9767VIP8-NGI
Monitoring and Display Processor
Instruction Manual

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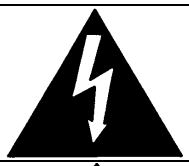
IMPORTANT SAFETY INSTRUCTIONS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “Dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.

- Read and keep these instructions
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING TO REDUCE THE RISK OF FIRE OR ELECTRIC – SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOSITURE”
WARNING DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, ARE PLACED ON THE EQUIPMENT”
WARNING TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE”
WARNING THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE”

INFORMATION TO USERS IN EUROPE

NOTE

This equipment with the CE marking complies with bother the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European standards:

- EN60065 Product Safety
- EN55103-1 Electromagnetic Interference Class A (Emission)
- EN55103-2 Electromagnetic Susceptibility (Immunity)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the European Union EMC directive. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

INFORMATION TO USERS IN THE U.S.A.

NOTE

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or Modifications not expressly approved by Evertz Microsystems Ltd. could void the user's authority to operate the equipment.

Use of unshielded plugs or cables may cause radiation interference. Properly shielded interface cables with the shield connected to the chassis ground of the device must be used.

REVISION HISTORY

REVISION	DESCRIPTION	DATE
0.1	Preliminary Quick Reference Guide (No VistaLINK support, fault alarming, audio mapping, GPO support at this release)	Sep 06

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1. OVERVIEW

The VIP™ series of multi-input display and signal monitoring products is ideally suited for dedicated signal monitoring applications with limited rack space and/or number of signals. Ultimately displaying up to WUXGA (1920x1200) resolution the VIP™ modules accept up to 12 inputs and conveniently fit into Evertz's widely-installed, universal 7700FR-C frame. Furthermore, the VIP™ modules are also VistaLINK™-enabled, offering remote monitoring, control and configuration capabilities via Simple Network Management Protocol (SNMP). This product feature offers another solution to manage operations including signal monitoring and module configuration from SNMP-enabled control systems (Manager or NMS) locally or remotely.

The 9767VIP8-NGI takes the popular VIP series of multi-image display processor and controller and combines video and graphics into one, and displays up to 8 inputs on a single monitor. Ideal for control rooms, surveillance and video teleconferencing applications, the 9767VIP8-NGI is a 1RU, rack mountable multi-image processor and controller in one!

Based on Evertz's MVP(TM) architecture, this VIP unit combines up to in 4 composite analog (NTSC/PAL) or S-Video inputs and 4 DVI/VGA computer/graphic inputs, along with a dynamically updated background DVI-I input and offers outstanding image quality up to WUXGA (1920 x 1200) resolution, built-in signal monitoring (on screen displays and SNMP), dynamic window sizing, borders, tally, text and digital clocks.

If additional video or computer inputs are required, VIP units (whether this 1RU version or modular 3RU VIPs) can be cascaded together, providing more windows to the ultimate display. With both factory and user-configurable (front panel and/or Maestro VIP software GUI) presets, serial port and contact closures, the VIP series provides an integrated, cost-efficient solution to display various video formats. The 9767VIP8-NGI is VistaLINK™ -enabled, offering remote monitoring of faults as well as control and configuration through Simple Network Management Protocol (SNMP).

Features include (Not all features enabled at time of QRG edit. Contact Evertz for latest information):

Video Inputs:
- Four video inputs (NTSC/PAL) or four S-Video inputs and 4 graphic inputs
- Additional computer graphic video input (DVI-I up to UXGA) for background display, signal analyzer tools or cascading multiple VIP units

Audio Inputs:
- Discrete balanced analog audio (1L/R per video) support to create optional on-screen VU/PPM level indicators

Video Output:
- One DVI-I output
  - Drive a single DVI-D and a single RGBHV (VGA-type) display simultaneously with same content up to WUXGA (1920x1200 resolution)
- One selectable HD/SD serial digital (BNC) video output, also carrying same content as DVI-I output or select from input
- Minimal processing delay (~1 frame)
- Optional fiber output (contact factory)
- Thumbnails of any or all selected inputs to VistaLINK™ PRO Thumbnail Server (or equivalent)

Graphics:
- User-configurable tally indicators and configurable UMD static and/or dynamically updated text, background colors
- User configurable borders
- LTC input drives digital clock display
- Optional count-up or down timer digital displays (GPI triggered)

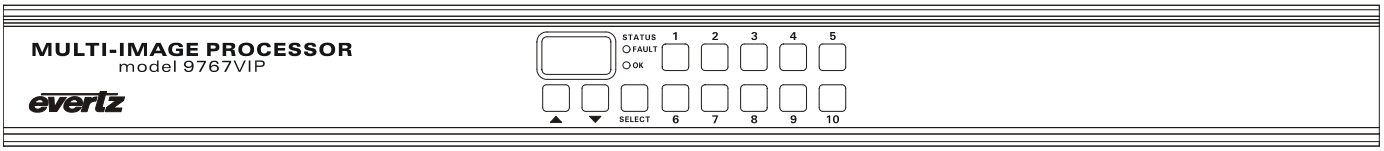
Optional Signal Monitoring:
- Extensive list of user-configurable signal fault conditions with logic settings
- On screen messages triggered by fault conditions
- Detects frozen video (patent pending) and black video
- User-configurable fault condition alert messages per video input with configurable background colors, opacities, thresholds and durations

Auxiliary Inputs:
- RS-232/RS-422 communication port Interface to common UMD protocols
  - TSL, Image Video
- 20 assignable GPI inputs, 8 GPI outputs

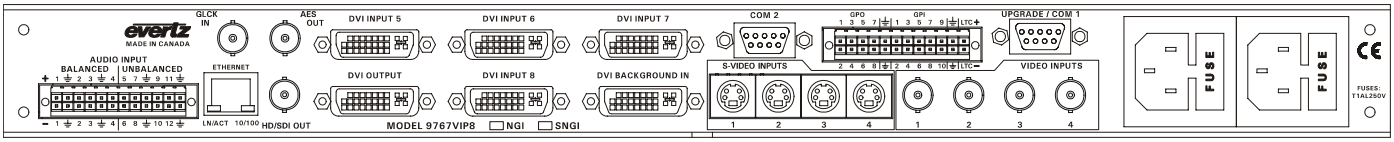
Physical:
- 1RU
- Genlock reference loop input for proper timing - 1 NTSC/PAL
- Fast power-cycle time (<10 seconds)

- Built-in VistaLINK™ support for remote monitoring and control via SNMP (using VistaLINK™ PRO)
- The 9767VIP unit has a direct Ethernet connection to the network for VistaLINK™ User must provide network cable. Screen configurations via Maestro VIP GUI software (included)

2. FRONT PANEL VIEW



3. REAR PANEL VIEW



4. GENERAL PURPOSE INPUTS AND OUTPUTS

4.1. CONNECTING THE GENERAL PURPOSE INPUTS AND OUTPUTS

The SCSI connector has 20 GPI inputs and 8 GPI outputs. The GPI inputs are opto-isolated that can be powered from an external source or from the frame. The GPI outputs are relay contacts. When the VIP is powered off or up the GPO Relay contacts are open. An alarm or tally will cause a contact closure.

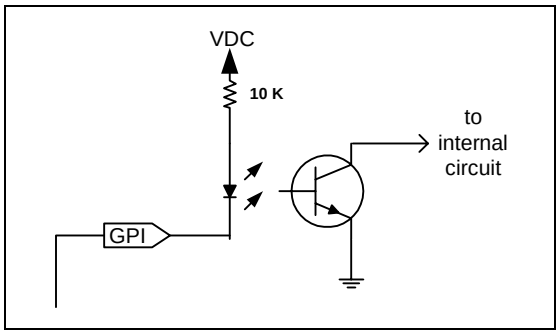


Figure 1: GPI Diagram

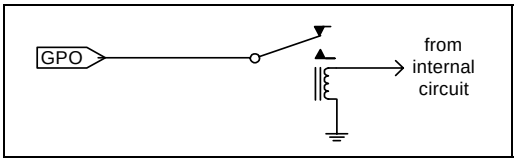


Figure 2: GPO Diagram

5. SPECIFICATIONS

5.1. COMPOSITE ANALOG VIDEO INPUTS (-N)

Standard:	NTSC (SMPTE 170M), PAL (ITU624-4)
Number of Inputs:	4
Connector:	BNC per IEC 60169-8 Amendment 2
Signal Level:	1V nominal
DC Offset:	0V ±0.1V
Input Impedance:	75Ω
Return Loss:	40dB up to 5MHz

5.2. GRAPHIC (COMPUTER) VIDEO INPUTS (-GI)

Standard:	Auto-detecting, VESA (DVI-I, for DVI and RGBHV inputs)
Number of Inputs:	4
Connector:	DVI-I (Female), with RGBHV 15-pin D-sub adapter
Input Resolution:	640 x 480 (VGA) to 1600 x 1200 (UXGA)
Signal Level:	1V nominal

5.3. BACKGROUND (COMPUTER) VIDEO INPUT

Standard:	Auto-detecting, VESA (DVI-I, for DVI and RGBHV inputs)
Number of Inputs:	1
Connector:	DVI-I (Female), with RGBHV 15-pin D-sub adapter
Input Resolution:	640 x 480 (VGA) to 1600 x 1200 (UXGA)
Signal Level:	1V nominal

5.4. DISCRETE ANALOG AUDIO INPUTS

Number of Inputs:	1 L/R pair per video input
Connector:	TBlock
Input Impedance:	20kΩ min. (differential)
Sampling Frequency:	48kHz
Peak Signal and Common Model Level:	30dBu

5.5. DISPLAY VIDEO OUTPUT

Standard:	VESA (DVI-I) up to WUXGA (1920 x 1200)
Number of Outputs:	1
Connector:	DVI-I (with DVI to RGBHV Adapter)
Video:	1Vp-p YPrPb/RGB or 0.7Vp-p VGA, 60Hz refresh
Impedance:	75Ω

5.6. SERIAL VIDEO OUTPUT

Standard:	Selectable HD/SD serial monitoring output (720p, 1080i, 525i)
Number of Outputs:	1
Connector:	BNC per IEC 60169-8 Amendment 2
Signal Level:	800mV nominal

DC Offset: 0V ±0.5V
Rise and Fall Time: 200ps nominal (HD), 740ps nominal (SD)
Overshoot: <10% of amplitude

5.7. GENLOCK INPUT

Type: NTSC/PAL color black
Level: 1V p-p nominal
Connector: BNC per IEC 60169-8 Amendment 2

5.8. GENERAL PURPOSE INTERFACE I/O (GPI/GPO):

Number of Inputs: 20
Number of Outputs: 8
Type:
GPI 1 Opto-isolated, active low with internal pull-ups to +5V
GPO 1 Relay closure to ground
Connector: TBlocks
Input Signal: Closure to ground

5.9. INPUT/OUTPUT SERIAL PORT

Number of Ports: 1 RS-232 or 1 RS-422 (jumper configurable)
Connector: TBlocks
Baud Rate: Up to 1Mbaud
Format: Configurable for various UMD interfaces

5.10. LTC INPUT

LTC Input: Differential
Connector: Dual 68-pin (F) SCSI (7767BHP-AUX breakout panel provided)

5.11. ETHERNET

Network Type: Fast Ethernet 100 Base-TX 1EEE 802.3Ustandard for 100Mbps baseband CSMA/CD local area network
Connector: RJ-45

5.12. ELECTRICAL

Voltage: +12VDC
Power: <50 Watts
EMI/RFI: Complies with FCC Part 15, Class A EU EMC Directive

6. STATUS LEDs

6.1. UNIT STATUS LED

UNIT STATUS: This Green OK LED is located on the front panel of the 9767VIP8-NGI unit. It will be "ON" when the module is operating properly.

LOCAL FAULT: This Red LED makes it easy to identify one module in a frame that is missing an essential input or has another fault.

The Red LED will blink on and off if the microprocessor is not running.

The Red LED will be on when there is a fault in the module power supply or a user configurable error condition exists (as configured through the Frame Status Trigger menu option).

6.2. PANEL FOUR-CHARACTER DISPLAY

Some key user components can be found on the unit's panel:

1. Up/Down arrow buttons
2. Local Fault Status LEDs
3. 4 Character Dot Matrix Display
4. "Select" Push Button
5. Push-buttons labeled 1-10 (hard coded GPIs)

Up/down arrow buttons: This component will become active once the card has completed booting. Its primary function is to navigate through the menu system.

Local Fault Status LEDs: This component will be set upon initial power up to red. Once the card is in a normal operating mode, it will be set to green. If the card has booted, and the led remains red or becomes red, this indicates an internal error.

4 Character Dot Matrix Display: This component will become active once power is applied to the card. This component is used to relay text-based information to the user. It will be used to scroll build and card information, or display the menu options to the user. When the VIP is installed in a 7700 frame, the text will be displayed in a vertical orientation, on the other hand, if installed in a 1RU frame then the text will be displayed horizontally.

"Select" Push Button: This component will become active once the card has completed booting. It is primarily used for navigating through the menu system.

Push-buttons labeled 1-10: Hard-coded GPI buttons normally used to change output display presets from the module.

7. UNIT CONFIGURATION

The VIP-NGI unit's features and parameters are configured through the following tools:

- **Serial port**: IP address and TRAP destination IP addressing, network identification.
- **Front panel up/down buttons**: Access to set the unit's output resolution, factory or user-configured preset layouts, backgrounds, audio mapping and resets.
- **VIP Maestro:** A software configuration tool included with every VIP module used to design preset layouts for one or multiple VIP systems, along with all on screen display elements including audio bar graphs, UMD, tallys and fault messages. Specifically, color, transparency, borders, etc. that are all included in the final display output.
- **VistaLINK PRO or VistaLINK PRO PLUS**: An SNMP software tool that is used to set the fault monitoring thresholds and durations for each VIP module detected on the network and/or for fault message (TRAP) receipt and data logging.

7.1. SERIAL PORT

Through the serial port on the rear panel of the unit, and using the serial 7700 upgrade cable connected to a PC's serial port running Hyperterminal (or equivalent), the VIP-NGI unit's IP address, subnet, and SNMP TRAP destination address are identified. The serial port should be configured as follows:

Baud	**115200**
Data bits	**8**
Parity	**None**
Stop bits	**2**
Flow Control	**None**

In the Main Menu, the following options are present for module configuration. Once changes completed and saved, the VIP module should be power-cycled for the changes to take effect.

```
 -----------------------------------------------
|              Main Menu                        |
|        (7767VIP 1.3.0rc10 b6540)   |   < VIP Firmware Version Information
 -----------------------------------------------

( 1) Network Configuration
( 2) Engineering Debug Utility

(X) Exit

1) Network Configuration - set the IP parameters for this VIP module
ip address:          192.168.1.200
netmask address:     255.255.255.0
gateway:             0.0.0.0
broadcast address:   192.168.1.255
DHCP enabled:        False
---------------------------------
( 1) Set IP Address
( 2) Set Netmask
( 3) Set Gateway
( 4) Set Broadcast Address
```

(5) Use DHCP

7.2. PANEL FOUR CHARACTER DISPLAY

To enter the menu on the panel, press the “Select” button once and follow the menu headings on the 4-character display. To navigate through the menu options, use the up/down arrow keys to move up or down in the menu. To make a menu selection, press the “Select” push-button.

At the top level of the menu system, the user will see product identification, build revision, and thermal readings scrolling across the 4 character dot matrix display. Further menu options will be displayed as shown below.

BACK DISP GFX	BACK – return to scrolling LED display without making any VIP configuration changes DISP – menu option for setting vertical refresh, output resolution, preset layouts, and custom display resolution GFX – IN05, IN06, IN07, IN08 inputs to shift/offset the computer input within the picture input; options for shifting include: HFIN, HOFF, VOFF

DISP *BACK* *ORES* *LYOT*	BACK: Option to navigate back up one level from the current menu position. This is the factory default menu option. ORES (OUTPUT RESOLUTION): Option for adjusting the output resolution for the active display. Available options include: VGA (640 x 480), SVGA (800 x 600), XGA (1024 x 768), WXGA (1280 x 768), WXGA2 (1366 x 768), SXGA (1280 x 1024), SXGA+ (1400 x 1050), UXGA (1600 x 1200), WUXGA (1920 x 1200), 720p (out of HD/SD Serial BNC port), 108I (1080i out of HD/SD Serial BNC port), 108P (1080p out of the DVI port), 525i, (out of serial HD/SD port) LYOT (LAYOUT): Option to load a layout preset window configuration. Currently, 20 factory presets (LY01-LY20) and 20 placeholders for user-created presets (CS01-CS20) are provided • CNCL (Cancel)

VIP Maestro

VIP Maestro details are covered in this User’s Guide.

VistaLINK™ PRO and VistaLINK™ PRO PLUS

Using VistaLINK™ with the VIP is not detailed in this User’s Guide. Consult the VistaLINK PRO User’s Guide or contact Evertz Service for more information.

8. VIP MAESTRO SOFTWARE

This section describes VIP Maestro installation and usage instructions.

Minimum PC Requirements for VIP Maestro:

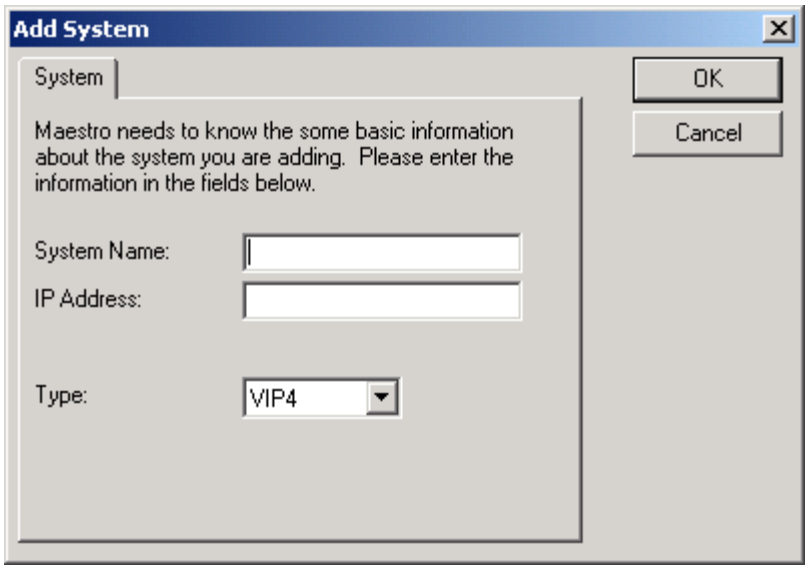
- Standard Pentium 4 class machine
- 512MB RAM
- 100Mb Ethernet Card, TCP/IP configured
- 8MB Video card
- 1024x768 screen resolution
- Windows NT4, 2000, XP, Server 2003 operating system
- CD-ROM drive

Installation Instructions:

1. Copy the VIP Maestro Installation software to your PC
2. Launch the installation by double-clicking the icon
3. Follow the installation instructions detailed on the pop-up windows of the installer
4. Upon completion, the desktop will show the “VIP Maestro” icon

8.1. VIP SYSTEM CONFIGURATION

Launch VIP Maestro by double-clicking on the icon on the desktop. If this is the first use of this software, a dialogue window will appear indicating no VIP system detection and prompting the user to create a new VIP system – select OK to proceed. The following system creation dialogue will appear:



Upon entering a System Name and VIP module IP address (which must match that which has been entered initially through the card edge serial port, then identifying the type of VIP, the newly created system will be added to the “System Manager” page view.

NOTE: FOR 9767VIP8-NGI, SELECT VIP8 FROM THE “TYPE:” DROP DOWN MENU

If VIP Maestro has already been used previously to create VIP systems, or has recently been upgraded to a newer version, the actual systems will appear in the “System Manager” page view. System ID (used for VIP identification by the VIP Maestro software), IP address and VIP Type are displayed for every VIP system.

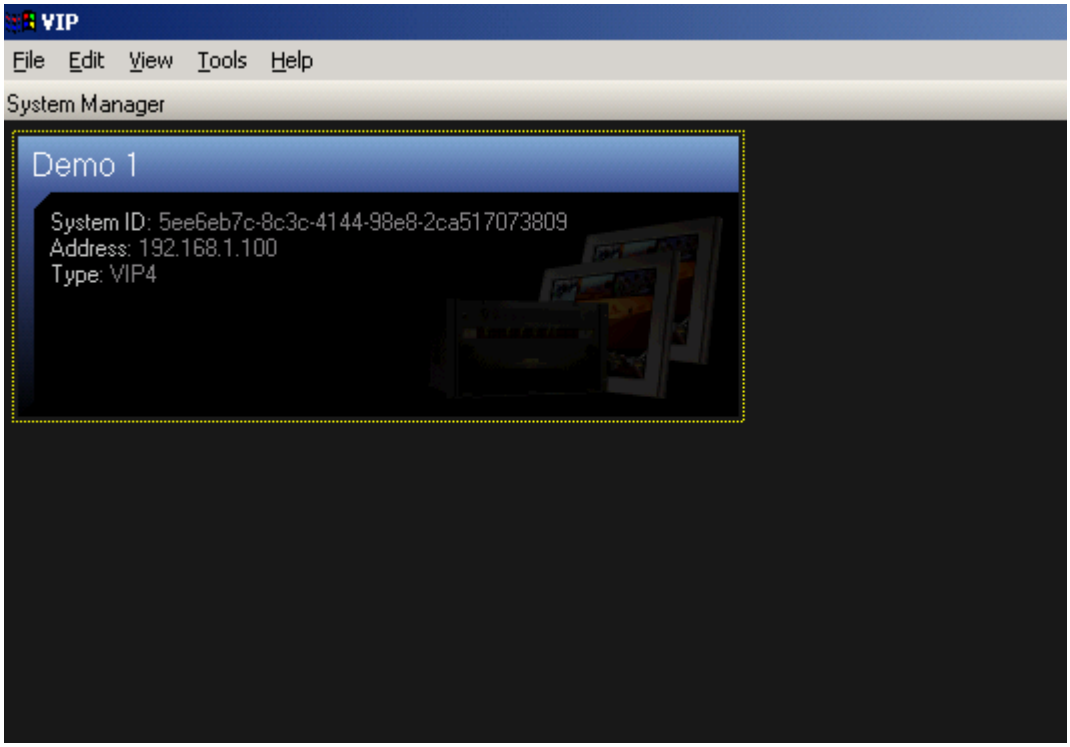


Figure 3: VIP Maestro System Manager Page View

8.1.1. VIP System Transfers

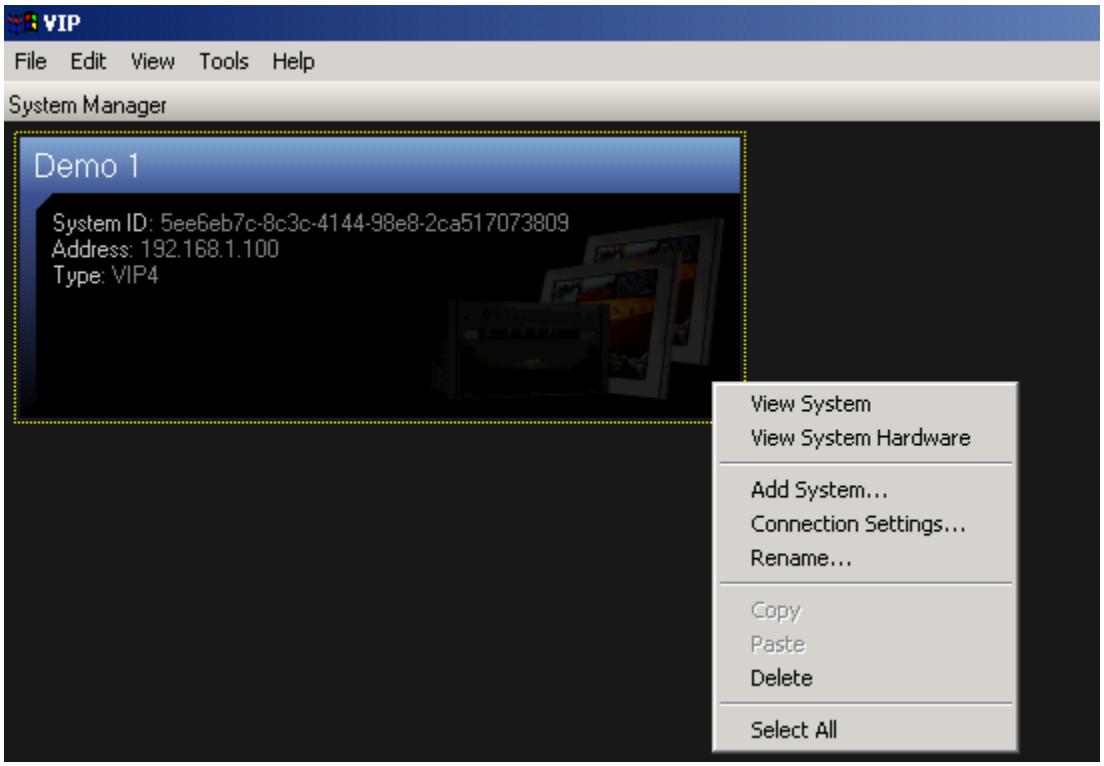
Occasionally, previously created VIP systems may need to be transferred from one PC to another. For convenience, data transfer is simplified without the need to re-create all the VIP systems by transferring the contents of the system folders using the following instructions:

1. Go to...C:\Program files\evertz\VIP\Maestro\systems (default VIP Maestro installation folder)
2. Find the System IDs that match those in your VIP Maestro configuration screen
3. Copy these folders over to your freshly installed VIP Maestro on the other computer - in the same sub-directory location
4. Upon launching VIP Maestro from the new PC, all previously created VIP systems will appear in the “System Manager” page view

NOTE: AS VIP MAESTRO IS USED FOR MODULAR VIPS AS WELL AS THE 9000 SERIES, CERTAIN FUNCTIONS, PARAMETERS AND PRODUCT FEATURES MAY NOT YET BE SUPPORTED IN THE 9000 SERIES. CONTACT EVERTZ TO GET THE LATEST STATUS INFORMATION.

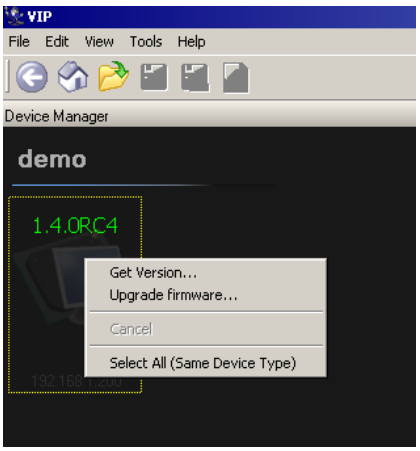
8.1.2. VIP System Configuration

On the “System Manager” page view, system changes/updates (as well as firmware upgrades) are possible by selecting a specific system then mouse right-clicking for additional menu options:



- View System: opens the selected system to the **Display Manager Window**
- View System Hardware: view the hardware that makes up the selected system, and provides the option to upgrade the firmware for the selected VIP module
- Add System…: utility to add more VIP modules to configuration screen
- Connection Settings…: sets/updates the IP address of the selected VIP system
- Rename…: provides a text filed to change the name of the previously created VIP system
- Delete: remove the system from Maestro's System Manager page view
- Select All: utility to select all previously created systems, then view system hardware specifications

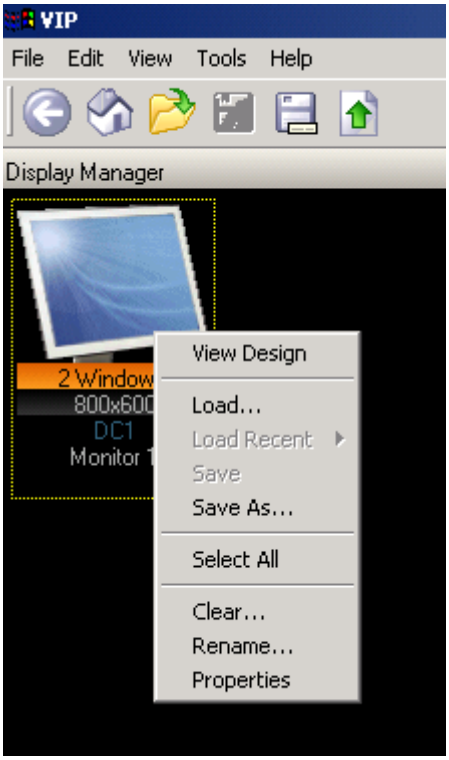
8.1.3. VIP System Upgrade Through VIP Maestro



- Select a VIP System
- Right click to show additional configuration menu items
- Select View System Hardware
- Right click new System Hardware icon
- Select Upgrade firmware… (as shown below)
- Locate and select the VIP firmware for upgrading
- Upgrade and follow progress directly in Maestro page view – when competed the upgrade process, remember to re-boot the VIP module for the upgrade to take effect.
- Use the “Get version” to display the current firmware version on the VIP Maestro GUI

8.1.4. Accessing the Display Manager Properties

Double clicking on a VIP System opens the **Display Manager Window** with the following right-click menu options:



- View Design: opens the selected display to a “canvas” view where the user can enter, create and resize window elements and on screen display graphics
- Load…: option to load a previously created preset; this option opens a dialogue window from which a preset can be selected
- Load Recent: option to load a recently created preset
- Save: save the current preset under the current name (identifier)
- Save As…: save the current preset for future recall under the same or a new name (identifier)
- Select All: option to select more than 1 display, if present in this Window
- Clear…: option to clear the output display on the selected VIP module
- Rename…: option to change the name of the display
- Properties: menu to change the background appearance of the selected VIP system

Note: When loading a previously created preset, it must have been created for the VIP. It is not possible to use a preset created for the MVP system.

8.2. MENUS/TOOL BARS

The following figure depicts the typical VIP Maestro design screen:

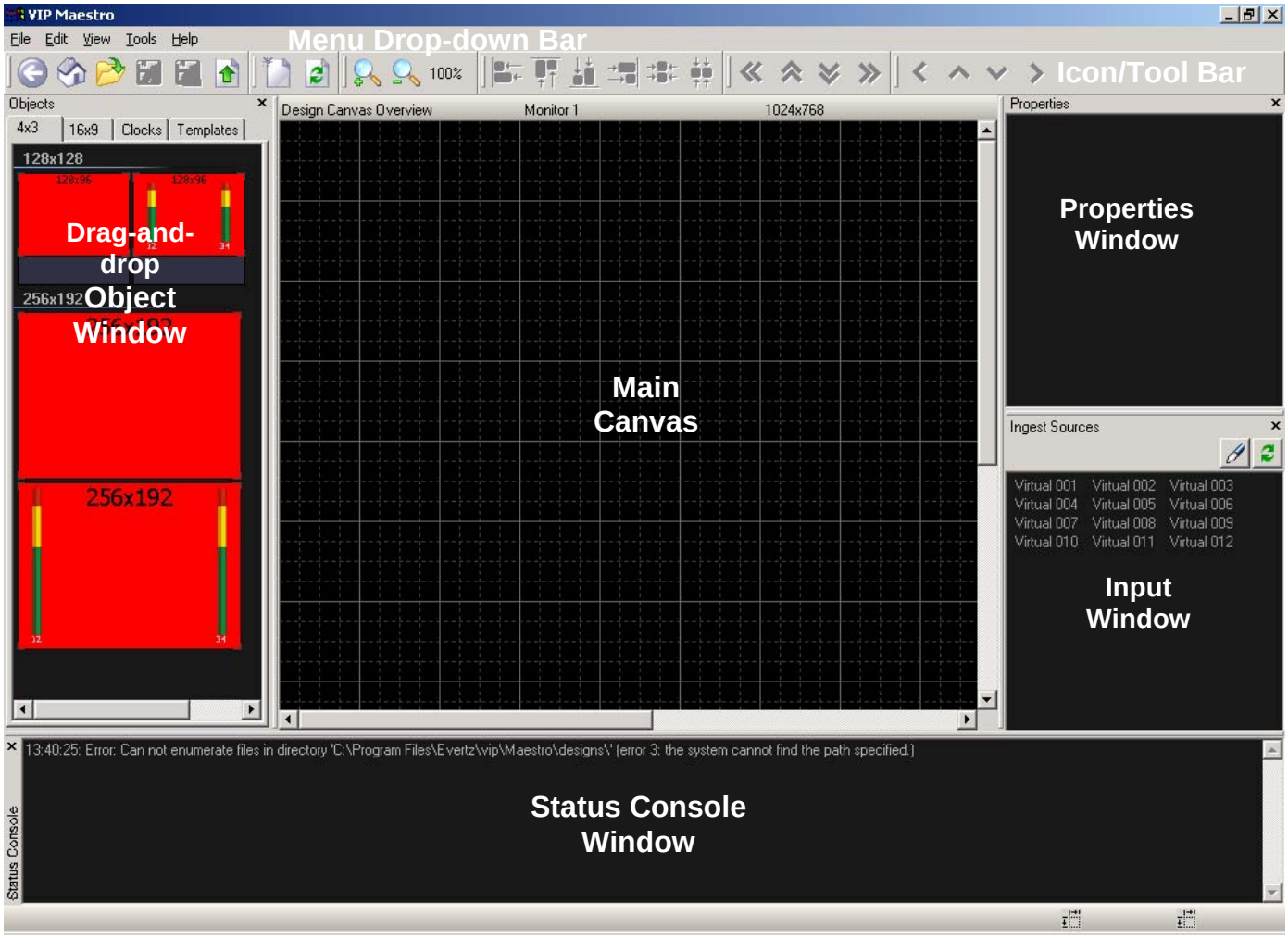
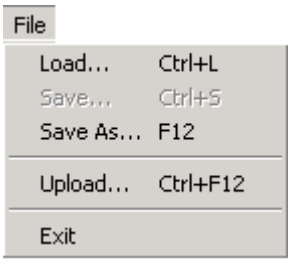


Figure 4: VIP Maestro Design Manager Page View

- Menu Drop-down Bar: Drop-down menu items used for creating and recalling VIP display configurations
- Icon/Tool Bar: Quick access for Menu Drop-down items
- Object Window: Drag and drop video windows and associated “window dressing” including audio bar graphs, UMDs, tallys, clocks and fault messages
- Main Canvas: Replicates the screen that the VIP will output to. Resolution of this screen is set in the Properties menu of the Display Manager page view (mouse right-click)
- Properties Window: Once “window-dressing” elements are placed on the screen, select it to see additional configurable parameters for that element
- Input Window: Quick input source identification window
- Status Console Window: Input and window manager – provides successful and problem messages to assist in designing VIP presets or when contacting Service for assistance

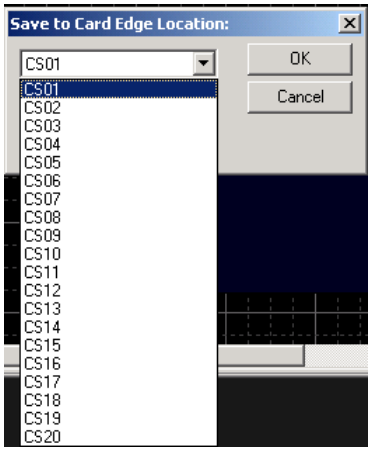
8.2.1. File Drop-down Menu



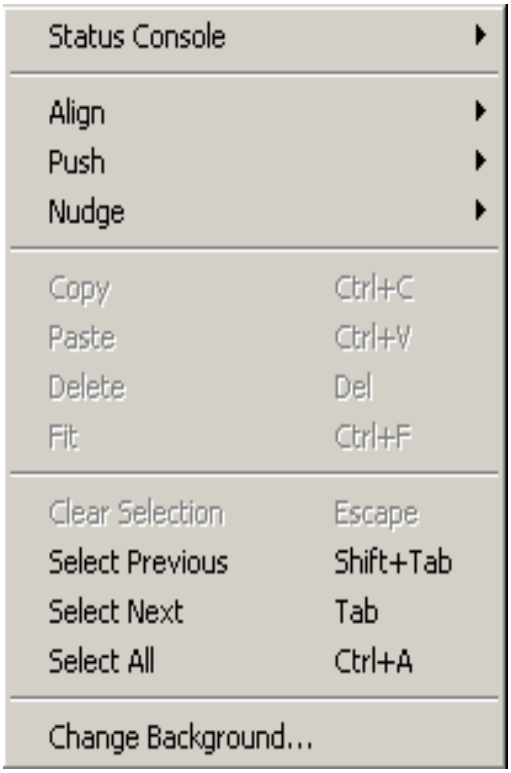
Load…: Select a preset from preset catalog and load it into the VIP
Save…: Save the current layout to the preset catalogue
Save as…: save the current design under a new name or directory
Upload…: sends the Maestro VIP configuration, as created on the design canvas to the module for display (at present there is no real-time, dynamic display feature available on the VIP unit)
Exit: Quits VIP Maestro

Note: Upload… sends the Maestro VIP configuration to the module for display (at present there is no real-time, dynamic display feature available on the VIP unit). On the Icon tool bar it is represented by:

This action also corresponds with the creation of a user selectable customer preset in Maestro as shown below, and also corresponds to the same user-created preset that can be selected from the card edge. This preset can be over-written as many times as necessary.



8.2.2. Edit Drop-down Menu



Status Console: adjust the level at which Maestro VIP will send out status logs for the session. Options include:

Clear Console
Save Console to File…
Add Trace…
Delete Trace…
Reset…
Show Masks

Align:

Push:

Nudge:

…menu options to position a selected window on the main canvas; represented by tool-bar icons

Copy: copies the selection to the clipboard

Paste: inserts the last copied clipboard contents at the insertion point

Delete: deletes the selection

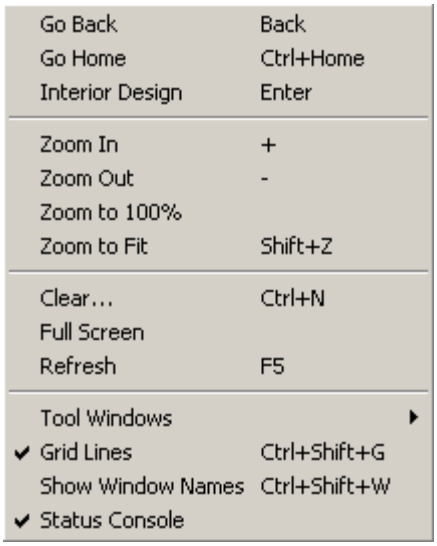
Fit: option to take the selected window(s) and best fit the available canvas resolution

Clear Selection:

Select Previous, **Select Next** and **Select All**: object selection options

Change Background: option to change the appearance of the VIP's background display.

8.2.3. View Drop-down Menu

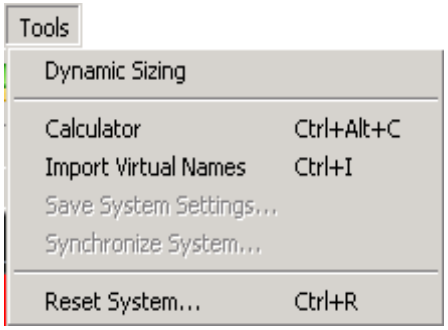


Go Back: returns to the previous page (Back), Home page or Design view
Go Home: returns the user to the System Manager page view
Interior Design: upon selection of a window on the Design Canvas, this option forwards the user to the Interior Design page view. The same action is also possible by double-clicking the selected window in the Design Canvas page view
Zoom In: magnify the canvas view beyond 100%
Zoom Out: de-magnify the canvas view to fit the entire display's dimensions in the available canvas manager's boundary (< 100%)
Zoom to 100%: reset the view to 100%
Zoom to Fit: resize the Canvas page view to show the limits of the display resolution
Clear…: menu option to clear current display
Full Screen: expand Maestro VIP to take up the entire available display surface
Refresh: refresh the screen view
Tool Windows:

- **Ingest Sources:** show/hide
- **Objects**: show/hide
- **Properties**: show/hide

Grid Lines: show/hide grid lines on the canvas window
Show Window Names: option to display window indicator labels
Status Console: show/hide status console window

8.2.4. Tools Drop-down Menu



Dynamic Sizing: turns on/off dynamic sizing - allows for the video object to size at the same time as the monitor object. This item must be enabled for the ability to increase or decrease the scaling of a selected input window in the Canvas page view.
Calculator: Quick access option to the Windows®-installed calculator
Import Virtual Names: From an external text file, import user-configured names instead of "virtual 001", etc. as shown in the "Ingest Sources" window
Reset System…: resets VIP display back to factory default

8.2.5. Help Drop-down Menu

Keyboard Map…: displays all keyboard commands (see Appendix A)
About…: displays the current version of Maestro

8.2.6. Title Block, Menu Bar and Icon Bar

Return to the previous page view

Return to the System Manager page view

Open file to load VIP preset

Preset Save and Save As options

Upload confguration displayed on Canvas page view to VIP output

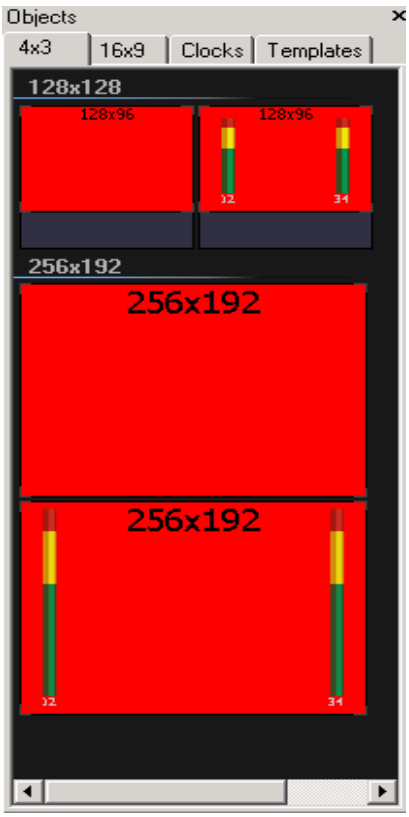
Zoom In (+) or Zoom Out (-): increases/decreases the Main Canvas display size from 10% to 150%.

Align: when a window has been selected on the main canvas, it can be horizontal/vertical-aligned center aligned. When multiple objects are selected on the main canvas, align left/right/top/bottom can be performed using these icons

Push: when a window has been selected on the main canvas, it can be positioned to various boundaries using these arrowed icons

Nudge: when a window has been selected on the main canvas, it can be moved to various locations within the boundaries using these arrowed icons

8.2.7. Drag-and-drop Objects



From the Objects window, create a new 4:3 or 16:9 aspect ratio window by selecting the appropriate tab. Then select one of the factory default windows from the list ad drag-and-drop it onto the Design Canvas Window. The video object will appear as a red rectangle on the canvas and will not appear on the output display of the VIP, until a video source has been assigned. This can be done by either dragging a source from the Ingest Sources Window and dropping it over the video window container or by typing in the source input number directly from the keyboard.

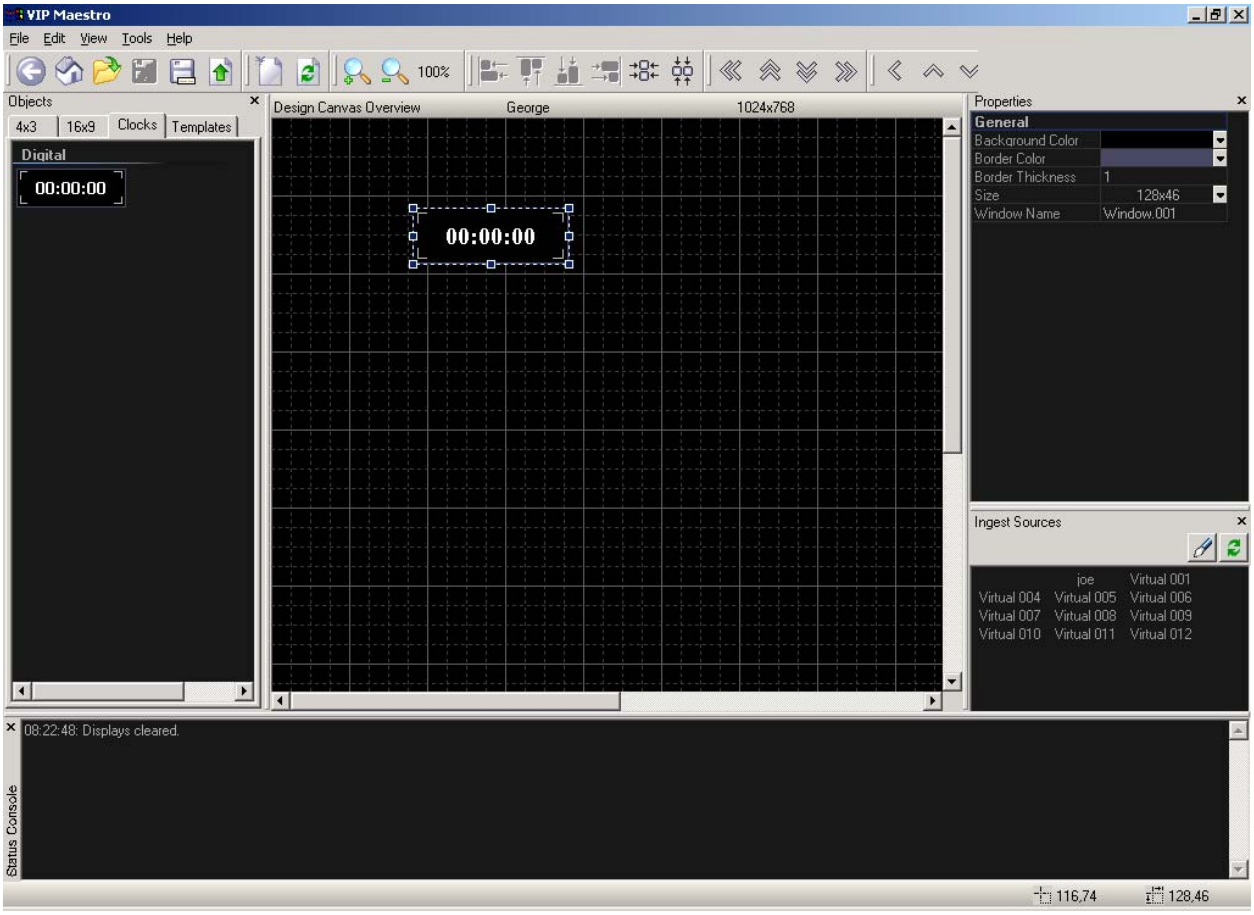
Deleting an object: to delete an object after it has been created, select the object to be deleted via mouse left-click, hold down the shift key and press the delete key on the keyboard, or mouse right-click and select “Delete” from the menu.

Create a new digital clock by selecting the clocks tab, then drag-and-drop a predefined clock object onto the main canvas.

Templates: after saving a custom video object layout as a template, the templates will be stored under the Templates tab and can be recalled in future window designs.

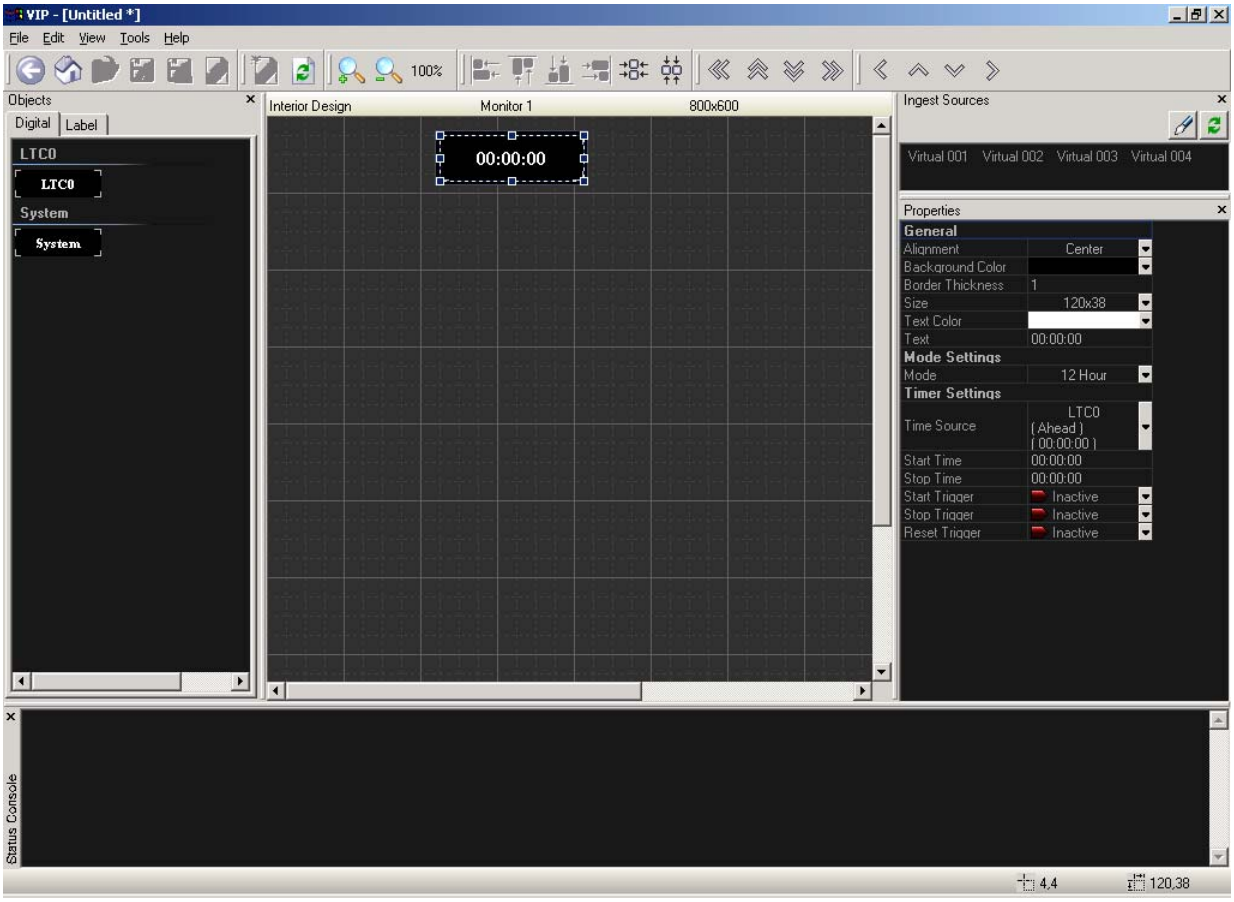
After creating a video object on the Canvas page view, additional on screen display graphics may be added. See the next section for “window dressing” options.

8.2.8. Drag-and-drop Objects – Clocks

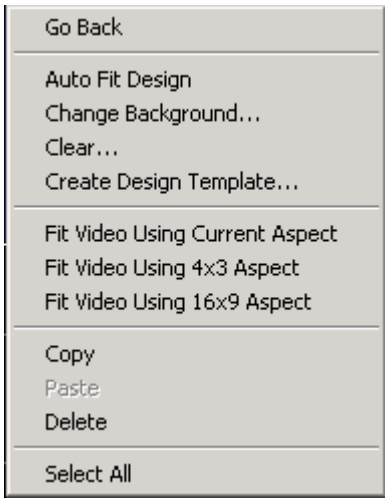


From the Clocks tab in the Objects Window, select the digital clock, drag and drop it onto the Canvas page. Double clicking this clock opens a Properties window to make additional clock configuration changes as shown in the screen shot below. Configuration changes include:

- General Appearance – color and background color, alignment, border thickness
- Mode settings – 12 hour or 24 hour
- Source – System or LTC input
- Time Offset
- Timer settings – count up or down with triggers


VIP - [Untitled *]
File Edit View Tools Help
100%
Objects
Digital Label
LTC0
LTC0
System
System
Interior Design
Monitor 1
800x600
00:00:00
Ingest Sources
Virtual 001 Virtual 002 Virtual 003 Virtual 004
Properties
General
Alignment Center
Background Color
Border Thickness 1
Size 120x38
Text Color
Text 00:00:00
Mode Settings
Mode 12 Hour
Timer Settings
Time Source LTC0 (Ahead) (00:00:00)
Start Time 00:00:00
Stop Time 00:00:00
Start Trigger Inactive
Stop Trigger Inactive
Reset Trigger Inactive
Status Console
4,4
120,38

8.2.9. Window Parameter Right-click Menu Options



When selecting a window from the Canvas page view, then right clicking, the menu to the left appears with the following options:

Go Back: Returns to the Display Manager page view

Auto-fit Design: automatically resizes on screen display elements to fit the Canvas' resolution

Change Background…: Option to change the background of the VIP display

Clear…: Option to clear the Canvas page view of any design elements

Create Design Template…: Create a template from the selected window that is then stored in the "Template" tab of the Object window, and can be reused in future VIP layouts.

Fit Video Using Current Aspect:

Fit Video Using 4x3 Aspect: sizes this active picture to fit within window and force the aspect to 4:3

Fit Video Using 16x9 Aspect: sizes this active picture to fit within window and force the aspect to 16:9

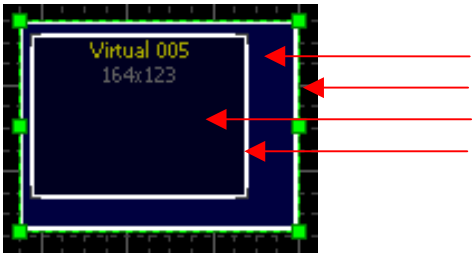
Copy, Paste Delete: Options to copy, paste and/or delete the selected window

Select All: Option to select all window elements in the Design Canvas page view

8.3. ONSCREEN DISPLAY OBJECTS

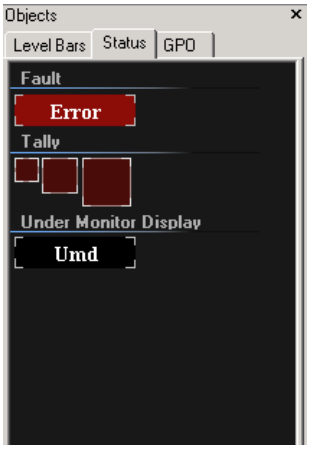
This section describes user-configurable window and object properties through Maestro VIP software.

8.3.1. Monitor Object



monitor object background (via Design Canvas)
monitor object border (via Design Canvas)
video object (via Interior Design View)
video object border (via Interior Design View)

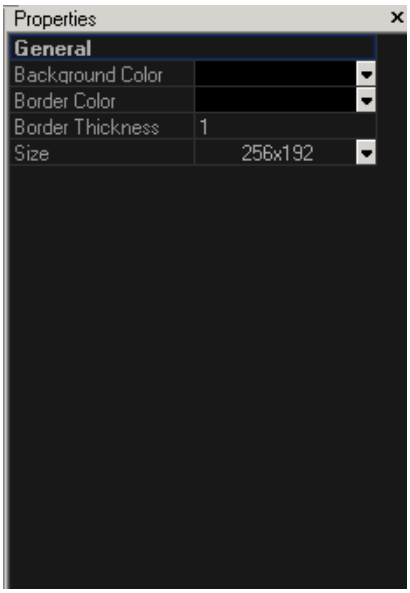
After adding a monitor object to the main canvas, the properties for that monitor object can be edited. Double-clicking the monitor object opens the “Interior Design View” and offers additional tabs in the Object Window for “window dressing” including:



- Level Bars – audio level bars
- Status – UMD, status and Fault information
- GPO – contact closure trigger configuration

From these tabs, window elements can be added via drag-and-drop to the selected window, which in turn enables additional parameters for further configuration

The following list defines the properties available when selecting a window on the Canvas page view:



Background Color: Property setting for the color of the monitor object. Click on the “More” button to create a customized color. A color palette is shown below.

Border Color: property setting for monitor object border color. Both the color and opacity can be customized.

Border Thickness: configure thickness of monitor object border

Size: configure size of window, this property allows the user the ability to set the size of the video window using a numeric width and height. Use the “Maintain Aspect” checkbox to force the width and height to maintain the set aspect ratio.

Window Name: option to add/change the window name for future reference

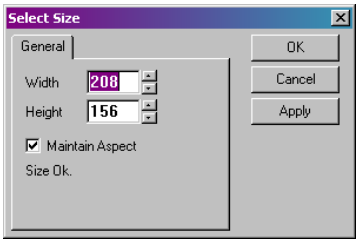


Figure 5: VIP Maestro Window Size Template

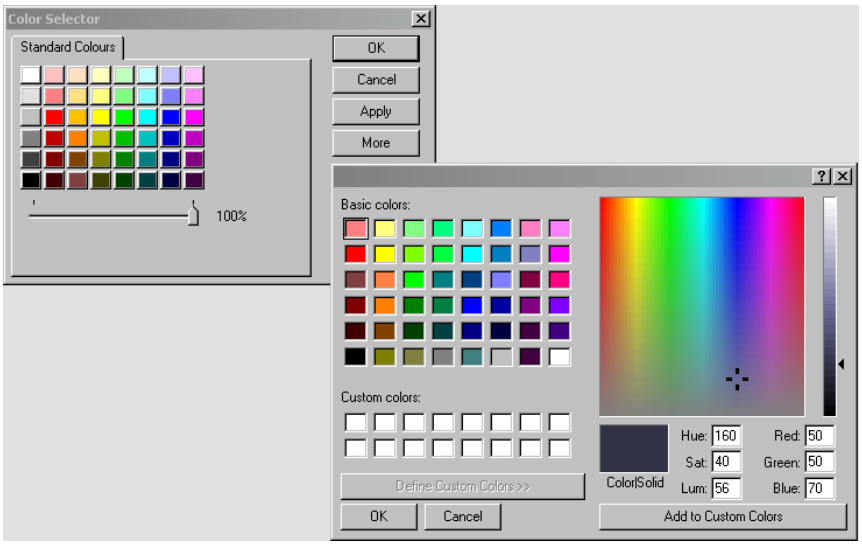
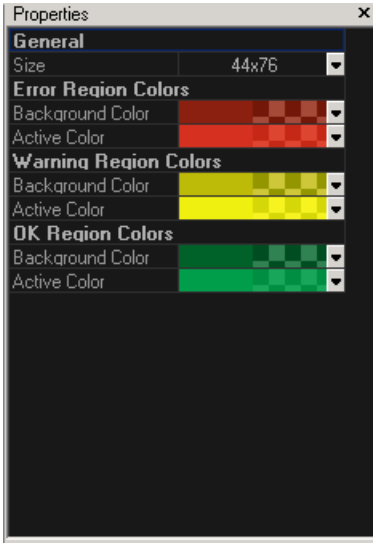


Figure 6: VIP Maestro Color Palette

8.3.2. Level Bars Tab

Add audio level bars to the video object by selecting the channels to add, then dragging the audio bars onto the video object. After adding the audio level bars to the video object, select the audio bar to edit the properties in the property menu.

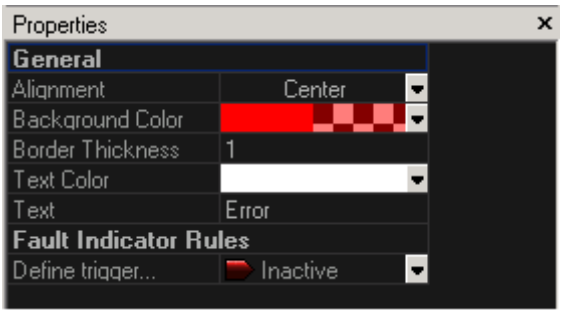


- **Size:** height and width of level bar graph
- **Error Region Colors:**
  - **Background Color:** background color and transparency of level bar graph (error region)
  - **Active Color:** foreground (level) color and transparency of level bar graph (error region)
- **Warning Region Colors:**
  - **Background Color:** background color and transparency of level bar graph (warning region)
  - **Active Color:** foreground (level) color and transparency of level bar graph (warning region)
- **OK Region Colors:**
  - **Background Color:** background color and transparency of level bar graph (OK region)
  - **Active Color:** foreground (level) color and transparency of level bar graph (OK region)

8.3.3. Status Tab

Add a fault, tally or UMD to the selected window through the Status tab (left). After adding the status item through drag-and-drop, mouse click the object to reveal available configurations in the Properties Window

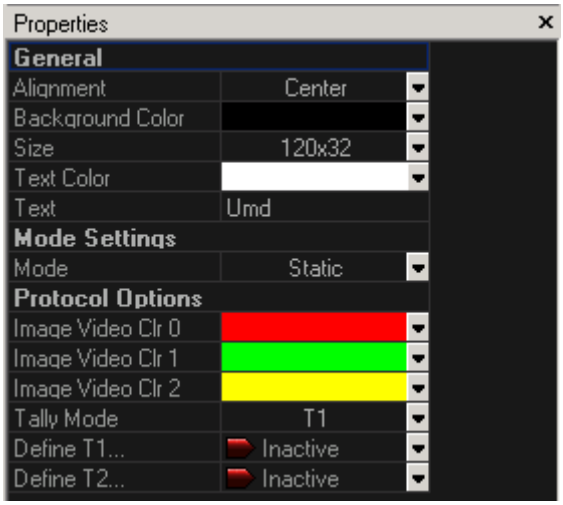
8.3.3.1. Properties Window - Fault



- **Alignment:** set the alignment for the text message on the fault indicator
- **Background Color:** set the color and opacity of the fault indicator
- **Border Thickness:** set the thickness of the selected fault message's border
- **Text color:** set the color and opacity of the text used in the fault message
- **Text:** enter a fault message to be displayed when the fault triggered
- **Define trigger:** option sets the trigger for this fault. Durations and thresholds are set via VistaLINK (VLPRO-C or full VLPRO/VLPRO PLUS manager)

8.3.3.2. Properties Window - UMD

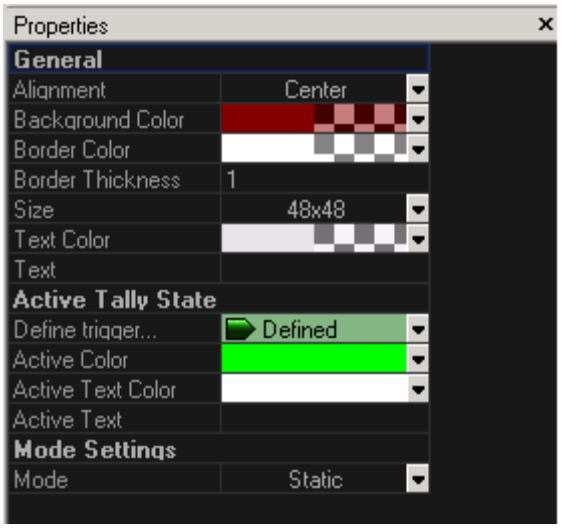
Add an UMD to the video object by dragging the UMD onto the video object. A maximum of one UMD can be used on a single video object. After adding the UMD to the video object, select the UMD to edit the properties in the property menu.



- **Alignment:** set the alignment for the text message on the UMD indicator
- **Background color:** set the color and opacity of the UMD message indicator
- **Size:** set the size of the UMD messages using the size property form
- **Text color:** set the color and opacity of the text used on the UMD message
- **Text:** enter a UMD message to be displayed when the UMD is triggered
- **Mode:** Static or dynamic (Image Video) option
- **Protocol Options:** This release of VIP firmware supports Image Video protocol and dynamically updates the UMD via serial or Ethernet connection. Further settings are required through the module's card-edge serial configuration tool

8.3.3.3. Properties Window - Tally

Add a tally object to the video object by dragging the tally onto the video object. A maximum of two tally's can be used on a single video object. After adding the tally to the video object, select the tally to edit the properties in the property menu:



- **Alignment:** set the alignment for the text message on the tally indicator
- **Background Color:** set the color of the tally indicator
- **Border Color:** set the color of the tally's border
- **Border Thickness:** Set the thickness of the tally's border
- **Size:** set the size of the tally
- **Text color:** set the color and opacity of the additional text used on the tally message
- **Text:** enter a tally message to be displayed when the tally is not activated
- **Define Trigger:** option sets the trigger (fault, GPI or Virtual GPI) for this on-screen indicator. Durations and thresholds are set via VistaLINK PRO.
- **Active Color:** set the color and opacity for the active tally indicator
- **Active Text Color:** set the color and opacity of the active text
- **Active Text:** enter an optional message to be displayed on the tally object when triggered
- **Mode:** Select static or dynamic mode. This release supports Image Video protocol.

8.3.4. Virtual GPIs (Image Video Mode)

There are 2 ways a VIP module can receive VGPI data:

1. Over serial connection
2. Over TCP/IP connection

Each of these is configured using the card edge serial com port of the VIP. To access the menu, ensure that the Upgrade cable is properly attached to the keyed card-edge connector/header and that the Hyper terminal (or equivalent) session is properly set to the parameters outlined section 7:

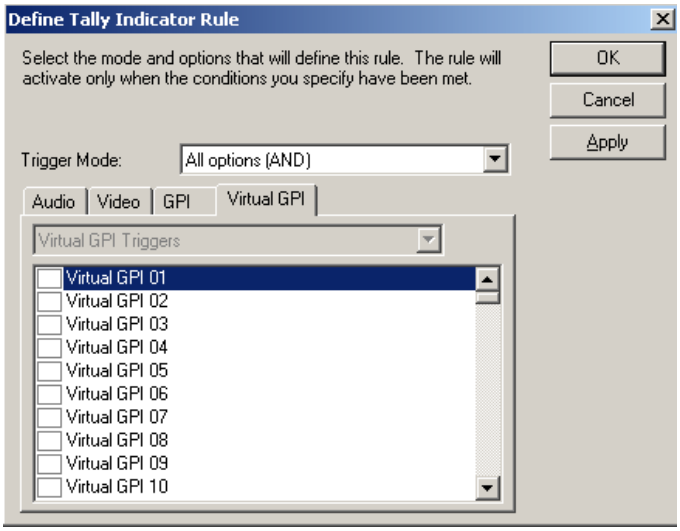
8.3.4.1. VGPI over Serial

1. From the VIP's *Main Menu* select *Under Monitor Display Setup*.
2. Select *Protocol Select*.
3. Select *Image Video* as the UMD protocol.
4. Select *Serial* as the input type.
5. Perform *Save and Exit*.
6. Reboot the VIP

8.3.4.2. VGPI over TCP/IP

1. From the VIP's *Main Menu* select *Under Monitor Display Setup*.
2. Select *Protocol Select*.
3. Select *Image Video* as the UMD protocol.
4. Select *Network* as the input type.
5. Enter the TCP port over which the VIP with receive VGPI data . Typically 9801 is used.
6. Perform a *Save and Exit*.
7. Reboot the VIP

Virtual GPI assignment to a particular tally or on-screen indicator is made through VIP Maestro's Properties window:



9. UPGRADING FIRMWARE

There are two methods to upgrade VIP modules:

1. VIP/Maestro Method
2. FTP Method

When the 7767VIP module requires a firmware upgrade, the user may upload the file (posted on the Evertz website – www.evertz.com) by either method. VIP/Maestro method is recommend (see section 8 for more details). For reference, the FTP method through the serial upgrade cable and Hyperterminal process is described below.

FTP (FILE TRANSER PROTOCOL) Method:

Before any FTP upgrades can take place, VIP modules must be pre-configured with proper IP and Subnet Mask addresses for the network in which both modules (destination) and upgrade PC (source) exist.

1. Power on the VIP module installed within the 7700FR-C frame and determine the IP address of the module.

2. Obtain the new application code (firmware) from the website and store it on the local drive of the PC being used in the file transfer.

3. After connecting the network X-over cable from the PC/laptop to the VIP, open a Command Prompt window on the PC/laptop (Start/Run, type “cmd” in the “Open:” text field and hit return.

4. To confirm network connectivity, “ping” the IP address of the module. For example: C:\ ping 192.168.9.100 <Enter> If a proper network connection has been established, a “reply” is displayed on the DOS window. If there is a faulty network connection, a “Destination Host Unreachable” message is provided. If this occurs, either the IP addresses of the nodes should be verified or the network (Ethernet) cable is faulty.

5. At the command prompt (in the DOS window) type: ***ftp xxx.xxx.xxx.xxx*** (module’s IP address).

6. Press the <Enter> key when prompted for a “Username” and press the <Enter> key when prompted for a “Password”

7. **For firmware version 1.2.0 or greater**: At the “FTP>” prompt, type the following: “quote SITE UPGRADE” (without quotations)

8. **For firmware version prior to 1.2.0**: proceed to step 9.

9. At the “FTP> prompt, type: **put “thenameofthefile.bin”** . If the application file is not local to where you are performing the ftp, then include the path with the name (For example: put “c:\vip\vip-20040810-2100.bin”). Hit the <Enter> key to initiate the file upgrade. During this time the module’s card edge display will show a small animation indicating that the upgrade is in progress. It is mandatory that all power cycles of the module or frame be avoided during this upgrade procedure. Once completed, the FTP> prompt will again be displayed.

10. Type “quit” at the “FTP>” prompt to exit the FTP procedure. DO NOT USE THE VIP IF IT IS STILL IN FTP MODE. THIS MODE MUST BE DISABLED.

11. A module power-cycle is now required for the new firmware to take effect.

10. *VISTA*LINK™ REMOTE MONITORING/CONTROL

10.1. WHAT IS *VISTA*LINK™?

*Vista*LINK™ is Evertz’s remote monitoring and control capability over an Ethernet network using Simple Network Management Protocol (SNMP). SNMP is a standard computer network protocol that enables different devices sharing the same network to communicate with each other. For monitoring, there needs to be a detecting device that automatically reports all errors to a central alarm and error logging station. We also need to be able to interrogate individual detector devices from the central station to determine the status of individual channels. Finally, we need to be able to configure devices in the network from the central station and receive feedback that the configuration has been carried out.

An SNMP manager also known as a Network Management System (NMS) is a computer running special software that communicates with the devices in the network. Evertz’s VistaLINK PRO or VistaLINK PRO PLUS Manager graphical user interface (GUI), third party or custom manager software may be used to monitor and control Evertz *Vista*LINK™ enabled products

For more information on connecting and configuring the *Vista*LINK™ network, see the VistaLINK section at www.evertz.com

10.2. VIP™ AND VISTALINK™

10.2.1. Updating VistaLINK with the latest VIP Parameters

On occasion, new VIP firmware is released with new configurable or monitored parameters that are not recognized by the last installation of VistaLINK software. Upon launching the VistaLINK client, the user will be notified of such an occurrence with an on0-screen dialogue window. There are 2 remedy options:

1. Update the existing VistaLINK software by using the associated product "jar" file and copying it to the VistaLINK Server.
    a. Product "jars" can be downloaded from the Evertz website, and are accessible from the product/firmware/downloads section. The link (if there is a product update) is to the left of the VistaLINK graphic in the product's title bar.
    b. Copy the specific "jar" file for the VistaLINK version, then proceed to the Server's Help/Update menu to apply this jar file.
    c. For the VIP, it is also required that a manual update is made to each of the VistaLINK clients. Proceed to copy the "jar" file to the following subdirectory (and similar client sub-directories, once installed):

        C:\Program Files\VistaLinkProClient\lib\products

2. Run a VistaLINK software upgrade to the latest version (contact Evertz service for further assistance).

10.2.2. Configuring VIP Parameters through VistaLINK Network Management System (NMS)

When selecting the VIP from the VistaLINK PRO network tree, the following configuration tab is displayed. This is a general configuration tab for the entire module and additional configuration pages exists for each individual input. It is this latter set of pages that a user can set the fault durations and other properties on a per input basis.

From the above figure, the following configuration options are available:

- General Settings: General information about the card type and firmware version, along with enable/disable of video and audio input selection to serial and AES mon. outputs ("cherry-pick" mode), DVI output offset control and preset control
- Global Thumbnail Server Status: Configuration tab to enable/disable thumbnailing on the module and destination IP address entry (requires VistaLINK PRO Thumbnail Server)
- Color Correction: Output DVI red, green and blue proc adjust for gain, gamma and black level
- Audio Fault Traps: SNMP trap send enable/disable and current status for audio faults
- Video Fault Traps: SNMP trap send enable/disable and current status for video and data faults

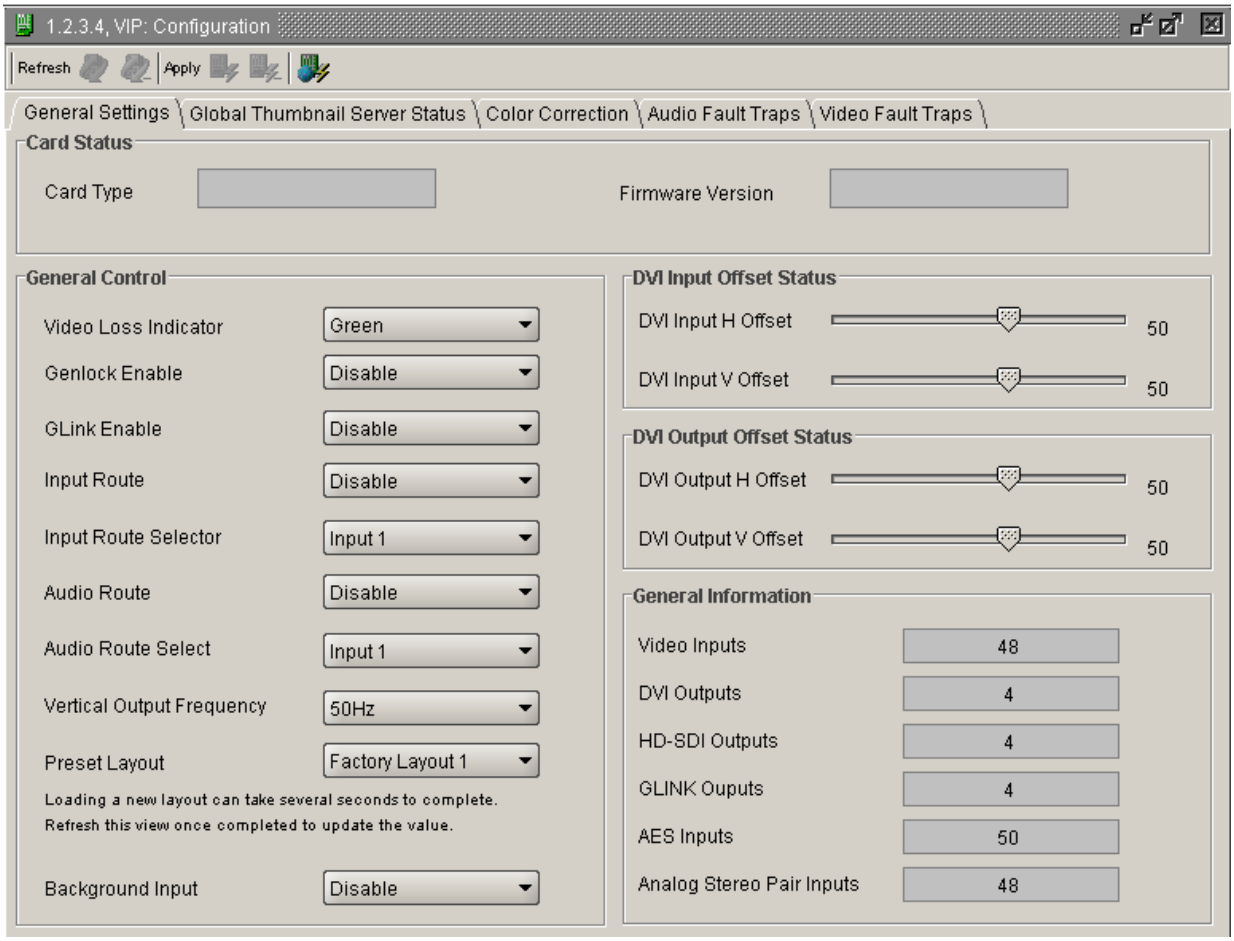


Figure 7: VistaLINK PRO Configuration General Tab

Appendix A – VIP Maestro Keyboard Shortcut Keys

(Note: Some commands may not yet be enabled for Maestro VIP. Contact Evertz for more information.)

Common Key Bindings

CTRL+A - select all
CTRL+C - copy selection
CTRL+O - connect
CTRL+T - disconnect (Close connection)
CTRL+V - paste copied selection
CTRL+<LEFT MOUSE> - drag selection mode
CTRL+Home - go to system level
SHIFT+Del - delete selection (where applicable)
SHIFT+<LEFT MOUSE> - toggle selection
SHIFT+<SCROLL WHEEL> - window scroll

Display System

Backspace - go to system level
Escape - cancel selection
Enter - invoke design studio for selected display
Left Arrow - select previous display
Right Arrow - select next display
Tab - select next display
CTRL+B - go to system level
CTRL+L - load preset on selected displays
CTRL+N - clear selected displays
CTRL+R - rename selected displays
CTRL+SHIFT+R - reset system
SHIFT+Tab - select previous display
ALT+Enter - edit properties for selected displays
F5 - refresh selected displays

Preset Catalog

Backspace - go back
Escape - cancel selection
Enter - load preset
Left Arrow - select previous preset
Right Arrow - select next preset
Tab - select next preset
CTRL+B - go back
SHIFT+Tab - select previous preset
F5 - refresh selected displays

Design Studio

Backspace - back, object top-level view, or display level
Escape - cancel selection
Enter - invoke object interior design
0-9 - keyed virtual assignment (monitor object only)
Plus - window zoom in
Minus - window zoom out
Down Arrow - move selected objects down
Left Arrow - move selected objects left
Right Arrow - move selected objects right
Up Arrow - move selected objects up
Page Down - window page down
Page Up - window page up
Tab - select next object
ALT+<LEFT MOUSE> (on object sizer) - disable dynamic sizing
CTRL+B - go back, object top-level view, or display level
CTRL+L - load preset on current display
CTRL+N - clear current display
CTRL+Down Arrow - window scroll down
CTRL+Left Arrow - window scroll left
CTRL+Right Arrow - window scroll right
CTRL+Up Arrow - window scroll up
CTRL+SHIFT+R - reset system
SHIFT+Tab - select previous object
SHIFT+Down Arrow - push selected objects to bottom edge
SHIFT+Left Arrow - push selected objects to left edge
SHIFT+Right Arrow - push selected objects to right edge
SHIFT+Up Arrow - push selected objects to top edge
Note: The SHIFT arrow key bindings directly above will pack (squish) the selected objects together
F5 – refresh current display
<RIGHT MOUSE> (on window) - show context menu
<RIGHT MOUSE> (on object) - show object context menu