

NV96xxV

NV9000 Virtual Control Panels

Macintosh Setup Guide

UG0021-05

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NV96xx Virtual Panels

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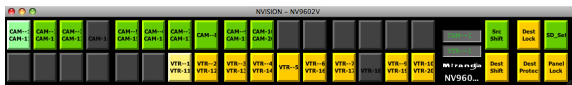

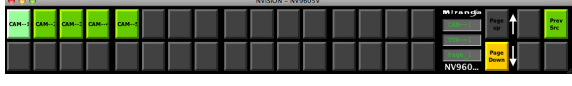



Virtual Control Panels

This document tells you how to install and set up virtual control panels on Macintosh computers.

Introduction


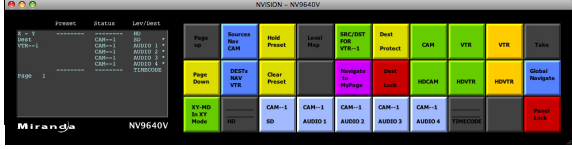


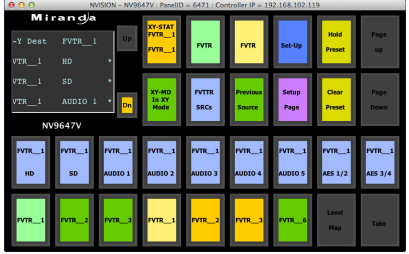

Miranda's virtual panels are software control panels (a.k.a. GUIs) for NV9000 router control systems. A virtual panel runs on a computer connected to your NV9000's control network or to your NV9000 router/panel network.

The virtual panels correspond closely to physical control panels of similar names:

| Virtual Panel | Physical Panel | Thumbnail |
|---------------|----------------|--|
| NV9601V | NV9601 |  |
| NV9602V | NV9602 |  |
| NV9603AV | NV9603A |  |
| NV9605V | NV9605 |  |
| NV9606V | NV9606 |  |
| NV9607V | NV9607 |  |
| NV9609V | NV9609 |  |

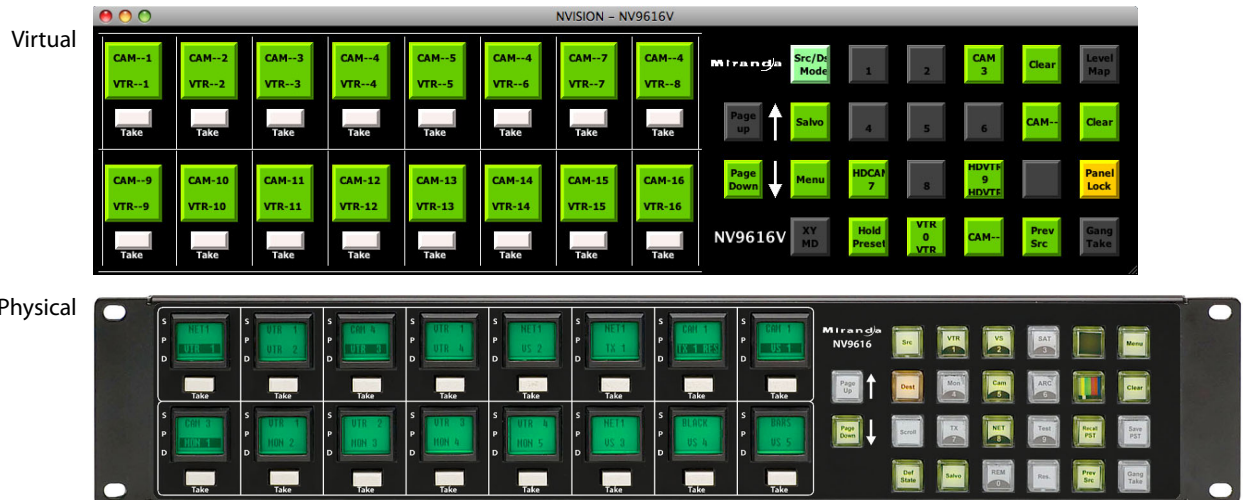
Virtual Control Panels

Introduction

| Virtual Panel | Physical Panel | Thumbnail |
|---------------|----------------|--|
| NV9616V | NV9616 |  |
| NV9640V | NV9640 |  |
| NV9641V | NV9641 |  |
| NV9642V | NV9642 |  |
| NV9647V | — |  |
| NV9654V | NV9654 |  |

Virtual panels use the same configurations as the matching physical panels. Using a virtual control is the same as using the matching physical control panel except for a few minor points.

Physical panels have tactile pushbuttons. Some physical panels have displays; others have GPIO buttons at the rear of the panel. The virtual panels emulate the buttons and displays of the physical panels, but of course, have no GPIO connections. Compare, for example, the NV916V with the NV9616:



(The configurations shown here are samples only; your configurations will differ.)

This document discusses a few configuration issues. If you want to understand panel configuration refer to the NV9000-SE Utilities User’s Guide or its help files, or to the NV9000 User’s Guide and its associated control panel user’s guides.

Requirements

Virtual panels run under Macintosh and Windows, subject to the following constraints:

- Windows 2000, XP, Vista, or Windows 7.
- Mac OS X, version 10.4.x or newer, with JRE (Java runtime environment) 1.6.0 or newer.

To use a virtual panel, your computer must be connected to an NV9000 router control system’s control network. Requirements:

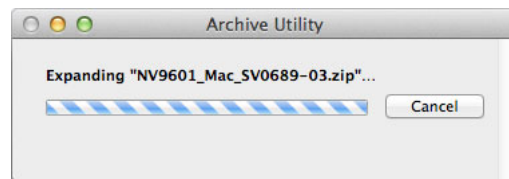
| | |
|--|------------------------------|
| NV9000-SE Utilities: revision 6.2.0 or newer | NV9601V: SV0697-04 or newer |
| NV9000: revision 6.2.0 | NV9602V: SV0950-02 or newer |
| Monitor: 1200 horizontal pixels or more | NV9603AV: SV0699-04 or newer |
| | NV9605V: SV0701-05 or newer |
| | NV9606V: SV0954-02 or newer |
| | NV9607V: SV0955-02 or newer |
| | NV9609V: SV0807-03 or newer |
| | NV9616V: SV0703-04 or newer |
| | NV9640V: SV0705-05 or newer |
| | NV9641V: SV0707-04 or newer |
| | NV9642V: SV0744-02 or newer |
| | NV9647V: SV1141-00 or newer |
| | NV9654V: SV1167-00 or newer |

Installation

You will find the virtual panel installation programs on the NV9000 Virtual Panels Installation disk (SB0217-06) you received from Miranda. Load the CD in your CD drive and navigate to the installation program for the virtual panel of your choice. You can install any or all virtual panels. Choose the Macintosh folder (for Macintosh installation). The Macintosh installation program has a .zip extension. Each installation program installs one virtual panel. All 12 installation programs are the same except for the name of the control panel.

- ▲ Your computer need **not** be connected to a router control system when you run the installation program(s).

First, select one or more of the installation .zip files and copy the .zip files to a folder on your Macintosh. To install a virtual panel, double-click its .zip file on the Macintosh. As the .zip file unpacks, you will see a progress indicator. The process should take about a second.



When the .zip file is unpacked, the installation is complete.

The recommended installed pathname for any of the virtual panels is

```
<hd> / Applications / NVISION / panelname
```

The installer also places an initialization file (*panelname.ini*) in the same location.

Initial Setup

At some time after you install the virtual panel, and before it becomes operational, you must perform a brief setup. The setup (1) identifies the router control system's primary controller (or a redundant system's virtual IP address) and (2) selects a configuration for the virtual panel.

- ▲ Your computer must be connected to your router control system.
- ▲ You can use NV9000-SE Utilities to review existing panel configurations. (These are labelled HW Panels.) If you have no configuration of the type required for a virtual panel, you will have to create one.

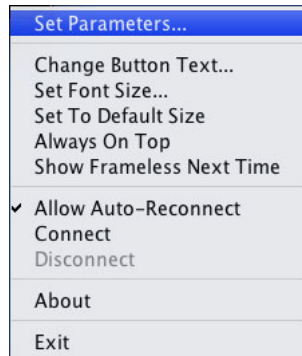
Follow these steps to perform the setup:

- 1 Launch the virtual panel.

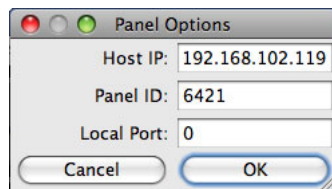
Either double-click the application directly or double-click its program icon. (Or choose the program from the Macintosh docking bar.) The panel will appear after several seconds and it will appear black with dark gray buttons.

- ▲ If a panel does not appear, or the panel is minimized, take the corrective steps outlined under [Upgrading Old Virtual Panels](#) on page 12.

Every virtual panel has a context menu in which to select options. (There is no other menu.) Control-click anywhere in the black area of the virtual panel to get the context menu. Control-clicking in any other area has no effect. This is the context menu:



2 Choose 'Set Parameters' from the context menu. The 'Panel Options' dialog appears:



Enter the IP address of the primary system controller (or the virtual IP address of a redundant system). Enter the panel ID of the panel configuration you want to use. Click 'OK'.

In general, a "local port" value of 0 will be suitable. If, after setting up your virtual panel, it fails to function (because of firewall or security protection), set the local port to a non-zero value, corresponding to an enabled port of your firewall.

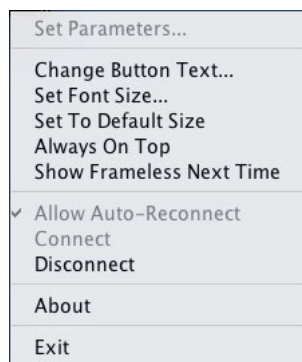
Multiple panels need distinct local port numbers. (A zero value tells the operating system to use the next available port.)

3 The term "host" refers to your active system controller.

4 Open the context menu again and Click 'Connect'.

If the IP address and panel ID were valid entries, the panel buttons and display (if present) will illuminate in appropriate colors and with appropriate text and the panel will be connected to the router control system.

When a panel is connected, the context menu changes slightly:



The 'Set Parameter', 'Connect', and 'Allow Auto-Reconnect' commands become disabled and the 'Disconnect' command becomes enabled. You cannot change the IP address or panel ID when the virtual panel is connected.

Other commands remain enabled.

- 5 .Open the context menu once again and Click 'Exit'.

The 'Exit' command closes the virtual panel. After a few seconds, the router control system will detect that the panel is off-line.

When panel operators start a virtual panel that has been set up this way, it will automatically reconnect (if so enabled) to the router control system. If automatic reconnect is not enabled, the operator must reconnect manually.

- ▲ There is no real difference between choosing 'Exit' and clicking the close button (X) at the top right of the panel window.

For a review of the context menu options, see [Context Menu Commands](#) on page 8.

Configuration

It is in NV9000-SE Utilities that you create and manage configurations for the virtual panels (and other control panels).

Note

NV9000-SE Utilities does not run on a Macintosh. You must create and manage virtual panel configurations on a Windows PC connected to the NV9000 system controller. During operation, virtual panels on the Macintosh access the configurations (stored in the NV9000) by "panel ID."

NV9000-SE Utilities supports what are called hardware panels and software panels. Software panels are the EC9700 (for router control) and EC9710 (for router status).

NV9000-SE Utilities knows nothing about "virtual panels." Virtual panels can be considered "virtual *hardware* panels" and to create a configuration for a virtual panel in NV9000-SE Utilities, you create a hardware panel configuration of matching type. For example, go to "HW panels" and create an NV9616 panel configuration to use with an NV9616V virtual panel.

A panel configuration consists of a configuration file (with a suffix such as .601, .640, etc.) and a .legends file. The configuration file provides initial *states* for the panel. The .legends file provides *fixed button text* for the virtual panel. The configuration files are generated by NV9000-SE Utilities every time you save a panel configuration. The panel configurations do not become active until you either issue an "Update Panel Configuration" or "Write Configuration to Local System" command in NV9000-SE Utilities.

Every virtual panel requires a unique panel ID. (In fact, *all* control panels must have a unique panel ID.) You can run multiple instances of any virtual panel on your computer. Each instance requires a distinct panel ID, even if the multiple instances are to have identical configurations. Configuration files are, however, identified by panel ID. Consequently, you must have a unique configuration file for every instance of every panel. If your system has 12 panels all using the same configuration, you must have 12 copies of that configuration file (and 12 copies of the matching .legends file).

- ▲ Physical hardware panels ignore the .legends file. Button text for physical panels is placed on the button using clear plastic overlays.

Minor Configurations

In addition to the panel configuration, the virtual panels also allow very minor display configurations. Virtual panel operators may change display parameters during operation. The display configurations include:

- Resizing the panel on the screen.
- Changing the font size.
- Setting the 'Always On Top' flag. When this option is enabled, the panel is always displayed in front of every other window on your Macintosh "desktop."
- Displaying the panel with, or without, its Macintosh frame.
- Whether to reconnect to the router control system automatically (on startup or restart of the control system).

The options are available in the context menu. See [Context Menu Commands](#) on page 8.

- ▲ Each instance of any panel starts with settings contained in the last saved .INI file for that panel.

Usage

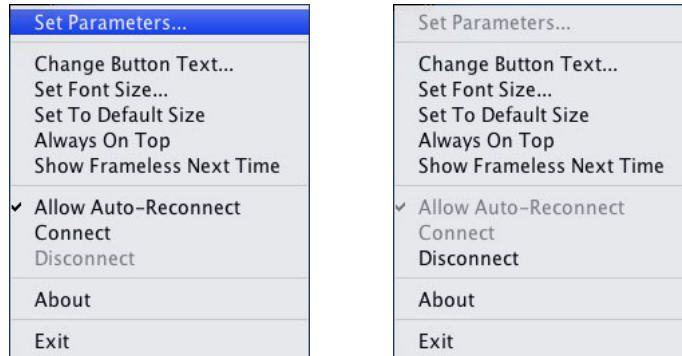
Functionally, the virtual panels are exactly identical to their matching hardware panels. However, there are a few slight operational differences. The most obvious is that with a physical panel, you press a physical button and with a virtual panel, you click on a colored rectangle (a virtual "button") that might change color or text, depending on context.

Virtual Panels vs. Hardware Panels

- 1 Virtual panels have no GPIOs. GPIO configurations apply to the NV9605, NV9640, and NV9641 hardware panels and are ignored by the virtual panels.
- 2 Buttons are relegendable. Buttons on some physical panels have fixed legends (plastic button inserts). (The NV9616, NV9640, NV9641, and NV9642 physical panels do have relegendable buttons.)
- 3 The virtual panels have a context menu with which to connect or disconnect the panel and to select certain display options. (See [Minor Configurations](#) previous.)
- 4 The virtual panels can be resized and repositioned on your screen.
- 5 Dark (i.e, disabled) buttons illuminate if you click on them and hold the mouse down.

Context Menu Commands

The context menu presents 3 dialogs, 3 checkbox options, and 4 commands:



Before Connection

After Connection

When a virtual panel is not connected to a router control system, the 'Disconnect' command is disabled.

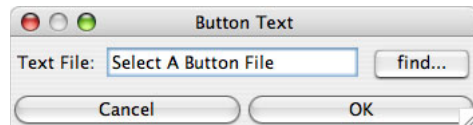
When a virtual panel is connected to a router control system, the 'Set Parameters', 'Connect', and 'Allow Auto Reconnect' options are disabled.

Set Parameters...

Use this command to set the IP address of the primary system controller and the panel ID. See [Initial Setup](#) on page 4 for a discussion.

Change Button Text...

Normally you would never use this command. You might occasionally use this command to update the button text for your virtual panel. It displays a dialog in which you can browse to select the appropriate .legends file:



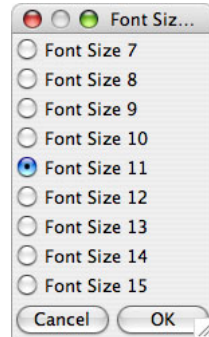
In most case, you will find .legends files in this folder in the NV9000 system controller (and not on your Macintosh):

C:\NVision\envy\usersys\live\

(A .legends file provides the fixed button text for the panel configuration.)

Set Font Size...

Use this command to select the text size for your virtual panel. The following dialog presents the choices:



The panel retains its selected font size from session to session.

Set to Default Size

Use this command to restore the virtual panel to its default size.

The panel retains its screen position and its size (whether default or not) from session to session.

Always On Top

If you mark the 'Always On Top' checkbox, the virtual panel is always displayed in front of every other window on your Macintosh "desktop."

If you have more than one designated "always on top," the panel you are actively using is in front of the others.

The panel retains its "always on top" setting from session to session.

Show Frameless Next Time

If you mark the 'Show Frameless Next Time' checkbox, the virtual panel is displayed without its Macintosh frame, and slightly smaller, the next time you start the panel. The option remains set until you change it.

When the checkbox is unmarked, the virtual panel has a Macintosh frame with Macintosh controls.

Allow Auto Reconnect

If you mark the 'Allow Auto Reconnect' checkbox, the virtual panel reconnects to the router control system automatically (on startup). You will have to assign new and unique panel IDs to every instance before you connect it.

▲ The panel ID of any control panel anywhere in a router control system must be unique.

Connect

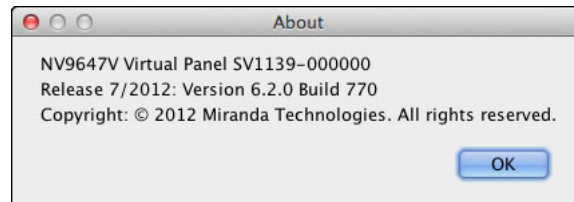
Use this command to connect a virtual panel to the router control system.

Disconnect

Use this command to disconnect a virtual panel from the router control system.

About

Use this command to obtain the current software revision data:



It is especially important to know this information when you are placing calls to technical support.

Exit

Use this command to close the virtual panel application. It is automatically disconnected. The router control system requires a few seconds to detect that the panel was disconnected.

Notes

Diagnostic Launch

(Diagnostic launch is available only under Windows.)

Hints

Multiple instances of the same virtual panel

Every instance starts with the last saved .INI file for that virtual panel type. (There is one and only one .INI file for any application program.)

Resizing the panel that is displayed with no frame

When the panel has no frame, dragging the lower right corner works, but does not provide any feedback until you release the cursor. Then the frame displays at its new size.

Reducing the panel size will generally crop off many of the panel's buttons and features.

Resizing non-uniformly might distort panel buttons and features considerably.

The frame can be restored to its default size with the context menu's 'Set Default Size' command.

Restarting a panel

Wait at least 10 seconds between stopping a panel and restarting the panel. The router control system needs a few seconds to register the fact that the panel went off-line. No harm will come if you do not wait, but it might take longer (up to 30 seconds) for the panel to reconnect.

Dark buttons

Some panel buttons can be disabled dynamically when you perform certain operations. Disabled buttons are dark gray and you probably will not be able to read the button text. If you need to read the text of a disabled button, click-and-hold the cursor on the button. It will illuminate and you can read the text.

In cases where buttons do go dark (become disabled), it is advisable to know what buttons you can or should click. Read the NV9000-SE Utilities User's Guide or help files, or the NV9000 User's Guide and its associated control panel user's guides, for information on panel functions.

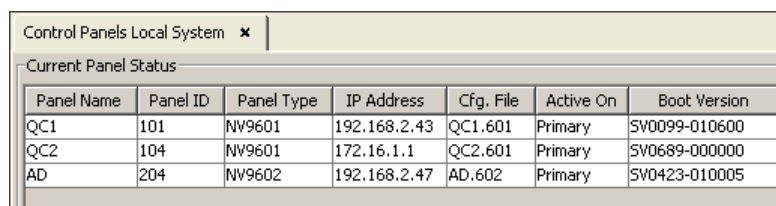
Caveat about Reconfiguration

If you reconfigure a virtual panel while it is on-line, you might see button text that does not conform to the new configuration.

Therefore, after you reconfigure a virtual panel, open its context menu, choose 'Set Parameters' and click 'OK'. Doing this forces an update of the button text.

IP Addresses

When you are viewing control panels using NV9000-SE Utilities (on a Windows PC), active virtual panels appear in the list. In this illustration, the panel named "QC2" with the panel ID 104 is a virtual panel:



| Panel Name | Panel ID | Panel Type | IP Address | Cfg. File | Active On | Boot Version |
|------------|----------|------------|--------------|-----------|-----------|---------------|
| QC1 | 101 | NV9601 | 192.168.2.43 | QC1.601 | Primary | SV0099-010600 |
| QC2 | 104 | NV9601 | 172.16.1.1 | QC2.601 | Primary | SV0689-000000 |
| AD | 204 | NV9602 | 192.168.2.47 | AD.602 | Primary | SV0423-010005 |

Note, however, that IP addresses for the *physical* panels are those assigned to the panel and vary. The IP addresses for *virtual* panels are, in most cases, those for your computers and vary if you have more than one computer on your router control network.

Virtual panels running directly on a primary system controller take the IP address of the primary system controller and that IP address does not vary.

Pathnames

The pathname of the configuration file folder (which is in the NV9000 system controller, not on your Macintosh) is

```
C:\Nvision\envy\usersys\live\
```

in case you need to browse the configuration files.

Legacy Configurations

A very old panel configuration might have no .legend file and will not work with a virtual panel. The remedy is to open the old configuration in NV9000-SE Utilities (version 4.2.0 or later) and re-save the configuration.

- ▲ NV9000-SE Utilities runs only under Windows. You must use a Windows PC.

- ▲ NV9000-SE Utilities requires that you must make at least some slight change to a configuration before you save it. (For example, uncheck an option and then re-check it. The 'Save' button will become enabled.)

After creating the new configuration and associated .legends file, the virtual panel should run properly with the new configuration.

Copies of Configurations

NV9000-SE Utilities has a mechanism by which you can make copies of configurations, but neglects to copy the configuration's associated .legends file. If you intend to make copies of a configuration, open every copy and save it. Here again, NV9000-SE Utilities requires that you must make at least some slight change to a configuration before you save it. (For example, uncheck an option and then re-check it. The 'Save' button will become enabled.)

- ▲ NV9000-SE Utilities runs only under Windows.

Upgrading Old Virtual Panels

If the new virtual panel appears minimized at first launch, drag a corner to resize its window. Then click anywhere in the black region to get the context menu. There, click 'Set Default Size'. Then click 'Set Font Size' in the context window and choose one of the font sizes listed.

That will be sufficient to make the panel usable. You can either close the panel or continue with its setup at this point.



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