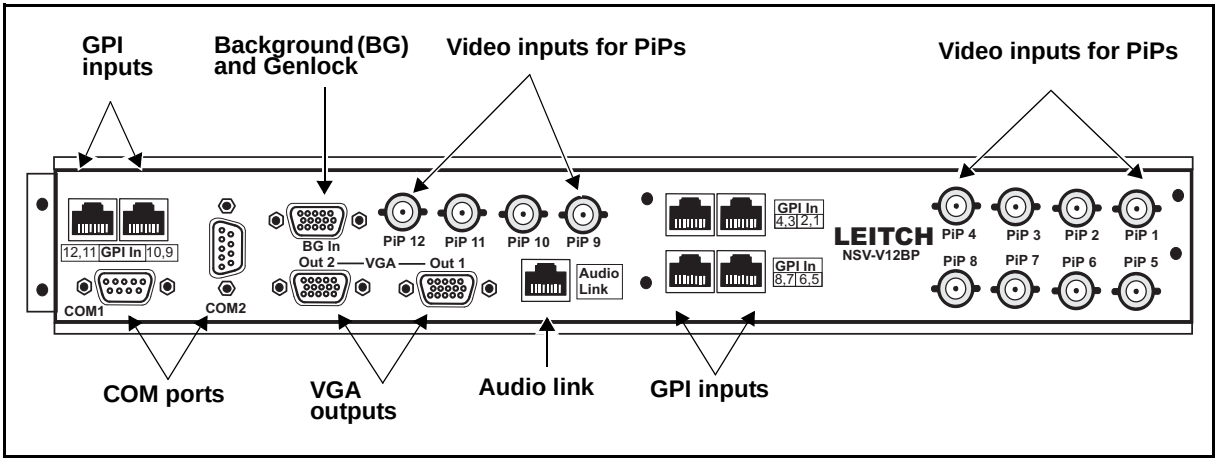

Figure 3-9. NSV-V12BP Back Panel

The NSV-V12BP spans four NEO slots, and can be installed in a 1RU or 3RU frame. Once installed, there will be no unfilled slots in a 1RU frame and eight unfilled slots in a 3RU frame (see Figure 3-10 on page 59).

If you require audio metering for discrete AES or analog audio, you can install audio modules in the same frame as your other NEO SuiteView input modules. Install the NSV-AUD16 or NSV-AES16 module below the NSV-OUT module.

1RU Frame		3RU Frame	
NSV-H4/S4/V4	NSV-H4/S4/V4	Empty	Empty
NSV-H4/S4/V4	NSV-OUT	Empty	Empty
		NSV-H4/S4/V4	NSV-H4/S4/V4
		NSV-H4/S4/V4	NSV-OUT
		Empty	NSV-AES16
		Empty	NSV-AUD16

Figure 3-10. NSV-V12BP Back Panel Layout (Front View)

NSV-V8G3BP

The NSV-V8G3BP's eight video inputs can be used with any two video input modules (NSV-H4, NSV-S4, NSV-V4) and three computer graphic inputs (VGA or DVI) from one computer input module. It is made up of the following connectors and ports:

- Eight BNC video inputs (four inputs per HD, SD, and/or analog depending on the input module used)
- Three DVI-D inputs to accept VGA or DVI signals for NSV-G3 module
- One HD DB-15 VGA input for supplying background graphics
- Two HD DB-15 VGA outputs to supply signal to studio monitor
- Two DB-9 COM ports configurable to be used for control, UMD data, or LTC signals
- One RJ-45 connector configurable for use as an AES audio output for monitoring embedded audio signals

See Figure 3-11 for a visual representation of the NSV-V8G3BP.

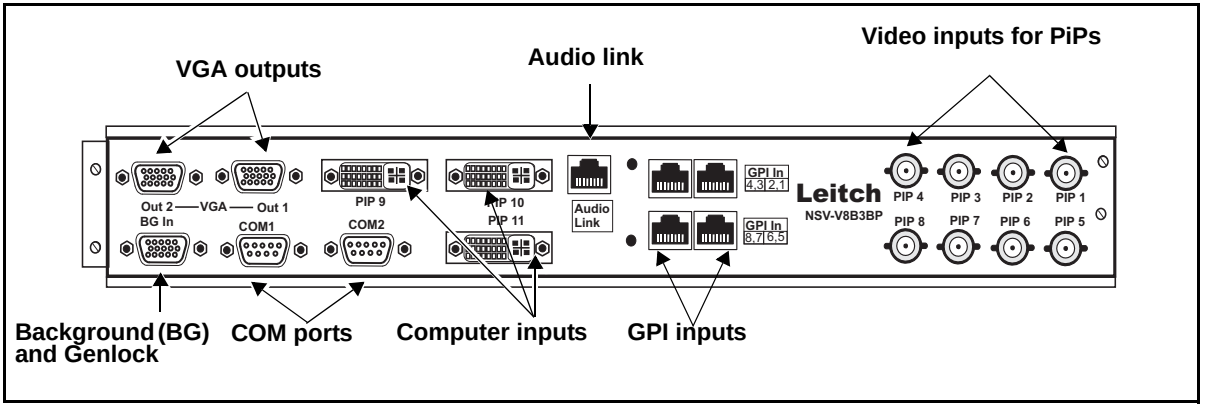

Figure 3-11. NSV-V8B3BP Back Panel

The NSV-V8G3BP spans four NEO slots, and can be installed in a 1RU or 3RU frame. Once installed, there will be no unfilled slots a 1RU frame and eight unfilled slots in a 3RU frame (see Figure 3-12).

If you require audio metering for discrete AES or analog audio, you can install audio modules in the same frame as your other NEO SuiteView input modules. Install the NSV-AUD16 or NSV-AES16 module below the NSV-OUT module.

1RU Frame		3RU Frame	
NSV-H4/S4/V4	NSV-G3	Empty	Empty
NSV-H4/S4/V4	NSV-OUT	Empty	Empty
		NSV-H4/S4/V4	NSV-G3
		NSV-H4/S4/V4	NSV-OUT
		Empty	NVS-AES16
		Empty	NSV-AUD16

Figure 3-12. NSV-V8G3BP Back Panel Layout (Front View)

NSV-V16G3BP

The NSV-V16G3BP's 16 video inputs can be used with any four video input modules (NSV-H4, NSV-S4, NSV-V4) and three computer inputs (VGA or DVI) from one computer input module. It is made up of the following connectors and ports:

- Sixteen BNC video inputs (four inputs per HD, SD, and/or analog depending on the input module used)
- Three DVI-D inputs to accept VGA or DVI signals for NSV-G3 module
- One HD DB-15 VGA input for supplying background graphics
- Two HD DB-15 VGA outputs to supply signal to studio monitor
- Two DB-9 COM ports configurable to be used for control, UMD data, or LTC signals
- One RJ-45 connector configurable for use as an AES audio output for monitoring embedded audio signals

See Figure 3-13 on page 61 for a visual representation of the NSV-V16G3BP.

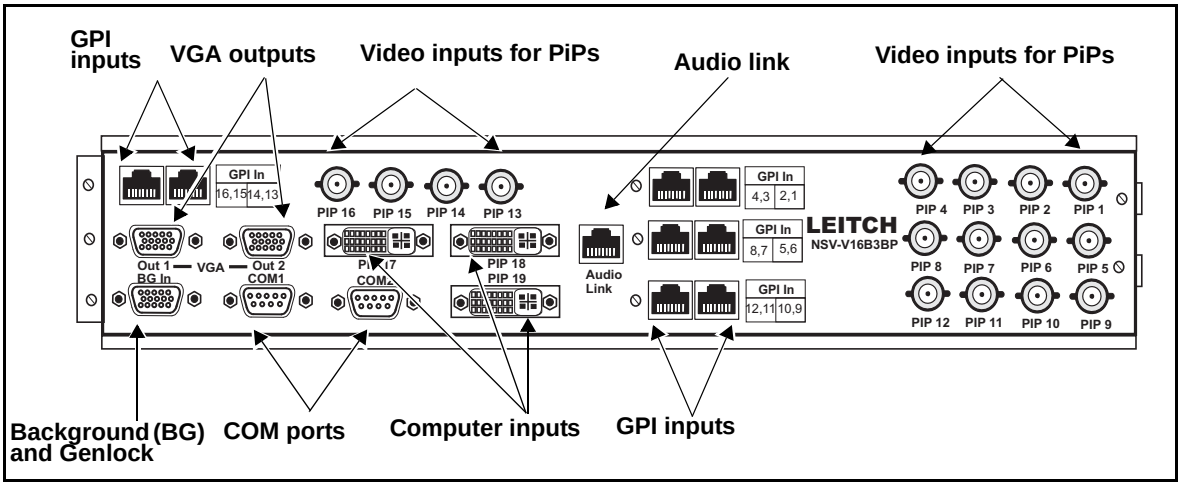

Figure 3-13. NSV-V16B3BP Back Panel

The NSV-V16G3BP spans six NEO slots in a 3RU frame; it cannot be installed in a 1RU frame. Once installed, there will be six unfilled slots in the frame (see Figure 3-14).

If you require audio metering for discrete AES or analog audio, you can install audio modules in the same frame as your other NEO SuiteView input modules. Install the NSV-AUD16 or NSV-AES16 module below the NSV-OUT module.

3RU Frame	
NSV-H4/S4/V4	NSV-H4/S4/V4
NSV-H4/S4/V4	NSV-G3
NSV-H4/S4/V4	NSV-OUT
Empty	NSV-AES16
Empty	NSV-AES16
Empty	NSV-AUD16

Figure 3-14. NSV-V16G3BP Back Panel Layout (Front View)

NSV-V32G3BP

The NSV-V32G3BP's 32 video inputs can be used with any eight video input modules (NSV-H4, NSV-S4, NSV-V4) and three computer inputs (VGA or DVI) from one computer input module. It is made up of the following connectors and ports:

- Thirty-two BNC video inputs (four inputs per HD, SD, and/or analog depending on the input module used)
- Three DVI-D inputs to accept VGA or DVI signals for NSV-G3 module
- One HD DB-15 VGA input for supplying background graphics
- Two HD DB-15 VGA outputs to supply signal to studio monitor
- Two DB-9 COM ports configurable to be used for control, UMD data, or LTC signals
- One RJ-45 connector configurable for use as an AES audio output for monitoring embedded audio signals

See Figure 3-15 for a visual representation of the NSV-V32G3BP.

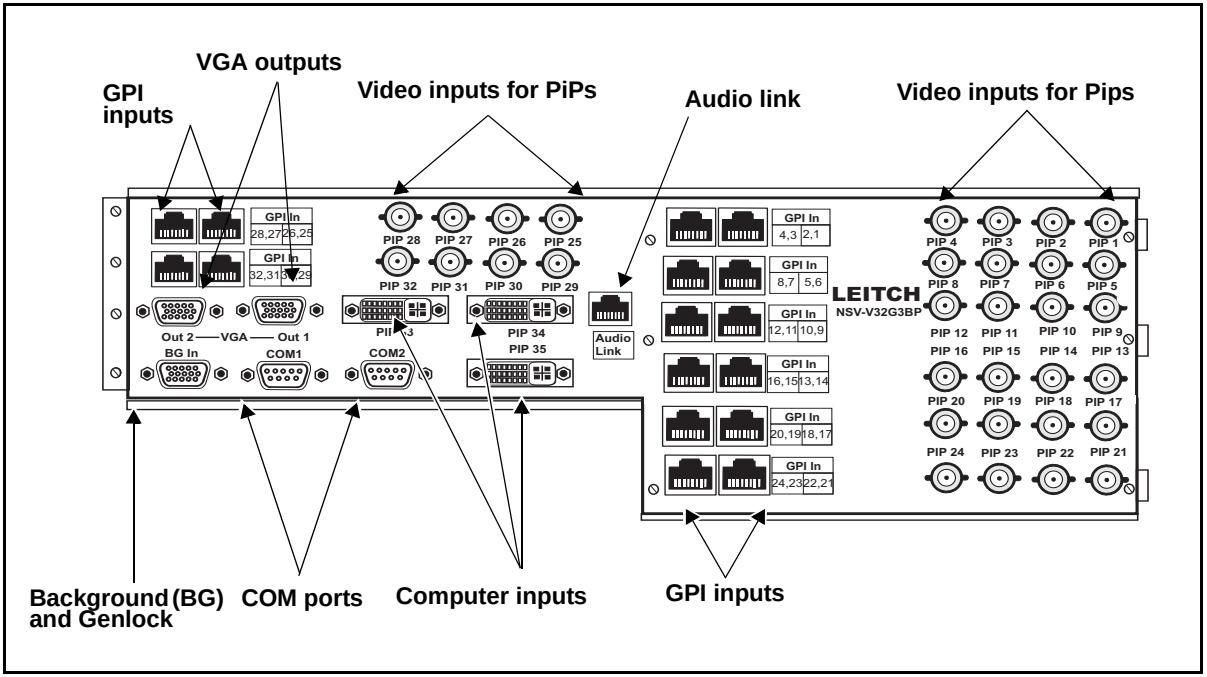

Figure 3-15. NSV-V32G3BP Back Panel

The NSV-V32G3BP spans ten NEO slots in a 3RU frame; it cannot be installed in a 1RU frame. Once installed, this back panel fills all but two slots (on the bottom right) in the frame (see Figure 3-16 on page 64).

If you require audio metering for discrete AES or analog audio, you can install audio modules in the same frame as your other NEO SuiteView input modules. Install the NSV-AUD16 or NSV-AES16 module below the NSV-OUT module.

3RU Frame	
NSV-H4/S4/V4	NSV-H4/S4/V4
NSV-H4/S4/V4	NSV-H4/S4/V4
NSV-H4/S4/V4	NSV-G3
NSV-H4/S4/V4	NSV-OUT
NSV-H4/S4/V4	NSV-AUD16
NSV-H4/S4/V4	NSV-AES16

Figure 3-16. NSV-V32G3BP Back Panel Layout (Front View)

NSV-V44BP

The NSV-V44BP's 44 video inputs can be used with any 11 video input modules (NSV-H4, NSV-S4, NSV-V4), and is made up of the following connectors and ports:

- Forty-four BNC video inputs (four inputs per HD, SD, and/or analog depending on the input module used)
- One HD DB-15 VGA input for supplying background graphics
- Two HD DB-15 VGA outputs to supply signal to studio monitor
- Two DB-9 COM ports configurable to be used for control, UMD data, or LTC signals
- One RJ-45 connector configurable for use as an AES audio output for monitoring embedded audio signals

See Figure 3-17 on page 65 for a visual representation of the NSV-V44BP.

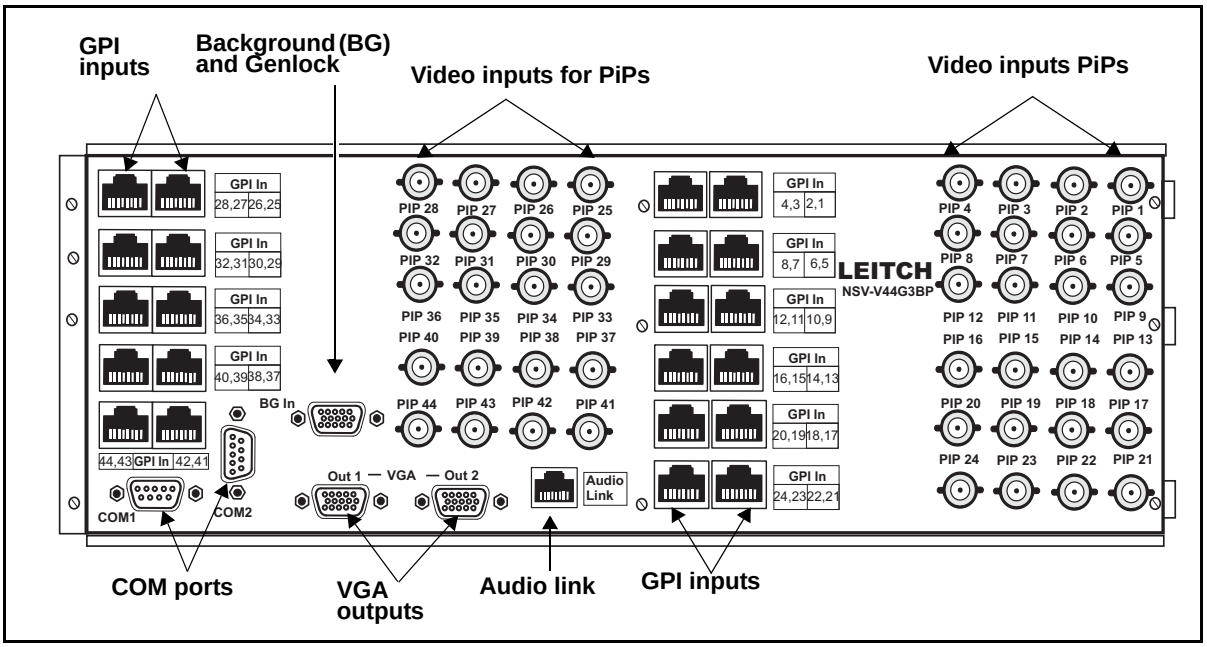

Figure 3-17. NSV-V44BP Back Panel

The NSV-V44BP spans all 12 NEO slots in a 3RU frame; it cannot be installed in a 1RU frame (see Figure 3-18).

If you require audio metering for discrete AES or analog audio, you can install audio modules in the same frame as your other NEO SuiteView input modules. Install the NSV-AUD16 or NSV-AES16 module below the NSV-OUT module.

3RU Frame	
NSV-H4/S4/V4	NSV-H4/S4/V4
NSV-H4/S4/V4	NSV-H4/S4/V4
NSV-H4/S4/V4	NSV-H4/S4/V4
NSV-H4/S4/V4	NSV-H4/S4/V4
NSV-H4/S4/V4	NSV-H4/S4/V4
NSV-H4/S4/V4	NSV-OUT

Figure 3-18. NSV-V44BP Back Panel Layout (Front View)

NSV-AUD16-BM

The NSV-AUD16-BM back module consists of two female HD DB-44 connectors each, providing a total of 8 analog or AES digital audio inputs. The NSV-AUD16-BM interfaces internally with the NSV-AUD16 and NSV-AES16 input audio data processing front modules. The NSV-AUD16-BM back module is shipped with the companion NSV-AUDIO-BO breakout module. See the next section for more information about the NSV-AUDIO-BO breakout module.

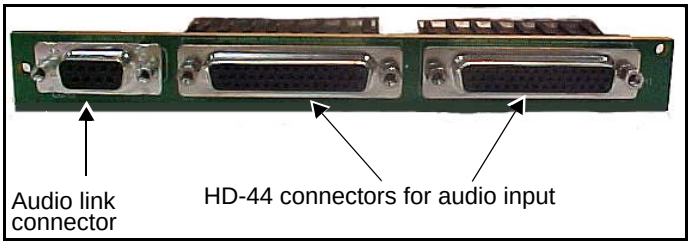

Figure 3-19. NSV-AUD16BM Back Module

A single NSV-AUD16-BM occupies only one slot in either a 3RU or 1RU frame. Four audio modules and corresponding back modules can be stacked in each NEO frame, depending on the available space. Install the NSV-AUD16-BM below the NSV-OUT module to provide audio support. Figure 3-20 illustrates the direction of the audio signal flow.

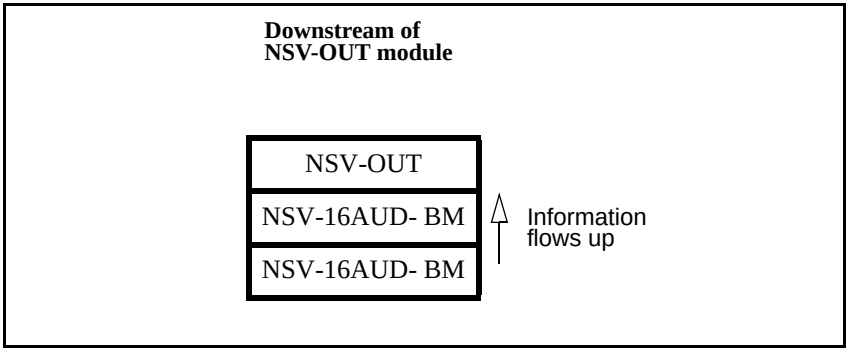

Figure 3-20. Audio Signal Flow

NSV-AUDIO-BO Breakout Module

The NSV-AUDIO-BO breakout modules consists of two male HD-DB-44 connectors; each provide eight audio channels of input stereo audio to the NSV-AUD16 and NSV-AES16 front modules. Audio signals are routed from the breakout module to the NSV-AUD16-FM front module through the NSV-AUD16-BM back module. The NSV-AUDIO-BO breakout module's six terminal blocks provide connections for 32 individual twisted pair audio cables.

Figure 3-21 illustrates the adaptor and its pinouts and screw terminals.

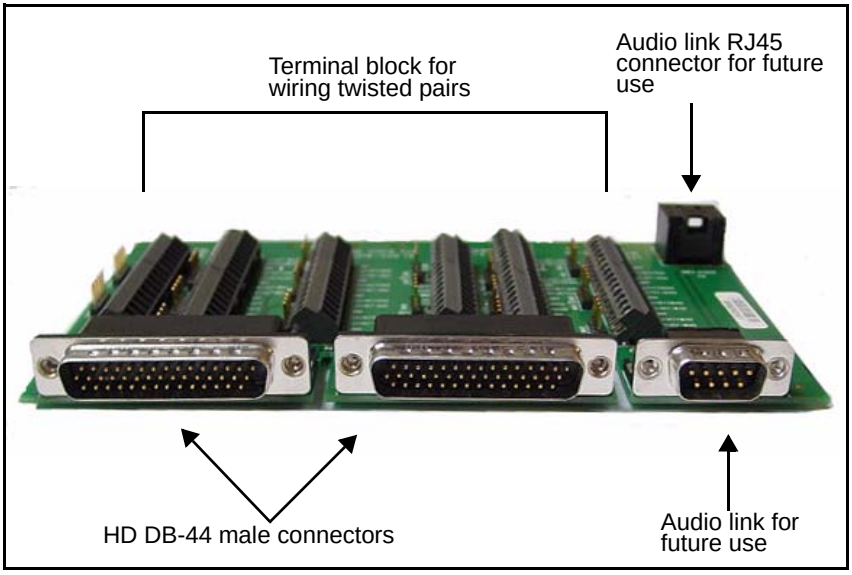

Figure 3-21. NSV-AUDIO-BO Breakout Module

.Using the terminal block jumpers, you can set the impedance for each analog audio stereo pair. For information about setting analog audio impedance jumpers, see "Setting NSV-AUDIO-BO Breakout Module Jumpers" on page 80.

Note

Analog audio is internally grounded to the NEO frame. For best results, when making analog audio connections, do not connect the ground of each analog audio channel to the terminal block ground connectors.

Some early versions of the NSV-AUDIO-BO breakout module have factory calibrated potentiometers for input analog audio. Before making any NSV-AUDIO-BO connections, you should determine whether or not you need to reset the module's potentiometers to zero calibration. For more, see "Resetting Your NSV-AUDIO-BO Module Potentiometers to Zero" on page 82

NSV Connector Pin Assignments

This section describes the pinouts for each connector that makes up the NEO SuiteView system, including the following:

HD DB-15 Connectors

There are two types of HD DB-15 connectors: VGA output and background graphics input.

VGA Output

The information in Table 3-1 pertains to the HD DB-15 output connector on the NSV-OUT module.

Table 3-1. Connector for VGA Output

Pin Number	Description	Pin Number	Description
1	Red	9	NC
2	Green	10	Ground
3	Blue	11	Ground
4	Ground	12	NC
5	Ground	13	HS
6	Ground	14	VS
7	Ground	15	NC
8	Ground		

Background Graphics Input

The information in Table 3-2 pertains to the HD DB-15 input connector on the NSV-OUT module.

Table 3-2. Connector for Genlock/Background Graphics Input

Pin Number	Description	Pin Number	Description
1	Red	9	NC
2	Green	10	Ground
3	Blue	11	Ground
4	Ground	12	NC
5	Ground	13	HS
6	Ground	14	VS
7	Ground	15	NC
8	Ground		

RJ-45 Connectors

There are two types of HD RJ-45 connectors: audio link output (demuxed AES monitoring output) and GPI input.

Audio Link Output

The information in Table 3-3 pertains to the RJ-45 audio link output connector on the NSV-OUT module.

Note

See “Audio Link” on page 144 for EIA/TIA 568A wire color information.

Table 3-3. Connector for Audio Link Output

Pin Number	Description
1	AES+
2	AES-
3	Ground
4	RX
5	Ground
6	Ground
7	Ground
8	TX

GPI Input

Table 3-4 and Table 3-5 describe the RJ-45 GPI input connectors on a single NSV-V4, NSV-S4, or NSV-H4 module.

Note

See “GPI Input” on page 148 for EIA/TIA 568A wire color information.

Table 3-4. Connector for GPI Input (Channels 1 and 2)

Pin Number	Description	Pin Number	Description	EIA/TIA Wire Color
4	CH1_GPI1	5	Ground	Blue and white stripe
2	CH1_GPI2	1	Ground	Green and white stripe
8	CH2_GPI1	7	Ground	Brown and white stripe
3	CH2_GPI2	6	Ground	White and orange stripe

Table 3-5. Connector for GPI Input (Channels 3 and 4)

Pin Number	Description	Pin Number	Description	EIA/TIA Wire Color
4	CH3_GPI1	5	Ground	Blue and white stripe
2	CH3_GPI2	1	Ground	Green and white stripe
8	CH4_GPI1	7	Ground	Brown and white stripe
3	CH4_GPI2	6	Ground	White and orange stripe

If your back panel has multiple video input modules, you will have more than two RJ-45 GPI input connectors (and more than four channels). GPI input pinouts for the other video modules will follow the same odd/even PiP assignment patterns as those shown in Table 3-4 and Table 3-5. For example, a GPI connector labeled “GPI5-6” provides GPI inputs for PIP 5 on CH*odd*_GPI*x*, and GPI inputs for PIP 6 on CH*even*_GPI*x*.

DB-9 Connectors

There are three types of DB-9 connectors: remote control, UMD/tally, and LTC.

Remote Control (COM Port 1)

The information in Table 3-6 pertains to the DB-9 RS-232 (COM port 1) connector.

Table 3-6. Connector for Remote Control

Pin Number	Description
1	NC
2	RXD
3	TXD
4	NC
5	Ground
6	NC
7	NC
8	NC
9	NC

UMD/Tally (COM Port 2)

The information in Table 3-7 pertains to the DB-9 RS-232/485/422 (COM port 2) connector.

Table 3-7. Connector for UMD/Tally Support

Pin Number	Description
1	NC
2	RXD/TX-
3	TXD/RX+
4	NC
5	Ground
6	NC
7	TX+
8	RX-
9	NC

The supported baud rate for UMD interfaces (COM port 2) is 38400.

For information about setting up RS-232 or RS-422 support on COM 2 port, see “Making System Control Connections” on page 88 and “Obtaining and Enabling a UMD Passcode” on page 165.

LTC (COM Port 2)

The information in Table 3-8 pertains to the DB-9 RS-232/485/422 (COM port 2) connector.

Table 3-8. Connector for LTC Support

Pin Number	Description
1	NC
2	NC
3	RX+
4	NC
5	Ground
6	NC
7	NC
8	RX-
9	NC

For information about setting up RS-232 or RS-422 support on COM 2 port, see “Making System Control Connections” on page 88 and “Obtaining and Enabling a UMD Passcode” on page 165.

DVI-I Connector

The information in Table 3-9 and Table 3-10 pertain to the DVI-I connector on the NSV-G3 module.

Table 3-9. Connector for Computer Graphics Input

Pin Number	Function	Pin Number	Function
1	TMDS data2-	13	NC
2	TMDS data2+	14	+5 V power
3	NC	15	Ground
4	NC	16	Hot plug pullup
5	NC	17	TMDS data0-
6	DDC clock	18	TMDS data0+
7	DDC data	19	NC

Table 3-9. Connector for Computer Graphics Input *(Continued)*

Pin Number	Function	Pin Number	Function
8	Analog vertical sync	20	NC
9	T.M.D.S. data1-	21	NC
10	T.M.D.S. data1+	22	Ground
11	NC	23	T.M.D.S. clock+
12	NC	24	T.M.D.S. clock-

Table 3-10. Microcross Pins

Pin Number	Function
C1	Analog red video
C2	Analog green video
C3	Analog blue video
C4	Analog horizontal sync
C5	Ground

DB-44 Audio Input Connectors

Table 3-11 and Table 3-12 provide pin out information for the two DB-44 connectors that input audio to the NSV-AUD16 and NSV-AES16 modules.

Table 3-11. DB-44 Input Audio Connector 1 (CON1)

Analog Audio Channel	AES Audio Channel	Pin Number	Audio Channel	Pin Number
Analog Channel 1 -	AES Channel 1 -	P1-15	Analog Channel 9 -	P1-23
Analog Channel 1 +	AES Channel 1 +	P1 -14	Analog Channel 9 +	P1-22
Analog Channel 2 -	AES Channel 2 -	P1-12	Analog Channel 10 -	P1-20
Analog Channel 2 +	AES Channel 2 +	P1-11	Analog Channel 10 +	P1-19
Analog Channel 3 -	AES Channel 3 -	P1-10	Analog Channel 11 -	P1-17
Analog Channel 3 +	AES Channel 3 +	P1-9	Analog Channel 11 +	P1-16
Analog Channel 4-	AES Channel 4 -	P1-7	Analog Channel 12 -	P1-40
Analog Channel 4 +	AES Channel 4 +	P1-6	Analog Channel 12 +	P1-39
Analog Channel 5 -	AES Channel 5 -	P1-5	Analog Channel 13 -	P1-38
Analog Channel 5 +	AES Channel 5 +	P1-4	Analog Channel 13 +	P1-37
Analog Channel 6 -	AES Channel 6 -	P1-2	Analog Channel 14 -	P1-36
Analog Channel 6 +	AES Channel 6 +	P1-1	Analog Channel 14 +	P1-35
Analog Channel 7 -	AES Channel 7 -	P1-29	Analog Channel 15 -	P1-34
Analog Channel 7 +	AES Channel 7 +	P1-28	Analog Channel 15 +	P1-33
Analog Channel 8 -	AES Channel 8 -	P1-26	Analog Channel 16 -	P1-32
Analog Channel 8 +	AES Channel 8 +	P1-25	Analog Channel 16 +	P1-31

Table 3-12. DB-44 Input Audio Connector 2 (CON2)

Analog Audio Channel	AES Audio Channel	Pin Number	Audio Channel	Pin Number
Analog Channel 17 -	AES Channel 9 -	P2-15	Analog Channel 25 -	P2-23
Analog Channel 17 +	AES Channel 9 +	P2 -14	Analog Channel 25 +	P2-22
Analog Channel 18 -	AES Channel 10 -	P2-12	Analog Channel 26 -	P2-20
Analog Channel 18 +	AES Channel 10 +	P2-11	Analog Channel 26 +	P2-19
Analog Channel 19 -	AES Channel 11 -	P2-10	Analog Channel 27 -	P2-17
Analog Channel 19 +	AES Channel 11 +	P2-9	Analog Channel 27 +	P2-16
Analog Channel 20-	AES Channel 12 -	P2-7	Analog Channel 28 -	P2-40
Analog Channel 20 +	AES Channel 12 +	P2-6	Analog Channel 28 +	P2-39
Analog Channel 21 -	AES Channel 13 -	P2-5	Analog Channel 29 -	P2-38
Analog Channel 21 +	AES Channel 13 +	P2-4	Analog Channel 29 +	P2-37
Analog Channel 22 -	AES Channel 14 -	P2-2	Analog Channel 30 -	P2-36
Analog Channel 22 +	AES Channel 14 +	P2-1	Analog Channel 30 +	P2-35
Analog Channel 23 -	AES Channel 15-	P2-29	Analog Channel 31 -	P2-34
Analog Channel 23 +	AES Channel 15 +	P2-28	Analog Channel 31 +	P2-33
Analog Channel 24 -	AES Channel 16 -	P2-26	Analog Channel 32 -	P2-32
Analog Channel 24 +	AES Channel 16 +	P2-25	Analog Channel 32 +	P2-31

NSV-AUDIO-BO Breakout Module Input Connectors

Figure 3-22 provides input connector information for the twisted pair terminal blocks on the NSV-AUDIO-BO breakout module.

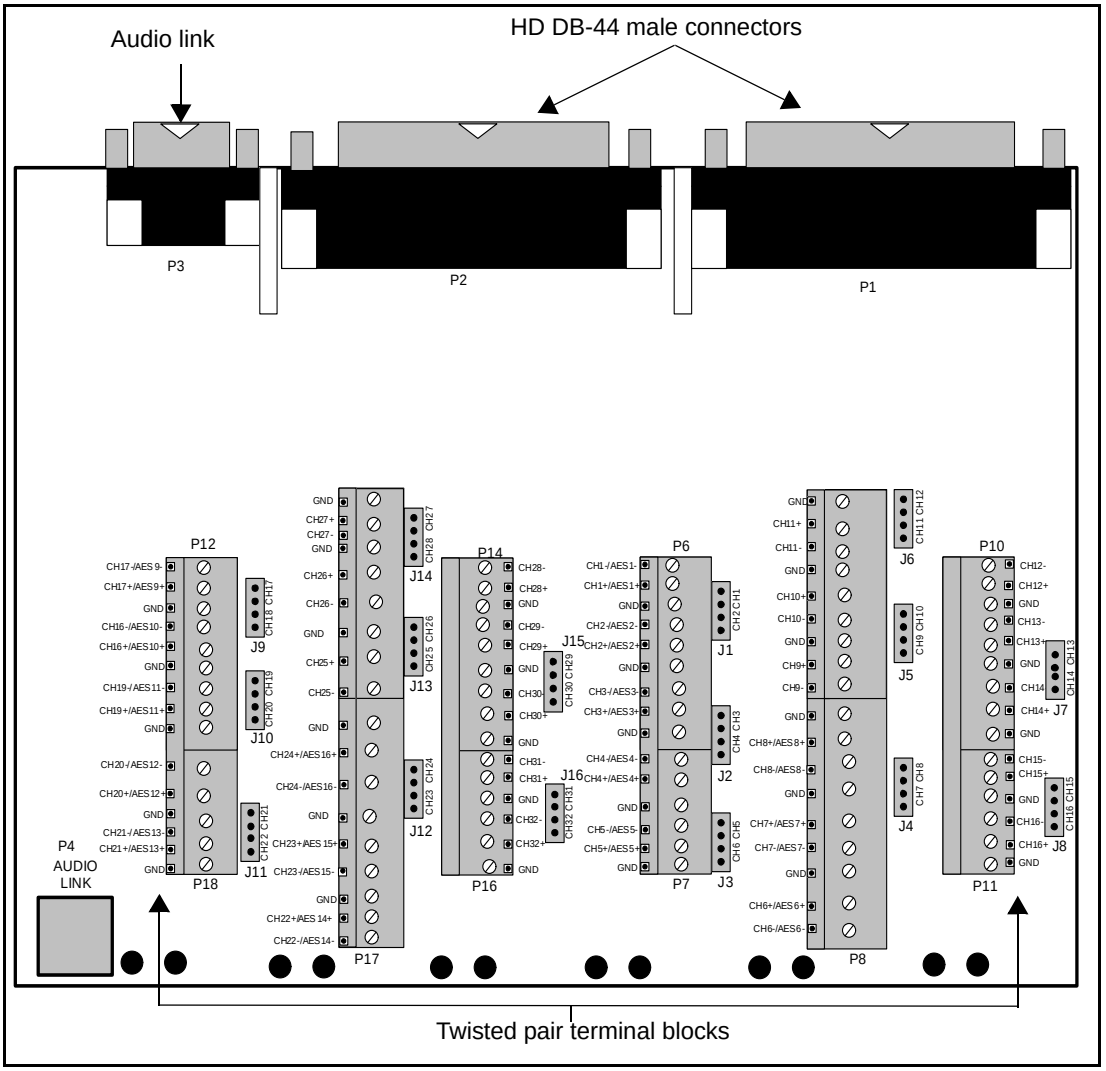

Figure 3-22. NSV-AUDIO-BO Breakout Module Inputs

Setting NSV-AUDIO-BO Breakout Module Jumpers

On the NSV-AUDIO-BO breakout module, there are jumpers to set for the impedance of your input analog audio. There are a total of 16 of jumper pin blocks (labeled **J1** to **J16** on the module) to set the breakout module's 32 analog audio input channels to either 600Ω impedance or high impedance. Each jumper pin block provides jumpers for two analog audio input channels. Figure 3-23 illustrates a single jumper block.

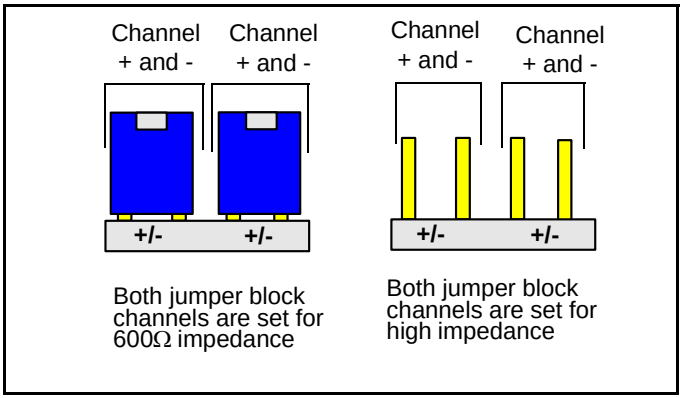

Figure 3-23. Jumper Block and Jumper Settings

In Figure 3-22 on page 79, the location of each jumper block is illustrated and labeled **J1** to **J16**.

Resetting NSV-AUDIO-BO Breakout Module Potentiometers

Some early versions of the NSV-AUDIO-BO breakout module have factory calibrated potentiometers for input analog audio.

Note

If your NSV-AUDIO-BO breakout module has no potentiometers, you can disregard this section.

Depending on the factory calibration setting of your NSV-AUDIO-BO breakout module, you may need reset the calibration value to zero by turning the potentiometer trim-pots to the full counter-clockwise position. Otherwise, your analog input audio will not be properly calibrated. After you have reset the NSV-AUDIO-BO potentiometers to zero calibration, you can then use Layout Designer version 3.0 for NEO SuiteView to properly calibrate the analog input audio. For information about using Layout Designer to calibrate analog audio, see your *Layout Designer For NEO SuiteView Software Application User Guide*.

To determine if you need to reset your NSV-AUDIO-BO breakout module's potentiometers to zero calibration, see the next section "Resetting Your NSV-AUDIO-BO Module Potentiometers to Zero".

Resetting Your NSV-AUDIO-BO Module Potentiometers to Zero

The calibration settings of your NSV-AUDIO-BO module's potentiometers are displayed on the module's circuit board. Figure 3-24 shows the location of the potentiometer calibration settings.

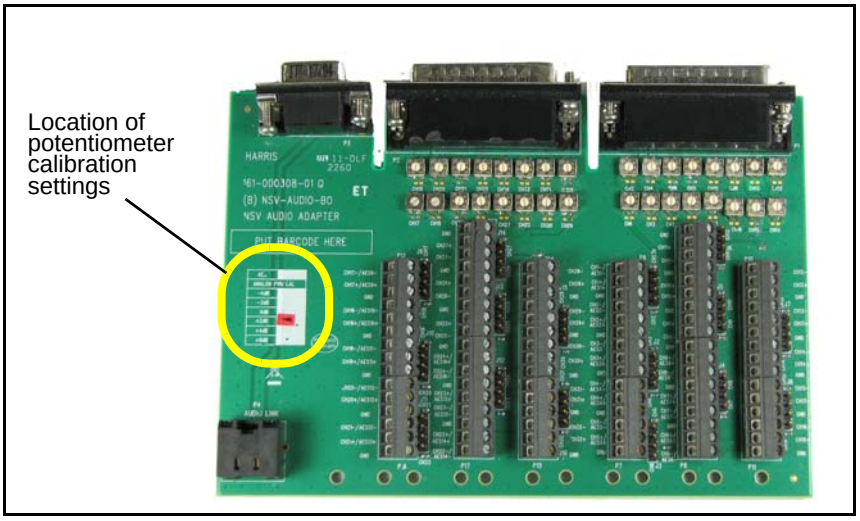

Figure 3-24. Location of Potentiometer Calibration Settings

The black arrow (surrounded by red) label on the module indicates the specific calibration setting of the potentiometers on your NSV-AUDIO-BO. If the arrow indicates that you module's potentiometers are calibrated with **-3dB**, **0dB**, **+2dB**, **+4dB**, or **+8dB**, you will need to reset the potentiometers. To do this, turn the potentiometer's trim-pots to the full counter-clockwise position. Figure 3-25 shows the module labels of NSV-AUDIO-BO breakout modules that require resetting.

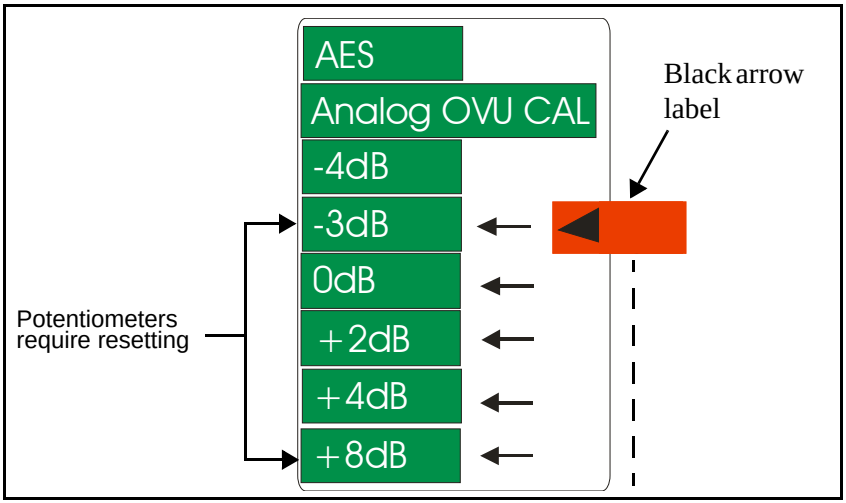

Figure 3-25. Potentiometers Requiring Resetting

Connecting Input and Output Devices

The following sections provide information about how to connect your NEO SuiteView system to input and output devices. The type of back panel that you have installed in NEO SuiteView determines the type and number of devices that you can connect to your system. Each video back panel includes the following slots and connectors:

- One OUT slot, consisting of—
  - One HD-DB-15 connector for genlock or background graphics
  - Two HD DB-15 connectors for VGA output
  - Two DB-9 connectors for RS-232/RS-422
  - One RJ-45 connector for embedded audio data monitoring and for audio ballistic data
- One (optional) G3 slot, consisting of—
  - Three DVI-I connectors for VGA input
- One or more V4/S4/H4 slots, each consisting of—
  - Four BNC connectors for video
  - Two RJ-45 connectors for GPI input

See the following sections for information about how make appropriate rear connections between your NEO SuiteView system and input and output devices.

Securing Your Device Cabling

When making connections from external devices to your NEO SuiteView system, it is important to properly secure the cables to your equipment rack. Use cable ties to secure the various device cables to your equipment rack so that the weight of the cables is transferred to the rack and not your system components. Failure to do so causes excessive weight on NEO SuiteView back panel and breakout module connections and connector pins, which may permanently damage your system.

Connecting Output Display Devices

All back panels have two HD DB-15 DVI/VGA video output connectors (**VGA Out 1** and **VGA Out 2**) that are used for output display signals. This means that, in addition to the principle output video signal, you can send a redundant output signal to a redundant output display device for use as a backup display.

To connect output displays to your NEO SuiteView system, follow these steps:

1. Connect one end of a high-quality RFI screened multiple-coax VGA cable to a VGA video monitor.
2. Connect the other end of the cable to the HD DB-15 VGA video output connector labelled **VGA Out 1** on the NEO SuiteView back panel.
3. If you want connect to a second or backup output display to your system, connect the display device to the HD DB-15 DVI/VGA video output connector labelled **VGA Out 2** on the NEO SuiteView back panel.

For information about configuring your output display properties using the Layout Designer, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

Connecting to a Background Graphics and Genlock Source

When External Graphics mode is enabled in Layout Designer, you can use externally generated graphics as the background to your layouts. You can also genlock (synchronize) the input video sources to the same resolution and frequency as the incoming background graphic via the NSV-OUT module. To connect a background graphic source to your system, follow these steps:

1. Connect one end of a high-quality RFI screened multiple-coax VGA cable to the PC that is the source of the background graphics.
2. Connect the other end of the cable to the HD-DB-15 connector labelled **BG In** on your system's back panel.

When a background graphics source is connected, the NEO SuiteView system timing and resolution are forced to match the externally applied graphic input. For information about enabling External Graphics mode, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

Connecting Monitoring Equipment for Embedded Audio

Using the NEO SuiteView back panel's **Audio Link** RJ-45 connector, you can monitor embedded audio signals using third party audio monitoring equipment, such as speakers or headphones. You cannot monitor input audio signals from the NSV-AUD16 or NSV-AES16 modules. Audio signals coming from these modules can only be used to drive the NEO SuiteView audio bar meters. See Table 3-3 on page 71 for RJ-45 connector pin-out information.

To connect your NEO SuiteView system for embedded audio monitoring, follow these steps:

1. Connect an STP cable with an RJ-45 plug on one end to the connector labelled **Audio Link** on the NEO SuiteView back panel.
2. Splice the other end of the STP cable to uncover four twisted pairs; the AES monitoring output is on one of these pairs (the other three pairs are reserved for future use).
3. Connect the twisted pair to your audio monitoring equipment or a D-to-A connector if you wish to listen to the audio output.
4. Insulate or cap unused twisted pairs in order to prevent electrical contact.

Connecting Video Inputs

It is important that you use properly screened high-quality video cable to connect video sources to your NEO SuiteView back panel. Although all BNC connections are the same for all the video input modules (NSV-H4, NSV-S4, and NSV-V4) installed in your system, there are cable length restrictions that apply based on the format of the video input. Use the following criteria to select appropriate video input cables:

- The maximum cable length for HD video inputs (typical of an NSV-H4 module) is 328 ft (100 m).
- The maximum cable length SD or analog video inputs (typical of NSV-V4 and NSV-S4 modules) is 984 ft (300 m).

To connect a video source to your NEO SuiteView system, connect one end of an appropriate BNC cable (see above) to the input device. Connect the other end of the cable to the BNC video inputs labeled **PiP#** on your back panel.

Connecting Graphic Inputs

If you have an NSV-G3 module installed in your NEO SuiteView system, you must use an NSV-V8G3BP, NSV-V16G3BP, or NSV-V32G3BP back panel to connect input graphic sources (PCs) to your system. The type of cable that you use to connect the back panel to the graphics source depends on the type of connector that is present on the PC that is providing the graphics. Use one of the following high-quality, RFI screened, multiple-coax cables to connect your NEO SuiteView system to an input graphics source:

- **Standard DVI-I digital/analog cable** Use this cable when the PC outputs digital (DVI) and analog (VGA) video signals. This cable has a 24-pin DVI/VGA combined receptacle connector that matches the NSV-G3 module.
- **Standard DVI-D digital-only cable** Use this cable when the PC outputs digital (DVI) video signals only. This cable has a 24-pin DVI-D digital-only receptacle connector (no key slot on left side of connector)
- **VGA cable with VGA-DVI adaptor, or DVI-A cable with DVI-VGA adaptor** Use this cable when the PC outputs analog (VGA) video signals only. This cable has a 15-pin connector that requires an appropriate adaptor and corresponding cable.

Making General Purpose Input (GPI) Connections

Using the general purpose inputs (GPI), you can input signals from a GPI device such as tally indicators. Each GPI connector on NEO SuiteView back panels supports GPI device inputs for two video input channels (eight inputs per video card).

If you connect a tally indicator to a GPI input, you can configure the system to emulate a program and preview scenario. For example, using the GPI1/GPI2 input, you can display a red tally lamp at the left end of the PiP label border when the GPI1 is closed. When the GPI2 is closed, a green tally will appear at the right end of the PiP label border.

To connect a GPI device to NEO SuiteView, use an STP cable with RJ-45 connectors on one end. Use the cable to connect the device to the corresponding GPI input connector on the NEO SuiteView back panel.

Making System Control Connections

Using the COM port and the Ethernet connection on your NEO SuiteView system, you can make connections to control your system remotely, connect to a UMD/tally device, and input Linear Time Code (LTC) from an external time source.

To use the COM ports on your NEO SuiteView system, you must set your system's **COM1_COM2** parameter to the appropriate option. The following sections describe how to make system control connections and set the **COM1_COM2** parameter to the appropriate setting.

COM Port Connection

Using one of the COM ports on your NEO SuiteView system, you can connect your system to a PC. If you have Layout Designer for NEO SuiteView installed on the PC, you can use it to remotely configure, control, and monitor your NEO SuiteView system.

To connect your NEO SuiteView system using a serial port connection, follow these steps:

1. Using a standard RS-232 null modem cable with male connectors,. connect one end of the cable to the serial connector on the back panel labelled **COM 1** or **COM2**.

   OR

   Using a standard RS-422 cable with male connectors, connect one end of the cable to the serial connector on the back panel labelled COM 2.

2. Connect the other end of the cable to the serial port on the PC.

Note

You must use your system's COM 2 port to make RS-422 connections. To support RS-422, COM 2 port must be set to RS-422/485. For information about setting COM 2 port, see "Obtaining and Enabling a UMD Passcode" on page 165.

Before you can use your system's COM ports for control, you must make the appropriate parameter settings. Table 3-13 lists the **COM1_COM2** parameter settings for using your system's COM ports for control.

Table 3-13. COM1_COM2 Parameter Settings

COM Port Used	COM1_COM2 Parameter Setting
COM1 (RS-232 devices only)	CMD+OFF
	CMD+CMD
	CMD+TSL
	CMD+LTC
COM2 (RS-232 and RS-422 devices)	OFF+CMD
	CMD+CMD
	TSL+CMD

For information about setting your NEO SuiteView parameters, see "Chapter 4: Parameters and Card-Edge Operation" on page 95.

For information about setting up COM 2 port for RS-422 support, see "Obtaining and Enabling a UMD Passcode" on page 165.

Ethernet Connection

Using the Ethernet connection of your NEO SuiteView system's NEO frame, you can remotely monitor your system with Layout Designer for NEO SuiteView or a CCS software application such as Navigator. You can also control NEO SuiteView with a remote control panel, such as an RCP-CCS-1U through the Ethernet connection.

Note

You must have a 3901RES-E resource module installed in your NEO SuiteView system frame, to support an Ethernet connection.

To connect your NEO SuiteView system to a network, a network hub or switch following these steps:

1. Connect one end of a shielded CAT-5 Ethernet cable to the network hub or switch.
2. Connect the other end of the cable to the RJ-45 Ethernet port at the back of the NEO frame.

3. Connect the PC with Layout Designer for NEO SuiteView or CCS software application installed to the network hub or switch using a CAT-5 Ethernet cable.

   If you are using a remote control panel, such as an RCP-CCS-1U to control NEO SuiteView, connect your remote monitoring device to the network hub or switch using a CAT-5 Ethernet cable.

UMD/Tally Connection

Using one of the COM ports on your NEO SuiteView system, you can connect your system to a router network or other 3rd-party equipment that carries the given protocol required for dedicated UMD/Tally connections. Use the port labeled **COM1** on the back panel to connect NEO SuiteView to an RS-232 UMD/Tally device. Use the port labeled **COM2** on the back panel to connect NEO SuiteView to RS-232 and RS-422 UMD/Tally devices.

Before you can use your system's COM ports for UMD/Tally support, you must make the appropriate parameter settings. Table 3-14 lists the **COM1_COM2** parameter settings for using your system's COM ports for control.

Table 3-14. COM1_COM2 Parameter Settings For UMD Support

COM Port Used	COM1_COM2 Parameter Setting
COM1 (RS-232 devices only)	TSL+OFF
	TSL+LTC
COM2 (RS-232 and RS-422 devices)	OFF+TSL
	CMD+TSL

For information about setting your NEO SuiteView parameters, see "Chapter 4: Parameters and Card-Edge Operation" on page 95.

See "Appendix C: " on page 161 for more details on optional UMD/tally support.

External Time Source Connection for Linear Time Code

Using the COM 2 port on your NEO SuiteView system, you can connect your system to external time source. Use the port labeled **COM 2** on the back panel to connect NEO SuiteView to an external time source.

Before you can use the COM 2 port for LTC input, you must make the following appropriate **COM1_COM2** parameter settings. Table 3-15 lists the **COM1_COM2** parameter settings for using your system's COM 2 port for LTC input.

Table 3-15. COM1_COM2 Parameter Settings For LTC Support

COM Port Used	COM1_COM2 Parameter Setting
COM2	OFF+LTC
	CMD+LTC
	TSL+LTC

After the **COM1_COM2** parameter has been set, you can enable LTC by setting the **LTCEn** parameter to **On**.

For COM 2 pin out information, see Table 3-8 on page 75.

Connecting the NSV-AUDIO-BO Breakout Module

If you have more than one NSV-AUDIO-BO breakout module installed in your system, complete the connection steps **1** through **3** listed below for each breakout module starting with the module installed closest to the bottom of the frame. Otherwise, making some of the breakout module connections may be difficult.

Note

Some early versions of the NSV-AUDIO-BO breakout module have factory calibrated potentiometers for input analog audio. Before making any NSV-AUDIO-BO connections, you should determine whether or not you need to reset the module's potentiometers to zero calibration. For more, see "Resetting NSV-AUDIO-BO Breakout Module Potentiometers" on page 81.

Caution

Ensure that the audio cables connected from your audio sources to the NSV-AUDIO-BO breakout module are properly secured to your equipment rack. Use cable ties to secure the audio cables to the breakout module and to your equipment rack. Failure to do so causes excessive weight on the audio breakout module and audio back module connector pins which may permanently damage these components. See Figure 3-22 on page 79 for the location of cable tie holes on the NSV-AUDIO-BO breakout module.

To connect the NSV-AUDIO-BO breakout module to your NSV-AUD16-BM and make the appropriate terminal block connections, follow these steps:

1. Install the NSV-AUD16-BM back module and the NSV-AUD16 or NSV-AES16 front modules as explained in "Installing NEO SuiteView Back Panels" on page 35 and "Installing Front Modules" on page 37.

2. Before you connect the NSV-AUDIO-BO breakout module to the NSV-AUD-BM, it is recommended that you make all of the required twisted pair audio connections to the breakout module's terminal block connectors. Use the holes in the breakout module to secure the individual cables with cable ties.

Note

Analog audio is internally grounded to the NEO frame. For best results, when making analog audio connections, do not connect the ground of each analog audio channel to the terminal block ground connectors.

Figure 3-26 shows an NSV-AUDIO-BO breakout module with terminal block connection cables secured using cable ties.

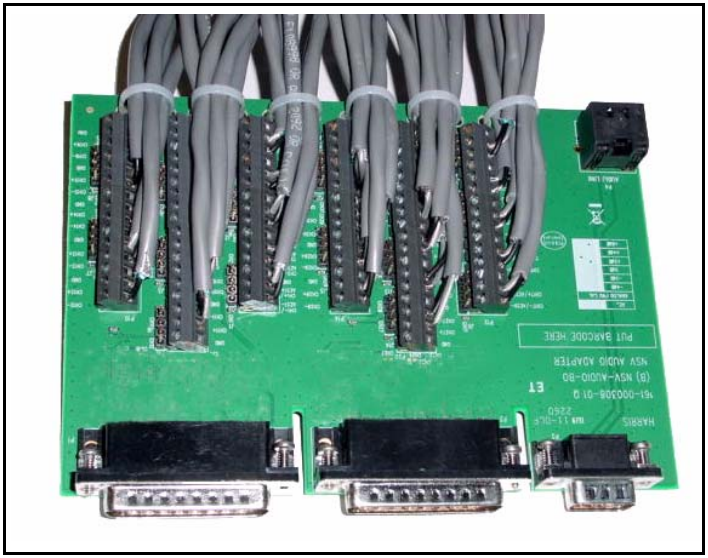

Figure 3-26. Wiring NSV-AUDIO-BO Break Module

3. Connect the male HD DB-44 connectors on the NSV-AUDIO-BO breakout module to the male HD DB-44 connectors on the NSV-AUD-BM back module, and then secure into place by using the supplied screws.

Chapter 4

Parameters and Card-Edge Operation

Overview

Navigation, configuration, and setup information for NEO modules is now included in the *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual*. If your current NEO frame manual is Edition A, B, C, or D, you will need to download an updated version from our website to access this information.

You can operate NSV-OUT modules using card-edge controls, local and remote panels, and GUI-based software applications such as Layout Designer for NEO SuiteView or CCS Pilot. Only the NSV-OUT module has card-edge controls. NEO SuiteView video input and graphic input modules are limited to card-edge monitoring LEDs (including major and minor alarms, status, and power LEDs). Audio input modules have power and status LEDs only. Video input and graphic input modules parameters can only be configured using Layout Designer for NEO SuiteView or a CCS software application. Audio input modules do not have any software configurable parameters.

This chapter describes how to operate the NSV-OUT module using card-edge controls. The following topics are found in this chapter:

Operation Notes

When using the NSV-OUT module, observe the following operation notes:

- If you change parameter settings within 16 seconds after the **NEO SuiteView** banner has been lit on the VFD, the changes will not be saved. Parameter changes that you make after this 16-second delay will be saved, and they will be restored if the module loses power and must be restarted.
- Although the effect of a parameter change may appear to be immediate, the module requires 20 seconds to save the latest change. If you make another change during these 20 seconds, the first parameter change and the second parameter change will not be saved until 20 seconds after the second parameter change. There is no limit to the number of changes that you can make within 20 seconds of each other. However, none of these changes will be saved until 20 seconds after the last parameter change.
- When you set the **FctryRcl** (factory recall) parameter to **Yes**, the module takes several seconds to reset all of the parameters. However, **Setup** parameters are not affected by the factory recall mode. See page 102 for a list of the factory recall default settings.
- To enable the NEO SuiteView Internal Upgrade mode, hold down the toggle switch on the NSV-OUT module while you re-power the NEO frame. Release the toggle switch when **INTERNAL UPGRADE** appears in the NSV-OUT card-edge display.

Note

For best results, use the Upgrade Wizard to upgrade your system's firmware. For information about using the Upgrade Wizard, see "Running the Upgrade Wizard" on page 45.

- When using the CCS Co-Pilot Software Upgrade tool to upgrade your system's firmware, the NEO SuiteView Upgrade Wizard will guide you through the module-specific upgrading process. For information about using the Upgrade Wizard, see "Upgrading NEO SuiteView Using the Wizard" on page 44.

- You cannot operate your NEO SuiteView system while performing an internal upgrade. The duration of the system down-time depends on the type and number of NEO SuiteView modules being upgraded. Table 4-1 displays the amount of time required to upgrade each NEO SuiteView module.

Table 4-1. Module Upgrade Down-Times

NEO SuiteView Module	System Down-Time
NSV-OUT	5 minutes per module
NSV-H4, NSV-S4, NSV-V4, and NSV-G3	5 minutes per system
NSV-AUD16 and NSV-AES16	2 minutes per module

Caution

Failure to observe these operation notes will result in accidental changes to the module's parameter settings.

NEO SuiteView Parameters

The following sections provide information about NEO SuiteView parameters.

Navigating the Operator and All Lists

To navigate, and then view or change a parameter from the Operator or All Lists, follow these steps:

1. Open the front panel of the NEO frame.
2. Press any card-edge control to turn on the VFD screen (if the module is in screen saver mode).

   The message **NSV-OUT** appears.
3. Push the **Enter** button.

   The name of the first parameter option in the list appears.

Note

If the **Param Desc** is enabled from the Setup menu, after several seconds of inactivity, a scrolling message will appear, describing the purpose of the currently selected parameter.

4. Push the **Enter** button again to access the options for the parameter displayed on the VFD screen.

   OR

   Press the **Nav+/Nav-** switch down repeatedly to view other parameters, and then press **Enter** to access an item's parameter options.
5. Press the **Nav+/Nav-** switch up or down to scroll through the different selectable parameter options, and then press **Enter** to select the value you want.

   OR

   Press the **Nav+/Nav-** switch up or down to adjust the numeric parameter value, and then press **Enter**.
6. Close the front panel of the frame to ensure the cooling system continues to operate properly.

Operator and All List Parameters

The All List is a long flat list of all the available NSV-OUT parameters. It is intended for a “Supervisor” security designation. The Operator List is a condensed version of the All List, and is intended for an “Operator” security designation. A third navigation mode includes the Tree View, a multilevel parameter list. The Tree View mode contains the same parameters included in the All List, but presents them differently.

Table 4-2 shows all available parameters.

Parameters accessed only from within the All List are shaded in gray. Parameters with the designation [RO] are “read-only.” An asterisk (*) indicates the default user range or value. You can reset the default values for all of the parameters automatically via the **FctryRcl** parameter, which is located in the All List.

See “NEO SuiteView Parameters” on page 98 for instructions on navigating this list using card-edge controls.

Setup parameters are located at the end of each of the three navigation lists. See “Setup Parameters” on page 102 for more information.

Note

The factory recall parameter does not affect Setup values.

.

Table 4-2. NSV-OUT All List Parameter Settings

Card-Edge ID	Parameter Name	Function	User Range or Value
PresetBank	Preset Bank	Selects a preset bank for recall	Preset 1 to Preset 10 (*Preset 4)
Backplane [RO]	Backplane	Reports the type of back panel behind the NEO SuiteView system	• UNKNOWN* • NONE • NSV-V4BP • NSV-V8G3BP • NSV-V12BP • NSV-V16G3BP • NSV-V32G3BP • NSV-V44BP

Table 4-2. NSV-OUT All List Parameter Settings *(Continued)*

Card-Edge ID	Parameter Name	Function	User Range or Value
SystemID [RO]	System Identification	Reports the NEO SuiteView system identification number (internal serial number required for purchasing UMD and embedded audio license key)	String
System #	System Number	Assigns the NEO SuiteView system UMD (under monitor display) address	0* to 99
Ext. Res [RO]	External Graphics Resolution	Reports the output graphics resolution (See Table 4-8 on page 113 for more information)	• SXGA* • XGA • UXGA • XGA-75 • SXGA-50 • XGA-50 • WXGA-W60 • WXGA-W50 • WXGA-60 • WXGA50 • UXGA-50 • SXGA+ • SXGA+-50 • WUXGA • WUXGA-50 • WSXGA+ • WSXGA+50 • 1080P
EA Key	Embedded Audio License Key	Enables the embedded audio options	String
#EA [RO]	Number of Embedded Audio Channels	Reports the number of licensed embedded audio channels on the system	Disabled*, 0 to 44
FctryRcl	Factory Recall	Recalls the factory settings for all parameters except setup	• Yes • No*

Table 4-2. NSV-OUT All List Parameter Settings *(Continued)*

Card-Edge ID	Parameter Name	Function	User Range or Value
Audio PIP	Audio PIP	Selects the PiP (picture-in-picture) for the Audio Follow PiP feature	1* to 44
BarPair	Audio Bar Pair	Selects the audio bar graph pair for Audio Follow PiP feature	• 1, 2* • 3, 4 • 5, 6 • 7, 8
AudFollow	Audio Follow PiP	Enables the Audio Follow PiP (picture-in-picture) feature	• YES • NO*
UMD Key	UMD License Key	Enables the under monitor display support feature	String
COM1_COM2	COM1_COM2	Sets the COM1 and COM 2 port configuration	• OFF+OFF • CMD+OFF • TSL+OFF • OFF+CMD • OFF+TSL • OFF+LTC • CMD+CMD • CMD+TSL • CMD+LTC • TSL+LTC • TSL+CMD
LTC_En	Linear Time Code Enable	Enables LTC input for the on-screen clock	• Off* • On
LTC_Offset	Linear Time Code Offset	Sets the LTC offset (in 0.5 hour intervals)	-12 to 12 Hr
Set_Hr	Set Hour	Sets the hour value (using the 24 hour time convention) of the on-screen clock	0* to 23 Hr
Set_Min	Set Minutes	Sets the minute value of the on-screen clock	0* to 59 Min
Set_Sec	Set Seconds	Sets the second value to the on-screen clock	0* to 59 Sec

Table 4-2. NSV-OUT All List Parameter Settings *(Continued)*

Card-Edge ID	Parameter Name	Function	User Range or Value
Set_Now	Set Time Now	Immediately sets the time of the on-screen according to the **SetHr**, **SetMin**, and **SetSec** parameters	• Off* • On
Fullscreen	Full-Screen Preview	Provides a full-screen view of the selected PiP (1—44)	• None* • 1...44
Setup	*Setup Parameters*	*Sets the parameters for display and usability (see "Setup Parameters" on page 102 for a complete list of Setup parameters and factory default settings)*	*Various*

Setup Parameters

You can modify the **Setup** parameters to configure the card-edge controls for your personal needs. The **Setup** section appears at the end of all three navigation lists and consists of these items:

- Navigation modes
- Adjustment modes
- Browse modes
- Scroll modes
- Display intensity
- Parameter descriptions
- Name
- FrameIP
- Sync full

Note

Setup parameters on a local or remote control panel may be different from the card-edge parameters described here.

Table 4-3 provides a list of the NEO SuiteView **Setup** parameters. An asterisk (*) indicates the default settings for the setup parameters.

Table 4-3. Setup Parameters

Parameter	Parameter Name	Option
Nav Mode	Navigation Mode	• All List • Tree View • Oper List*
SelPar Adj	Selectable Parameter Adjustment Mode	• Immediate • Delayed*
BrswMode	Browse Mode	• Param List • Param+Val*
Scrl Mode	Scroll Mode	• WRAP* • DON'T WRAP
Disp Inten	Display Intensity	• 100% • 50%* • 25% • 12%
Param Desc	Parameter Description	• Disabled • Enabled*
Name	Device Name	• (variable)
Frame IP	NEO Frame IP Addresses	• IP Address • Subnet • Gateway
SyncFull	Using this feature, you can manually override the Deja View data for the module with the most-up-to-date parameter settings, instead of waiting for the five minute update cycle.	• Yes • No*
About	Provides information about the module version (hardware) and firmware version (software).	• Hw_Ver • Sw_Ver

See your *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* for more information on **Setup** items, including descriptions and operation notes.

Input Module Status Parameters

NEO SuiteView input modules have a list of read-only parameters that provide information about the status of input signals. Video input modules display status parameters for video inputs as well as associated audio channels. Associated audio can be embedded audio or audio that is from the NSV-AUD16 and NSV-AES16 input audio modules. Graphic input modules do not have audio status parameters. These parameters can only be viewed using CCS software applications such as CCS Pilot.

Note

To monitor NEO SuiteView alarms using a CCS software, you must first add the corresponding on-screen alarms to PiPs using Layout Designer.

In NEO SuiteView layouts, some audio and video status parameters are displayed as on-screen alarms. These on-screen alarms include:

- Audio over level
- Audio under level
- Black picture
- Frozen picture
- No input

To monitor these alarms using CCS software applications, the on-screen alarms must added to PiPs in a layout using Layout Designer.

For information about configuring audio and video alarms, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

About Audio Status Parameters

In CCS applications, NEO SuiteView audio status parameters provide information about the audio input that is triggering the alarm and the type of audio alarm.

Figure 4-1describes the meaning of the audio status parameters.

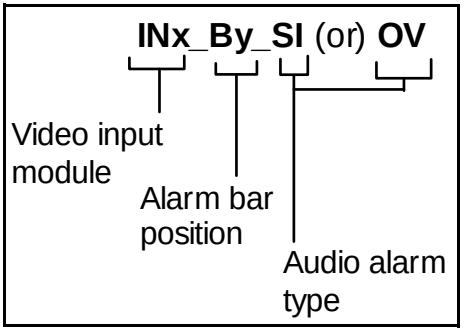

Figure 4-1. Audio Status Parameter Descriptions

The audio status parameter is described below.

- **INx** (where **x** is 1—4) identifies the input of the video input module to which the audio is mapped.
- **By** (where **y** is 1—8) identifies the alarm bar position of the audio channel that triggered the alarm. Alarm bar positions correspond to the default audio channel mapping that is used for the on-screen audio meters. For information about audio alarm bars and audio meters, see you *Layout Designer for NEO SuiteView Software Application User Guide*.
- **SI/OV** identifiers the type of audio alarm, where **SI** refers to silence audio under level (silence) and OV refers to audio over level.

  Figure 4-2 illustrates the on-screen alarm bars and corresponding alarm type string variable.

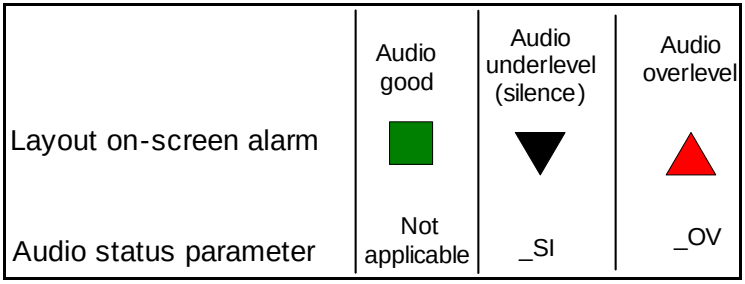

Figure 4-2. Alarm Bars and Audio Status Parameter

Table 4-4 through Table 4-7 list the status parameters of each NEO SuiteView module.

Table 4-4. NSV-H4 Status Parameters

Navigation	Parameter	Function
Video Proc	Input 1	Indicates that a valid video signal is present on the module's first input (LED on card edge)
	Input 2	Indicates that a valid video signal is present on module's second input (LED on card edge)
	Input 3	Indicates that a valid video signal is present on module's third input (LED on card edge)
	Input 4	Indicates that a valid video signal is present on the module's forth input (LED on card edge)
	IN1 Format	Indicates the detected video format on the module's first input (525, 625, 1080i, 720p, NTSC, PAL)
	IN2 Format	Indicates the detected video format on the module's second input (525, 625, 1080i, 720p, NTSC, PAL)
	IN3 Format	Indicates the detected video format on the module's third input (525, 625, 1080i, 720p, NTSC, PAL)
	IN4 Format	Indicates the detected video format on the module's forth input (525, 625, 1080i, 720p, NTSC, PAL)
	Vid Blck 1	Indicates that a Black Video alarm is present on the module's first input
	Vid Blck 2	Indicates that a Black Video alarm is present on the module's second input
	Vid Blck 3	Indicates that a Black Video alarm is present on the module's third input
	Vid Blck 4	Indicates that a Black Video alarm is present on the module's forth input

Table 4-4. NSV-H4 Status Parameters *(Continued)*

Navigation	Parameter	Function
	Vid Frzn 1	Indicates that a Frozen Video alarm is present the module's first input
	Vid Frzn 2	Indicates that a Frozen Video alarm is present on module's second input
	Vid Frzn 3	Indicates that a Frozen Video alarm is present on module's third input
	Vid Frzn 4	Indicates that a Frozen Video alarm is present on the module's forth input
Audio Proc	IN1_B1_SI—IN1_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on the video module's first input
	IN2_B1_SI—IN2_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on the video module's second input
	IN3_B1_SI—IN3_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on the video modules third input
	IN4_B1_SI—IN4_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on video module's forth input
	IN1_B1_OV—IN1_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's first input
	IN2_B1_OV—IN2_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's second input
	IN3_B1_OV—IN3_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's third input
	IN4_B1_OV—IN4_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's forth input
	IN1 EA	Indicates that embedded audio is present on the module's first input

Table 4-4. NSV-H4 Status Parameters *(Continued)*

Navigation	Parameter	Function
	IN2 EA	Indicates that embedded audio is present on module's second input
	IN3 EA	Indicates that embedded audio is present on module's third input
	IN4 EA	Indicates that embedded audio is present on module's forth input

Table 4-5. NSV-S4 Status Parameters

Navigation	Parameter	Function
Video Proc	Input 1	Indicates that a valid video signal is present on the module's first input (LED on card edge)
	Input 2	Indicates that a valid video signal is present on module's second input (LED on card edge)
	Input 3	Indicates that a valid video signal is present on module's third input (LED on card edge)
	Input 4	Indicates that a valid video signal is present on the module's forth input (LED on card edge)
	IN1 Format	Indicates the detected video format on the module's first input (525, 625, NTSC, PAL)
	IN2 Format	Indicates the detected video format on the module's second input (525, 625, NTSC, PAL)
	IN3 Format	Indicates the detected video format on the module's third input (525, 625, NTSC, PAL)
	IN4 Format	Indicates the detected video format on the module's forth input (525, 625, NTSC, PAL)
	Vid Blck 1	Indicates that a Black Video alarm is present on the module's first input

Table 4-5. NSV-S4 Status Parameters *(Continued)*

Navigation	Parameter	Function
	Vid Blck 2	Indicates that a Black Video alarm is present on the module's second input
	Vid Blck 3	Indicates that a Black Video alarm is present on the module's third input
	Vid Blck 4	Indicates that a Black Video alarm is present on the module's forth input
	Vid Frzn 1	Indicates that a Frozen Video alarm is present the module's first input
	Vid Frzn 2	Indicates that a Frozen Video alarm is present on module's second input
	Vid Frzn 3	Indicates that a Frozen Video alarm is present on module's third input
	Vid Frzn 4	Indicates that a Frozen Video alarm is present on the module's forth input
Audio Proc	IN1_B1_SI—IN1_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on the video module's first input
	IN2_B1_SI—IN2_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on the video module's second input
	IN3_B1_SI—IN3_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on the video modules third input
	IN4_B1_SI—IN4_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on video module's forth input
	IN1_B1_OV—IN1_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's first input
	IN2_B1_OV—IN2_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's second input
	IN3_B1_OV—IN3_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's third input

Table 4-5. NSV-S4 Status Parameters *(Continued)*

Navigation	Parameter	Function
	IN4_B1_OV—IN4_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's forth input
	IN1 EA	Indicates that embedded audio is present on the module's first input
	IN2 EA	Indicates that embedded audio is present on module's second input
	IN3 EA	Indicates that embedded audio is present on module's third input
	IN4 EA	Indicates that embedded audio is present on module's forth input

Table 4-6. NSV-V4 Status Parameters

Navigation	Parameter	Function
Video Proc	Input 1	Indicates that a valid video signal is present on the module's first input (LED on card edge)
	Input 2	Indicates that a valid video signal is present on module's second input (LED on card edge)
	Input 3	Indicates that a valid video signal is present on module's third input (LED on card edge)
	Input 4	Indicates that a valid video signal is present on the module's forth input (LED on card edge)
	IN1 Format	Indicates the detected video format on the module's first input (NTSC, PAL)
	IN2 Format	Indicates the detected video format on the module's second input (NTSC, PAL)
	IN3 Format	Indicates the detected video format on the module's third input (NTSC, PAL)
	IN4 Format	Indicates the detected video format on the module's forth input (NTSC, PAL)

Table 4-6. NSV-V4 Status Parameters *(Continued)*

Navigation	Parameter	Function
	Vid Blck 1	Indicates that a Black Video alarm is present on the module's first input
	Vid Blck 2	Indicates that a Black Video alarm is present on the module's second input
	Vid Blck 3	Indicates that a Black Video alarm is present on the module's third input
	Vid Blck 4	Indicates that a Black Video alarm is present on the module's forth input
	Vid Frzn 1	Indicates that a Frozen Video alarm is present the module's first input
	Vid Frzn 2	Indicates that a Frozen Video alarm is present on module's second input
	Vid Frzn 3	Indicates that a Frozen Video alarm is present on module's third input
	Vid Frzn 4	Indicates that a Frozen Video alarm is present on the module's forth input
Audio Proc	IN1_B1_SI—IN1_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on the video module's first input
	IN2_B1_SI—IN2_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on the video module's second input
	IN3_B1_SI—IN3_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on the video modules third input
	IN4_B1_SI—IN4_B8_SI	Indicates that there is an under level audio alarm on any of the channels (1 through to 8) on video module's forth input
	IN1_B1_OV—IN1_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's first input

Table 4-6. NSV-V4 Status Parameters *(Continued)*

Navigation	Parameter	Function
	IN2_B1_OV—IN2_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's second input
	IN3_B1_OV—IN3_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's third input
	IN4_B1_OV—IN4_B8_OV	Indicates that there is an over level audio alarm on any of the channels (1 through to 8) on the video module's forth input

Table 4-7. NSV-G3 Status Parameters

Navigation	Parameter	Function
Video Proc	Input 1	Indicates that a valid video signal is present on the module's first input (LED on card edge)
	Input 2	Indicates that a valid video signal is present on module's second input (LED on card edge)
	Input 3	Indicates that a valid video signal is present on module's third input (LED on card edge)
	IN1 Source	Indicates video source on the module's first input (RGB, DVI) (LED on card edge)
	IN2 Source	Indicates video input source on the module's second input (RGB, DVI) (LED on card edge)
	IN3 Source	Indicates video input source on the module's third input 3(RGB, DVI) (LED on card edge)
	IN1 HRES	Indicates the detected horizontal resolution on the module's first input
	IN2 HRES	Indicates the detected horizontal resolution on module's second input

Table 4-7. NSV-G3 Status Parameters *(Continued)*

Navigation	Parameter	Function
	IN3 HRES	Indicates the detected horizontal resolution on module's third input
	IN1 VRES	Indicates the detected vertical resolution on the module's first input
	IN2 VRES	Indicates the detected vertical resolution on module's second input
	IN3 VRES	Indicates the detected vertical resolution on module's third input
	IN1 VRate	Indicates the detected frame rate on the module's first input
	IN2 VRate	Indicates the detected frame rate on module's second input
	IN3 VRate	Indicates the detected frame rate on module's third input

Output Resolution Refresh Rates

Table 4-8 provides the output resolution and refresh rate for each available **Ext. Res** parameter standard.

Table 4-8. External Resolution and Associated Refresh Rate

External Resolution	Resolution and Refresh Rate	External Resolution	Resolution and Refresh Rate
SXGA	1280×1024×60	WXGA-50	1280×768×50
XGA	1024×768×60	UXGA-50	1600×1200×50
UXGA-60	1600×1200×60	SXGA+	1400×1050×60
XGA-75	1024×768×75	SXGA+-50	1400×1050×50
SXGA-50	1280×1024×50	WUXGA	1920×1080×60
XGA-50	1280×768×50	WUXGA-50	1920×1080×50
WXGA-W60	1360×768×60	WUXGA+	1680×1050×60
WXGA-W50	1360×768×50	WUXGA+50	1680×1050×50
WXGA-60	1280×768×60	1920×1080×60 NB	1080P

State Recovery Parameter Availability

The parameter settings for this module are automatically saved onto the 3901RES-E resource module installed in your NEO frame every five minutes. If a module should fail and be replaced with a “cold spare”, the state parameters can be automatically recovered. For more information on this feature, see the *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* (Edition E and above).

LED and Indicator Locations

This section describes the location of card-edge LEDs on the following modules:

NSV-H4, NSV-S4, and NSV-V4 Modules

Figure 4-3 illustrates the locations of the LEDs and standard module indicators on NSV-H4, NSV-S4, and NSV-V4 modules.

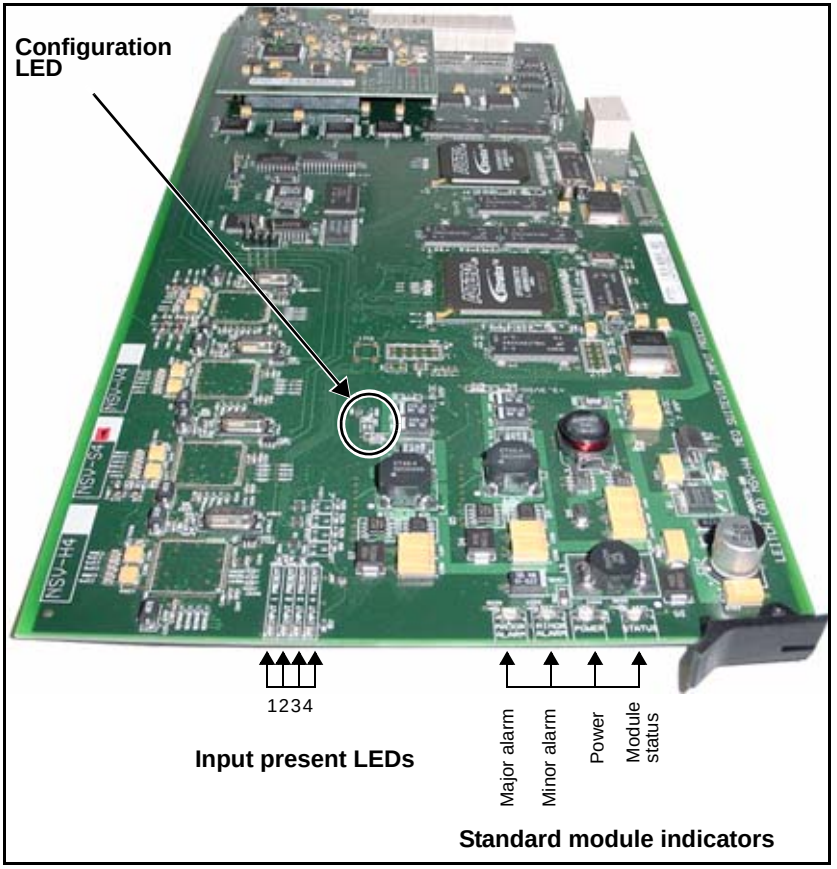

Figure 4-3. NSV-H4, NSV-S4, and NSV-V4 Card-Edge LEDs

NSV-G3 Module

Figure 4-4 illustrates the locations of the LEDs and standard module indicators on an NSV-G3 module.

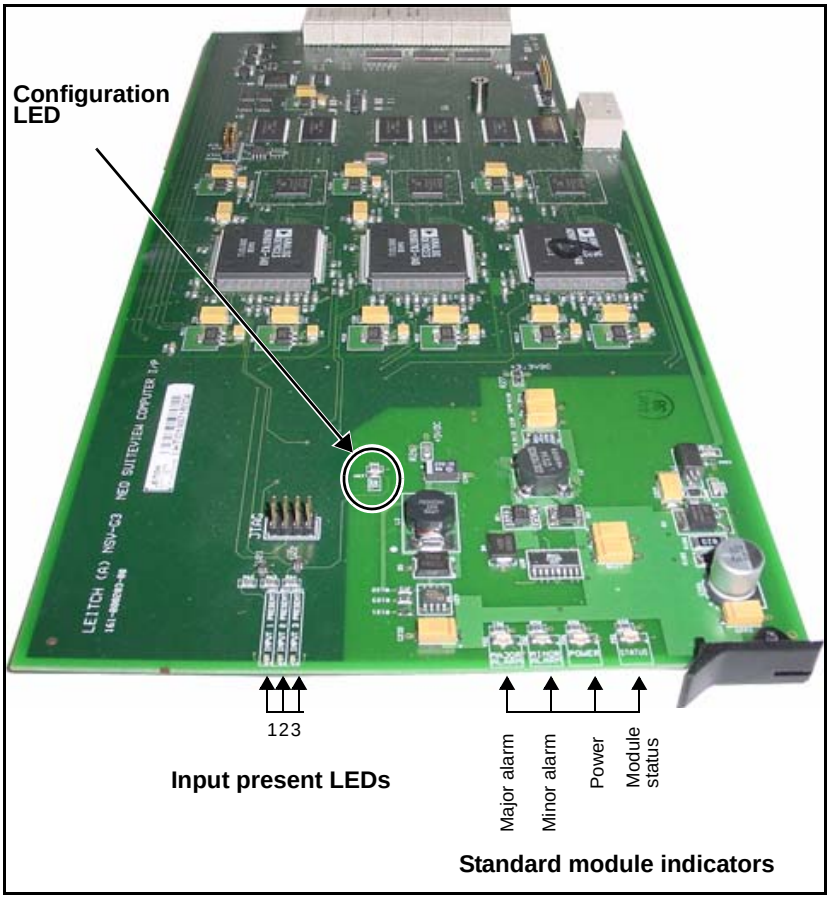

Figure 4-4. NSV-G3 Card-Edge LEDs

NSV-AUD16 and NSV-AES16 Modules

Figure 4-5 illustrates the locations of the LEDs and standard module indicators on NSV-AUD16 and NSV-AES16 modules.

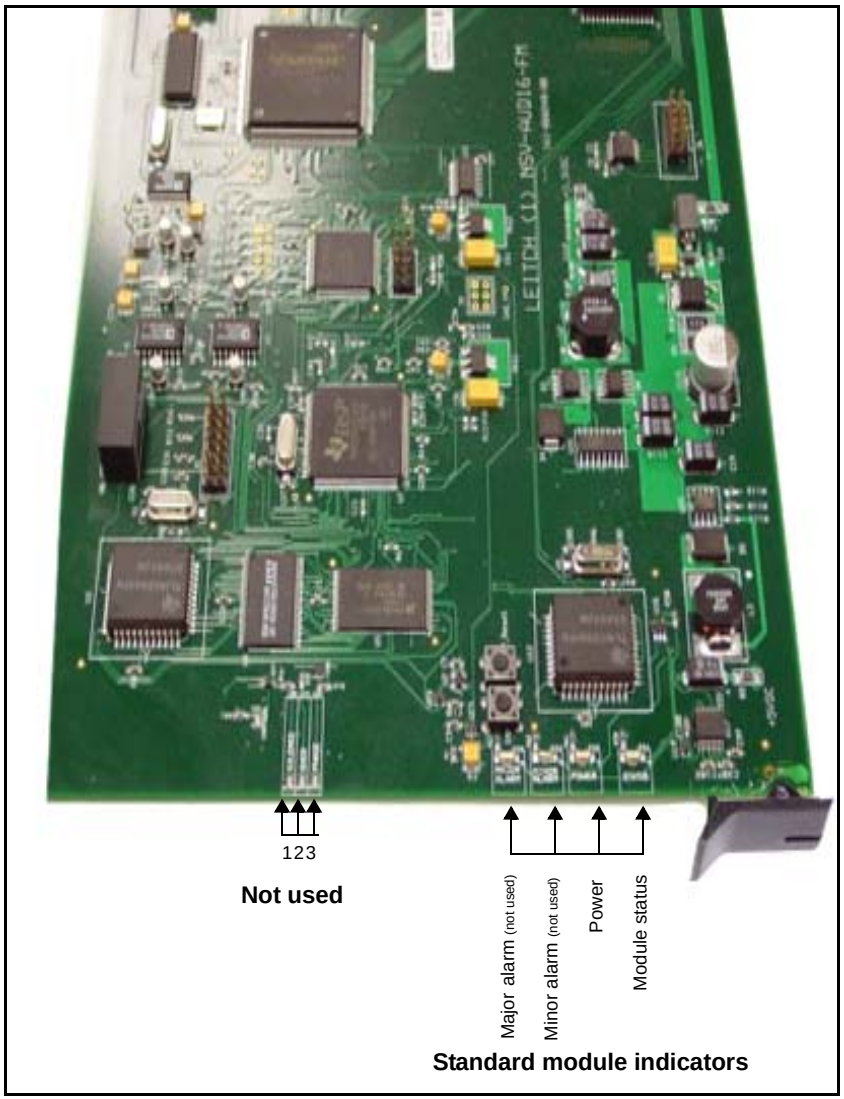

Figure 4-5. NSV-AUD16 and NSV-AES16 Card-Edge LEDs

NSV-OUT Module

Figure 4-6 illustrates the locations of the LEDs and standard module indicators on an NSV-OUT module.

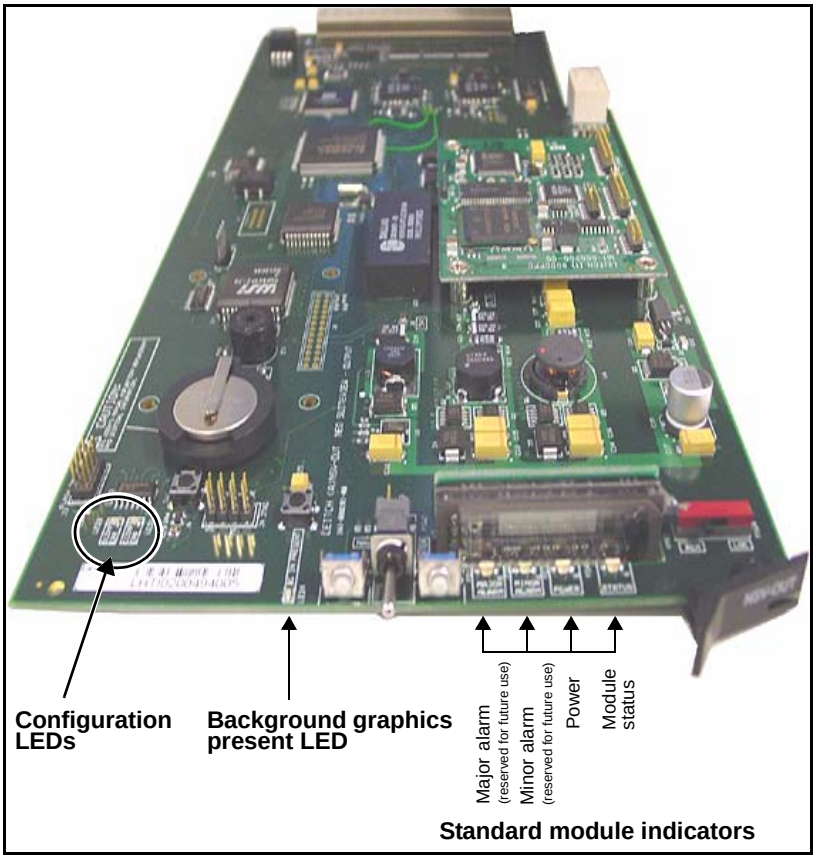

Figure 4-6. NSV-OUT Card-Edge LEDs

Card-Edge LED and Indicator Definitions

This section defines the colors of card-edge LEDs found on all NEO SuiteView modules. This includes the definitions of both standard module indicators that are shared by all modules as well as LEDs specific to individual modules.

Color Definitions of LEDs

Table 4-9. LED Descriptions and Meaning of Colors

LED Indicator	Color	Meaning (When Illuminated)
Input Present (1, 2, 3, or 4)	Green	The module is receiving an input signal. (This LED does not apply to NSV-AUD16, NSV-AES16, and NSV-OUT modules.)
	Off	The module is not receiving an input signal. (This LED does not apply to NSV-AUD16, NSV-AES16, and NSV-OUT modules.)
Configuration	Red	The module is not configured/is undergoing configuration.
	Off	The module configuration is complete.
Background Graphics Present	Green	The system is in BG mode and background graphics input is present.
	Off	The system is not in BG mode; alternatively, the system is in BG mode but there is no input present.

Color Definitions of Standard Module Indicators

Table 4-10. Standard Module Indicators Descriptions

LED	Color	Meaning
Major Alarm	Red	The input module detects a major alarm condition. (This LED does not apply to NSV-AUD16 and NSV-AES16 modules.)
Minor Alarm	Amber	The input module detects a minor alarm condition. (This LED does not apply to NSV-AUD16 and NSV-AES16 modules.
Power	Green	The module is receiving power.
Module Status	Green	The module is configured, loaded, and operational.

Note

A frame's active resource module provides additional LEDs that indicate conditions not included in these module-specific LEDs. See the card-edge of the resource module for these LEDs.

Chapter 5

Using NEO SuiteView with CCS Software

Overview

General procedures for discovering, configuring, controlling, or monitoring a NEO SuiteView device using a CCS software application (such as Pilot) can be found in the appropriate CCS User Manual or Online Help. However, some features in the CCS software application have been customized for NEO SuiteView. This chapter describes some of the features a CCS software application can provide specifically for NEO SuiteView users. See the following topics:

- "Controlling NEO SuiteView With Device-Specific CCS Interface" on page 122
- "Restoring Factory Default Settings" on page 132
- "Building a NEO SuiteView Navigator Page" on page 133

If you have CCS Navigator (version 1.9.2 or higher), you can also build Navigator pages to recall NEO SuiteView presets. See "Building a NEO SuiteView Navigator Page" on page 133 for more information.

Note

Only version-compatible CCS software applications can be used with NEO SuiteView. See "CCS Software Applications FAQs" on page 154 for more information.

Controlling NEO SuiteView With Device-Specific CCS Interface

After you have discovered a NEO SuiteView device and saved the results of the discovery, you can switch Pilot or Navigator to Control mode to view the device-specific and generic interfaces. By default, the device-specific interface opens. If the module is an NSV-OUT module, you can switch to the generic interface by right clicking on the control dialog box and selecting **Generic Control** from the context menu. Although most options are available in both interfaces, the device-specific interface has all of the options required for NEO SuiteView.

NEO SuiteView video and audio modules have generic interfaces only (no device-specific interfaces) and the parameters they display are for status feedback only (read-only).

Note

See the chapter “Controlling CCS Devices” in your CCS User Manual or Online Help for general information on using generic control dialog boxes.

To open a control dialog box, right click on a NEO SuiteView module in the Navigation pane.

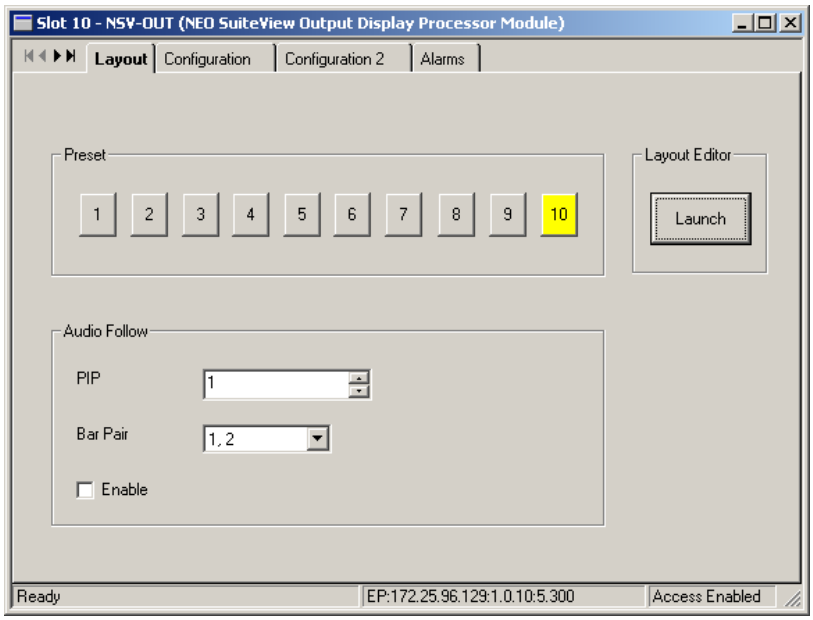

Figure 5-1. Device-Specific Interface

The CCS device-specific control interface appears.

The CCS device-specific interface has four tabs that you can use to configure NEO SuiteView features. Each tab on the device-specific interface is described in the following sections.

Using the Layout Tab

Using the Layout page of Pilot or Navigator's NEO SuiteView specific interface, you can recall or activate NEO SuiteView layouts. You can also enable bar meters to appear on layout PiPs.

Layouts are created, modified, and saved using the Layout Designer for NEO SuiteView software application. For information on creating NEO SuiteView layouts, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

Note

CCS presets are different than the NEO SuiteView preset layouts described here. For more information on CCS presets (for example, those available from the shortcut menu), see the section “Using Presets” in your CCS User Guide or Online Help.

Recalling a Layout

Using the CCS NEO SuiteView specific interface, you can recall one of NEO SuiteView’s ten default preset layouts.

Note

If you have CCS Navigator, you can also recall a layout by creating a rule on a Graphical Navigation page. See “Building a NEO SuiteView Navigator Page” on page 133 for more information.

To recall a preset layout, follow these steps:

1. Open the **Layout** page in the CCS NEO SuiteView specific interface.
2. Under **Preset**, click one of the ten **Preset** buttons.

Figure 5-2. Selecting a Preset Layout

The selected preset button remains highlighted.

3. To launch the layout editor, click the **Launch** button.

Enabling the Audio Follow Feature

Using the **Layout** tab, you can monitor the embedded audio pair on selected PiP.

To set up and enable the Audio Follow feature, follow these steps:

1. Open the **Layout** page in the NEO SuiteView specific interface.
2. Under **Audio Follow**, select a PiP from the **PiP** box of the embedded audio pairs you want to monitor.

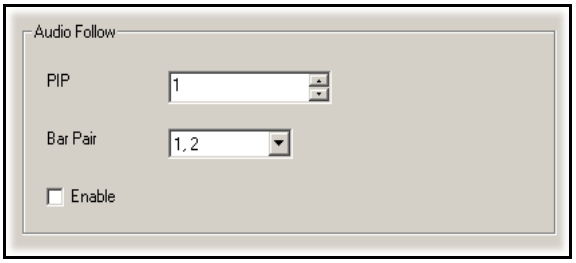

Figure 5-3. Enabling the Audio Follow Feature

3. From the **Bar Pair** list, choose which embedded audio pairs you want to monitor. Choose from the following options:
   - **1,2**
   - **3,4**
   - **5,6**
   - **7,8**
4. Select the **Enable** box to activate the Audio Follow feature.

For more information about configuring audio for layouts, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

Using the Configuration Tab

The **Configuration** tab of the **NEO SuiteView** specific Control dialog box is different from the **Configuration** tab that appears in Build mode. From the **Configuration** tab, you can do the following:

- “Accessing NSV-OUT System IDs” on page 126
- “Setting the System Number (#) For UMD Base Address” on page 126
-

See your CCS documentation for information on the Build mode **Configuration** tab.

When you click the **Configuration** tab, a page similar to the following appears:

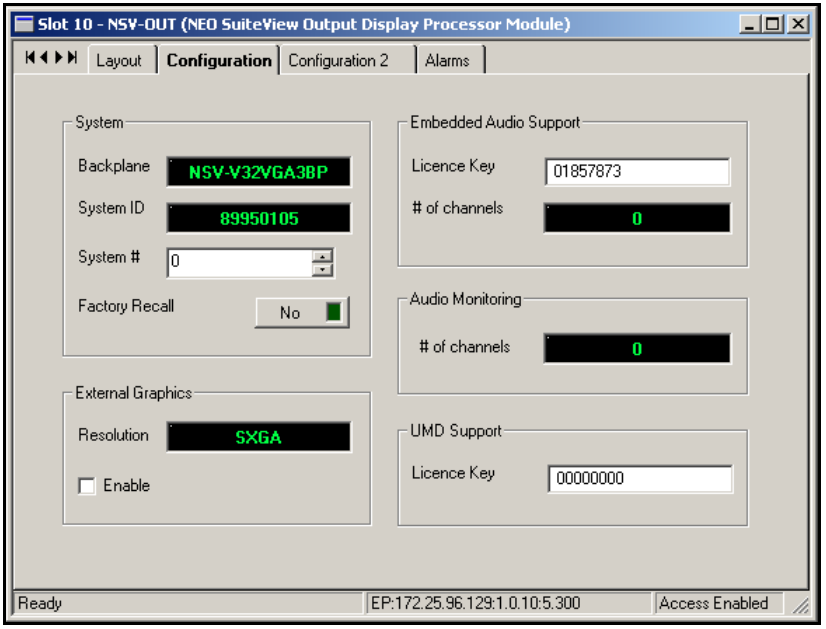

Figure 5-4. NEO SuiteView Specific Interface—Configuration Page

Accessing NSV-OUT System IDs

Each NSV-OUT module installed in a NEO SuiteView system has a unique system ID number. This number is like a serial number and identifies the NEO SuiteView system. When you purchase additional features for you system, you need to provide your the System ID to your Customer Service or Sales representative. The System ID is a read-only value that cannot be modified.

The system ID of the NEO SuiteView system you are currently using is listed in the **Configuration** page and located in **System ID** field.

Setting the System Number (#) For UMD Base Address

You can use the **System #** field to modify the NEO SuiteView system's UMD base address. This address is used to identify which UMD display data you want to send to the first PiP of each NEO SuiteView system.

For example, if you have 16 addresses of UMD display data that you want to send to two NEO SuiteView systems (8 addresses to each system), make the following selections:

- Use **0** as the RS-485 base address for the first system to send UMD data (addresses 0 to 7) to PiPs one through eight (on NEO SuiteView System one).
- Use **8** as the RS-485 base address for the second system to send UMD data (8 to 16) to PiPs one through eight (on NEO SuiteView System two).

Note

If you use UMD display data that comes from a Serial Protocol Translator (SPT), the first UMD data address is **1**.

Prior to entering an RS-485 base address, you need to ensure that the proper RS-485 connection is made between your NEO SuiteView system and UMD devices, and that your NEO SuiteView system is in RS-485 mode. For more information about setting up RS-485 mode on your NEO SuiteView system, see your

To set the System Number (#), and/or reset the module's factory default settings, follow these steps:

To change the base address for the NEO SuiteView system, under **System**, select or type a new number in the **System #** box. Wait a few moments for the change to be relayed back to the NEO SuiteView system.Do not leave the **Configuration** page until the system has completed the change. Otherwise, the change will not take effect.See page 100 for more information on viewing the assigned system number on the NSV-OUT card edge.

Resetting the Module's Factory Default Settings

To reset the module's factory default settings, under **System**, click the button beside **Factory Recall**. Do not leave the **Configuration** page until the system has completed the change. Otherwise, the change will not take effect.

Enabling Background Graphics Mode

Using the **Configuration tab**, you can toggle your NEO SuiteView system between Background Graphics mode and Standalone mode. By default NEO SuiteView is set to Standalone mode.

To enable Background Graphics mode, under **External Graphics**, select **Enable**.

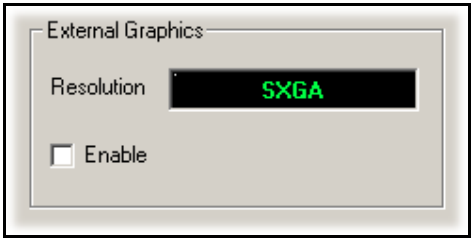

Figure 5-5. Enabling Background Graphics Mode

The current output resolution is reported in the **Resolution** box (as determined by the external graphics input). See Figure 5-4 on page 126 for an illustration.

For more information about Background Graphics mode and Standalone mode, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

Enabling Embedded Audio Support

If you have purchased embedded audio support for NEO SuiteView, you must enter the assigned license key to enable the feature. You can use the **Configuration** page to enter the passcode. To do this, under **Embedded Audio Support**, enter the passcode in the **License Key** box.

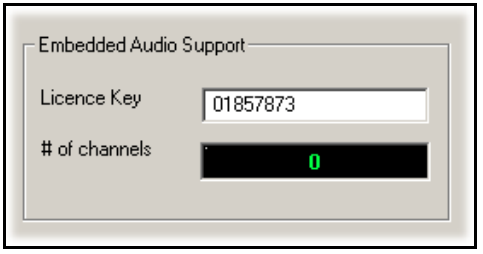

Figure 5-6. Enabling Embedded Audio Support

If the license key is valid, the value in the **# of Channels** box will change from **0** to the correct number of embedded audio channels.

You can also use Layout Designer to enable the embedded audio feature. For more information, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

To obtain licenses, contact your product Customer Service representative.

Enabling a UMD Support License

If you ordered optional UMD support prior to receiving your NEO SuiteView device, then your system will come preconfigured with the software upgrade. If you need to upgrade the software yourself, you can use the **Configuration** page to enable the UMD Support.

In the **Configuration** page, under **UMD Support**, enter the passcode in the **License Key** box.

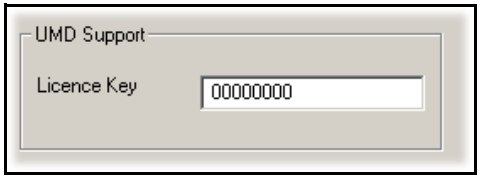

Figure 5-7. Enabling UMD Support

After you enter the license key, you must enable the UMD support in the Layout Designer.

You can also enter the license key by using Layout Designer or by using the NSV-OUT card edge. For information, about using the Layout Designer, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

To obtain a UMD support license, contact your Product Customer service representative.

Using the Device-Specific Interface's Configuration 2 Tab

The **Configuration 2** tab of the **NEO SuiteView** specific Control dialog box offers additional NEO SuiteView settings. When you click the **Configuration 2** tab, a page similar to the following appears:

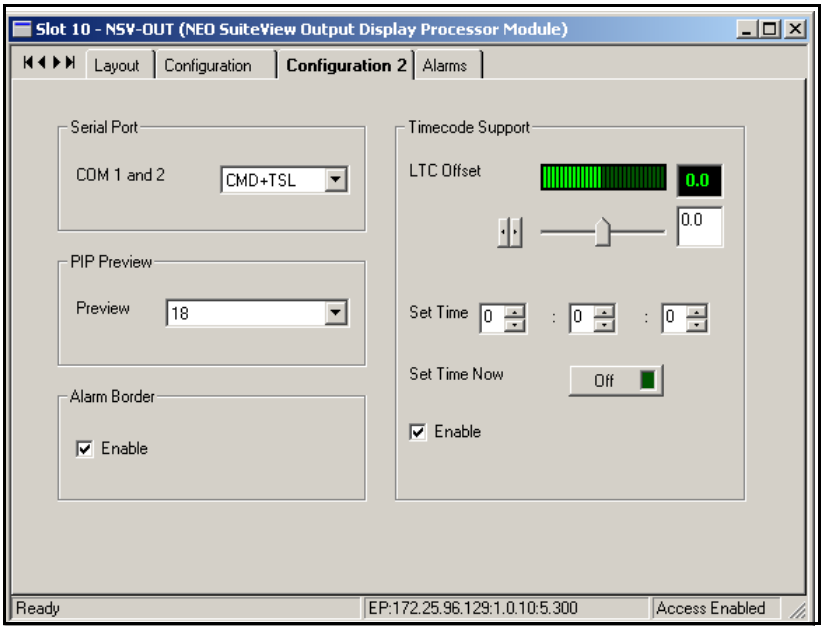

Figure 5-8. NEO SuiteView Configuration 2 Tab

Each setting is described in the following sections.

- Under **Serial Port**, you can select the communication protocols you want to use for NEO SuiteView's COM ports (**COM 1** and **COM 2**). The following options are available:
  - **CMD** (communication control)
  - **TSL** (UMD format)
  - **LTC** (Linear timecode, can only be on COM 2)
  - **Off**
- Under **Full-Screen,** you can select a PiP (by PiP number) for full-screen preview. Before using this control, you must enable the Full-Screen in Layout Designer.

  For more about the Full-Screen feature, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

- If NEO SuiteView is connected to an LTC source (see “External Time Source Connection for Linear Time Code” on page 90) under **Timecode Support**, make the following selections to use the external timecode reference as your system’s time source. You can use this time to run the NEO SuiteView on-screen clock.
  - Under **LTC Offset**, either use the slider, or enter a value, to set the offset you want applied to the incoming timecode reference.
  - To enable the external LTC source as your NEO SuiteView system time, select the **Enable** check box.
- If you are not using an external time reference to drive the NEO SuiteView clock, make the following selections to set the internal clock:
  - Beside **Set Time**, either use the controls or enter a value for the time.
  - To start the system time, click beside **Set Time Now**.

Restoring Factory Default Settings

You can restore the factory default settings through your CCS software application, either from the NEO SuiteView generic interface or the specific interface. See “Operator and All List Parameters” on page 99 for more information on viewing the assigned system number on the NSV-OUT card edge.

Generic Interface Factory Recall

To restore factory default settings using the CCS NEO SuiteView generic interface, open the generic interface, and then click **Factory Recall**. The original default settings will be restored.

Specific Interface Factory Recall

Follow these steps to restore factory default settings using a CCS software application and the NEO SuiteView specific interface:

1. Open the **Configuration** page in the CCS NEO SuiteView specific interface.
2. Click the **Factory Calibration** button to read **On**.

   The button indicator returns to a blackened state and reads **Off** once the original NEO SuiteView device and CCS parameter default settings are fully restored.

Building a NEO SuiteView Navigator Page

On a customized Navigator page, you can create buttons that will load various previously saved presets. When you build a custom NEO SuiteView Navigator page, you can recall these presets, including NEO SuiteView layouts, from the customized page instead of using the standard CCS interface.

If you are unfamiliar with creating pages in Navigator, see the section “Graphical Navigation Page Creation” in your Navigator manual or online help.

To add a tool to load a NEO SuiteView preset from a Navigator page, you will need CCS Navigator version 1.9.2 or greater.

Note

Procedures and illustrations pertaining to building Navigator pages primarily describe Navigator version 2.0. Notes are included to identify instances where there are differences between Navigator 2.0 and earlier versions.

Loading NEO SuiteView Presets

When creating a Navigator page to load presets, there are two different actions that you can specify to load a NEO SuiteView preset: **Load SuiteView Preset** action and **Load Preset** action. These actions are described in the following sections.

The **Load SuiteView Preset** action has the following characteristics:

- Control though serial RS-232. To use this action in your Navigator page, you must configure RS-232 setting (see “Setting Communication Options”).
- Loads a NEO SuiteView preset layout only, and no other parameters

See “Using the Load SuiteView Preset Action” on page 135.

The **Load Preset** action has the following characteristics:

- Control through Ethernet IP/TCP
- Loads the NEO SuiteView preset layout parameter and all parameters included in the preset

See “Using the Load Preset Action” on page 137.

Note

Navigator 1.9.2 software supports up to eight presets. Later versions of Navigator, and the NEO SuiteView hardware, support up to ten.

Setting Communication Options

If you are using a PC that is connected to NEO SuiteView via an RS-232 connection, and you want to create a Navigator page using the **Load SuiteView Preset** method (see “Using the Load SuiteView Preset Action” on page 135 for details), you must make the following communication settings:

1. While in Build mode, from the main menu, select **Options** > **Communication**.

   The **Communication Options** dialog box opens.

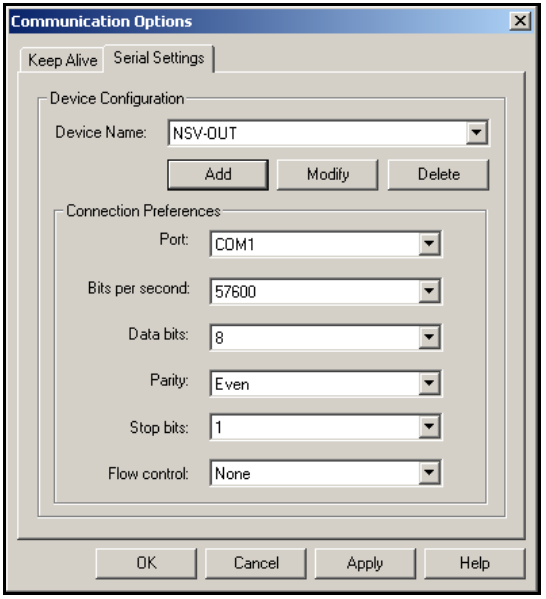

Figure 5-9. Communication Options Dialog Box

2. Click the **Serial Settings** tab, and then select a NEO SuiteView device from the **Device Name** list.

If the NEO SuiteView device is not listed, you will need to first add it, following these steps:

a. Click **Add**.

   The **Add Device** dialog box opens.

b. Type a name in the **Name** field, and then click **OK** to close the dialog box.

c. Select the new device name from the **Device Name** list.

3. Select the appropriate COM port from the **Port** list, and then make the following selections from the **Connection Preferences** list:
   - **Bits per second**: 57600
   - **Data bits**: 8
   - **Parity**: None
   - **Stop bits**: 1
   - **Flow control**: None
4. Click **Apply**, and then click **OK** to close the dialog box.

Using the Load SuiteView Preset Action

The **Load SuiteView Preset** action loads the NEO SuiteView Navigator page preset layout only. Before attempting to use the action, ensure a serial connection via RS-232 cable is established, and that the communication settings have been made (see “Setting Communication Options” on page 134).

To use the **Load SuiteView Preset** action, follow these steps:

1. In Build mode, open the Graphical Navigation page by selecting **Tools** > **Graphical Navigation** from the main menu.

2. Right-click anywhere in the blank Navigator page, select **Create**, from the context menu, and then select the object you want to create.

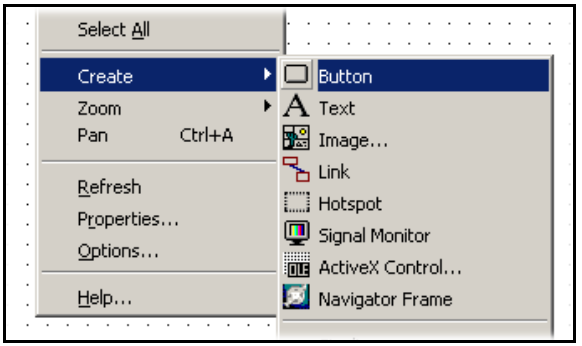

Figure 5-10. Selecting a Navigation Object

3. Position the object in the Graphical Navigation page, and then click and drag to draw the object on the page
4. Right-click on the navigation object, and then select **Properties** from the context menu.

   The **Object Properties** dialog box opens.
5. Select the **Rules** tab, and then click the **New Rule** button.

   To cancel the rule and return to the Navigation page, click the **Delete Rule** button.

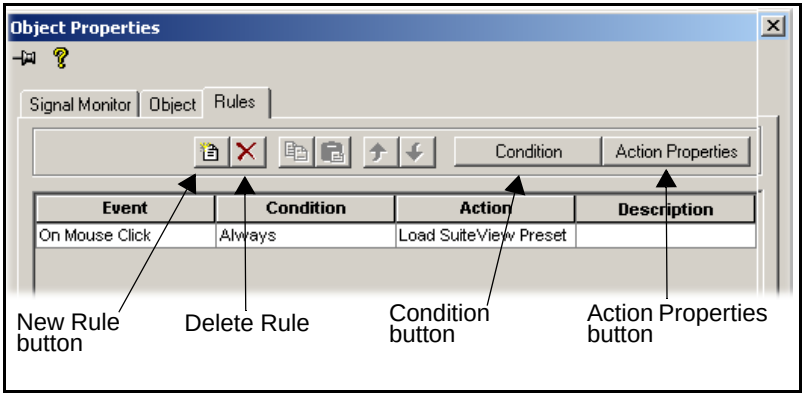

Figure 5-11. Object Properties Dialog Box

6. From the **Event** list, select an event.

7. Click the **Condition** button to set the event condition (typically set to **Always**).

   For more information on event conditions, see the section in your *CCS Navigator User Manual* or *CCS Navigator Help* called "Defining Rules for Navigator Pages and Objects."

8. From the **Action** list, select **Load SuiteView Preset**.
9. Enter an event description by following these steps:
   a. Click the **Action Properties** button.

      The **Action Property—Load SuiteView Preset** dialog box opens.

   b. Select a device name from the corresponding list.
   c. From the **Preset Name** list, select a preset layout name that can be recalled/loaded.
   d. Click **OK**.
10. Close the **Object Properties** dialog box, and then save the newly created page.

Using the Load Preset Action

The **Load Preset** action loads all the CCS settings that have been saved under a preset name, and not just the NEO SuiteView Navigator page preset layout. Controlling NEO SuiteView using this method requires an active Ethernet connection.

To create a preset, you must be in Control mode. Right-click the NSV-OUT module in the Control dialog box, and then save the current CCS settings to capture all CCS and NEO SuiteView settings currently applied to this module.

To use the **Load Preset** action, follow these steps:

1. In Build mode, open the Graphical Navigation page by selecting **Tools** > **Graphical Navigation** from the main menu.

2. Right-click anywhere in the blank Graphical Navigator page, select **Create**, from the context menu, and then select the object you want to create.

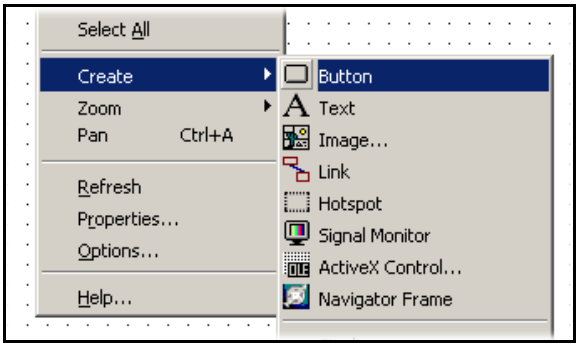

Figure 5-12. Selecting a Navigation Object

3. Position the object in the Graphical Navigation page, and then click and drag to draw the object on the page.
4. Right-click on the navigation object, and then select **Properties** from the context menu.

   The **Object Properties** dialog box opens.
5. Select the **Rules** tab, and then click the **New Rule** button.

   To cancel the rule and return to the Navigation page, click the **Delete Rule** button.

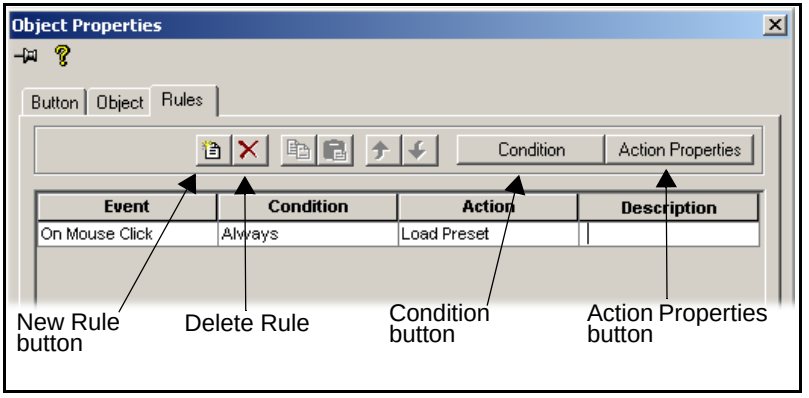

Figure 5-13. Object Properties Dialog Box

6. From the **Event** list, select an event.

7. Click the **Condition** button to set the event condition (typically set to **Always**).

   For more information on event conditions, see the section in your *CCS Navigator User Manual* or *CCS Navigator Help* called "Defining Rules for Navigator Pages and Objects."

8. From the **Action** list, select **Load Preset.**
9. Click the **Action Properties** button.

   The **Action Property—Load Preset** dialog box opens.

10. Click **Select...** to open the **Device Selection** dialog box, and then select a device from the list.

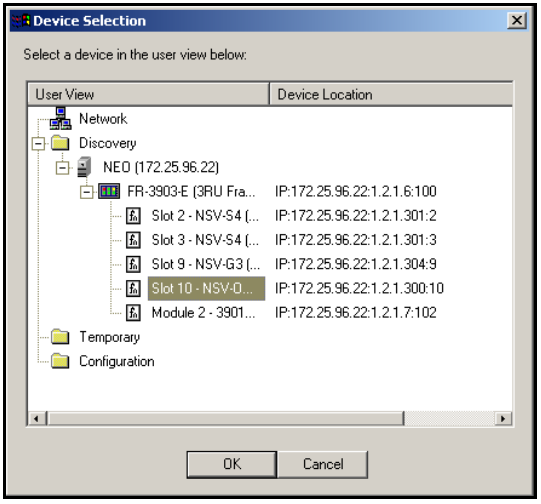

Figure 5-14. Device Selection Dialog Box

   Note the listed Device Location to ensure you are selecting the correct device.

11. Click **OK** to close the dialog box.

    The selected device ID now appears in the corresponding field within the **Action Property** dialog box.

12. From the **Preset Name** list, select a preset name, and then click **OK** to close the dialog box.

13. Close the **Object Properties** dialog box, and then save the newly created page.

Note

Earlier versions of Navigator use the label **NRO ID** instead of **Device ID**. The NRO ID must be typed into the **NRO ID** field. To find the NRO ID to enter into this field, you must do the following before defining rules for your page/object:

1. In the **Navigation** pane, right-click the NSV-OUT module.
2. Select **Properties** from resulting context menu.
3. Click the **NRO** tab.
4. Write down the NRO instance ID for the module.

Once you enter the NRO ID in the corresponding field in the **Action Property** dialog box, select a name from the **Preset Name** list, and then click **OK.**

Recalling a Preset Page

To recall preset from a Navigator page, follow these steps:

1. Open the **File** menu, and then click **Open**.
2. Browse for the desired Navigator page.
3. Perform the desired action from the Navigator page (for example, click a button to recall a preset layout on the display monitor).

Chapter 6

Specifications

Overview

This chapter lists the specifications for NEO SuiteView modules and connectors, including the following:

See your *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* for specifications relating to the frame, fan, power supply, resource card, etc.

RGB Input

The RGB input is the “Background Input” located on the NSV-OUT card.

Table 6-1. NEO SuiteView RGB Input Specifications

Item	Description
Standards (compatible)	VESA VSIS/VESA Test Procedure—Evaluation of Analog Display Graphics Subsystems, Version 1 Rev 2
Impedance	75Ω
Bandwidth	≥ -3 dB at 80 MHz
Connector type	HD-15 high-density 15-pin D

Note

The manufacturer recommends using the advanced timing options provided by EnTech Taiwan’s Powerstrip 3.7 software application with the graphics card that is providing background graphics for NEO SuiteView.

RGB Outputs

The two R GB outputs are located on the NSV-OUT card. Both the main and back-up outputs provide identical output.

Table 6-2. NEO SuiteView RGB Output Specifications

Item	Description
Standards (compatible)	VESA VSIS/VESA Test Procedure—Evaluation of Analog Display Graphics Subsystems, Version 1 Rev 2
Impedance	75Ω
Bandwidth	≥ -3 dB at 80 MHz
Supported resolutions	• 1280×1024×60 (SXGA) • 1280×1024×50 (SXGA-50) • 1024×768×60 (XGA) • 1024×768×75 (XGA-75) • 1024×768×50 (XGA-50) • 1280×768×60 (WXGA-60) • 1280×768×50 (WXGA-50) • 1360×768×60 (WXGA-60W) • 1360×768×50 (WXGA-50W) • 1400×1050×60 (SXGA+) • 1400×1050×50 (SXGA+-50) • 1600×1200×60 (UXGA) • 1600×1200×50 (UXGA-50) • 1680×1500×60 (WSXGA+) • 1680×1500×50 (WSXGA+50) • 1920×1080×60 NB (narrow blanking) • 1920×1080×60 (WUXGA) • 1920×1080×50 (WUXGA-50)

Audio Link

Table 6-3. NEO SuiteView Audio Link Specifications

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Connector</td><td>RJ-45</td></tr>
<tr><td>Pin assignment</td><td>
<table>
<tr><th>Pin</th><th>Function</th><th>EIA/TIA 568A Wire Color</th></tr>
<tr><td>1</td><td>AES+</td><td>White and green stripe</td></tr>
<tr><td>2</td><td>AES-</td><td>Green and white stripe</td></tr>
<tr><td>3</td><td>GND</td><td>White and orange stripe</td></tr>
<tr><td>4</td><td>RX</td><td>Blue and white stripe</td></tr>
<tr><td>5</td><td>GND</td><td>White and blue stripe</td></tr>
<tr><td>6</td><td>GND</td><td>Orange and white stripe</td></tr>
<tr><td>7</td><td>GND</td><td>White and brown stripe</td></tr>
<tr><td>8</td><td>TX</td><td>Brown and white stripe</td></tr>
</table>
</td></tr>
<tr><td>Sample rates supported</td><td>• 96 kHz
• 48 kHz
• 44.1 kHz
• 32 kHz</td></tr>
<tr><td>Standards</td><td>TIA/EIA 574</td></tr>
</table>

AES Input

Table 6-4. NEO SuiteView AES Input Specifications

Item	Specification
Standards	Audio Engineering Society AES3
Type	Balanced
Impedance	110Ω ±20%, from 100 kHz to 12288 kHz
Sensitivity	200 mV
Common-mode rejection	0 V to 7 V, 0 Hz to 20 kHz
Maximum input level	7 V pk-to-pk
Jitter tolerance	• 10 UI below 200 Hz • 0.25 UI above 8000 Hz
Sample rates supported	• 96 kHz • 48 kHz • 44.1 kHz • 32 kHz

AES Monitoring Output

Table 6-5. NEO SuiteView AES Output Specifications

Item	Specification
Standards	Audio Engineering Society AES3
Type	Balanced
Impedance	110Ω ±20%, from 100 kHz to 12288 kHz
Amplitude	2 V to 7 V across 110Ω resistive load
Common-mode component	-30 dB below signal, from 0 Hz to 12288 kHz
Rise/fall time	5 to 30 ns across 110Ω resistive load
Jitter	±20 ns
Sample rates supported	• 96 kHz • 48 kHz • 44.1 kHz • 32 kHz

HD-SDI Input

Table 6-6. NEO SuiteView HD-SDI Input Specifications

Item	Specification
Standards	• ANSI/SMPTE 259M-C, 270 Mb/s, 525/625t • ITU-R BT.601-5 • SMPTE 292M • ANSI/SMPTE 272M-1994
Sample rates supported	• 96 kHz • 48 kHz • 44.1 kHz • 32 kHz
Impedance	75Ω
Return loss	>16 dB from 5 MHz to 1.485 GHz
Sensitivity	<100 mV

SD-SDI Input

Table 6-7. NEO SuiteView SD-SDI Input Specifications

Item	Specification
Standards	• ANSI/SMPTE 259M, 270 Mb/s, 525/625 • ITU-R BT.601-5
Impedance	75Ω
Return loss	> 18 dB from 5 MHz to 270 MHz
Sensitivity	< 100 mV

Composite Input

Table 6-8. NEO SuiteView Composite Input Specifications

Item	Specification
Standards	• SMPTE 170M • ITU-R BT.470-6
Input level	1 V pk-to-pk ±6 dB
Impedance	75Ω
Return loss	>30 dB to 6 MHz

GPI Input

Table 6-9. NEO SuiteView GPI Input Specifications

Item	Specification
Connector	RJ-45
Pin assignment	<table><tr><th>Pin</th><th>Function</th><th>EIA/TIA 568A Wire Color</th></tr><tr><td>1</td><td>GND</td><td>White and green stripe</td></tr><tr><td>2</td><td>CH*odd*_GPI2</td><td>Green and white stripe</td></tr><tr><td>3</td><td>CH*even*_GPI2</td><td>White and orange stripe</td></tr><tr><td>4</td><td>CH*odd*_GPI1</td><td>Blue and white stripe</td></tr><tr><td>5</td><td>GND</td><td>White and blue stripe</td></tr><tr><td>6</td><td>GND</td><td>Orange and white stripe</td></tr><tr><td>7</td><td>GND</td><td>White and brown stripe</td></tr><tr><td>8</td><td>CH*even*_GPI1</td><td>Brown and white stripe</td></tr></table> Note: “Odd” refers to odd-numbered PiPs (that is, 1, 3, 5, etc.), while “even” refers to even-numbered PiPs (that is, 2, 4, 6, etc.). For example, the connector labeled “GPI5-6” provides GPI inputs for PIP5 on CH*odd*_GPI*x*, and GPI inputs for PIP6 on CH*even*_GPI*x*.

DVI Inputs

The three DVI inputs are located on the NSV-G3 card.

Table 6-10. DVI Input Specifications

Item	Specification
Standards	DDWG DVI 1.0
Supported resolutions	• 1280×1024×60 • 1024×768×60 • 1024×768×75 • 1024×768×85 • 800×600×60 • 640×480×60
Connector Type	DVI-I

Appendix A

Frequently Asked Questions

Overview

This chapter answers frequently asked questions (FAQs) and provides troubleshooting information about your NEO SuiteView multiviewer system. The FAQs are organized into the following categories:

- System FAQs answers some common questions information about your NEO SuiteView system. See “System FAQS” on page 152.
- Video input and output display FAQs answer some common questions about video signals and display devices, as well as provide troubleshooting information about display devices. “Video Input/Output Signals and Display Devices FAQs” on page 152.
- CCS software FAQs answers common questions about using CCS software applications with your NEO SuiteView system.“CCS Software Applications FAQs” on page 154.

System FAQS

What are FPGA Errors?

FPGA messages indicate a power-up initialization failure. Immediately after a power-on reset, the CPU downloads firmware into programmable logic devices (known as FPGAs).

If the initialization fails, one or more FPGA messages appear. If these errors have occurred after a firmware upgrade, try running the upgrade again. For information about using the Upgrade Wizard to upgrade your firmware, see "Upgrading NEO SuiteView Using the Wizard" on page 44.

To upgrade your firmware using the NSV-OUT card-edge controls (Internal Upgrade mode), follow these steps:

1. To enable the NEO SuiteView Internal Upgrade mode, hold down the toggle switch on the NSV-OUT module while you re-power the NEO frame.
2. Release the toggle switch when **INTERNAL UPGRADE** appears in the NSV-OUT card-edge display.
3. Follow the prompts displayed in the NSV-OUT card-edge display.

What Is the Typical Video Delay of a NEO SuiteView Unit?

The default video delay of an NEO SuiteView is one frame.

Why Does NEO SuiteView Fail to Respond Correctly to Commands?

Turn the unit off and then on, and/or recall factory defaults.

During the boot-up initialization procedure, watch for messages or warnings on the LCD screen.

Why Can't Output Format Be Changed Between PAL/625 and NTSC/525?

You can only change output format by recalling Factory Settings from the front panel.

Video Input/Output Signals and Display Devices FAQs

Why Does the External Display Attached to the VGA Output Have Poor Image Quality?

Most display problems can be traced to output display scaling artifacts or poor cabling. Correcting these errors usually requires either configuration changes or higher quality VGA cables.

What are “Scaling Artifacts”?

Scaling errors can occur when a display device connected to a VGA output is forced to rescale an image by interpolating new pixels. This rescaling occurs because the display resolution generated by the NEO SuiteView output does not match the native display resolution supported by the display device. The interpolation process often introduces “scaling artifacts” that will soften or degrade the resultant displayed image.

To avoid scaling errors, check the native resolution of the display device, and wherever possible, configure the output of the NEO SuiteView to match the display’s native resolution.

What is “Ghosting”?

“Ghosting” refers to vertical fringing artifacts. The use of incorrectly specified VGA cable or twisted pair connections most often causes this problem. Always use high-quality, RF-screened VGA cable with individual coaxial cables for each of the red, green, and blue signals of the VGA output.

What Calibration Adjustments are Necessary on the Attached Display?

To ensure a high-quality picture, you should always properly calibrate the attached display device, particularly digital display devices such as plasma displays and LCDs.

The NEO SuiteView has a built-in color bar text signal. If you are using Layout Designer for NEO SuiteView software, you can use a range of useful patterns, including checkerboard, to calibrate the display device properly.

If the Output Signal Fails, What Should Be Done?

Check the following:

- There is power to the NEO SuiteView unit and that it is turned on
- Ensure the inlet power fuse(s) is not blown
- One or more valid input signal(s) are connected and that the chosen PiPs or tiles correspond to valid input(s)

If the VGA output is used, that any VGA monitor is capable of locking to the vertical scanning rate (50 Hz in 625 or PAL, 60 Hz in 525 or NTSC); use high-quality, RFI-screened, multiple 75Ω coax.

Why Do Full Screen Images Tear with Asynchronous Inputs?

Scaled-down windows are recommended with asynchronous sources to prevent tearing.

Asynchronous inputs are only handled correctly when two frames of video are stored. There is, however, insufficient memory for two frames to be stored beyond 495×396 pixels.

Why Do Some Video Tiles Appear to Have an Incorrect Format?

Ensure that the output line standard is selected to be the same as the majority of the inputs.

Also check to see if you have selected the correct aspect ratio setting in Layout Designer for NEO SuiteView.

Why Do Moving Images Jitter in Some Video Tiles?

While NEO SuiteView is not a standards converter, most moving images can be input as one line standard and output as another. However, if there is significant frame-to-frame movement, some jitter may result. Try to ensure that input and output line standards are the same wherever possible.

Why Does the Checker Board Test Pattern Not Look Right on a Plasma Monitor?

The checker board test pattern is used to calibrate the display for correct sampling frequency and phase.

If NEO SuiteView is not set to the native resolution of the plasma display and a checker board test pattern is selected, the displayed result will either be a uniform grey field or a series of vertical and or horizontal interference fringes visible across the display.

CCS Software Applications FAQs

Is There a Specific CCS Application Version That I Need to Install?

Only version-compatible CCS software applications can be used with NEO SuiteView.

All versions of CCS CoPilot are compatible with NEO SuiteView. Version numbers are found within the **Version** tab of the device configuration window in your CCS software application. See your related CCS Online Help or User's Guide for more information. Only the following CCS Pilot and Navigator versions support NEO SuiteView:

- Pilot 2.9.3
- Navigator 2.0

Earlier versions of CCS software applications only support a generic interface (non-specific NEO SuiteView GUI) or may cause your CCS application to crash. If the CCS software crashes, you will need to shut down your NEO SuiteView system, relaunch Pilot or Navigator, and then close the control window that was attempting to open during the crash. You can then resume control of NEO SuiteView using the Layout Designer for NEO SuiteView application.

To continue to use Pilot or Navigator to control your NEO SuiteView system, for best results, upgrade to a newer version of CCS software. Contact your product Customer Service representative for more details on obtaining a CCS upgrade.

Appendix B

Servicing Instructions

Overview

Caution

These servicing instructions are for use by qualified 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.

When servicing your NEO SuiteView system, ensure that you take precautions to prevent electrostatic discharge (ESD). See the *NEO Safety Instructions and Precautions Manual* that accompanies your *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* for more information.

These servicing instructions contain the following information:

Battery Use Warning

If you need to replace the CR2032 battery in your NEO SuiteView system, heed this caution:

Warning

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

[FI Finland] VAROITUS: Paristo voi rajahtaa, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan valmistajan suosittelemaan tyyppun. Havita kaytetty paristo valmistajan ohjeiden mukaisesti.

[SE Sweden] VARNING: Explosionsfara vid felaktigt batteribyte. Anvand samma batterityp eller en eller en ekvivalent typ som rekommenderas av tillverkaren. Kassera anvant batteri enligt fabrikantens instruktion.

[D Denmark]

Advarsel! Lithiumbatteri. Eksplosionsfare ved fejlagtig handtering. Udskiftning ma kun ske med batteri af samme fabrikat oq type. Lever det brugte batteri tilbage till leverandoren.

[KO Korean]

경고

만약 틀린 전지로 교환했을 경우엔, 장비손상이 가능합니다.
동등한 전지와 교체하는것을 제조업자는 권장합니다.
사용된 전지는 버려 주십시요.

Changing the Battery

Your NSV-OUT module has a CR2032 battery that may require replacement during the product's lifetime. The battery maintains some parameter options while the NEO SuiteView system is powered down. Failure to replace the battery might lead to some parameters resetting to default factory values when the system is powered down.

To change this battery, follow these steps:

1. Remove the NSV-OUT module from the NEO frame.
2. Using a small tool like a flathead screw driver or pen, gently lift the battery out of the casing that is affixed to the module, and then remove it.

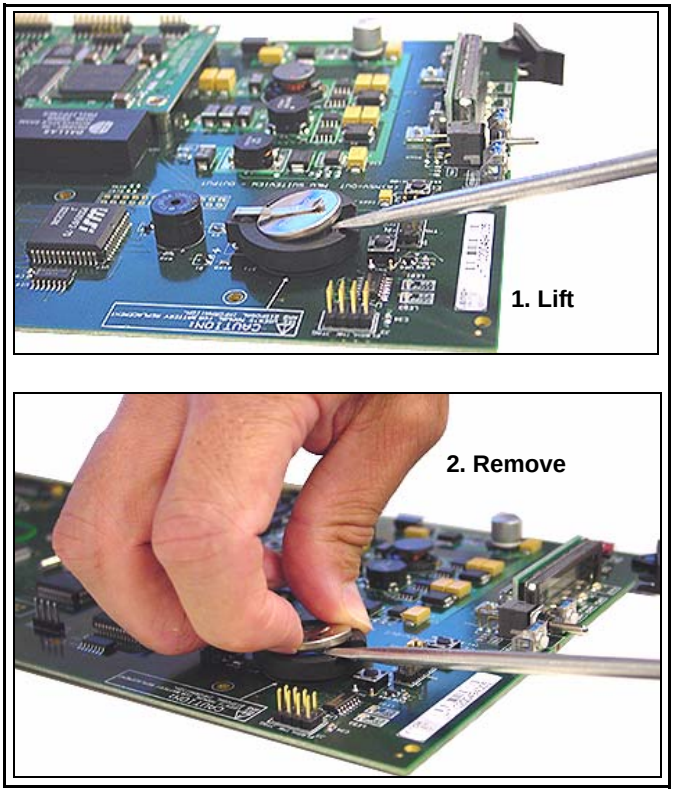

Figure B-1. Removing the Battery from the Casing

3. Replace the battery by lifting up the casing clip, and then sliding the battery back into its casing.

4. Reinstall the NSV-OUT module in the NEO frame.

Discarding the Used Battery

Dispose of batteries in a safe and proper manner in accordance with local regulations. Refer to the packaging instructions that accompany your replacement battery for more information.

Appendix C

UMD/Tally Option

Overview

NEO SuiteView offers optional under monitor display (UMD) support. This software upgrade provides a protocol interface (via RS-232, RS-422, or RS-485) to different third-party routing switcher protocols in order to input in-picture UMD source identification and tally status information. This information automatically updates on screen when the source is updated.

Note

Contact your product Customer Service representative for new information about interfacing with other third-party router manufacturers.

This chapter discusses the following topics:

Requirements for Optional UMD Support

The following items and installations are required to implement UMD support:

- A device that can generate UMD commands, for example a router or switcher (supported routing switcher vendor's protocol is TSL ASCII UMD protocol)
- RS-485 cable connection between NEO SuiteView (COM 2), optional third party UMD device, and UMD commands generator (see Figure C-1 on page 163)

  OR

- RS-232/422 cable connection between NEO SuiteView (COM 2) and UMD commands generator (see Figure C-1 on page 163)

  This latter connection type requires a 3901RES-E resource card for network support, plus a TCP/IP cable connection.

- Passcode provided by product Customer Service representative (see "Obtaining and Enabling a UMD Passcode" on page 165 for more information)

Note

The installed NEO 3901RES-E resource card must be version res3901-rel-2-9-b4 or later to enable the TCP/IP connection. See "Is There a Specific CCS Application Version That I Need to Install?" on page 154 for more information

Sample System Configuration

This section illustrates some typical NEO SuiteView to UMD device connections.

Figure C-1 illustrates a simplified system configuration with UMD/tally support.

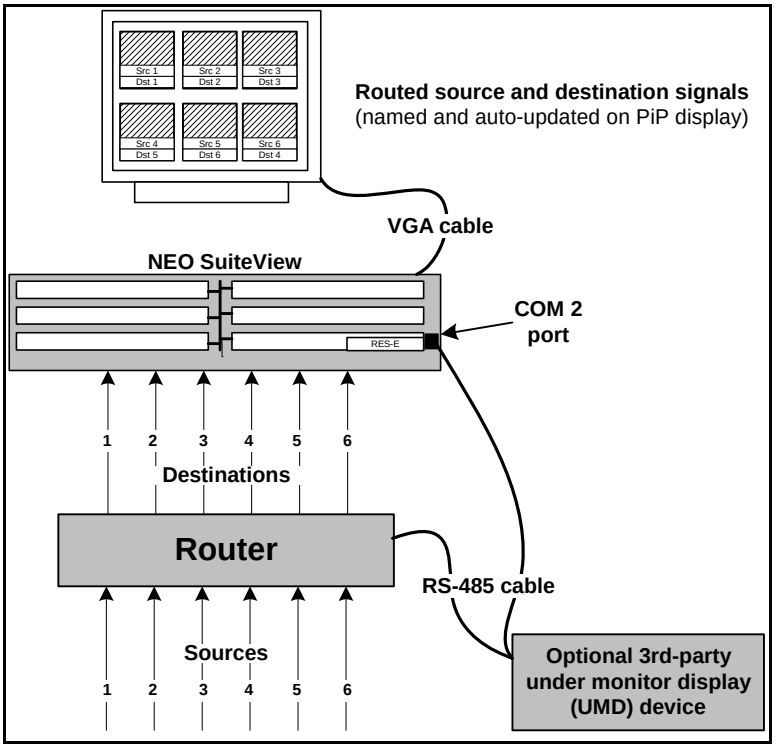

Figure C-1. System Configuration with UMD/Tally Support (Simplified)

Figure C-2 illustrates how to connect a Serial Protocol Translator (SPT) to a NEO SuiteView System using a DB-9 female to female RS-422 cable.

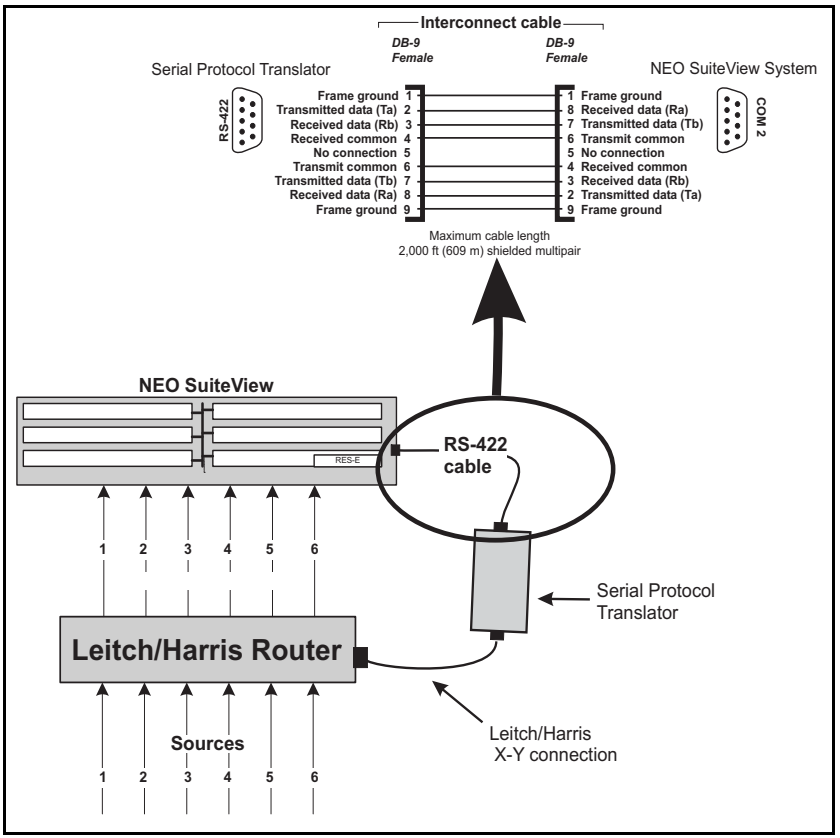

Figure C-2. NEO SuiteView to Serial Protocol Translator Device Connection

Obtaining and Enabling a UMD Passcode

If you ordered optional UMD support prior to receiving your NEO SuiteView shipment, then your system will come preconfigured with the software upgrade. Factory installations do not require a passcode to enable the UMD option.

However, if you need to upgrade the software yourself, follow this procedure in order to obtain and enter a passcode for enabling the optional UMD support:

1. Navigate to the NSV-OUT parameter **System ID** and note the identification number.
2. Contact your product Customer Service representative and give him/her the identification number to receive a passcode.
3. Navigate to the **UMD Enable** parameter, and then enter the passcode via the card edge.

   For information about using Layout Designer to enable UMD support, see your *Layout Designer for NEO SuiteView Software Application User Guide*.

   For information about using a CCS software application such as Navigator to enable UMD support, see “Enabling a UMD Support License” on page 129.

Supported Protocol—TSL ASCII UMD

The TSL ASCII UMD protocol sets out to define the method of communication between a TSL controller and peripheral devices on a multi-drop device bus. The protocol described is for one-way communication only. It details physical layer, link layer, and message structure.

The supported baud rate for UMD interfaces (COM port 2) is 38400.

UMD/Tally Device Update

NEO SuiteView implements the UMD and Tally device update as described in Table C-1.

Table C-1. Header/Control Byte/Display Data

Header	Display address (0-126) + 80 hex (1 byte) (control byte and display data will be sent)
Control	(1 byte)
Bit 0	Tally 1 (1=On, 0=Off)
Bit 1	Tally 2 (1=On, 0=Off)
Bit 2	Tally 3 (1=On, 0=Off)
Bit 3	Tally 4 (1=On, 0=Off)
Bit 4-5	Brightness data
Bit 4	0, bit 5=0 (0 brightness)
Bit 4	0, bit 5=1 (1/7 brightness)
Bit 4	1, bit 5=0 (1/2 brightness)
Bit 4	1, bit 5=1 (full brightness)
Bit 6	Reserved
Bit 7	Cleared to 0
Display Data	16 displayable ASCII characters (16 bytes) in the range 20 hex to 7E hex. All 16 characters must be sent.

Single Dynamic Displays

For eight-character displays, only the first eight characters of the display data are used; the remaining eight are needed just for padding.

Only tallies 1 and 2 are use for single displays.

Dual Dynamic Displays

Dual eight-character displays are treated as a single display of 16 characters: the first eight characters are for the left-hand side, and the second eight characters for the right-hand side.

Tallies 1 and 2 are for the left display, and tallies 3 and 4 for the right display.

Index

D

E

F

G

H

I

J

L

M

N

O

P

R

S

T

U

V

W