GV Director Information Center HTML output map

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GV Director Topic Library

The GV Director Topic Library provides several options for finding information and taking it with you. Toolbar buttons provide access to these options. The toolbar is located in the upper right corner of the Topic Library.

The GV Director Topic Library is qualified with the Internet Explorer® browser and with the Chrome™ browser.

- Print GV Director topics:
  a) In the left panel view, identify the single topic or group of topics to print.
     A group of topics to print must be a parent topic and its sub-topics.
  b) Select the single topic or parent topic so it is displayed in your browser.
  c) In the Topic Library toolbar, click one of the following:
     - **Print topic**
     - **Print topic and sub-topics**
  d) Select your printer options.

     Note: If your printer options support creating a pdf file, you can create a pdf file rather than printing.

     Consider your bandwidth and system resources if you select a large number of topics. It can take several minutes to create a large pdf file.

  e) Print or create a pdf file of the topic or topics.
- Download the GV Director Topic Library as:
  - *PDF*: Supported on all systems with a PDF reader application, such as the free Adobe Reader® application.
  - *HTML*: This single file contains the entire Topic Library.

  Once downloaded, these version of the Topic Library are uncontrolled and are not tracked for updates. For the most current and up-to-date information refer to the online Topic Library.
- Navigate the online GV Director Topic Library:
  - Browse the left panel view of topics.
  - In the toolbar located in the upper right corner of the Topic Library, click **Previous topic** and **Next topic** to navigate sequentially.
  - In the toolbar, click **Hide Navigation** to close the left panel and allow a wider reading area for your topic. Click again to open the left panel.
  - Use the links at the bottom of a topic to view related topics:
    - **Related Topics** link to topics related by subject.
    - **Parent Topic** and child topics, such as those below, link to topics related by topic hierarchy.

About GV Director

GV Director comprises a switcher, video server, graphics generator, and multiviewer display—in a simple, powerful, and creative workspace for live monitoring and switching. GV Director's interface gives you the choice of how you want

to work. There's a smart control surface with touchscreen panel, assignable buttons, a T-bar, and a multiviewer, as well as a keyboard, mouse, and computer monitor for maximum operational flexibility.

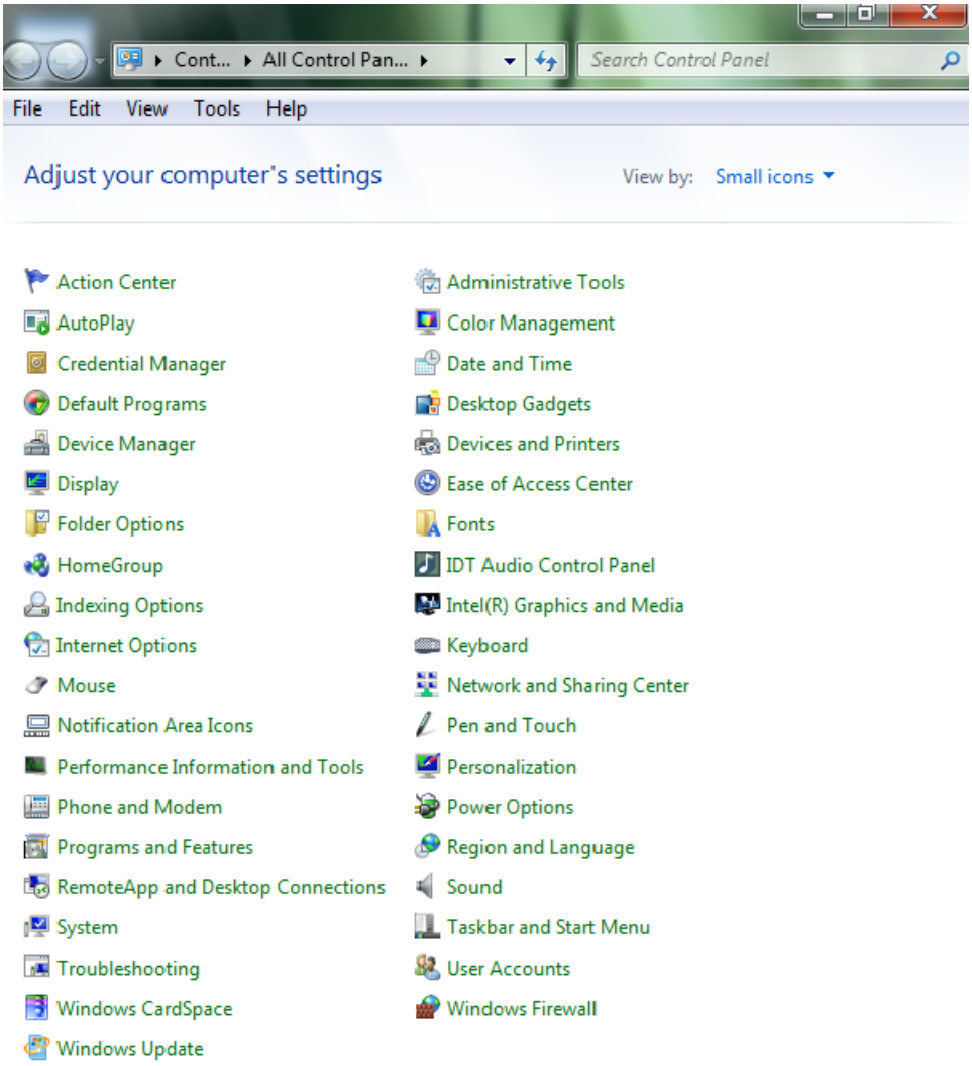
- This GV Director Topic Library is available as follows:
  - *Print Topic Library topics*
  - *Download the Topic Library*
  - *Navigate the Topic Library*

Upgrade the GV Director Client and Server Software

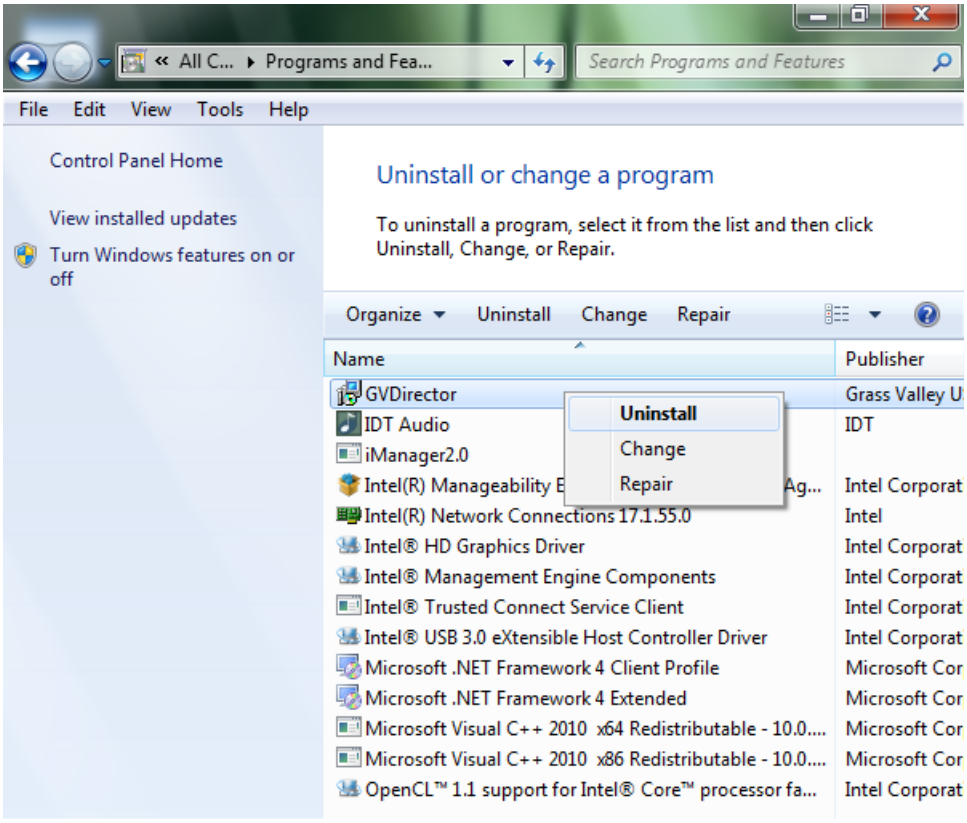
These upgrade instructions apply to both the GV Director Control Surface (client) and GV Director Server. The software upgrade files are available for download under Service & Support on the Grass Valley Website.

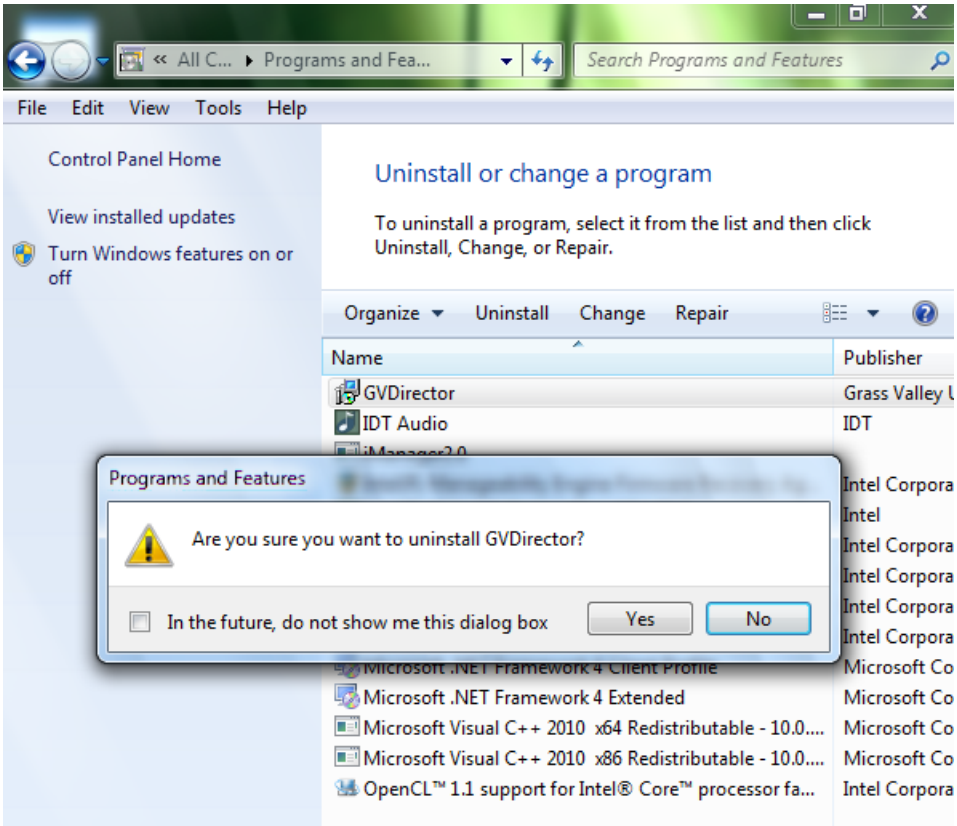
Be sure you know the IP address of the server before you begin this upgrade. A removable USB device will be required for the process. You must have GV Director version 1.1.0 or 1.0.6 installed to perform the upgrade to version 1.1.2.

1. Download the [GVDirectorSetup.exe] from the GV Director website at the following location: *http://www.grassvalley.com/GV_Director*
2. Copy the downloaded file onto a thumb-drive or other USB based removable media device.
3. Connect the thumb-drive to the GV Director control surface.
4. Connect a mouse and a keyboard to the GV Director control surface. You must exit the client.
5. Ensure the GV Director server is running and connected to the panel.
6. From the maintenance screen (the slide down menu) select the **Configuration** menu, followed by the **Close** option. You will now be returned to the Windows desktop.
7. Uninstall the client:
   a) Click **Start**.
   b) Click **Control Panel**.



c) Click **Programs and Features**.
d) Right-click **GVDirector**.
e) Click **Uninstall**.

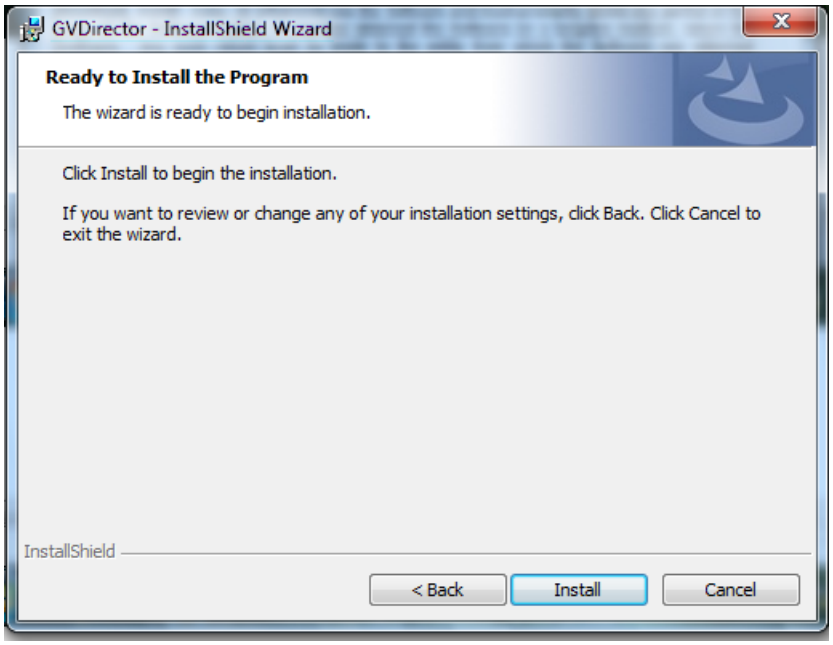


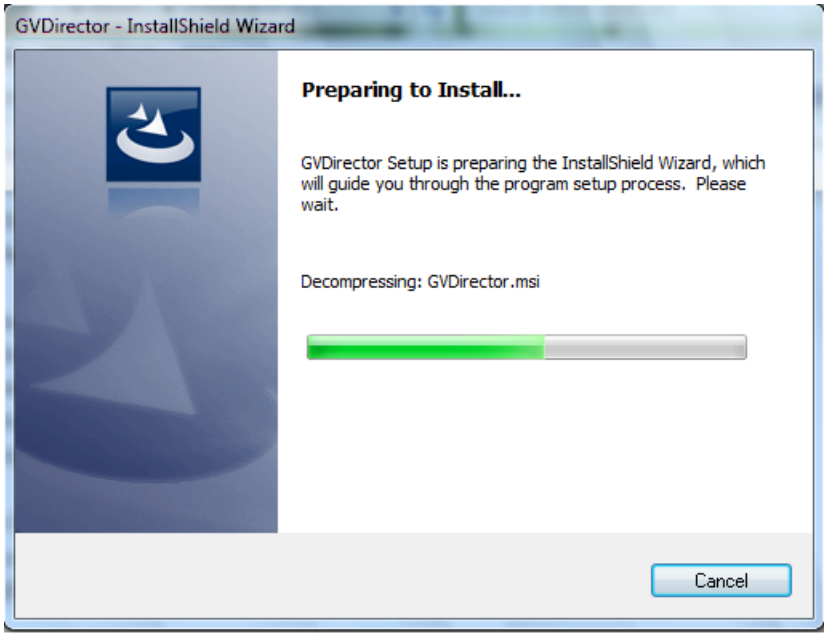


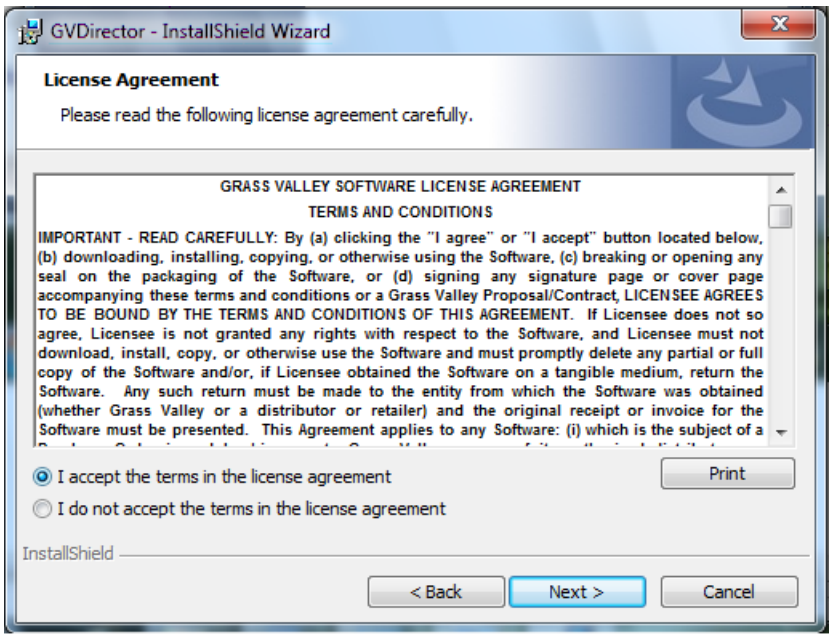
f) Click **Yes** to all of the "Are you sure…" prompts. Do not save your configuration, if prompted to do so.

8. Using the mouse, open Windows Explorer and navigate to the USB thumb-drive.

9. Double-click on the file you downloaded and follow the onscreen prompts. The client and server software will be upgraded.

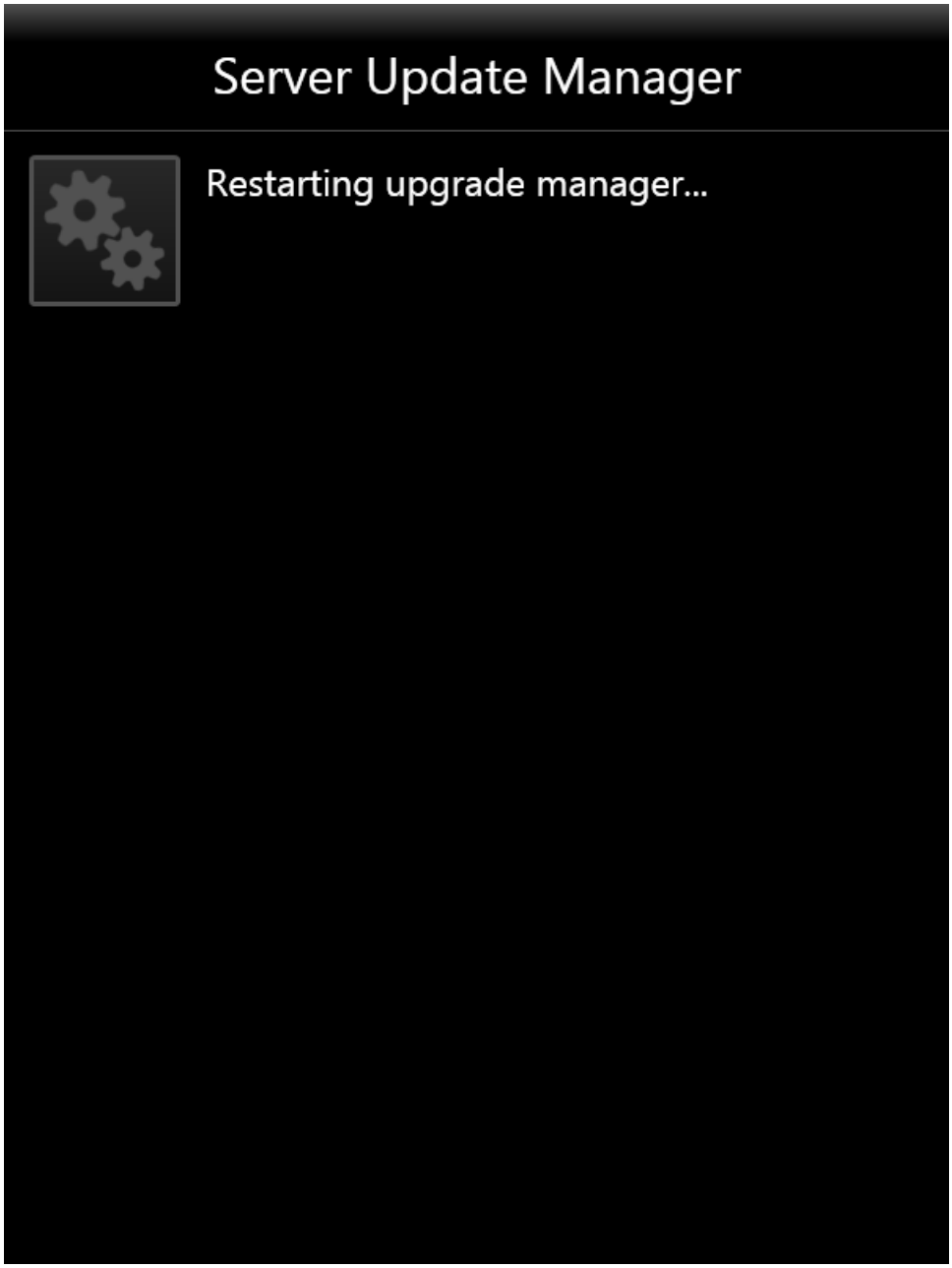






10. Agree to the licensing information and then click Install. After the install, it will take less than 1 minute to start the server upgrade.

11. You will be prompted for the IP address of the server during the upgrade. The default server IP address is 192.168.100.100, but you may have a different IP address. You must click the IP entry field on the control panel to enable it. Enter the IP address of the server and tap the **Connect** button on the touchpad Control Surface.



You have now upgraded the update manager. You will then need to enter the IP address again.

12. You will be prompted for the IP address of the server again during the upgrade. The default server IP address is 192.168.100.100, but you may have a different IP address. You must enable the IP entry field on the control panel by clicking on it with the mouse. Enter the IP address of the server and click the Connect button on the touchpad control surface.

13. Click **OK** on the Server Update Manager. Then, from the Wizard, click **Finish**.

14. Once the upgrade has been completed, restart the panel: select **Restart**. This may take several minutes.

About This Release

v1.0.6

This topic comprises the resolved and known issues and miscellaneous considerations for GV Director Control Surface client software version 1.0.6.

Resolved issues:

- Stills used in picture-in-picture effects do not work unless the still has been used full frame prior to its use inside the effect.
- Operators could specify a blank IP address for the frame, thus rendering it inoperable.
- Certain use of RSS could introduce instability into the system.
- Pressing the Stage button on the panel to bring it out of sleep mode can crash the panel software.

v1.0.5

This topic comprises the resolved and known issues and miscellaneous considerations for GV Director Control Surface client software version 1.0.5.

Resolved issues:

- Object parameters not passing correctly to STRATUS.
- Event List edit: when you select/lift an item the list immediately scrolls. It makes it difficult to tell where you are/were.
- Event List scroll should be more like Dyno.
- Event List does not allow transition change when touching icon.
- Client stuck in "Waiting on Server."
- BMP still loaded into shotbox does not get thumbnail.
- Compound effect creation does not persist on server reboot.
- Change channel pack allows change to pack of different video standard.
- Saving button configuration with test opd@#$^ confuses system.
- Deleting shotbox item button is not cleared.
- Lever arm transition does not leave buttons and tally in good state.
- Application installer does not have CP "EffectsAndWipes."
- Parameters add group and then "X" leaves whole client unable to see parameters.
- Layout Configuration comes up with inputs in random order sometimes.
- Multiviewer Configuration choose black leaves previous choice.
- Shotbox load select touch zone is wrong.
- Load configuration after server reboot causes client panic.
- Buttons load is loading twice.
- SDI outputs are set wrong.

Known issues:

- **Aux Output** - If you assign a live production element to an aux output that has no signal, you must select the 'black' element before any other live will will work.
- **Analog Audio Meters** - In the audio adjustment screen for the analog audio inputs, there is currently no metering feedback.
- **Production Packs** - It is recommended that you download the latest versions of the demonstration production packs from our website: *http://www.grassvalley.com/GV_Director*

v1.0.3

This topic comprises the resolved and known issues and miscellaneous considerations for GV Director Control Surface client software version 1.0.3.

Resolved issues:

- System instability can occur when changing the IP configuration settings.
- Instability can occur in the system when deleting media that previously had ARC (Aspect Ratio Conversion) settings applied.
- System performance issues were observed when using a large number of clips or stills.
- Transition issues with the Transition Lever Arm when in 720P.
- Issues can occur when cutting between clips.
- Control Surface performance issues can occur when loading or saving configurations.
- Issues can occur when saving configurations upon exit.
- Uploading and loading issues can occur with Production Packs and logs.

Known issues:

- The first bank of OLED displays on the Control Surface can occasionally stop responding and /or go blank. This issue has been observed during start up but not during system operation. Workaround: A Control Panel restart will resolve the issue.
- Some sample Production Packs contain transitions that do not support ARC settings.

Miscellaneous considerations:

- Support for GPI-I
- The "Release Notes" and "Release Note Addendum" topics are consolidated into the "About This Release" topic.

v1.0

In addition to the information presented here, please visit the rest of the GV Director Topic Library, Tutorials, Knowledge base, and other product documentation for complete information.

The following information will help with setup, operation, and shutdown of the GV Director system:

- A mixture of interlaced and progressive sources is not supported.
- When connecting multi-viewer through DVI, before start-up, use only a standard DVI cable; no extenders or splitters until after start-up unless a DVI/EDID storage device is used.
- For the GV Director Server, press and hold down the power button for at least 10 seconds to initiate shutdown.
- For the GV Director Control Surface, press the power button once for shutdown.
- Production Packs (.ppk files) of an aspect ratio other than what the system is currently running can be loaded.
- Some older USB devices are not compatible with the GV Director Control Surface for file transfers.
- Inputs not present at start-up are assumed to be the video standard of the output.
- Copy protected HDMI (HDCP) sources are not supported.
- HDMI audio is not supported in this release.
- Use of a 75ohm terminator is recommended when not using pass-through genlock on the GV Director Server.
- Audio metering feedback for analog is not available in this release.

v1.1

In addition to the information presented here, please visit the rest of the GV Director Topic Library, Tutorials, Knowledge base, and other product documentation for complete information.

The following information will help with setup, operation, and shutdown of the GV Director system.

- GVD-FLEX and GVD-PRO-BL features:
- Second record channel for live feeds.
- Clean Feed output is the ability to provide a program output that doesn’t include any graphics. Clean Feed is an option on an Aux input.
- Enhanced Audio Pinning allows for the ability to persist any audio input over the program output.
- Non-Latin Character Support - GV Director now supports Non-latin character sets via a new rendering engine. This provides the ability to support graphics that display Arabic, Tamil, and other contextual-based fonts.

- Program Preview mode for Program to Stage mimics a traditional switcher - This is a feature that allows Grass Valley Director to behave like a traditional switcher. You can turn this mode on, and when you transition something from Stage to Program, what was on the Program automatically goes to the Stage.
- GVD-PRO-BL features:
- Assistant Director Tool that runs on any Windows 7 capable computer. The tool provides the ability to change graphic titles, create multiple playlists, load clips onto program or stage, adjust chroma key values and many other features.
- Router Control for N-Vision Compact routers give you the ability to expand the GV Director IO by enabling certain inputs to be dynamic inputs which can be fed by an N-Vision Compact router. Operators can then dynamically change inputs being fed by the router from the panel.

The GV Director Composer application GPU RAM requirement is now 768MB.

Resolved Issues

The following resolved issues are provided for the GV Director version 1.1.0. For installation information, refer to the v1.1.0 GV Director software upgrade instructions.

Table 1: Software Problems Corrected in Release v 1. 1.0

Area	Description	ID
GVD Server	Changing the Ethernet configuration for port 0 between a fixed IP-address and a dynamically assigned IP-address (DHCP) failed under some circumstances.	DE9783
GV Composer	In some cases GV Composer would not start correctly on appropriately spec'd Apple Mac computers.	DE8249
GVD Control Surface	Analog audio input metering was missing from the control surface GUI.	DE6470
GVD Server	Recording in HD formats would result in an MXF header file with incorrect aspect ratio settings.	DE9988
GVD Server	Uploading production packs from the control surface to the server that contains spaces in the production pack name failed.	DE8327
GVD Server	Certain types of RSS feed were not compatible with GV Director.	DE8199

Table 2: Software Problems Corrected in Release v 1. 0.6

Area	Description	ID
GVD Server	Stills used in picture-in-picture effects do not work unless the still has been used full frame prior to its use inside the effect.	DE9281
GVD Server	Operators could specify a blank IP address for the frame, thus rendering it inoperable.	DE9382
GVD Server	Certain use of RSS could introduce instability into the system.	DE9311
GVD Control Surface	Pressing the Stage button on the panel to bring it out of sleep mode can crash the panel software.	DE9384

Table 3: Software Problems Corrected in Release v 1.0.5

Area	Description	ID
GVD Server	Object parameters not passing correctly to STRATUS.	DE5145
GVD Control Surface	Event List edit: when you select/lift an item the list immediately scrolls. It makes it difficult to tell where you are/were.	DE5245
GVD Control Surface	Event List scroll should be more like Dyno.	DE5437

Area	Description	ID
GVD Control Surface	Event List does not allow transition change when touching icon.	DE5511
GVD Server	Client stuck in "Waiting on Server."	DE5540
GVD Server	BMP still loaded into shotbox does not get thumbnail.	DE5568
GVD Server	Compound effect creation does not persist on server reboot.	DE5571
GVD Server	Change channel pack allows change to pack of different video standard.	DE5572
GVD Control Surface	Saving button configuration with test opd@#$^ confuses system.	DE5583
GVD Control Surface	Deleting shotbox item button is not cleared.	DE5585
GVD Control Surface	Lever arm transition does not leave buttons and tally in good state.	DE5586
Installer	Application installer does not have CP "EffectsAndWipes."	DE5591
GVD Control Surface	Layout Configuration comes up with inputs in random order sometimes.	DE5593
GVD Control Surface	Multiviewer Configuration choose black leaves previous choice.	DE5954
GVD Server	Shotbox load select touch zone is wrong.	DE5617
GVD Server	Load configuration after server reboot causes client panic.	DE5623
GVD Control Surface	Buttons load is loading twice.	DE5624
GVD Server	SDI outputs are set wrong.	DE5628
GVD Control Surface	Parameters add group and then "X" leaves whole client unable to see parameters.	DE8781

Table 4: Software Problems Corrected in Release v 1.0.3

Area	Description	ID
GVD Server	System instability can occur when changing the IP configuration settings.	
GVD Server	Instability can occur in the system when deleting media that previously had ARC (Aspect Ratio Conversion) settings applied.	
GVD Server	System performance issues were observed when using a large number of clips or stills.	
GVD Server	Transition issues with the Transition Lever Arm when in 720P.	
GVD Server	Issues can occur when cutting between clips.	
GVD Control Surface	Control Surface performance issues can occur when loading or saving configurations.	
GVD Server	Issues can occur when saving configurations upon exit.	
GVD Server	Uploading and loading issues can occur with Production Packs and logs.	

Table 5: Known Software Problems

Area	Description	ID
GVD Control Surface	Audio metering for some clips is restricted to channel 1 only. Note that control is still available for all audio channels and only metering is affected.	DE10770
GVD Control Surface	In order to use the new audio pinning feature of 1.1.0, live sources will need to be loaded into the PGM or STAGE channels before the audio	DE10388

Area	Description	ID
	channel for a source will be pinned. Audio sources can be un- pinned at any time.	
Upgrade	A shutdown and restart of both panel and server is required after upgrade to v1.1.0 to allow driver update.	DE10578
GVD Server	It is possible for an operator, using an external FTP application to delete essential operating files. Including but not limited to: multi- viewer GUI production packs, start-up (warming) production packs, and application binaries.	DE9439
GVD Control Surface	Assigning the 'black' source to a PIP (picture in picture) effect does not work.	DE10649
GVD Control Surface	Under some circumstances, after a control surface startup, the left- most bank of OLEDs may fail to operate. Restarting the control surface addresses this issue	DE6769
GVD Server	GV Director Multiviewer picture sharpness and detail affected by small picture in picture window sizes.	DE7208
GVD Server	Placing a clip on PGM and same clip (same player) on stage with transition set to mix then performing a Take, the sound fades but new sound does not fade in.	DE7406
GVD Control Surface	Using the STAGE button to bring the control surface out of 'sleep' mode results in the STAGE button continuously flashing and the control surface is continuously in STAGE mode.	DE10782
GVD Server	Aux Output - If you assign a live production element to an aux output that has no signal, you must select the 'black' element before any other live will work.	DE8430
Panel Firmware/Hardware	The first bank of OLED displays on the Control Surface can occasionally stop responding and/or go blank. This issue has been observed during start up but not during system operation. Workaround: A control Panel restart will resolve the issue.	DE6769

v1.1.1

In addition to the information presented here, please visit the rest of the GV Director Topic Library, Tutorials, Knowledge base, and other product documentation for complete information.

Resolved Issues

The following resolved issues are provided for GV Director version 1.1.1.

Table 6: GV Director Software Problems Corrected in Release v 1. 1.1

Area	Description	ID
GVD Server	Potential server instability.	DE11012
GVD Server	Potential server delays.	DE11087
GVD Server	Occasional multi-client disconnect.	DE9238
GVD Control Surface	Router source name display issues.	DE10934
GVD Control Surface	Transition in the Event list executes the transition instead of just assigning it.	DE10950

Area	Description	ID
GVD Control Surface	Routing not working when rotary dial set on any position other than 1.	DE11031
GVD Control Surface	Panel Master Menu ignores touch, after reconnect cancel.	DE11234
GVD Control Surface	Client Exception on File Transfer	DE11293
GVD Control Surface	Router connection issues.	DE10694
GVD Control Surface	Router connection keeps dropping silently	DE10694
GVD Control Surface	Pressing the 'Register' button on the UI does not attempt to re-register a router.	DE11297
GVD Assistant Director Tool	When resizing windows in the assistant tool, the text field and names of the scene parameters do not scale.	DE11203
GVD Control Surface	Known Issue: Assigning the 'black' source to a PIP (picture in picture) effect leaves the previous player.	DE10649
GVD Control Surface	Stage stuck in blinking mode when used to bring panel out of sleep mode.	DE10782
GVD Control Surface	Using the ‘stage' button to bring GV Director control surface out of ‘sleep’ mode will cause the panel to lock up.	DE11342
GVD Assistant Director Tool	Within the Event List if the user drags the same item into the list they will currently have to select a separate item just prior.	DE11282
GVD Assistant Director Tool	Textbox size currently static; changing to dynamic so that the user may utilize the whole area.	DE11283
GVD Assistant Director Tool	Adding single delete to the onscreen Event List in addition to the keyboard delete key.	DE11284
GV Composer	Introduced variable text line height to prevent chopping off ‘diacritics’	DE10943
GV Composer	Disabled cross conversion functionality which could slow down preloading of templates under certain circumstances (e.g. using interlaced animations in a progressive project)	DE11547

Table 7: Known Software Problems

Area	Description	ID
GVD Control Surface	Clip audio metering: metering is only displayed for the first channel of audio. All fader operations are working, this is purely a display issue.	DE10649

Table 8: Software Problems Corrected in Release v 1. 1.0

Area	Description	ID
GVD Server	Changing the Ethernet configuration for port 0 between a fixed IP-address and a dynamically assigned IP-address (DHCP) failed under some circumstances.	DE9783
GV Composer	In some cases GV Composer would not start correctly on appropriately spec'd Apple Mac computers.	DE8249
GVD Control Surface	Analog audio input metering was missing from the control surface GUI.	DE6470

Area	Description	ID
GVD Server	Recording in HD formats would result in an MXF header file with incorrect aspect ratio settings.	DE9988
GVD Server	Uploading production packs from the control surface to the server that contains spaces in the production pack name failed.	DE8327
GVD Server	Certain types of RSS feed were not compatible with GV Director.	DE8199

Table 9: Software Problems Corrected in Release v 1. 0.6

Area	Description	ID
GVD Server	Stills used in picture-in-picture effects do not work unless the still has been used full frame prior to its use inside the effect.	DE9281
GVD Server	Operators could specify a blank IP address for the frame, thus rendering it inoperable.	DE9382
GVD Server	Certain use of RSS could introduce instability into the system.	DE9311
GVD Control Surface	Pressing the Stage button on the panel to bring it out of sleep mode can crash the panel software.	DE9384

Table 10: Software Problems Corrected in Release v 1.0.5

Area	Description	ID
GVD Server	Object parameters not passing correctly to STRATUS.	DE5145
GVD Control Surface	Event List edit: when you select/lift an item the list immediately scrolls. It makes it difficult to tell where you are/were.	DE5245
GVD Control Surface	Event List scroll should be more like Dyno.	DE5437
GVD Control Surface	Event List does not allow transition change when touching icon.	DE5511
GVD Server	Client stuck in "Waiting on Server."	DE5540
GVD Server	BMP still loaded into shotbox does not get thumbnail.	DE5568
GVD Server	Compound effect creation does not persist on server reboot.	DE5571
GVD Server	Change channel pack allows change to pack of different video standard.	DE5572
GVD Control Surface	Saving button configuration with test opd@#$^ confuses system.	DE5583
GVD Control Surface	Deleting shotbox item button is not cleared.	DE5585
GVD Control Surface	Lever arm transition does not leave buttons and tally in good state.	DE5586
Installer	Application installer does not have CP "EffectsAndWipes."	DE5591
GVD Control Surface	Layout Configuration comes up with inputs in random order sometimes.	DE5593
GVD Control Surface	Multiviewer Configuration choose black leaves previous choice.	DE5954
GVD Server	Shotbox load select touch zone is wrong.	DE5617
GVD Server	Load configuration after server reboot causes client panic.	DE5623
GVD Control Surface	Buttons load is loading twice.	DE5624
GVD Server	SDI outputs are set wrong.	DE5628
GVD Control Surface	Parameters add group and then "X" leaves whole client unable to see parameters.	DE8781

v1.1.2

In addition to the information presented here, please visit the rest of the GV Director Topic Library, Tutorials, Knowledge base, and other product documentation for complete information.

Resolved Issues

The issues has been resolved in GV Director version 1.1.2.

Table 11: GV Director Software Problems Corrected in Release v 1. 1.2

Area	Description	ID
GVD Control Surface	Embedded audio packet placement in the SDI stream is causing some equipment to drop the audio completely (1080i@50).	DE11647
GVD Control Surface	A display issue occured when a physical button has an effect mapped to it on page one and two and the user presses the shift button.	GVD-6781

Table 12: GV Director Software Problems Corrected in Release v 1. 1.1

Area	Description	ID
GVD Server	Potential server instability.	DE11012
GVD Server	Potential server delays.	DE11087
GVD Server	Occasional multi-client disconnect.	DE9238
GVD Control Surface	Router source name display issues.	DE10934
GVD Control Surface	Transition in the Event list executes the transition instead of just assigning it.	DE10950
GVD Control Surface	Routing not working when rotary dial set on any position other than 1.	DE11031
GVD Control Surface	Panel Master Menu ignores touch, after reconnect cancel.	DE11234
GVD Control Surface	Client Exception on File Transfer	DE11293
GVD Control Surface	Router connection issues.	DE10694
GVD Control Surface	Router connection keeps dropping silently	DE10694
GVD Control Surface	Pressing the 'Register' button on the UI does not attempt to re-register a router.	DE11297
GVD Assistant Director Tool	When resizing windows in the assistant tool, the text field and names of the scene parameters do not scale.	DE11203
GVD Control Surface	Known Issue: Assigning the 'black' source to a PIP (picture in picture) effect leaves the previous player.	DE10649
GVD Control Surface	Stage stuck in blinking mode when used to bring panel out of sleep mode.	DE10782
GVD Control Surface	Using the ‘stage' button to bring GV Director control surface out of ‘sleep’ mode will cause the panel to lock up.	DE11342
GVD Assistant Director Tool	Within the Event List if the user drags the same item into the list they will currently have to select a separate item just prior.	DE11282

Area	Description	ID
GVD Assistant Director Tool	Textbox size currently static; changing to dynamic so that the user may utilize the whole area.	DE11283
GVD Assistant Director Tool	Adding single delete to the onscreen Event List in addition to the keyboard delete key.	DE11284
GV Composer	Introduced variable text line height to prevent chopping off ‘diacritics’	DE10943
GV Composer	Disabled cross conversion functionality which could slow down preloading of templates under certain circumstances (e.g. using interlaced animations in a progressive project)	DE11547

Table 13: Known Software Problems

Area	Description	ID
GVD Control Surface	Clip audio metering: metering is only displayed for the first channel of audio. All fader operations are working, this is purely a display issue.	DE10649

Table 14: Software Problems Corrected in Release v 1. 1.0

Area	Description	ID
GVD Server	Changing the Ethernet configuration for port 0 between a fixed IP-address and a dynamically assigned IP-address (DHCP) failed under some circumstances.	DE9783
GV Composer	In some cases GV Composer would not start correctly on appropriately spec'd Apple Mac computers.	DE8249
GVD Control Surface	Analog audio input metering was missing from the control surface GUI.	DE6470
GVD Server	Recording in HD formats would result in an MXF header file with incorrect aspect ratio settings.	DE9988
GVD Server	Uploading production packs from the control surface to the server that contains spaces in the production pack name failed.	DE8327
GVD Server	Certain types of RSS feed were not compatible with GV Director.	DE8199

Table 15: Software Problems Corrected in Release v 1. 0.6

Area	Description	ID
GVD Server	Stills used in picture-in-picture effects do not work unless the still has been used full frame prior to its use inside the effect.	DE9281
GVD Server	Operators could specify a blank IP address for the frame, thus rendering it inoperable.	DE9382
GVD Server	Certain use of RSS could introduce instability into the system.	DE9311
GVD Control Surface	Pressing the Stage button on the panel to bring it out of sleep mode can crash the panel software.	DE9384

Table 16: Software Problems Corrected in Release v 1.0.5

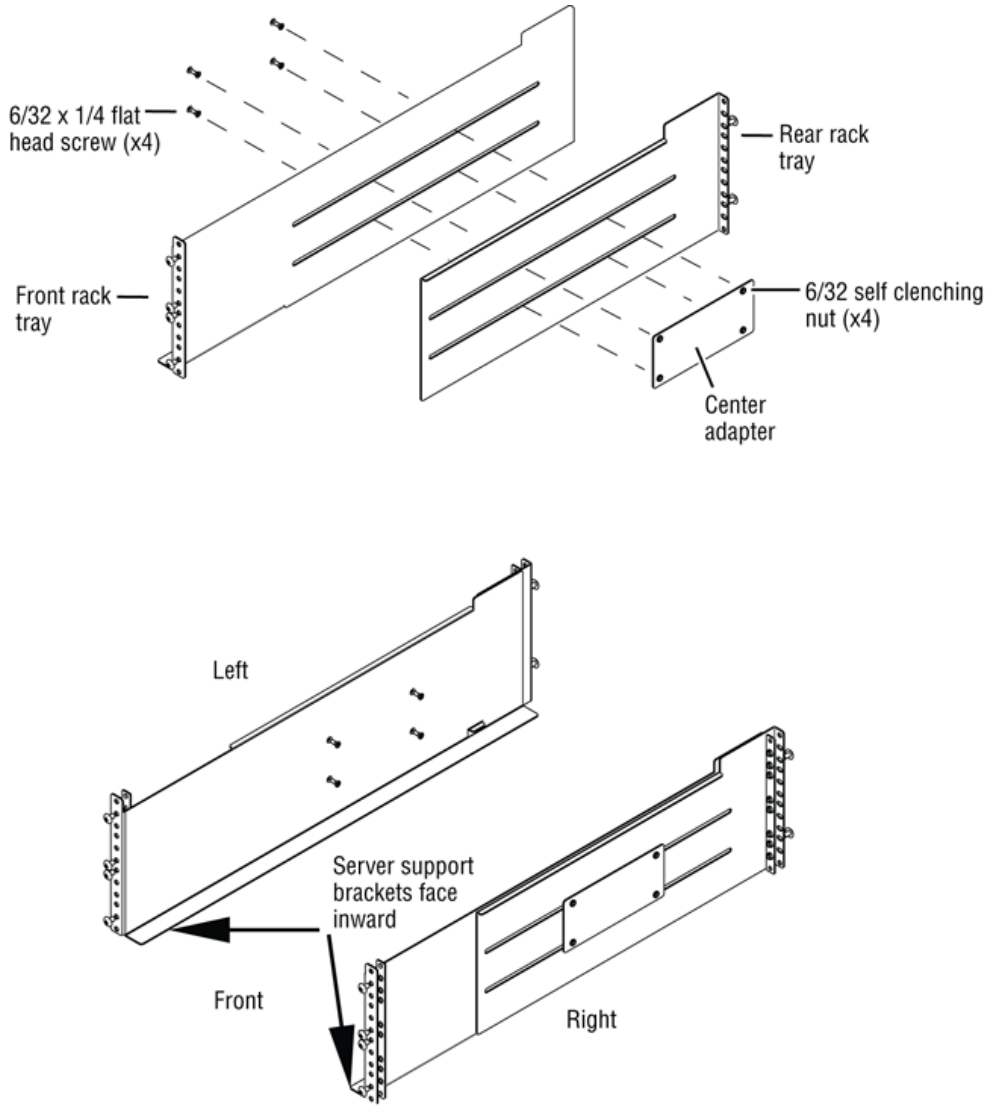
Area	Description	ID
GVD Server	Object parameters not passing correctly to STRATUS.	DE5145
GVD Control Surface	Event List edit: when you select/lift an item the list immediately scrolls. It makes it difficult to tell where you are/were.	DE5245
GVD Control Surface	Event List scroll should be more like Dyno.	DE5437
GVD Control Surface	Event List does not allow transition change when touching icon.	DE5511
GVD Server	Client stuck in "Waiting on Server."	DE5540
GVD Server	BMP still loaded into shotbox does not get thumbnail.	DE5568
GVD Server	Compound effect creation does not persist on server reboot.	DE5571
GVD Server	Change channel pack allows change to pack of different video standard.	DE5572
GVD Control Surface	Saving button configuration with test opd@#$^ confuses system.	DE5583
GVD Control Surface	Deleting shotbox item button is not cleared.	DE5585
GVD Control Surface	Lever arm transition does not leave buttons and tally in good state.	DE5586
Installer	Application installer does not have CP "EffectsAndWipes."	DE5591
GVD Control Surface	Layout Configuration comes up with inputs in random order sometimes.	DE5593
GVD Control Surface	Multiviewer Configuration choose black leaves previous choice.	DE5954
GVD Server	Shotbox load select touch zone is wrong.	DE5617
GVD Server	Load configuration after server reboot causes client panic.	DE5623
GVD Control Surface	Buttons load is loading twice.	DE5624
GVD Server	SDI outputs are set wrong.	DE5628
GVD Control Surface	Parameters add group and then "X" leaves whole client unable to see parameters.	DE8781

Installation

GV Director Server and Control Surface installation topics.

Assemble GV Director Server Rack Trays

Adjustable server rack tray assemblies are provided with the GV Director Server and used to support the server in a rack. There are left and right rack trays that must be assembled prior to installation.



Rack tray assemblies

1. Align the rear rack tray with the front rack tray (right front with right rear or left front with left rear) so the adjustment slots line up and the front rack tray with the server support bracket is facing inward as it would in a rack holding a server.

   There is a front and rear rack tray for both the Left and Right rack tray assemblies and these must match to correctly support the server.

2. With the center adapter positioned on the outside of the rack tray assembly (rear bracket side) insert the four 6/32x1/4 inch flat head screws through the adjustment slots (two screws per slot) from the inside (side with the server support bracket).

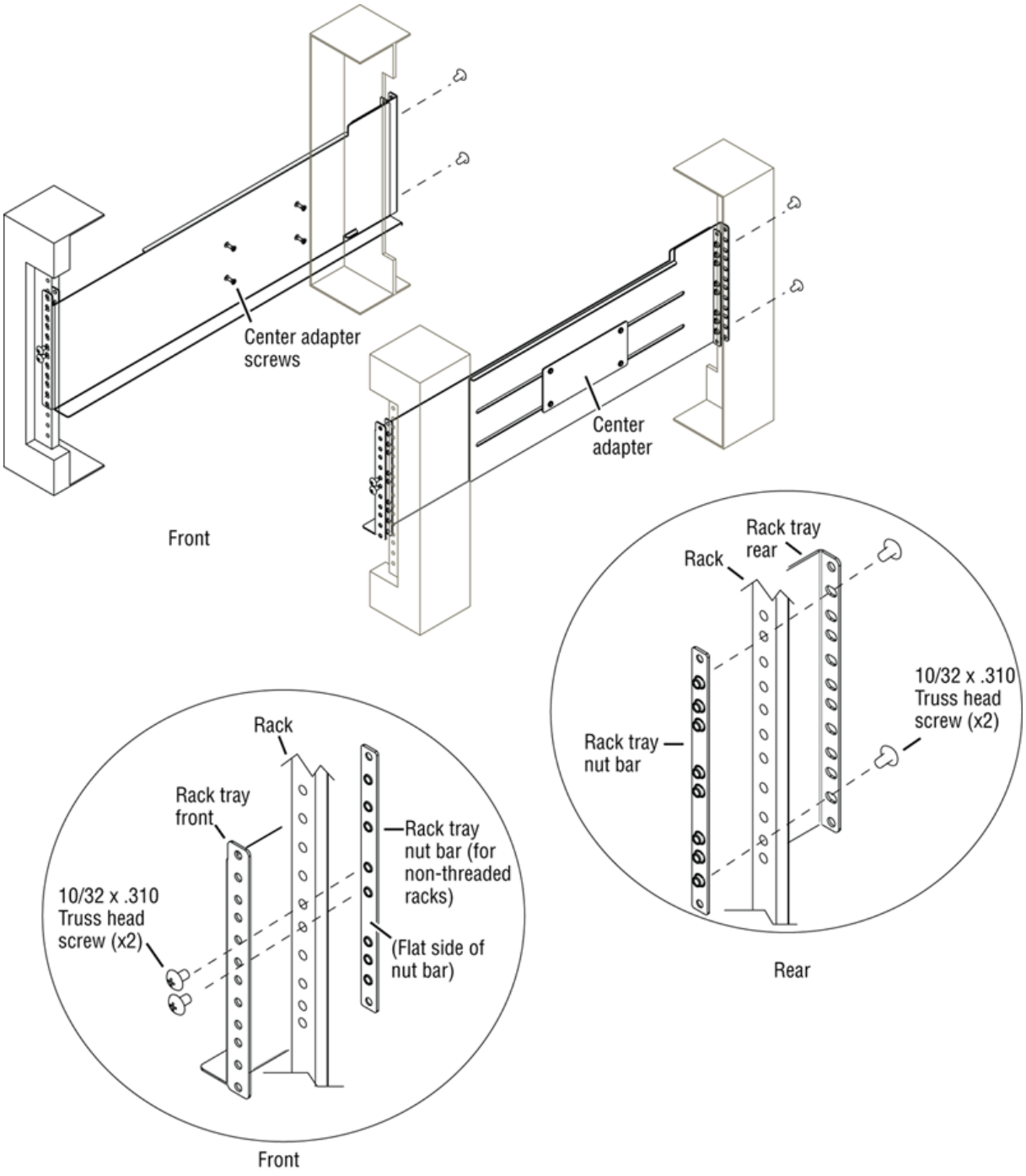
3. Thread each of the four flat head screws into the center adpater's four self-clinching nuts, leaving each slightly loose for adjustment in the rack.

   Leaving the four flat head screws loose will allow for front-to-back adjustment when installing the rack tray assembly into a rack.

4. Repeat the preceeding steps for the opposite rack tray assembly.

Install the GV Director Server Rack Trays

The GV Director server rack trays are installed in the rack before the server. The rack trays are adjustable to fit various types of racks, including threaded and non-threaded applications.

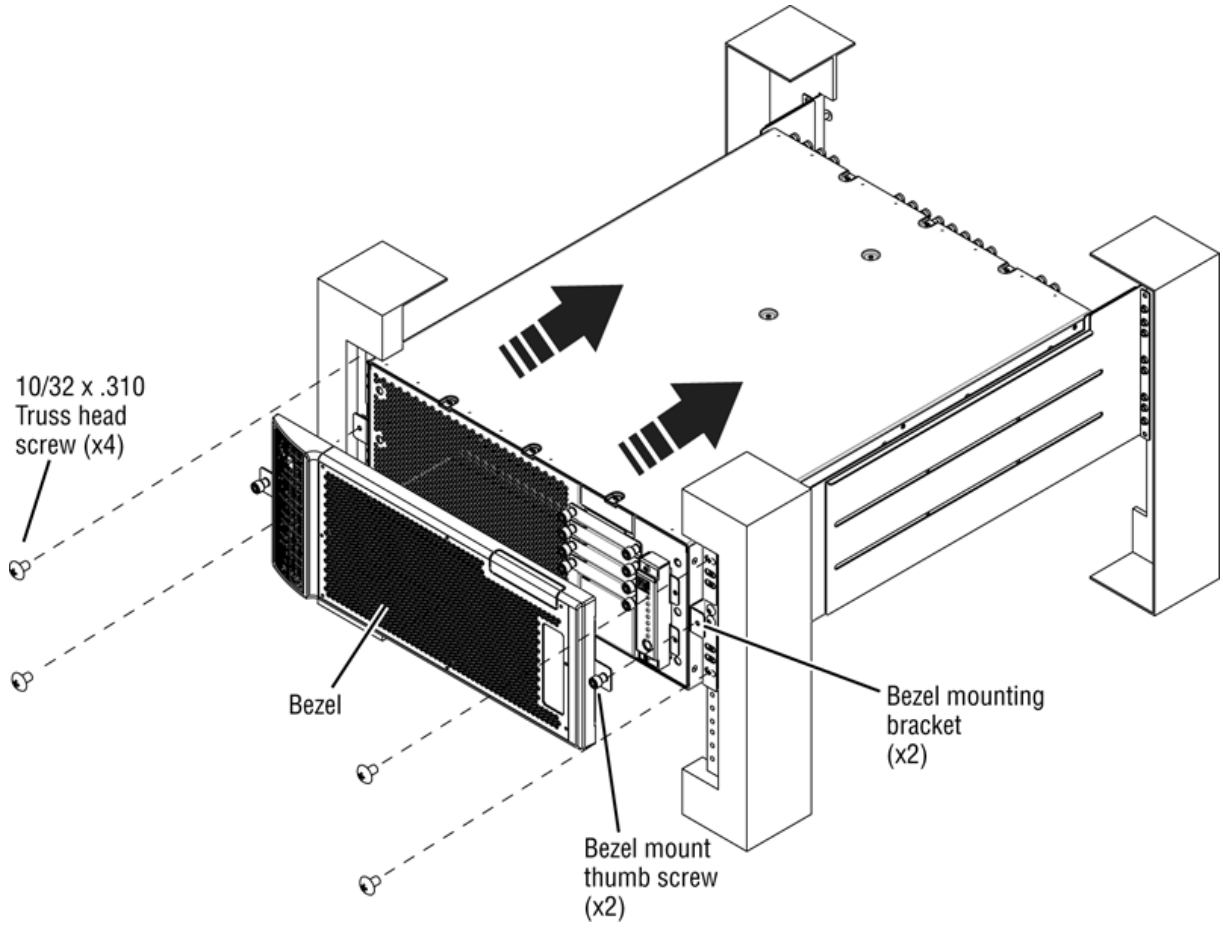


1. With the center adapter screws loosened, adjust the rack tray assembly until the rack tray front and rear mounting brackets are positioned at the outside of the front and rear rack posts.
2. Fasten the front of the rack tray assembly through the rack post and into the rack tray nut bar (for non-threaded racks) with two truss screws in the center-most two holes.

   Rack tray nut bars are provided to accept truss head screws through the holes of a non-threaded rack. For threaded racks, the rack tray nut bars are not used.
3. Fasten the rear of the rack tray assembly through the rack post and into the rack tray nut bar (for non-threaded racks) with two truss screws in the top-most and bottom-most holes.
4. Tighten the center adapter screws for the rack tray (inward-facing side of the rack tray).
5. Repeat the procedure for the opposite rack tray assembly.

Install the GV Director Server in a rack

The GV Director Server installs in the rack tray assemblies that come with the server. The rack tray assemblies are installed in the rack first. Removing the server bezel makes server installation much easier.

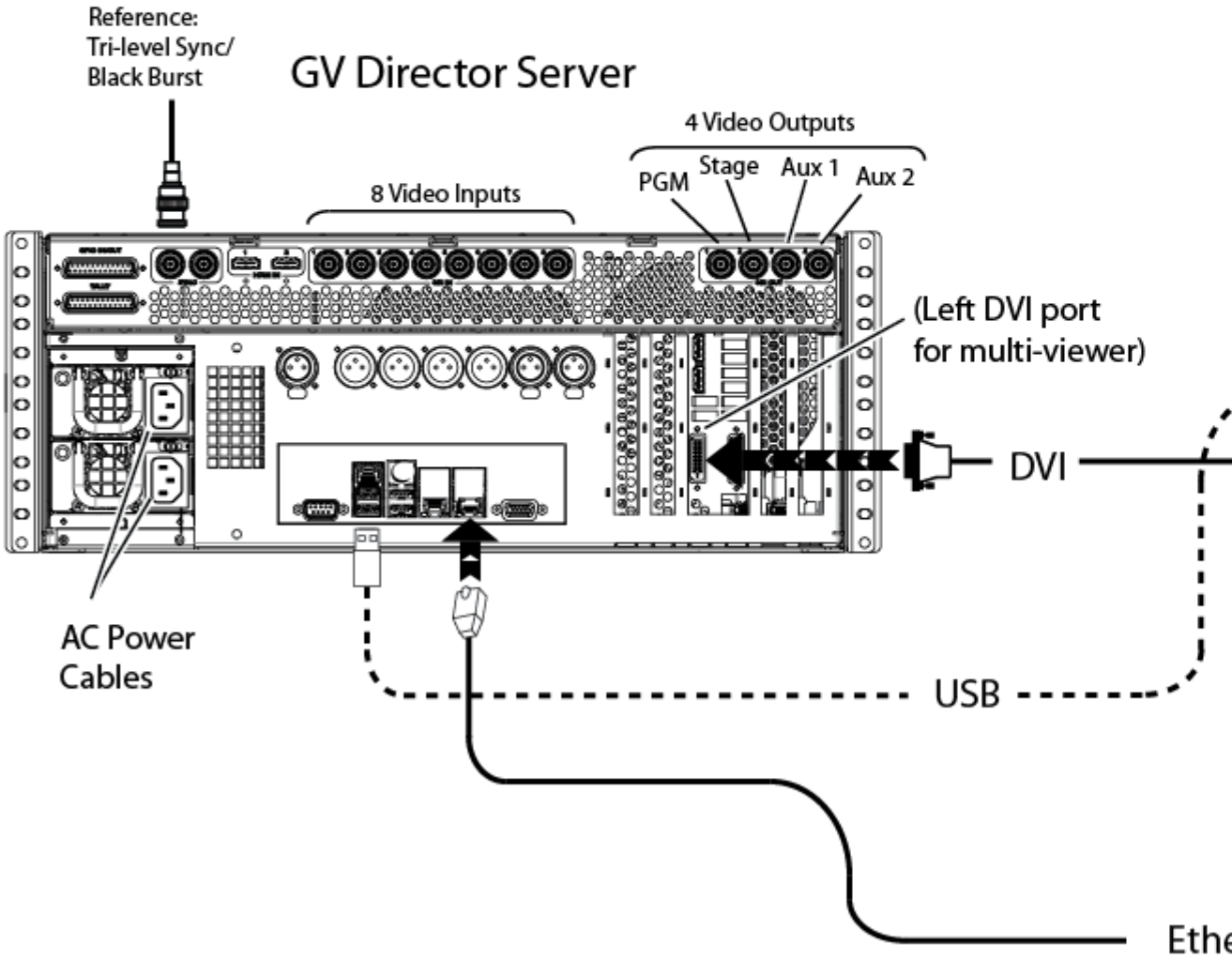


1. From the front of the rack, set the server onto the front rack tray server support brackets and slide the server forward until flush with the rack.
2. Loosen the bezel thumb screws until released and remove the bezel.
3. Thread two 10/32x.310 truss head screws into the top-most and bottom most holes in the front rack tray brackets through the rack and into the rack tray nut bar (for non-threaded racks), for both the Right and Left rack tray assemblies.
4. Replace the bezel and tighten the thumb screws just until tight.

Quick Start Guide

GV DIRECTOR™

1. Cable the system including Video In/Out
2. Power on the Server then Control Surface
3. Enter the default Server static IP 192.168.100.100 in the Control Surface Touchpad
4. Visit www.grassvalley.com/GV_Director for Topic Library/Tutorials/Knowledge Base



GV Assistant Director Installation Instructions

Prerequisites

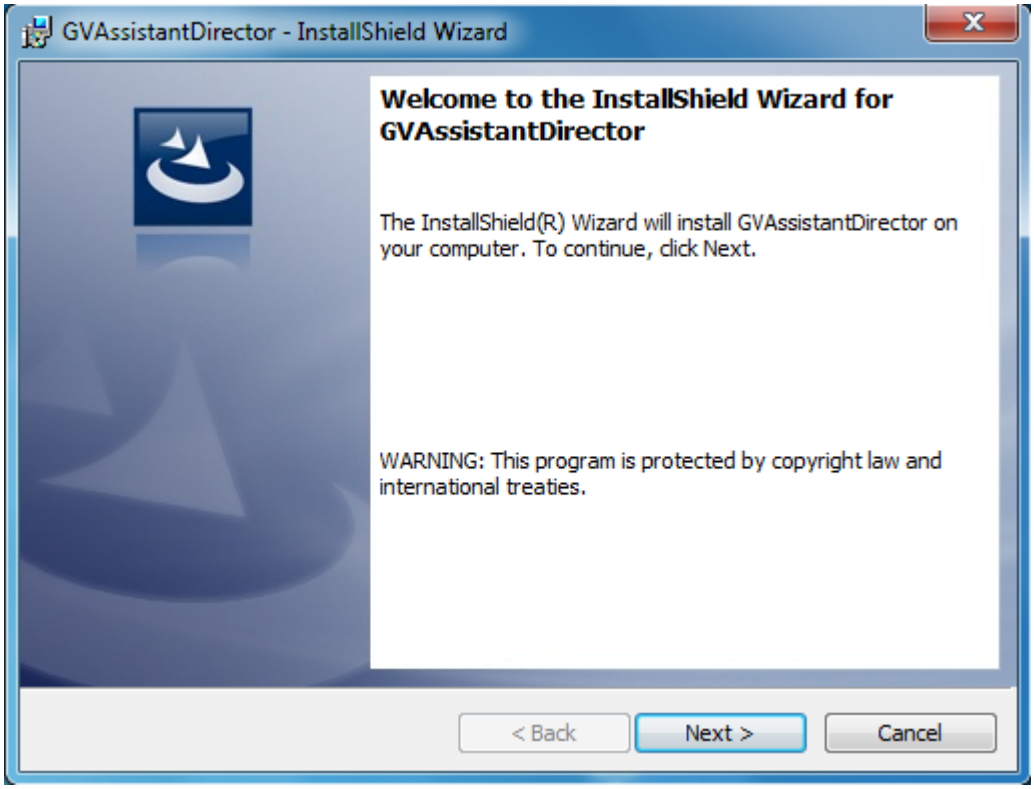
You install and run the Assistant Director software on a PC or a laptop. Use the standard Windows uninstall feature to remove any previous version of GV Assistant Director prior to installing a new version. Be sure to close any other open applications prior to installing the software. You must have Director version 1.1 installed on the server before you can connect to it using the Assistant Director tool.

Note: If you have not installed the Microsoft.NET Framework 4.5.2, you will be prompted to do so. This is an automatic installation.

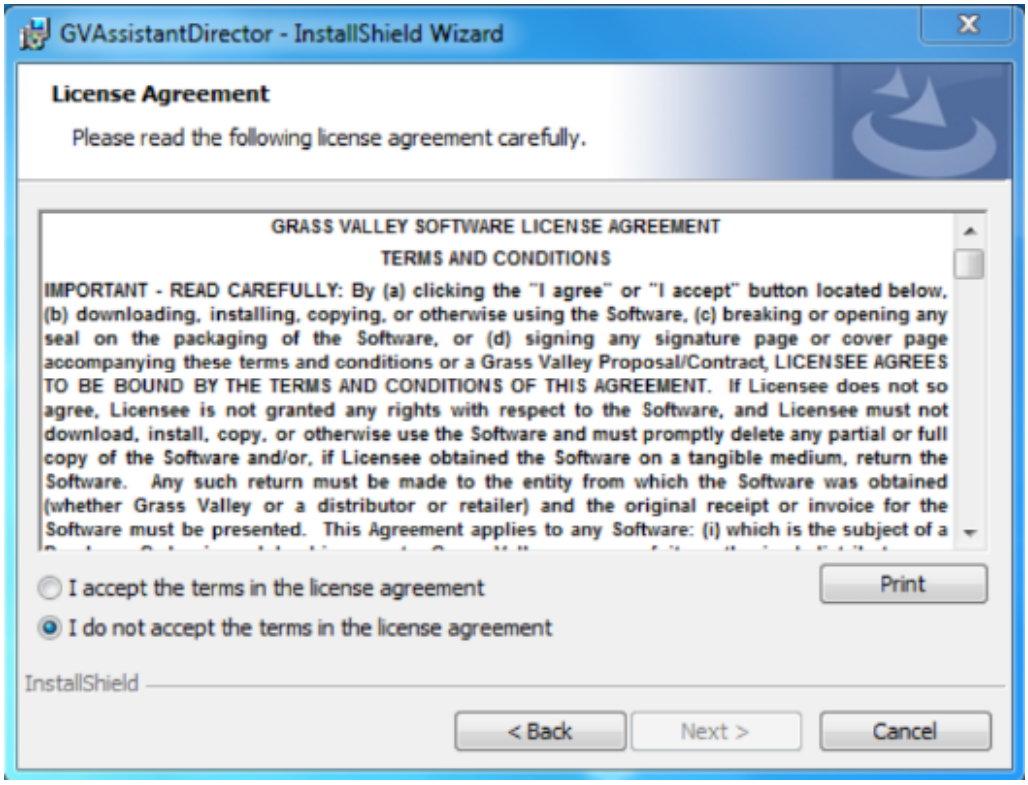
GV Assistant Director Installation Procedure

You install the application by copying the executable file from the USB flash drive.

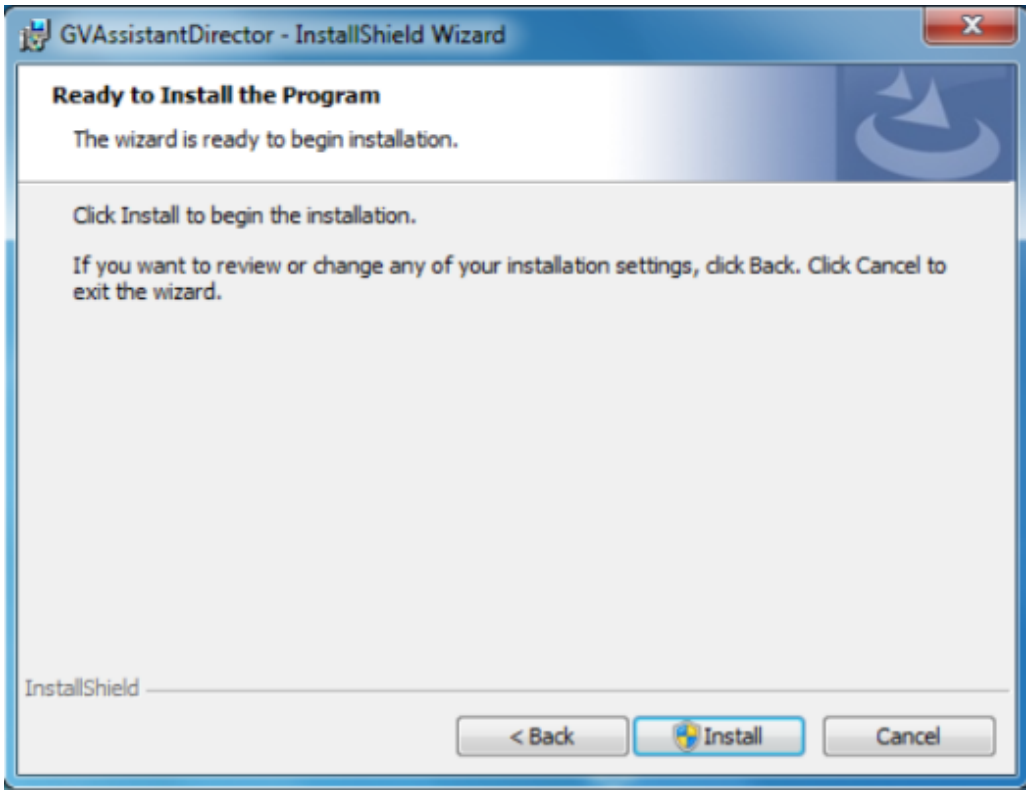
1. Download the [GVDAssistantDirectorSetup.exe] from the usb drive and place the file on your PC or laptop's hard drive.
2. Navigate to the GVDAssistantDirectorSetup.exe on your PC and double-click on the file. The **GV Assistant Director Install Wizard** launches.



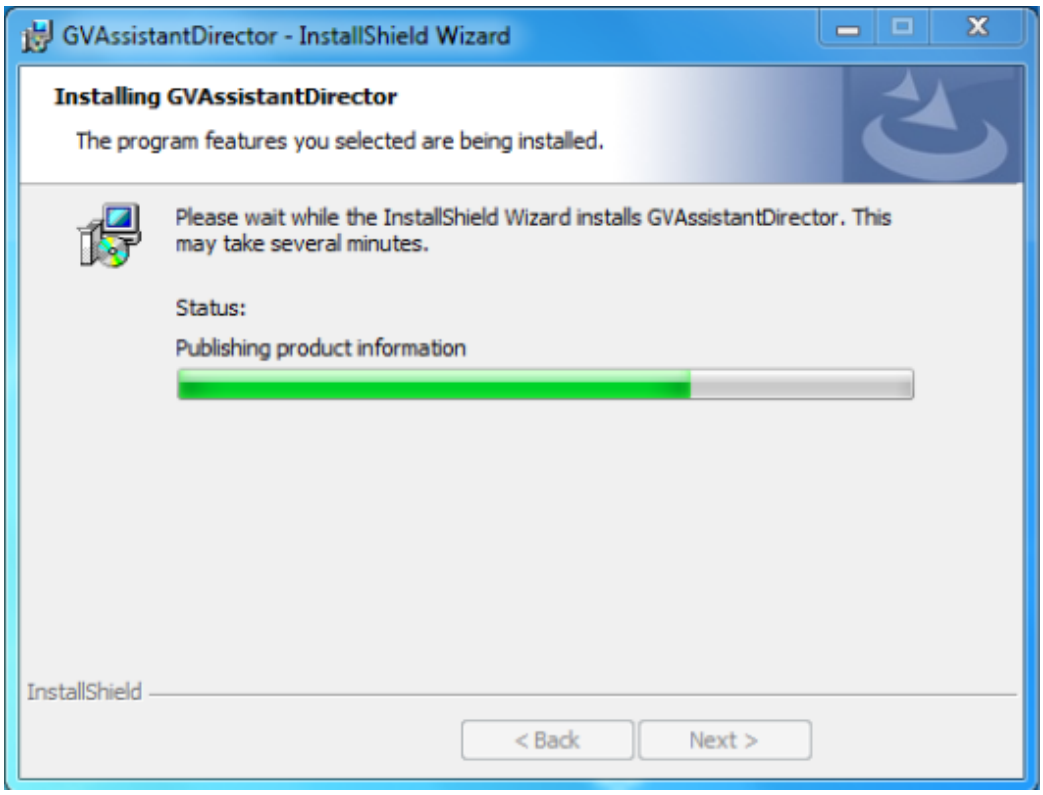
3. Click **Next**. The **License Agreement** screen displays.



4. Accept the terms in the license agreement and click **Next**. The **Ready to Install the Program** screen displays. .



5. Click **Install**. The **InstallShield Wizard** will automatically install the application.



6. To launch the application, double-click the **Assistant GV Director** application icon.

System Settings and Diagnostics

GV Director Server and Control Surface installation topics.

GV Director Control Panel Categories and Menus

The GV Director control panel is accessed by swiping down from the top center of the GV Director Touchpad. The control panel menus provide configuration, diagnostic, and system operation menu controls for the GV Director system.

Table 17: GV Director control panel menus

Control Panel Category	Control Panel Menu	Description
Configuration	Audio Mixer	Set the audio levels, including mute, for each input; Select Input button provided (top right). Double-tap an audeo channel to reset to default settings.
Configuration	Control Surface Setups	Select a Control Surface setup that includes Control Surface button assignments.
Configuration	Lever Arm Calibration	Calibrate the Control Surface Lever Arm.
Configuration	Multi-Viewer Setups	Select a Multi-Viewer setup.
Configuration	Production Packs	Load a production pack.
Configuration	Save Control Surface Setup	Enter a filename and save the current Control Surface setup. Setups are saved with the loaded production pack.

Control Panel Category	Control Panel Menu	Description
Configuration	Server Configuration	Set the server parameters for: • Host Name • DHCP: Enable/Disable, IP Address, Subnet • Stratus: Reserved for future use • Video Standard • HDMI 1 and 2: Enable/Disable • Add/Delete RSS Feeds
Configure	Server Reconnect	Reestablish a server connection.
Diagnostics	Server Information	View current server settings for: • Software Version • Video Standard • GV Stratus Server IP Address • Subscription State • System Load • Server IP • Panel IP • Server Serial Number • Server Health • Panel Software Version
Diagnostics	Server Restart	Restart the server.
Diagnostics	System Logs to USB	Generate a zipped file of system logs to a USB external device connected to the GV Director Control Surface (rear).
Diagnostics	Diagnostics	View the current server setup information.
Diagnostics	Server Restart	Restart the server from the Control Surface.
File Transfer	Send Media to Server	Select a clip or still and provide a path to copy the file from a USB external device to the GV Director Server.
File Transfer	Send Media to USB	Select a clip or still and provide a path to copy the file from the GV Director Server to an external USB device.
File Transfer	Send Production Pack to Server	Select a production pack (.ppk file) on an external USB device and provide a path to copy the file to the GV Director Server.
File Transfer	Send Production Pack to USB	Select a production pack (.ppk file) in the GV Director Server and provide a path to copy the .ppk file to a USB external device.
Record Program	Record Program	Name and record a clip from Program.

Record a Clip From Program

Record clips from Program that can be loaded and saved to the Shotbox.

A background production element is assigned to Program.

Note: The GV Director system creates a thumbnail for the clip from the Program input. This means if the input is black, the thumbnail will be black.

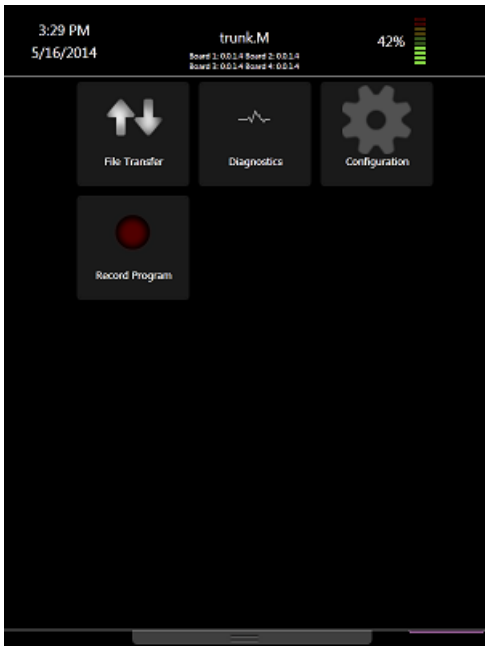
1. Swipe down from the top center of the GV Director Touchpad screen to reveal the Control Panels.
2. Touch the **Record Program** button.
3. Enter a clip name and touch **Save**.
4. Touch the **Stop Recording** button to halt the recording when ready.
5. Swipe from the bottom of the Touchpad to the top to close the **Control Panel**.

The clip is saved and available in the **Clips & Stills** menu.

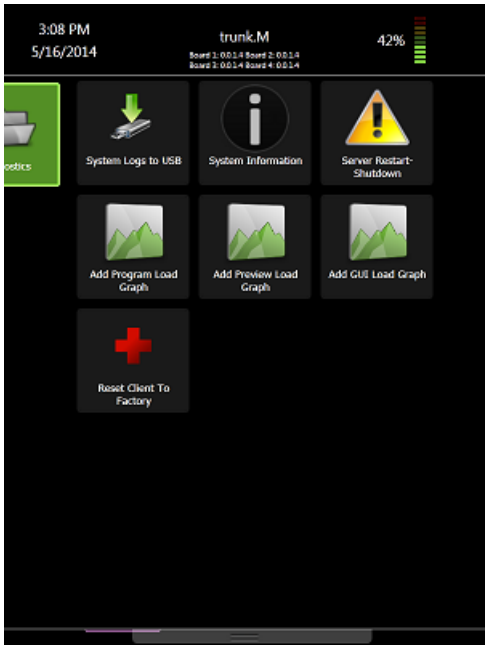
Viewing System Load and GUI Graphs

In addition to the system load indicator on the touchpad surface (bar graph), you can view the load as a graph.

1. From the main menu, tap the Diagnostics icon.



2. The Diagnostics screen displays.



Add Program Load Graph– select this option to display the server load graph for programs.

Add Preview Load Graph- select this option to display the server load graph in a preview window.

Add GUI Load Graph- select this option to display the server load graph for GUIs.

GV Director Overview, Set Up and Configuration

The GV Director™ Nonlinear Live Production System is the ultimate multipurpose tool for live production. It integrates video switching, multi-layer effects, animated graphics, multi-viewer monitoring, and more—all in a single, intuitive, and highly creative system.

GV Director represents a new way of thinking about the way people interact with broadcast systems in a live production environment. Its intuitive, simple and creative workspace allows for extremely flexible production roles and helps achieve greater production capability with existing, or reduced staffing levels.

In this module we will discuss how to connect the components of GV Director, make the proper connections of input and output signals and perform initial simple configuration task. Anyone with a basic knowledge of computer or video hardware connectivity can have GV Director operational in less than an hour of time.

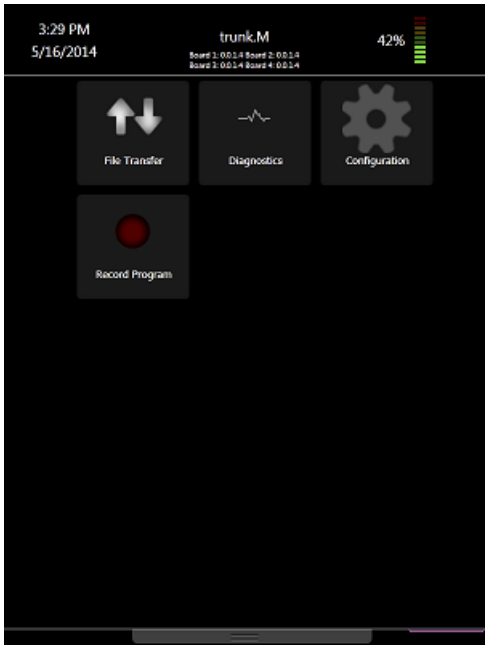
GV Director System Overview

The GV Director live video production system consists of both hardware and software components. Together they give the user everything required to produce live video productions with user definable production elements.

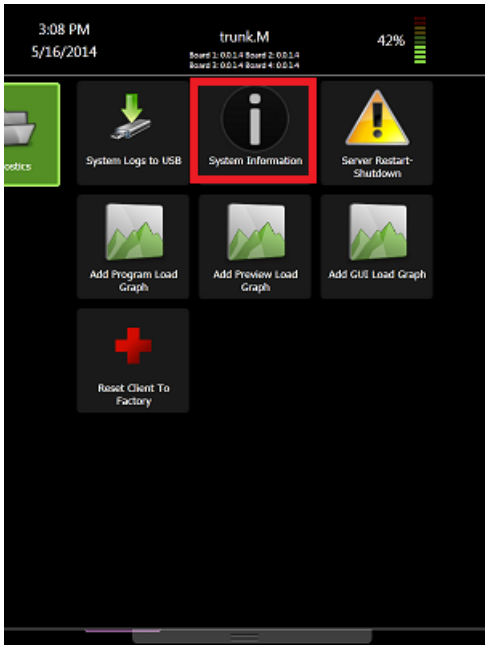
Viewing System Information

You may view system information such as the Software Version, the Video Standard, GV Stratus Server IP, Subscription State, System Load, Server IP, Panel IP, Server Serial Number, Server Health and Panel Software Version. Server Health displays as green, orange, yellow and red that indicated error levels within the system.

1. Open the main menu.



2. Tap the Diagnostics icon. The Diagnostics screen displays.



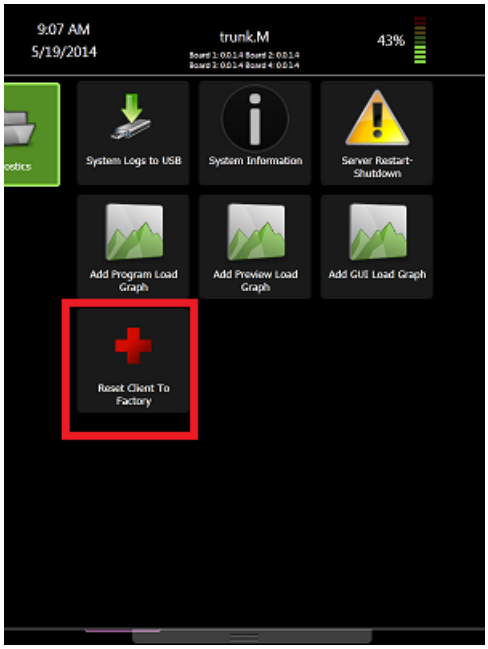
3. Tap the System Information icon. The System Information screen displays.

4. You may view, but not modify the System Information.

Reset Client to Factory

Use the Reset Client to Factory feature to restart the panel and wipe all configurations.

From the Diagnostics menu, select Reset Client to Factory.



GV Director Server

The GV Director System is centered on a compact server that incorporates video and audio I/O, multiple processors and GPU for graphics processing and local hard drives to store media clips and stills.

The server is the control center for GV Director. All input and output signals are connected to the system through the server's connector plate. All clip material used in a live production is stored in a library on internal hard drives and are easily accessible for use during live production. The server also houses the CPU and GPU with all the necessary computing power to process transition and effect elements stored in the server's production packs.

The server is in a 4 rack unit frame and is rack mountable. It runs on Linux operating system and has 2 12 core processors. 64GB of RAM and Solid State Enterprise class drives, 128 Gig system drive and a 480 Gig drive for media storage.

It is highly recommended that any files stored on the media drive be backed up elsewhere. The internal media drives do not use RAID technology and files would not be recoverable if the drives were to fail.

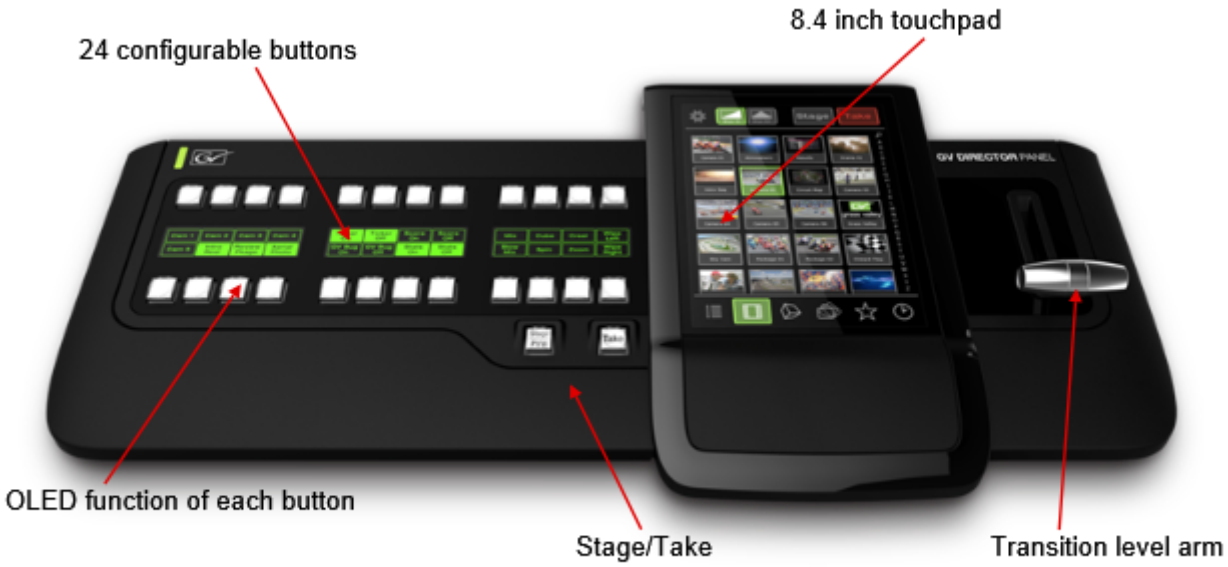
On top of the Linux OS is a Grass Valley Operating System called Nexos which is designed to handle the processing of audio and video including all the compositing, effects and any video re-formatting.

GV Director Control Surface

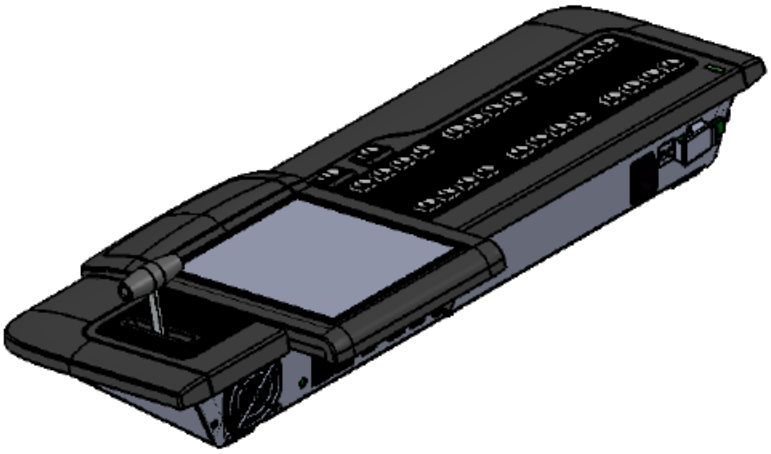
The GV Director Control Surface comes pre-installed with an Embedded Windows 7 Operating System. The GV Director Client software is pre-installed and set to auto-run at startup.

The Control surface employs an internal SSD drive so the boot up time is short and it is quickly ready for operation.

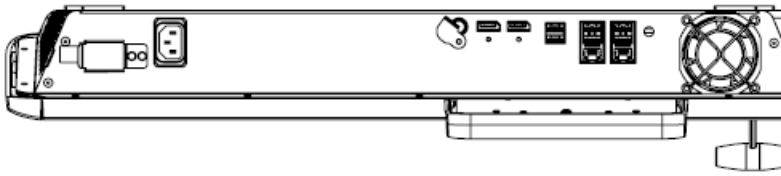
The Control Surface connects to the server over a standard network connection and communicates via a software interface called IPA server. The Control Surface is just that, a controller. No video or audio media pass through the control surface; it simply sends commands to the server and receives constant updates back with the server status. Up to 6 control surface clients can be connected to one server at any one time.

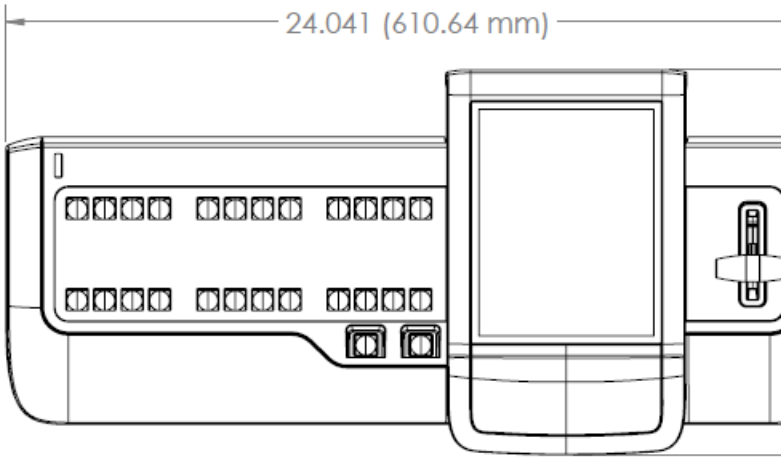

24 configurable buttons
8.4 inch touchpad
OLED function of each button
Stage/Take
Transition level arm

Control Surface Dimensions and Weight



IPAWEIGHT: 13.5 Lbs (6.12kg)





Control Surface Components

Assignable Buttons

The buttons on the Control Surface are completely configurable and can be set up to access not just live camera feeds but pre-recorded media, graphic effects and transitions.

Touchpad

The tablet style touchpad is the center of the operation of the system and it's from here that you can configure your system, access all your video sources and effects and then map the ones you want to the buttons.

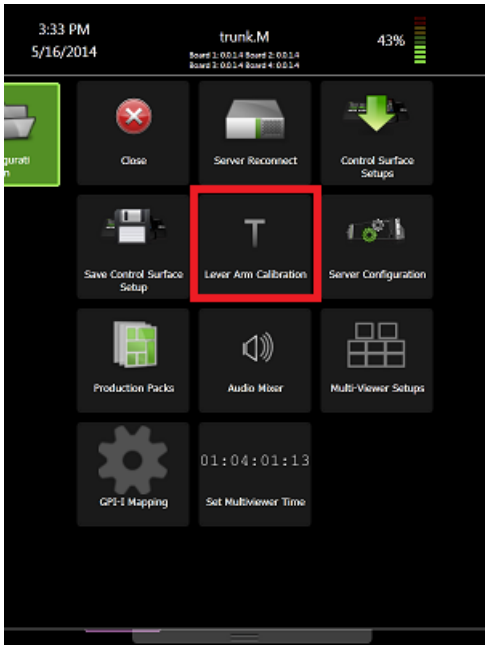
Transition Lever Arm

The transition lever arm allows for manual control of selected transitions.

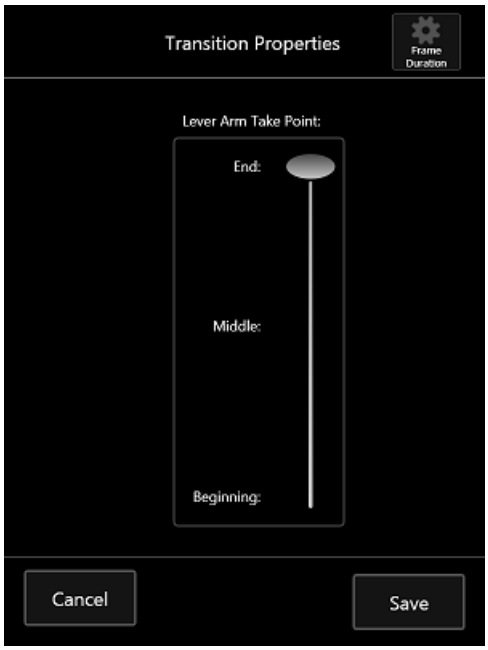
Lever Arm Calibration Setup

You set up the calibration for the lever arm from the Configuration menu. You must place the lever arm in the down up down position to set it up.

1. From the Configuration menu, select Lever Arm Calibration.



The Lever Arm Calibration screen displays.



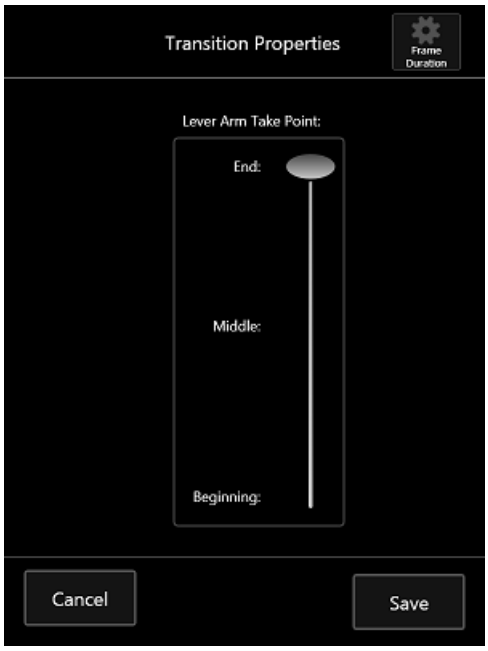
2. A confirmation screen appears and instructs you to move the lever arm to the down position. Tap OK.
3. A confirmation screen appears and instructs you to move the lever arm to the up position. Tap OK.

4. A confirmation screen appears and instructs you to move the lever arm to the down position again. Tap OK.

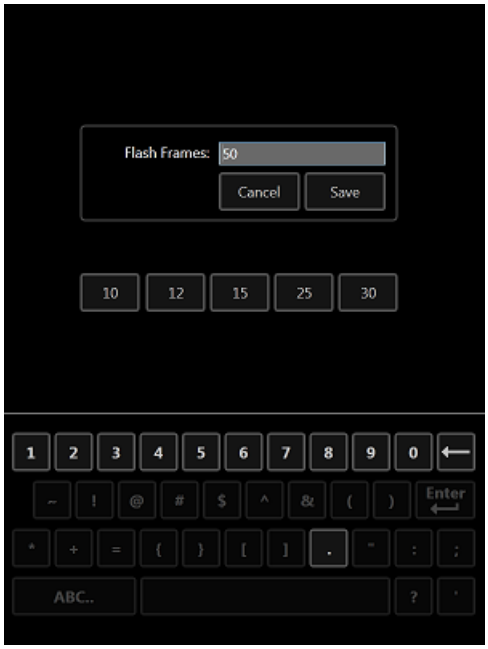
Modifying Lever Arm Calibration Properties

You may monitor lever arm properties including the lever arm take point and the frame duration. The initial lever arm setup is saved and you do not have to recalibrate the system with every subsequent power on. But, if you think the Lever Arm needs to be recalibrated, for example, if you see a transition that jumped or failed to complete before the Lever Arm completed its transition. The, you can perform a new calibration here. You may also use this screen to set the lever arm's frame duration (the number of frames per transition).

1. From the radial menu, select Transition Properties. The Transition Properties lever arm screen displays.



2. Set the lever arm take point. This is where you start to put the transition to air.
3. Set the lever arm's frame duration (the number of frames per transition). Select Frame Duration.



4. Enter the number of Flash Frames and select Save.

N-Vision Router Control (GVD-PRO-BL Platform Only)

What makes router control unique in GV Director is the ability to access the sources directly from the control panel without having to use the menu. Inputs can be enabled to be dynamic when fed externally by an N-Vision router.

Setting up GV Director N-Vision router control involves the following steps:

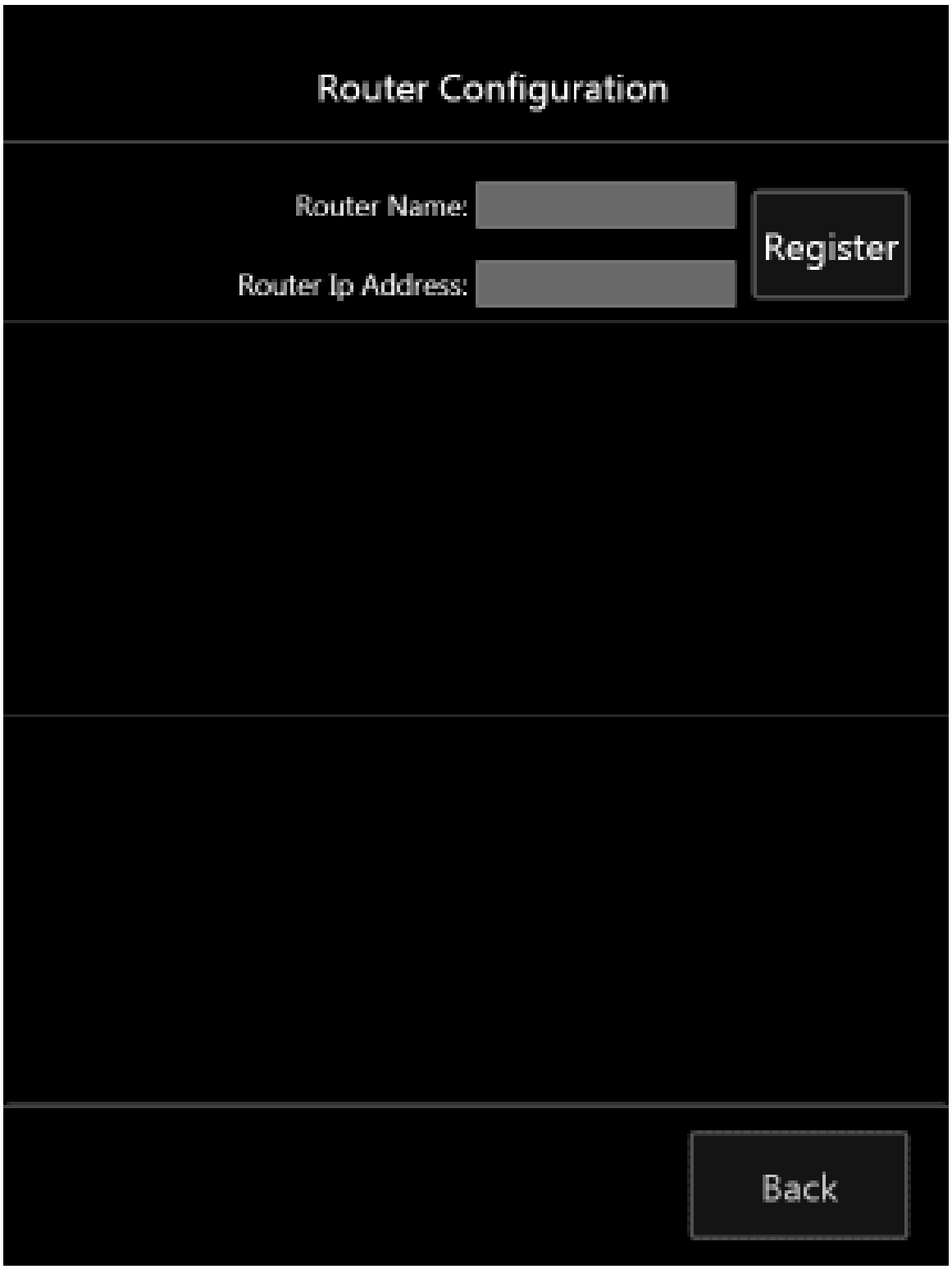
- Configuring the router.
- Specifying the assocation between the router destination and a GV Director input.
- Routing the destinations from the Control Panel.

Configuring an N-Vision Router

Router Control for N-Vision Compact routers enables the expansion of the GV Director IO by enabling inputs to be “dynamic” which are fed externally by an N-Vision Compact router. Operators can then dynamically change router cross points directly from the GV Director panel. The first step in setting up router control in GV Director is to configure it. Use the N-Vision router set up screen to establish your IP Address if you haven’t already done so. You need to know the router's IP address before you configure it.

1. From the **Configuration** menu, select **Router**.

The Router Configuration screen displays.



2. Enter your license number.
3. From the **Router Configuration** screen, click **Add**. Tap the **Router Name** field to activate it.
4. Enter a **Name** for the router.
5. Enter the **Router IP Address**.
6. Click **Register**. A list of sources and destinations for the router displays. You can add or delete the routers that display.

7. Click **Back**.

Specifying the Association Between the Router Destination and a GV Director Input

The next step in router configuration involves specifying the association between the router destination and an input into GV Director.

1. From the **Input Properties** screen, double-tap and select **Properties** from the menu.

The Input Properties screen displays.

2. For **Routing** select **Static** or **Dynamic**.
3. Select the **Router**.
4. Select the **Destination**.

You have selected the physical patching between the router's destination (output) and the input in GV Director.

Accessing Routing Destinations from the Control Panel

After you have configured your router and have specified the association between the router destination and an input into GV Director, you can access and route sources directly from the control panel.

1. From the **Router Configuration** screen, select the Router.

2. From the Control Panel, selectr the **Shift** button and select the **Input** button. A list of router sources appears on the panel. You can pick from the list of sources. Use the **Pg Up** and **Pg Down** buttons to view more sources.
3. Select the Router.

Routing Sources from the Control Panel

After you configure your router, you can route sources directly from the control panel.

1. From the Control Panel, select **Shift**. A list of available router sources will display on the panel.
2. On the panel, click the button for the router you want to select and you will route to the source you specified.

Multi-viewer

GV Director can also have a [customer supplied] touch screen multi-viewer connected. The multi-viewer displays program outputs, stage outputs and separate displays of the live sources connected to the server. From the Multi-viewer, the operator can select a desired live source on the monitor screen. That selected source will be transitioned to air. The GV Director operator can transition from one source to another by selecting the desired live source on the touch screen.

The Multi-viewer display can display all 8 live input streams together with metering for the first four embedded audio channels for each input, plus the main program output, plus the Stage output.

If you choose to make the Multi-view monitor a fully configured touch screen monitor then you should select a monitor from the list supplied by Microsoft for Windows 8 certified monitors. As a minimum spec the monitor must be able to run at a resolution of 1920x1080.

GV Director Production Elements

GV Director uses four different production elements to create the desired on-air look of the production:

Live

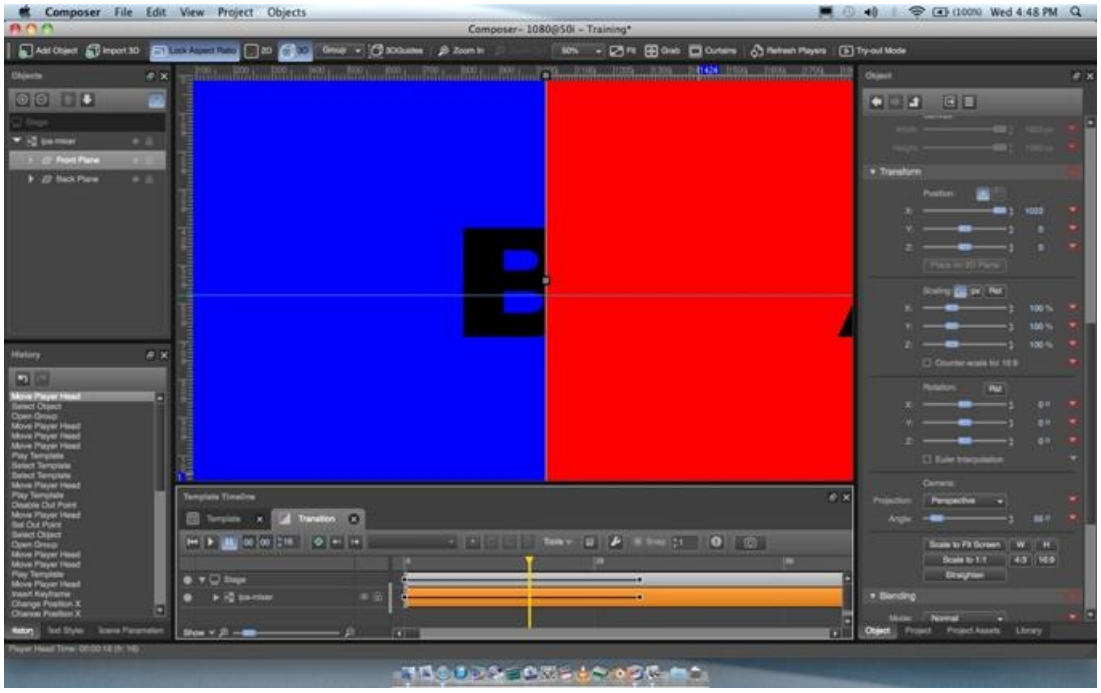
Clip

Transitions

Effects

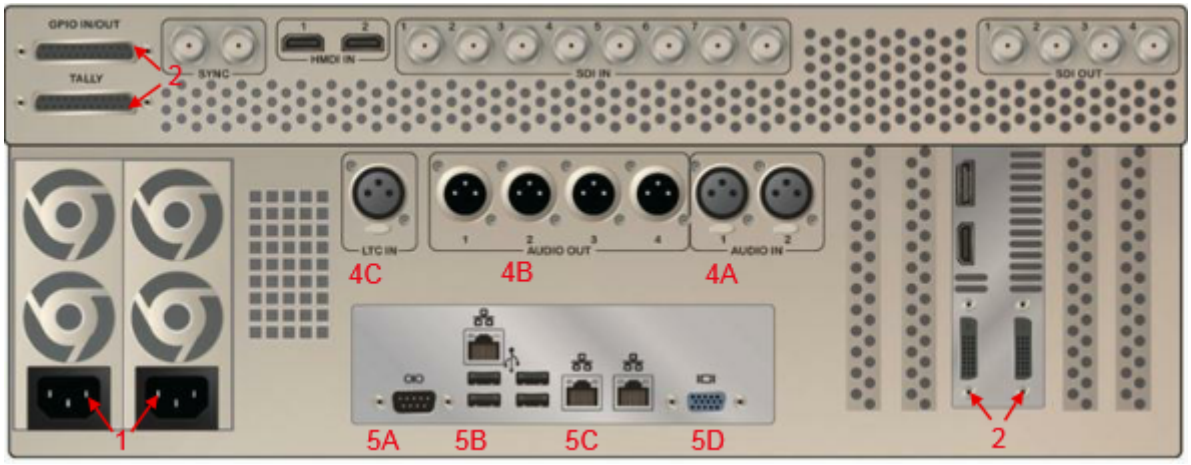
These four elements combine in GV Director to create the background video and foreground (layered) elements needed for a live video production.

Composer for GV Director Application Overview



GV Director ships with Composer, the graphics animation and compositing software application. With Composer, you can create static and animated 2D and 3D effects and mixer transitions for GV Director, allowing you to design the look and feel of your live production. Composer gives you the ability to create your own customized Production Packs. Composer software runs on any computer with a 64-bit Mac or Windows operating system.

Server Backplane Connections



1. Redundant PSU

- The server will run on just one power supply. For reliability, it is better to have both powered.

2. GPIO / Tally

- Two 25 pin D-type connections.
- One is used for GPIO (used to trigger external devices), and one for Tally (on-air lights on live cameras).
- GPIO has 12 inputs and 12 Outputs and uses 5v input levels and Open Collector outputs.
- The Tally has 8 outputs are also all Open Collector.

3. Video I/O connections Located along the top of the back plane, and include:

a) Video Reference Sync inputs (supports both Black and Burst and Tri-Level)

- If not looping through the reference feed, 75ohm termination is recommended.

b) SDI inputs (x8)

- Supported video standards: 720p50/59.94 and 1080i50/59.94 (HD) /525i59.94 and 625i50 (SD).
- 16 Channels of embedded audio are supported on the SDI inputs with a maximum sample rate of 48 KHz and 24bit sampling.
- At system power up, the SDI inputs are set by default to match the system video format setting.
- The table below shows system video format versus valid inputs for that format.

System Setting	Valid Inputs
1080@59.54i	1080@59.54i or 525@59.94i
525@59.94i	525@59.94i or 1080@59.54i
720@59.94p	720@59.94p
1080@50i	1080@50i or 625@50i
625@50i	625@50i or 1080@50i

👉 **Note:**

- SDI inputs will maintain their format setup even when a cable is removed.
- A server restart is required to reset a SDI input back to default or to auto-sense a new signal that has been plugged to an input.
- Sync SDI inputs will have a two frame latency through the system for interlaced sources and three frames for Progressive feeds. If a source is not sync'd, the Frame Sync setting MUSTbe enabled (in the Properties menu).
- A non-sync'd source with Frame Sync left disabled will consume processing power and impair the performance of the system

c) HDMI inputs

- The two HDMI inputs share their resources with two of the SDI inputs.
- If HDMI is enabled (via the Control Surface menu) one SDI input will be disabled for each HDMI input.
- HDMI input 1 uses the same resources as SDI input 4. HDMI input 2 shares with SDI input 6.
- The system will auto-sense the HDMI input signal (add/drop frames and re-size as required).
- HDMI inputs are for Video only. Audio and HDCP is not supported.

(d) SDI Outputs (x4)

These are hard-coded to output Program on output 1, Stage output on 2, AUX1 on output 3 andAUX2 on output 4 and support 16 channels of embedded audio.

4) Analog Audio

a) XLR Audio Inputs (x2)

- Designed for line level input (+4dBu).
- Microphones will require a pre-amp to bring them up to line level.

- Selectable in the audio mixer (default = mute).
- Once un-muted, the system auto-saves the current state (even after re-boot).

b) XLR Audio Outputs (x4)

Hard-coded such that Outputs 1&2 = Program 1&2, and Outputs 3&4 = Stage 1&2.

c) LTC Audio Input

Currently used to display a system clock time on the Multi-viewer output

No features making use of 'timed events' are yet enabled

5) Computer Ports

a) Serial Port

- (not used)

b) USB Ports (x4)

- One of the USB ports is to be used with the Multi-view display touch screen (if necessary).
- Two other USB ports can be used for mouse and keyboard connectivity if necessary when performing maintenance or troubleshooting.

c) Network Interface Connections (x3)

- The **left is NIC 1** and is configured as DHCP by default.
- NIC 2 on the righti s set to a static IP address of 192.168.100.100.
- The settings for these two network ports can be changed via the control surface touchpad menus where you can also set the host name for the server.

d) VGA Port

- VGA port can be used for display if necessary when performing maintenance or troubleshooting.

6) Graphics Board

- Only the bottom left DVI connection is used for connecting to the Multi-view display.

Control Surface Connections

1) Auto-sensing power supply that works between 100 and 240V ac and 50 or 60Hz.

2)Power on/off switch which has a protective cover that can be moved over the button to prevent accidental presses from fingers feeling round the back.

3)Two monitor display ports are for future use.

4)Two USB 3.0 ports, labeled with the SS or super speed symbol.

- Do NOT connect devices unless you are sure they support USB3.0.

5)Two network ports with a pair of standard USB ports beneath each of them.

- Two of the standard USB ports could be used for a keyboard and mouse. Use of keyboard and mouse are recommended as touch capabilities of the touchpad do not-function when working with the Windows desktop.

Best practice: When attaching a USB device, allow at least 20 seconds for Windows to recognize and install the driver for the device for the first time. Older devices, not recognized as removable storage, may not work with GV Director.

6)Two Network ports, these are configured similar to the server in that NIC 1 is on the left and by default set to be DHCP and NIC2 is on the right and set to be a static IP address, in this case it is 192.168.100.101. To modify either network port setting you will have to close the GV Director Client software and adjust them within the standard Windows 7 OS settings.

Best practice: Initially configure the GV Director system by connecting the two NIC2 ports (those are the static IP address ports) together. Required changes to the server network port configurations and Host name can easily be made through the touchpad menus.

7)3.5mm headphone socket is not used. You only hear the control surface operating system sounds here as no audio media is passed through the control surface.

Multi-viewer Monitor Connections

The DVI connection to the monitor must be setup before powering the server on, in order for the server to recognize that a monitor is connected. (You can also use a DVI to HDMI converter to connect your Multi-view display.)

You will then need a USB connection between the server and monitor to pass the touch screen information.

If you plan on using a KVM extender then make sure it will pass the EDID number of the monitor at system boot, again this allows the server to detect a monitor is present.

Power Up Routine

- All video inputs should be connected prior to powering the system on.
- The auto-sensing for incoming signals is done on power up of the server.
- Once the individual pieces of the system are connected and ready for power up the server should be powered on first.
- After the server has up and operational the control surface should then be powered on.

GV Director Configuration

After connecting the Control Surface, server, inputs and outputs, GV Director requires some simple configuration for first-time use.

Control Surface IP Configuration

On start-up on the Control Surface touchpad, an initial screen may appear.

If the Control Surface is not yet configured for an IP connection with GV Director Server:

- Enter the IP address for the server to be connected to your Control Surface.

Server default IP address is: 192.168.100.100

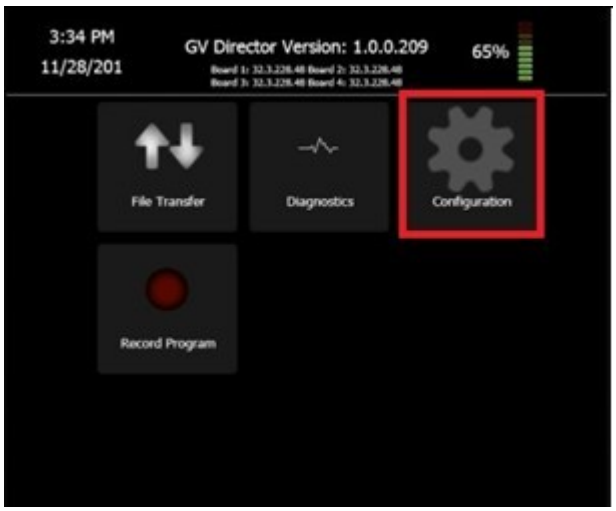
The Control Surface and the server are pre-configured with factory-set IP addresses.

Control Surface default IP address is: 192.168.100.101

These IP addresses are configured for the Static IP Ethernet connections on the right of both Control Surface and server. The Ethernet connections on the left of the backplane are set for DHCP enabled for network assignable IP address.

Set Output Signal Format

1. Access the System Set-up menu with a top-to-bottom finger swipe on the Control Surface Touchpad.
   This menu provides selections for **File Transfer** (both Clips and Production Packs), **Diagnostics** and **Configuration**.



2. Select the **Configuration** icon on the menu to access multiple sub-menu selections used in the configuration of the GV Director system.

   In **Server Configuration** window:

3. Enter the Video Standard for the project.

GV Director can be set to 1080i (50 Hz or 60 Hz), 720p (50 Hz or 60 Hz), NTSC or PAL.

Note: If you change the video output format after you've powered up the system, you must restart the server to set the proper format conversion of miss-matched incoming signals.

Incoming video can be a mix of formats. GV Director Server will convert incoming signals to match the output format. GV Director cannot mix interlaced signals with progressive signals.

Supported Clip Formats

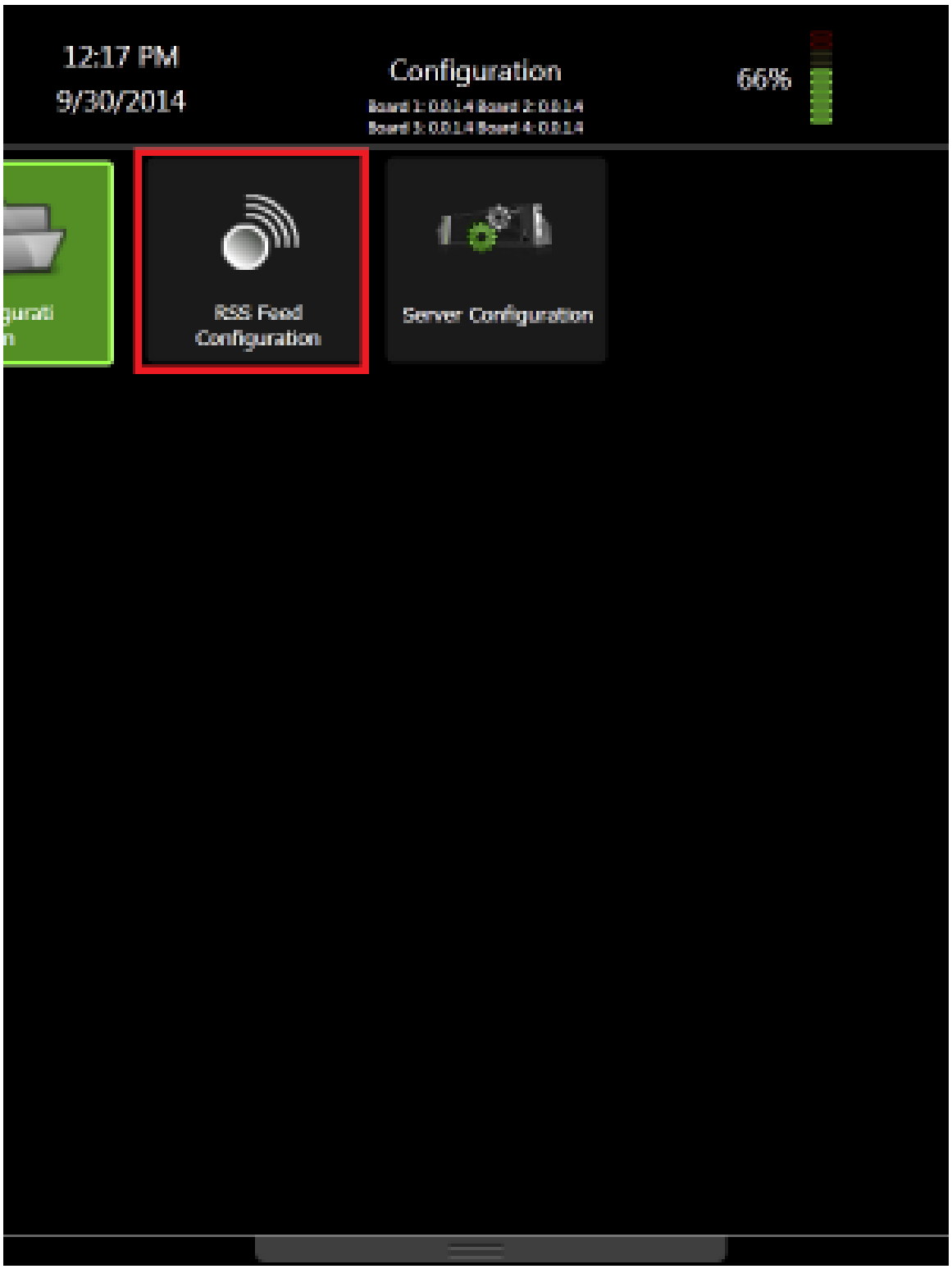
Clip elements are video and audio clips stored in a clip library on the server's raid drives. The following are supported video and audio elemental file formats, delivered in either an MXF or MOV file wrapper:

Video Clip Playback Formats	Audio Formats
• MPEG-2 I-Frame (SD, HD, TS) • IMX/D10, 30, 40, 50 • DVC Pro 25/50 • MPEG-4 • XDCAM 18, 25, 35, 50	• PCM • MP3 • AAC (MPEG-2, MPEG-4) • WMA (OP1a) • MPEG-1

Adding an RSS Feed to a Program

Add an RSS (Real Simple Syndication) feed to a program. RSS feeds consist of headlines or short summaries of content with a link provided to the original source.

1. From the Configuration menu, select the RSS Feed Configuration.



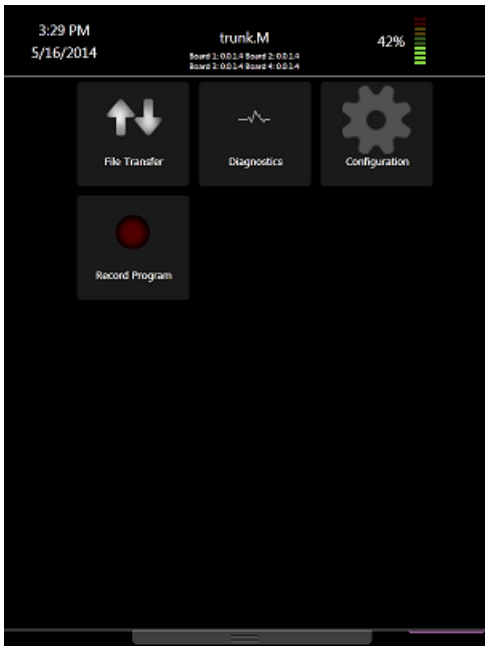
2. From the RSS Feed Configuration menu, tap the New Feed icon.
   The RSS Feed Information screen displays.

3. Enter the Name of the RSS feed. This is the system name you will assign to the feed.
4. Select the content type: Title – displays the title only. Description – displays only the description. Both – displays both the title and description.
5. Specify the Maximum Stories you want to display for the feed. For example, if you enter 5, the first five stories in the feed will display in your program. When the fifth story is complete, the first story will run through the loop again.
6. Click Save.

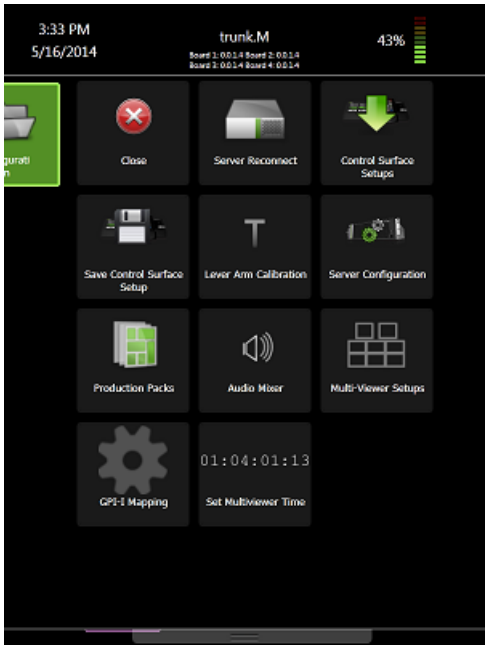
GPI-I Mapping

There are 12 outputs controlled by the icons under the effects tab. You can use them the same way as you would use an effect. You can put them out to program, map them to a button, or you can add them to the stage or an event list. Note that if a GPO is placed in the stage, there is no change to the hardware signal until the stage is taken to program. In this case, the stage doesn't always act as program. In addition to the ON and OFF states, the GPIO can send a pulse. You can access the pulse via the Radial menu. These can be used to trigger an effect or any production element for either the program or stage based on the rising or falling edge of the GPI input PIN.

1. From the top of the Control Surface touchpad, swipe down to access the Control Panel menu.



2. Tap the Configuration icon. The Configuration window displays.



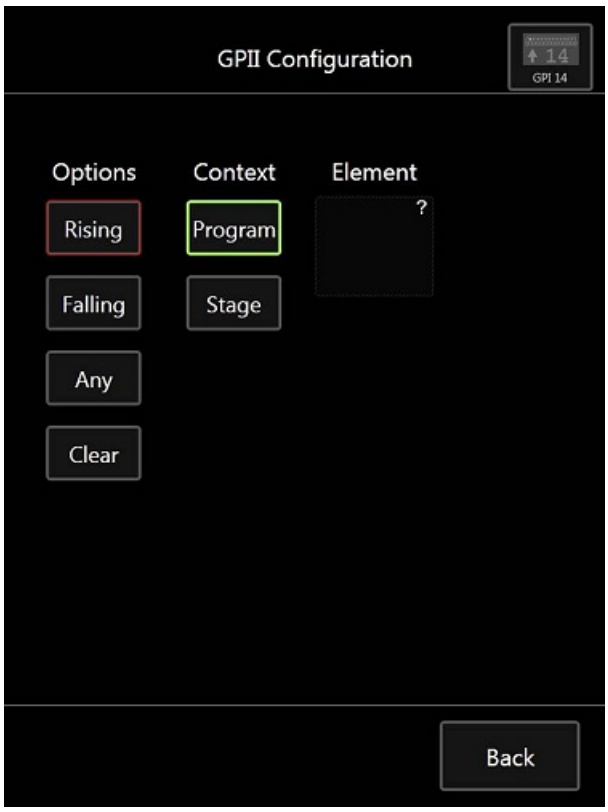
3. Tap the GPI-I [Input] Mapping icon. The GPI-I window displays.

From here, you can configure any of the 12 GPI inputs which are on pins 14-25 on the GPI connector. Similar to the Audio Set Up Menu, the Select GPI icon will return you to the input selection view.

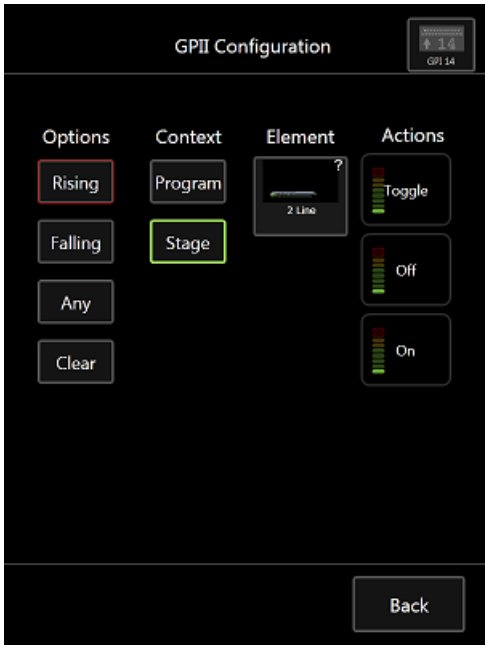
4. Tap on an input icon to select it. The GPII configuration window displays.

You then have 4 options: Rising – set the rising edge to trigger something. Falling - set the falling edge to trigger something else. Any – set any edge to trigger something. Selecting this option will set the same conditions for the rising and falling edge. Clear - removes all mapping for this GPI input.

5. Select an option. For example, you might want to tap the Falling option.



6. Select Program to place the element to air or select Stage to place it on the stage.
7. Select the Element by tapping the icon.

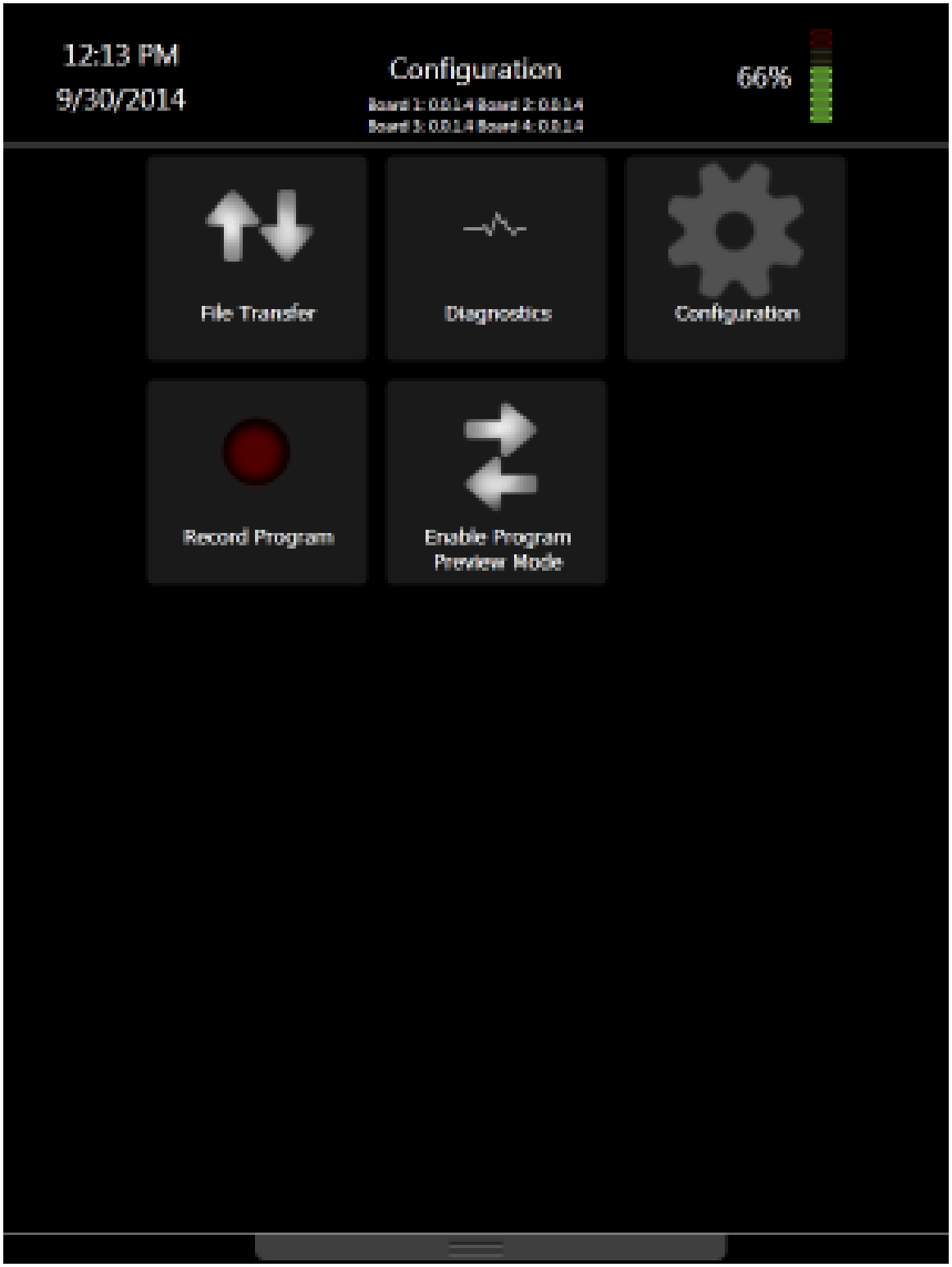


8. Select On, Toggle or Off for the action. Note that your selections will highlight green.

Program Preview Mode

Program Preview mode for Program to Stage mimics a traditional switcher. This is a feature that allows Grass Valley Director to behave like a traditional switcher. You can turn this mode on, and when you transition something from Stage to Program, what was on the Program automatically goes to the Stage.

1. From the top level **Configuration** menu, click **Enable Program Preview Mode**. Once you have pressed it, the mode is then enabled. (When the button is labeled **Disable Program Preview Mode**, it means that the feature is currently enabled.)



2. Load the **Stage** with transitions, live inputs, elements, etc. Place whatever elemets you want on the **Stage**.
3. From the **Stage**, put in an input.
4. Select the red **Take** button.
5. Move the lever bar for the transition. At the end of the transition, the source that was in the program side of the switcher is now automatically loaded into the stage.

GV Director File Based Content

Both clip elements and Production Packs must be imported to the server before they can be used in GV Director. This module will cover how to import and export both clips and Production Packs using either a removable storage device connected using the USB ports, or transferring them over a network connection via File Transfer Protocol.

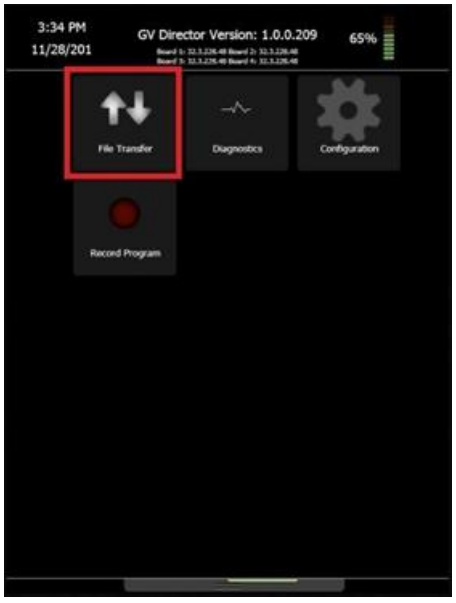
File Transfer

Clip files can be transferred into GV Director in a couple of different ways. They can be Ftp'd over a facility network or transferred from a USB storage device using any of the USB ports on the Control Surface.

File Transfer Using USB

A simple search checks the name, tags, description, comments, and custom texts of the assets.

1. Insert your storage device into one of the USB ports available on the Control Surface.
2. Access the **System Set-up** menu with a top-to-bottom finger swipe on the Control Surface Touchpad.
3. Select the **File Transfer** icon to access the file transfer menu.

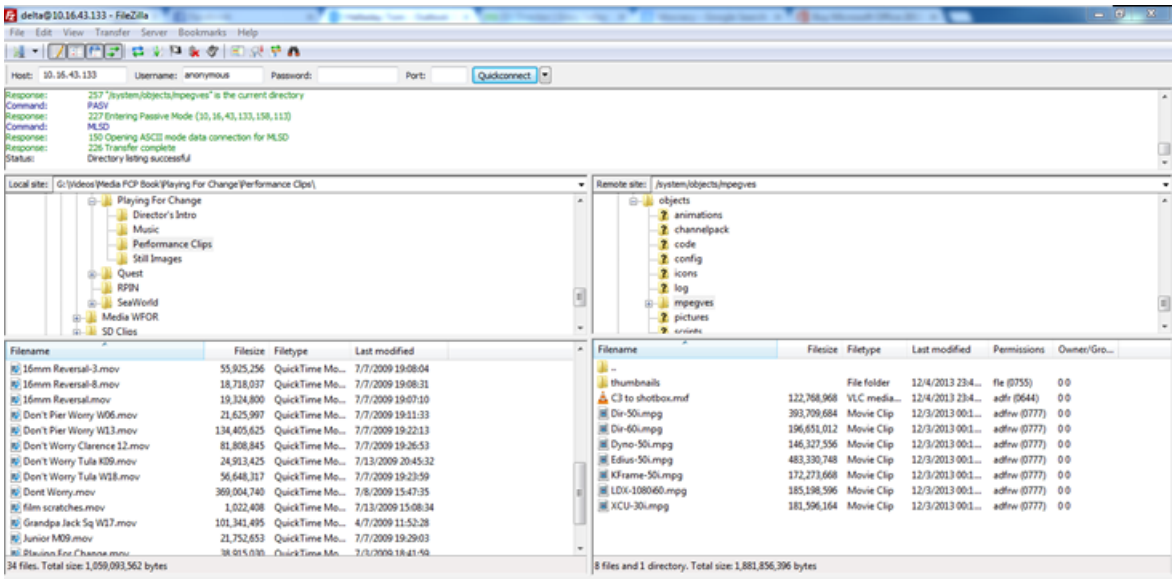


4. Select **Send Media to Server** icon to transfer clips from USB device to server.
5. Navigate to the correct drive and file.
6. Select file or files you want to transfer to the server.

File Transfer via FTP

Files can also be transferred using FTP. Using a software application that will allow you to transfer files over the network from the location where they are stored to the proper file on your GV Director server. Below is an example using the FileZilla FTP software.

Files can also be transferred using FTP. Using a software application that will allow you to transfer files over the network from the location where they are stored to the proper file on your GV Director server. Below is an example using the FileZilla FTP software.



1. In the **Host** field at the top/left of FileZilla, enter the **IP address** of your GV Director server, user name: Delta and password: Delta
2. Click on the **Quickconnect** button to the right.
3. Once you have established a connection to the GV Director server, in the center/left pane labeled **Local Site:** find the drive and directory on your local computer or network drive where the file you want to transfer is stored.
4. Select the clip or clips you wish to transfer.
5. On the right/center pane labeled **Remote site:** set the directory path as follows for clips you FTP to /System/Objects/mpegves, for pictures/stills you ftp to /system/object/pictures.

Note:

It is critical to store the imported file in the correct location on the GV Director server. This is the file location that shows the files you will see in the clip library menu when accessing clip and still files for your GV Director players.

Importing Production Packs

The Effects and Transitions production elements used in GV Director are created using the Composer for Director Application. Effects and transitions are loaded into GV Director by importing Production Packs from Composer. GV Director comes with pre-loaded Productions Packs designed with several Effects and Transitions to support a multitude of different production styles. In addition, users can create their own Production Packs or modify existing Production Packs using the Composer software. Production packs are identified by the .ppk suffix

Importing Production Packs Using USB

Production Packs from Composer can be saved to a USB storage device. That storage device can then be connected to either GV Director Control Surface or server for transfer into the system.

1. Access the **GV Director Set-up** menu with a top-to-bottom finger swipe on the Control Surface Touchpad.
2. From this menu select the **File Transfer** icon to access the file transfer menu.

3. Select **Send Production Packs to Server**.

4. Select **Production Packs** icon.
5. Select the Production Pack or Packs that you choose to transfer into GV Director.

Accessing Production Packs from the GV Director Server

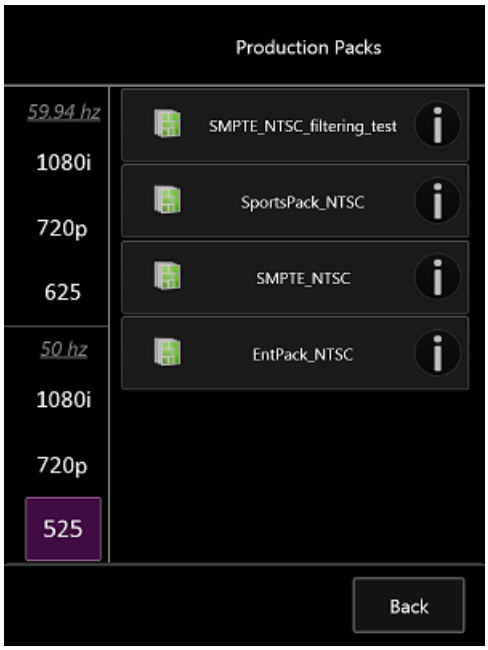
Once Production Packs are loaded into GV Director, access to the desired Production is relatively simple.

1. Access the **System Set-up** menu with a top-to-bottom finger swipe on the Control Surface Touchpad.
2. From the **Setup menu**, select the **Configuration** icon to enter the Configuration menu.

3. Select the **Production Pack** icon.
   This opens the menu with the list of currently loaded Production Packs on your GV Director system.

4. From this list, choose a Production Pack.
5. Press the **Select** button at the bottom of the screen.

   The production packs are organized and display by resolution and frame rate. You will not be able to add a production pack that is not compatible with your system. The production pack with the green tick in the upper right corner is the one currently in use.



Loading a Production Pack

Production packs are organized by resolution and frame rate (PAL - 50, NTSC - 59.94). Select the frame rate under the resolution you want to use. Only the production packs that are compatible will display. This prevents you from selecting a production pack that is not compatible.

1. Access the **System Set-up** menu with a top-to-bottom finger swipe on the Control Surface Touchpad.
2. From the **Setup menu**, select the **Configuration** icon to enter the Configuration menu.
3. Select the **Production Pack** icon.

   This opens the menu with the list of currently loaded Production Packs on your GV Director system.

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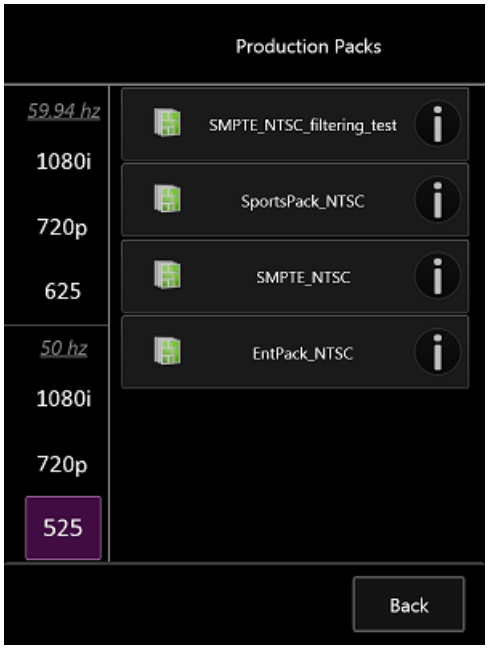
   The production pack with the green tick in the upper right corner is the one currently in use.



For more information about the production pack, click on the "i" icon.

Deleting a Production Pack

1. In an Asset List panel Location drop-down list, select the location (search provider) you want to search.
2. In the Simple Search tool, enter the word or a fragment from the beginning of a word.
3. To start the search, press **Enter**.

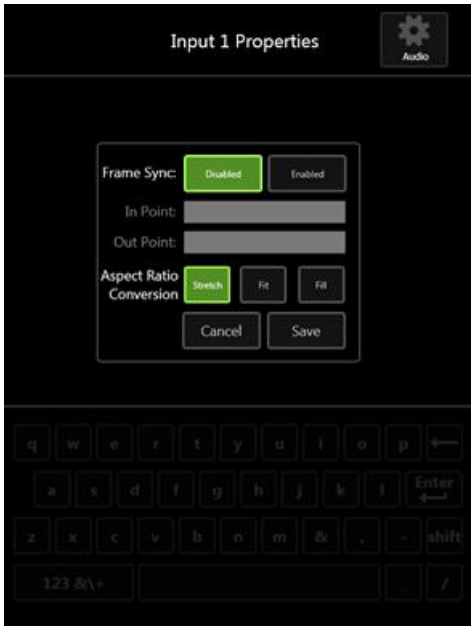
Changing Input Properties

Input Properties can be accessed and changed with the Radial Menu.

1. Double tap and hold on any of the Source Inputs to access the **Radial Menu**.
2. Select **Properties** to access setup items for the selected source

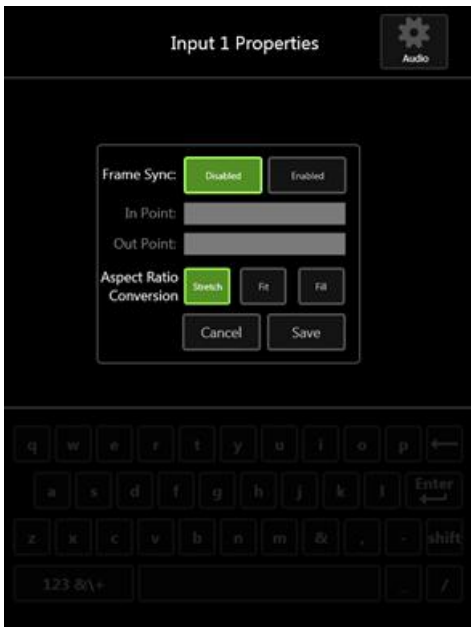
Frame Sync

Frame Sync allows you to enable or disable a frame synchronizer for the selected input. This allows you to use non-synchronous source material. If Frame Sync is enabled, it could add as much as 2 frames of latency at the program out.



Aspect Ratio Conversion

Because live sources can be of mixed formats, **Input Properties** allow the user to set up for non-matching sources. Aspect ratio conversion allows for selecting how a source is to be displayed that isn't the same aspect ratio and the selected output format. **Stretch** does an anamorphic stretch of the selected source so that fills the current screen space. **Fit** will maintain the original aspect ratio of the source and fill the unused portion of the screen with either Pillarbox or Letterbox. **Fill** will maintain the pixel by pixel resolution of the original source.



Renaming the Input Source

The **Radial Menu** selection of **Rename** allows setting and renaming the name of the input source. Setting the name of which camera or replay device is selected gives a clearer indication of what the signal put to air will be.

1. Double tap and hold on any of the Source Inputs to access the **Radial Menu**.

2. Select **Rename** and a new window appears.

3. Enter the Input name.
4. Select **Save**.

   Either the Touchpad keyboard or a USB attached keyboard and mouse can be used to enter text.

Configuring Audio

Each input source has 16 tracks of embedded audio.

Accessing Audio Level Controls

1. Access the **System Set-up** menu with a top-to-bottom finger swipe on the Control Surface Touchpad.
2. In the set-up menu, select **Configuration**.

3. From the **Configuration** menu, select **Audio Mixer**.

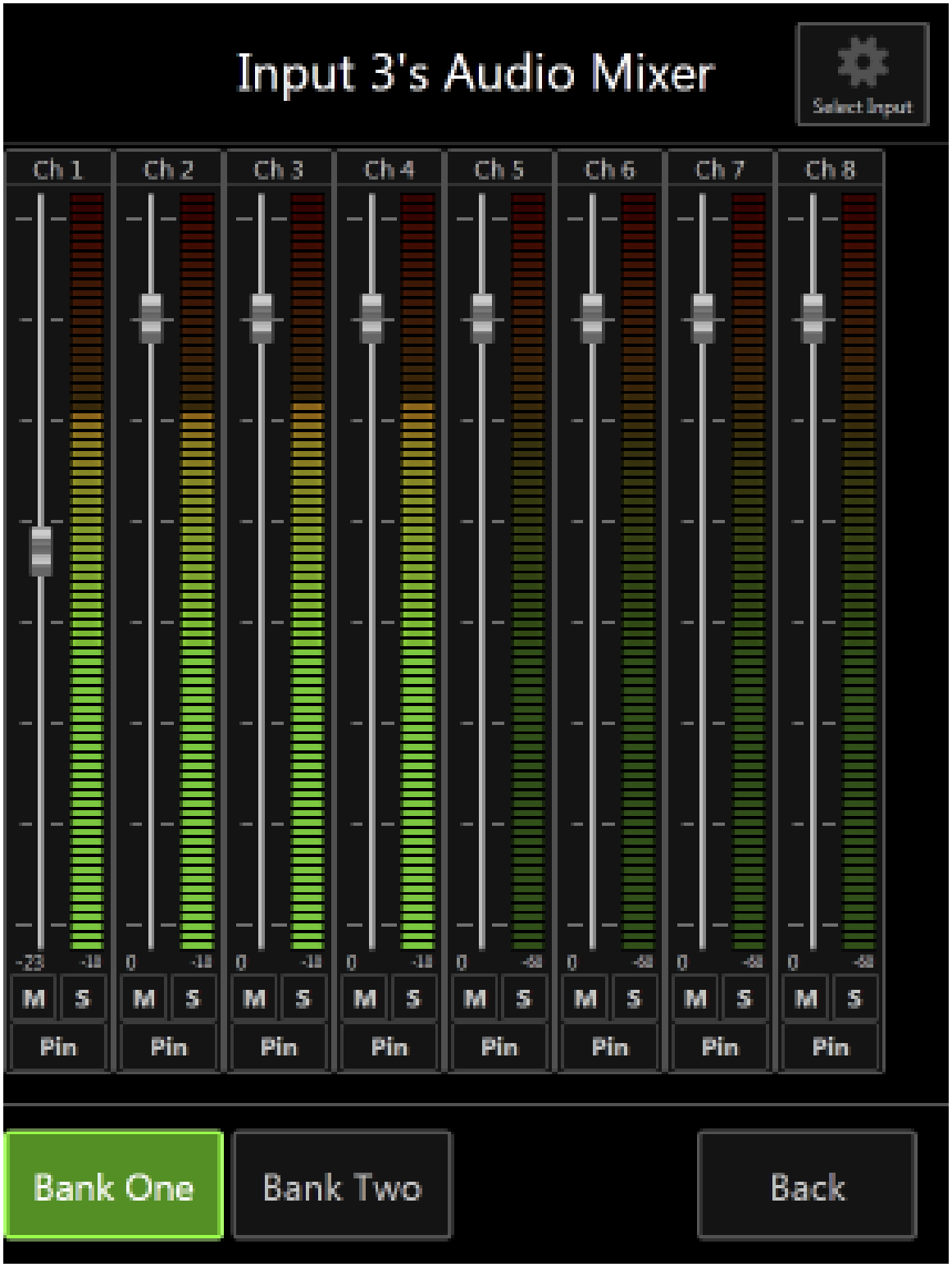
Setting Audio Levels

1. From the Audio Mixer screen, touch the **Select Input** button in the upper-right of the Touchpad.

   That will reveal all selectable sources for which you can control the audio levels.

   There are audio level controls for both input sources and for clips in the clip library. Setting audio levels is the same for both Live and Clip sources.

2. Select one of the input sources to access the Audio Level controls for the sixteen tracks of audio associated with the selected source.



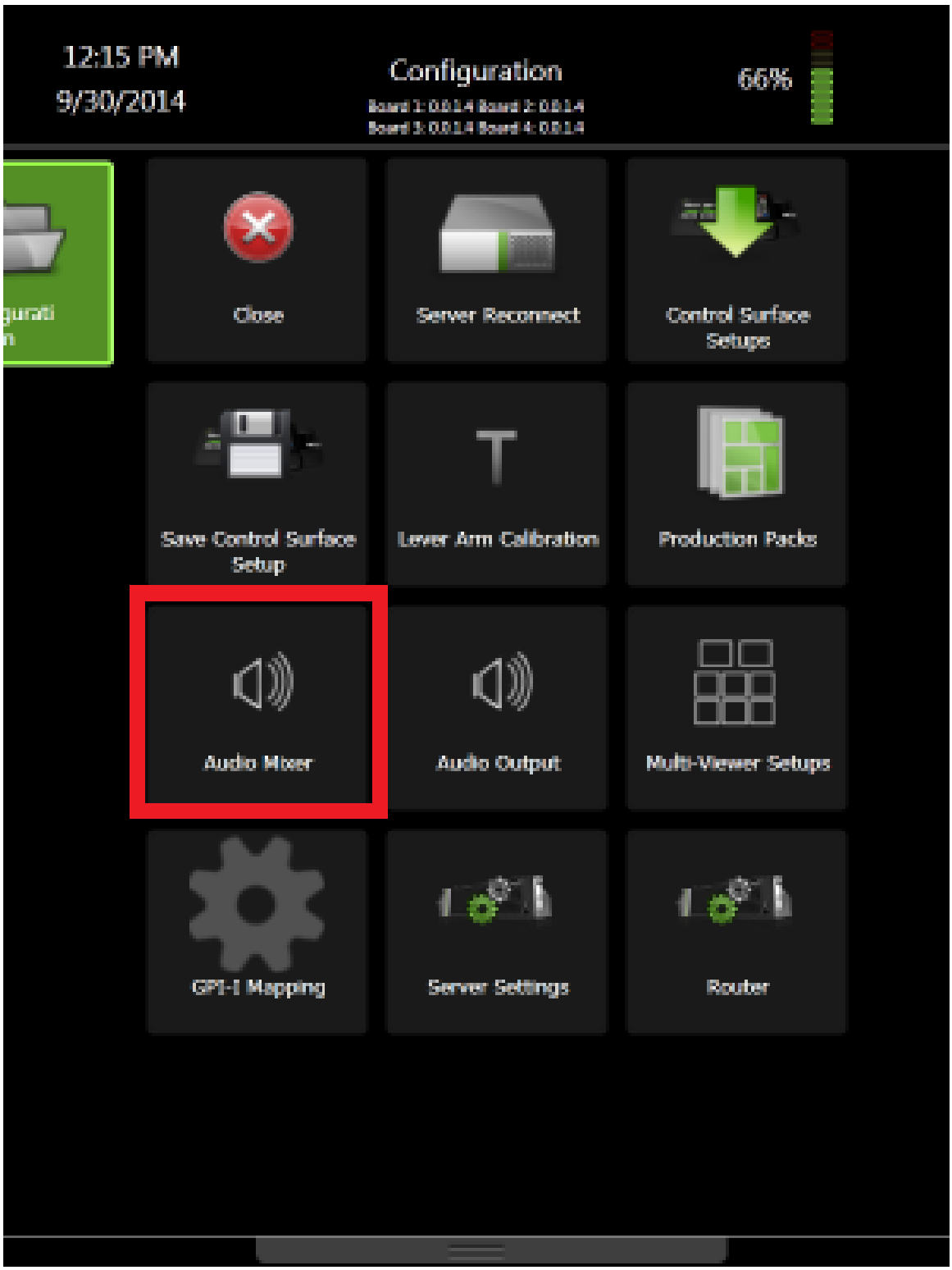
3. Set Audio levels by placing your finger on the fader and dragging up or down to raise or lower track volume. In addition each audio track has a selection for either mute or solo. You can select Bank One to display 4 faders or select Bank One to display 8 banks of faders.

   - **M** - Mute will shut off monitoring of the track where Mute is selected.
   - **S**- Solo will shut off monitoring of all tracks except the one where Solo is selected.
   - Audio levels can be set to default (0 level) by a double tap on the fader.

Enhanced Audio Pinning

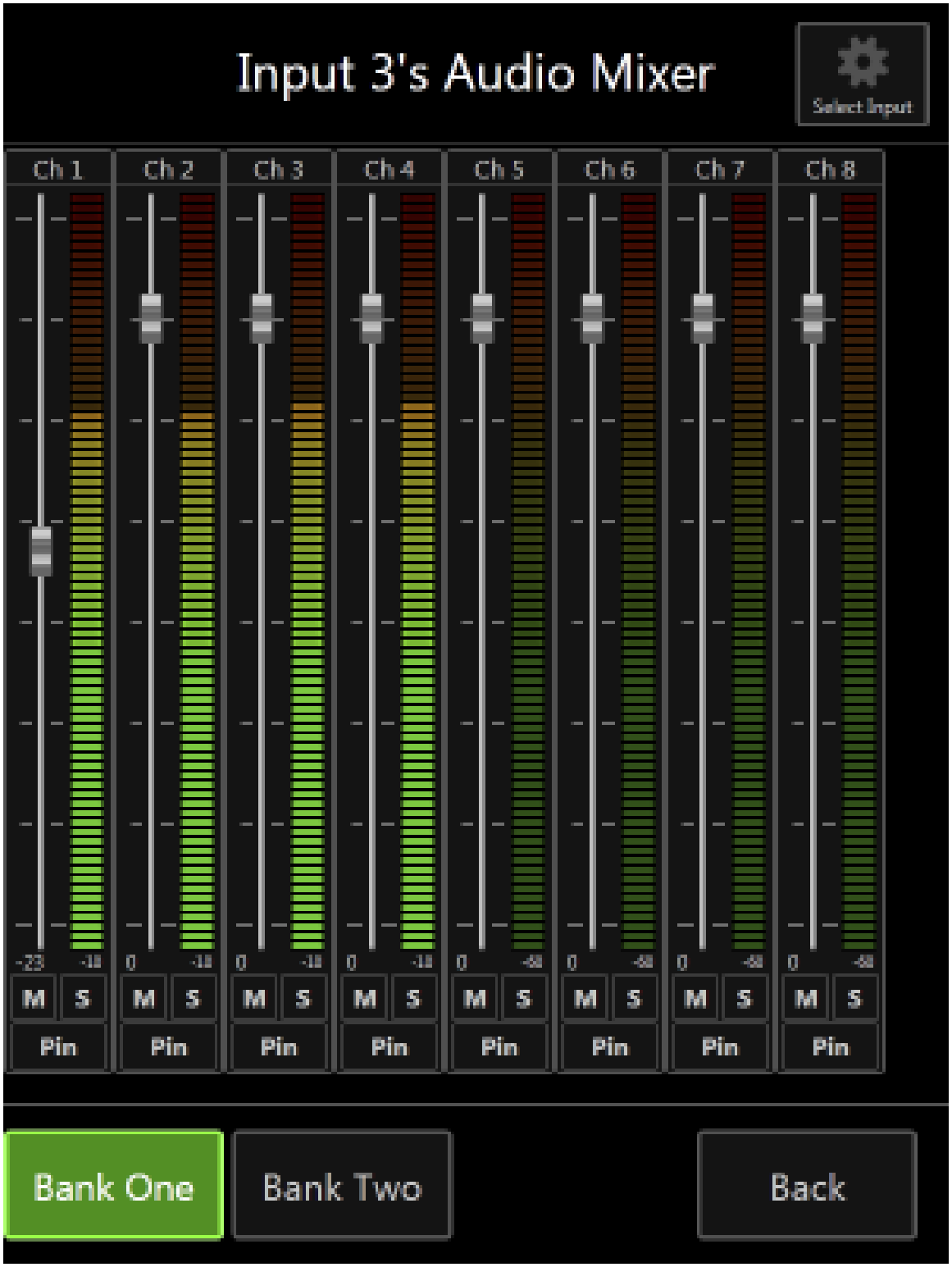
This feature allows for the ability to persist any audio input over the program output. The feed must be Live or on Stage.

1. Make sure the feed is Live or on Stage. From the top level **Configuration** menu, select **Audio Mixer**.



2. Select **Audio Mixer**. The **Audio Mixer Input** screen displays.

3. Select an **Input**. The Audio Mixer screen displays.



4. Select the **Pin** button for the Audio source. When this feature is activated, the Pin button turns red. The audio input will persist over the program output and you can adjust the audio level.
5. To unpin the Audio, select **Pin**. The button turns black indicating that the feature is not activated.

Clips, Clip Players and Shotbox

Once clips are imported to the clip library on the server, they are available for use in the production. In this section we will discuss how clips are loaded into clip players. We will also discuss how we can save and recall a group of loaded clips as a Shotbox playlist.

Display Clip Players (Shotbox)

1. Select the **Clip Icon** at the bottom of the Control Surface Touchpad to display the menu of 20 available clip players, also called a shotbox.

2. If you've just powered up the GV Director System, this menu screen will appear with 20 empty clip players.
3. Select one of the clip players to open the **Clip Library**.

   The Clip Library is a grouping of all clips and stills that have been imported into the GV Director server. Clips cannot be played directly from the Clip Library. They must first be assigned to one of the 20 clip players.

Save Shotbox

You can load up to 20 different clips (one into each clip player) at any one time. Saving a clip player as a Shotbox will store a file that will allow you to instantly recall the currently loaded clips. This allows the operator to have several different Shotbox (or playlists) saved for recall during the production process.

1. Double tap and hold on a **Clip Player** to bring up the **Radial Menu**.

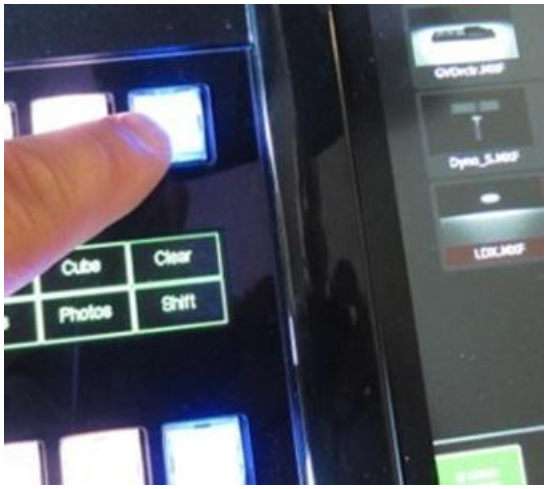
2. Enter the name of the Shotbox in the **Compound Name** field.

Once a clip is loaded from the library into a player, it will stay on that player until it is replaced.

Add a New Clip to a Player

To put a new clip on a player you must first **Clear** the current clip from that player.

1. Press and hold the **Clear** button on the control Surface.



2. While holding the **Clear** button, select the player for which you wish to clear the clip.
3. Once the player has no clip loaded, you can select the empty player to access the clip library, where you can load the new clip to that player.

   If you are going to save multiple **Shotbox** setups for a production, you must repeat the above steps for each player that requires a new clip loaded.

Load Saved Shotbox

1. Double tap and hold on a clip player to access the Radial Menu.

2. Select **Load Shotbox** from the Radial Menu.

   A list of saved shotbox setups will appear on the Touchpad.

3. Select the desired shotbox file to load all clips that were in the players at the time it was saved.

Remove Shotbox Files

Touch the **X** to the right of the corresponding file you wish to delete.

- Touch the **X** to the right of the corresponding file you wish to delete.

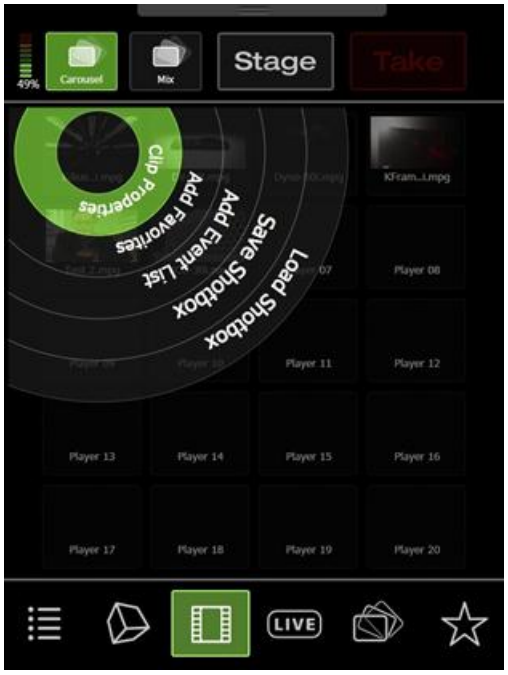
Deleting Clips and Stills from the Library

Delete clips and stills from the library when you are finished using them.

1. Push and hold the Clear button on the Control Panel.
2. Select the item in the library you want to delete.

Clip Properties

1. Access the **Clip Properties** menu.



2. Double tap and hold on any clip player in the clip menu.

Set In-point and Out-point

The clip properties menus allows you to enter an **In-point** or **Out-point** for the selected clip.

- An **In-point** can be set if you don't want the clip to start from the first frame of video.
- An **Out-point** allows you to set a timecode value for the frame where you want the clip playback to stop. If an Out-point is not set the clip will play to the last frame of video.

Set Clip Aspect Ratio

For clips that don't have the same aspect ratio as the playback format set in the **Server Configuration** menu, there are aspect ratio settings in the **Clip Properties** menu.

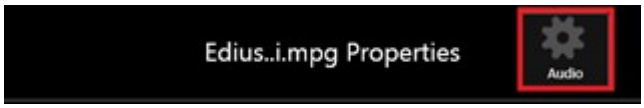
The settings function as follows:

- **Stretch** does an anamorphic stretch of the selected source so that fills the current screen space
- **Fit** will maintain the original aspect ratio of the source and fill unused portion of the screen with either Pillarbox or Letterbox.
- **Fill** will maintain the original pixel-by-pixel resolution of the clip.

Clip Audio Controls

In the upper-right corner of the Properties menu:

- Select **Audio**.



- This opens the menu with 16 audio faders for each of the embedded channels of audio for that clip.

These are the same controls discussed in the Live source audio section and they are the controls for the clip indicated at the top of the menu.

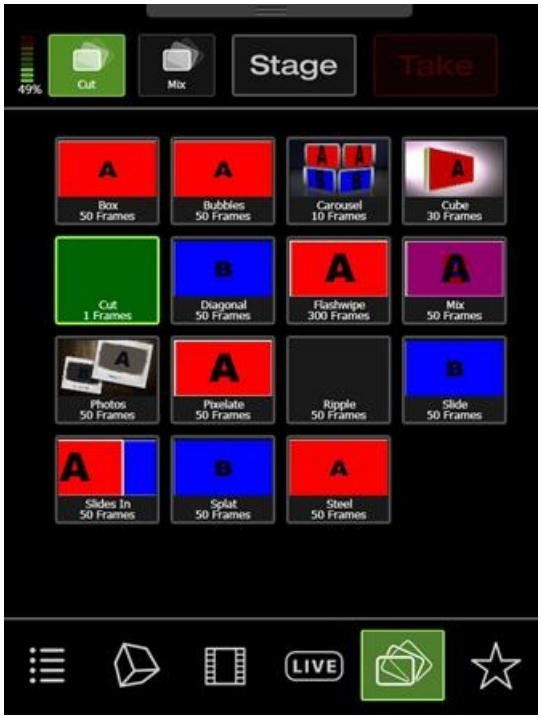
Transitions

The icon on the left side of the top bar in the transition menu indicates the selected primary transition.

Any time a new input or clip source is selected for program, it will be put to air using this transition.

Change the Primary Transition

1. Press and hold the **Take** button on the Control Surface.



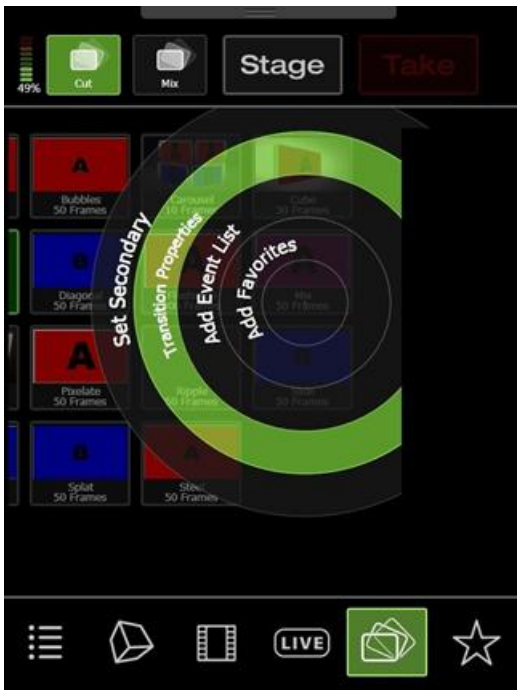
2. Select the new primary transition in the touchpad menu.

   The primary transition icon on the top-left of the transition will change to indicate the new primary transition.

Transition Properties

Each transition in the transition menu has the name of the transition and the current duration set for that transition. **Transition Properties** allows the operator to change the duration of the transition.

1. Double tap and hold the selected transition. The Radial Menu will open.



2. Slide your finger out to the ring labeled **Transition Properties** and release.

Effects

The effects menu provides a choice of layered elements and GPO triggers, created in the Composer application. As with transitions, the effects available in the Effects menu are based on the current Production Pack. Changing Production Packs may change the layered elements available for your production.

Effects elements can be transitioned on or off the program output in the same manner as live or clip elements.

Transition Effects Elements On or Off the Program Output

A simple search checks the name, tags, description, comments, and custom texts of the assets.

1. Press and hold the **Take** button on the Control Surface.

2. Select the effect from the menu Touchpad.

   Since effects elements are layered over the current background element, they will have either an **On** or **Off** transition, determined by their current state.

   - Selecting an effect that is **off-air** will transition **On**.
   - Selecting an effect that is **on-air** will transition **Off**.

3. To start the search, press **Enter**.

Assets with names, tags, descriptions, comments or custom texts matching the search criteria are displayed in the Asset List panel.

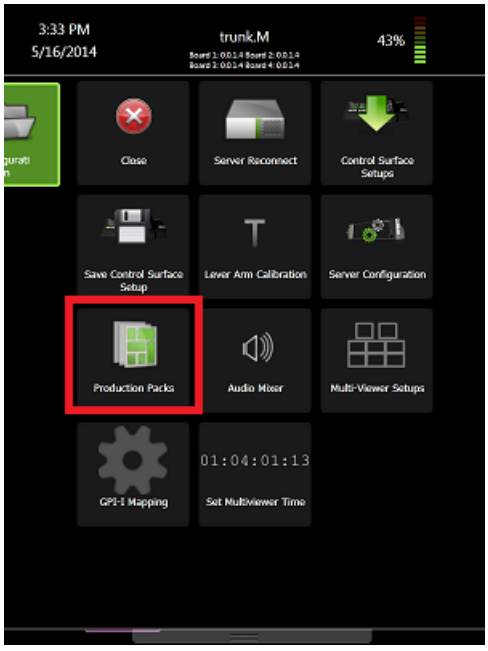
Transition GPO Triggers On or Off the Program Output

1. Hold the **Take** button.
2. Select a GPO to toggle between **On** and **Off**.

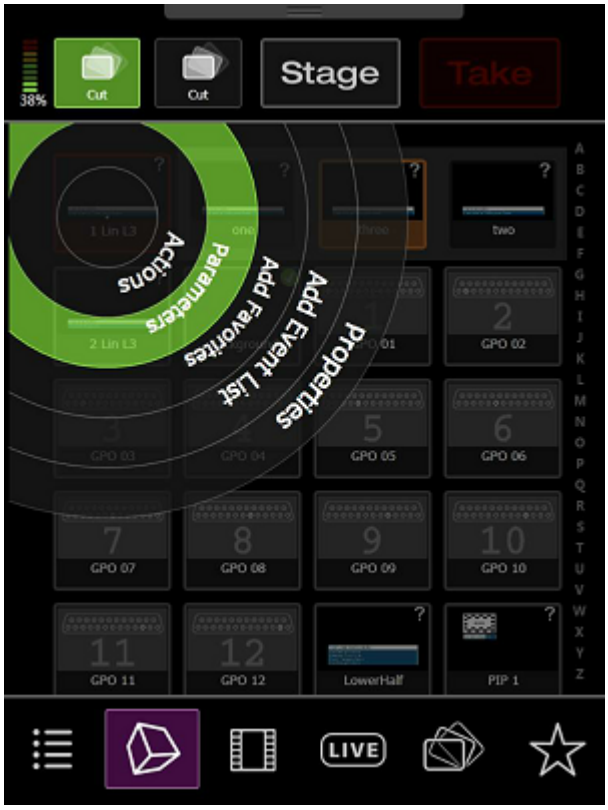
Creating a Sub Effect

You may create a sub effect for preloaded content (for example, you may want the name of a baseball player with his batting average to display.) Note that sub effects are for object type effects only.

1. From the Configuration menu, select Production Packs.

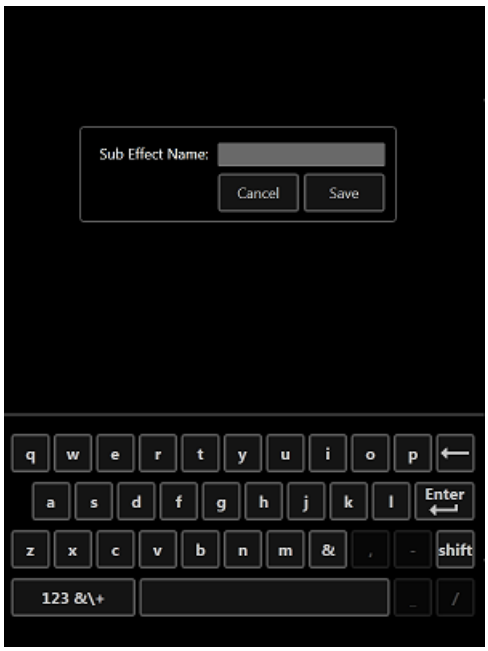


2. Double-tap a production pack to open the radial menu.



3. Select Parameters. The Parameters screen displays.

4. Tap the Create Sub Effect button. The Create Sub Effect screen displays.



5. Enter a name for the sub effect.
6. Tap Save. You will return to the Effects screen.
7. Assign the sub effect to a physical button on the Control Surface: double tap and hold the sub effect element icon on the touchpad and press the button. The button and sub effect icon will turn orange.

Removing a Sub Effect

You remove a sub effect by selecting the icon on the touchpad and pressing the clear button.

Deleting a Compound Effect

To delete a compound effect:

1. Push and hold the clear button.
2. Select the effect you wish to delete.

Clean Feed Output

Use the clean feed output feature to produce a video that does not have any added graphics or text.

1. From the Live feed screen, click either the Aux1 or Aux2 button.

2. Assign the **Clean Out** button to the **Aux** button. You can only do this to one Aux button at a time.

You will assign the **Aux** button to clear out the background only.

Note that the Aux button reads **Clean Out** and indicates that no text or graphics have been assigned to the live feed you specified.

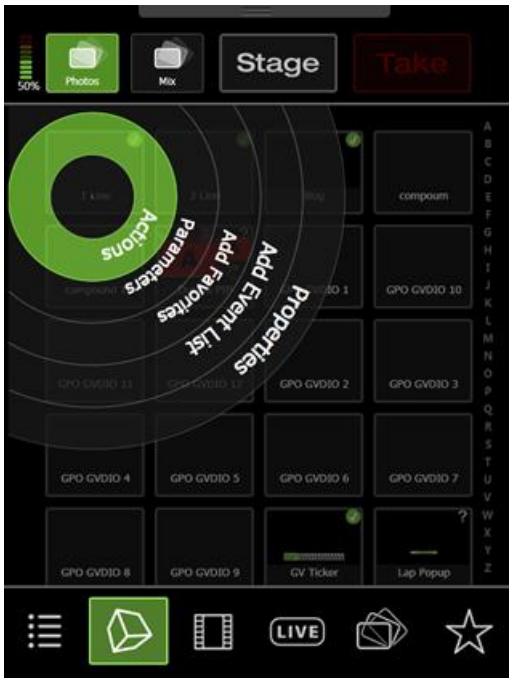
3. To get out of **Clean Out**, select the **Black** button or another input.

Effect Actions

Effects can also be added to program or taken off program by using the Actions selection on the radial menu.

Add or Take Off Effect Action to Program

1. Double tap and hold on the desired effect. (You can add an RSS feed as an effect if it is of the proper file format.) The Radial Menu will open.



2. Slide your finger to the **Actions** selection and release.

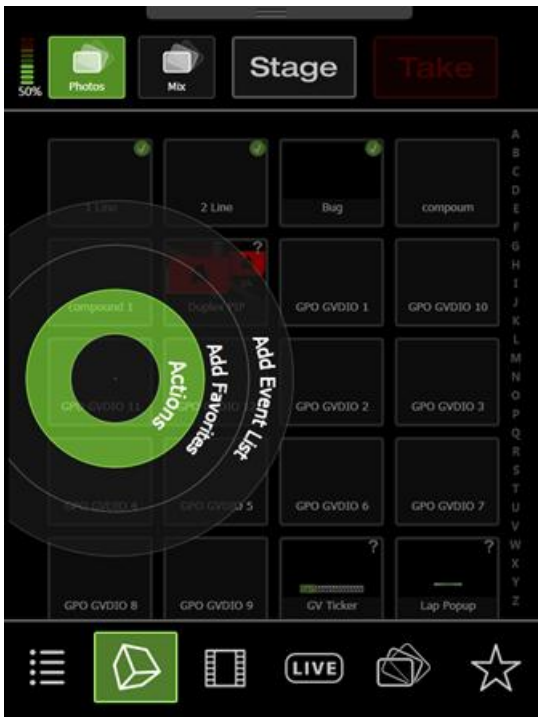
Turn Effects On or Off

The **Actions Menu** provides a choice of turning the effect on or off, or toggling its current status.

- The **On** and **Off** buttons are only selectable if it is to change the effect's current status.
- The **Toggle** Button will perform the proper action to change the current on-air status of the selected effect.

GPO Actions

1. Double tap and hold on a selected **GPO** to open the **GPO Radial** menu.



2. Slide your finger out to the **Actions**ring.
3. Release to open the **GPO Actions** menu.

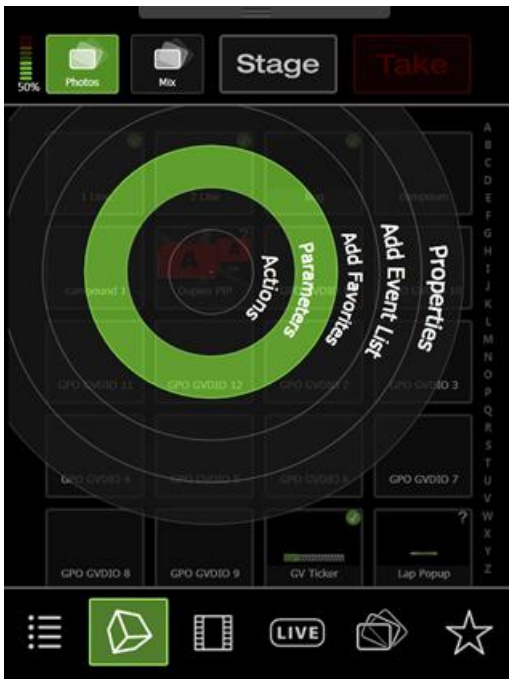
   The **GPO Actions** menu has the same action choices as the **Effects Actions** menu (on, off, toggle) and they perform the same actions as they do with Effects. But, **GPO Actions** has an additional selection for **Pulse**.

4. Select **Pulse** to activate a momentary closure of the GPO relay.

5. The relay will close and then re-open with the single selection of the Pulse action.

Effects Parameters

1. Double tap and hold on the selected effect to access **Effect** parameters settings. The **Radial** menu appears.



2. Slide your finger to the **Parameters** ring and release.

The adjustable parameters for effects vary based on the values set in the Composer application when the effect was created.

All effects will have value adjustments for the **X** and **Y** position of the effect when on screen.

3. **Select** the keyboard icon to the right of the X and Y position to enter a value for positioning.
   - **X** is left and right
   - **Y** is up and down

   Effects that require a designated video source as part of the effect have a parameter setting to select the desired source.

The parameter setting in the graphic below for an effect that has two picture-in-picture sources.

Some effects use external data feeds like RSS.

These effects have parameter settings that allow the operator to choose a predefined data source for the necessary information.

This example below is a lap counter.

Working with Source Elements

In GV Director, sources are live input and stored clips. In this module we will define the proper settings for live and clip sources, how to access and change the settings and properties and how to use these elements in your live production.

Live Elements

Live elements are the sources that are connected to the server through either the 8 SDI inputs or the 2 HDMI inputs, or any combination thereof. Live elements can be a mix of acceptable video formats (i.e. NTSC, PAL, 720p-50Hz or 60Hz or 1080i-50Hz or 60Hz).

Different frame rates and frame sizes can be mixed within a GV Director production, but GV Director cannot mix sources that are both progressive and interlaced.

To Access Live Sources in GV Director

- Select the LIVE button at the bottom of the Touchpad menu. From this menu you can select live sources to put to the program output.

GV Director has a safety feature built in to prevent you from putting a source to air simply by selecting the source in the menu.

To Put a Source to Air From Any Menu in GV Director

A simple search checks the name, tags, description, comments, and custom texts of the assets.

1. Press and hold the Take button on the Control Surface.
2. The Take icon at the top of the menu will blink to indicate you are putting the selected source to air.

   The source will be put to air with the transition type currently selected. The currently selected transition is displayed at the top-left of the menu.

Placing Live Sources on an Aux Output

1. Select one of the **AUX** outputs at the bottom of menu screen.
2. Select an Input source.

Subsequent selection of any of the live sources will be placed on the AUX output selected.

The **AUX** output remains active until the **Take** button on the Control Surface is selected.

Working with the Control Surface

Although the Control Surface of the GV Director looks very much like a traditional live production switcher, operationally it has a whole new approach to how we put content to air. The following section will cover the set up and use of the GV Director Control Surface to be able to create live productions.

Control Surface Overview

The GV Director Control Surface can be broken down into three distinct areas:

1. Assignable buttons
2. Touchpad menu
3. Transition Lever Arm

All three areas have their individual functions, but they also work together to create a new creative approach to live production.

Assignable Buttons Overview

Any of the GV Director production elements can be assigned to any empty button on the Control Surface for single button access to those production elements.

- **Assign Live or Clip elements to:** change the background source on the program output. A single button press of one of these production elements will change the source using the assigned primary transition.
- **Assign Transition elements to an assignable button to:** change the primary transition with a single button press.
- **Assign Effect elements to a button to:** toggle the on/off status of the selected effect.

If the system has just been powered up, the only buttons with lights and labels on the Control Surface are the **Shift** and the **Clear** buttons.

- **Shift** is used to access a second level of assignments on each assignable button.
- **Clear** is used to clear an assignment on buttons or clips loaded in a player in the clip menu.

Making Button Assignments

- If a button on the Control Surface is unlit and there is nothing in the corresponding OLED display, it is available to assign a production element to the button.
- Pressing an open button will cause it to start flashing blue.
- This flashing indicates that making a selection of any production element in the Touchpad menu (Inputs, Clips, Transitions and Effects) will assign that element to the selected button.

Saving Control Surface Settings

After assigning the desired production elements to the assignable buttons, the setup of your Control Surface can be saved for future recall.

1. Access the **System Set-up** menu with a top-to-bottom finger swipe on the Control Surface Touchpad.
2. From the top level of the setup menu select the **Configuration** icon.

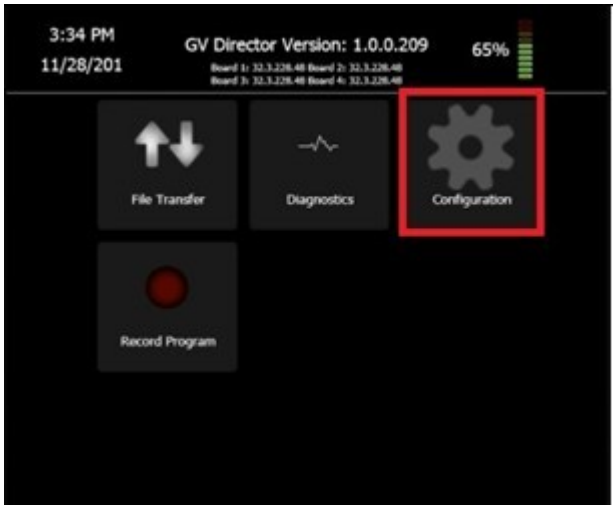
3. In the **Configuration Menu** select the icon **Save Control Surface Setup**. The **Save Control Surface Setup menu** will open.

4. **Name** and **Save** the current Control Surface assignments for future recall.

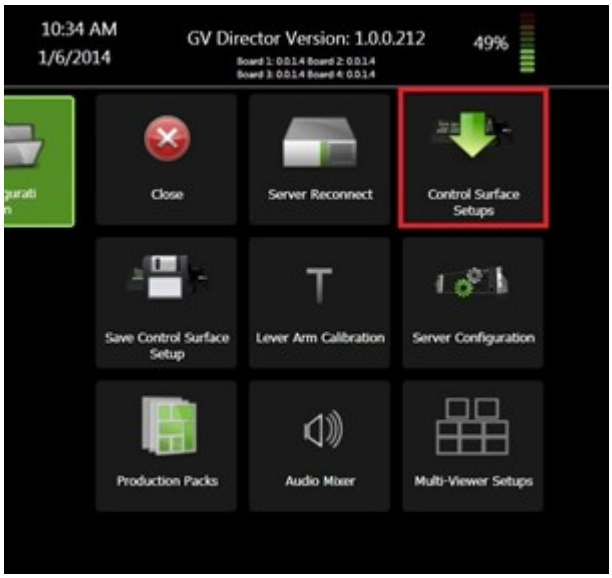
Recalling Control Surface Settings

If you have a previously saved Control Surface setup, you can recall that setup to restore the Control Surface to the condition when the setup was saved.

1. Access the **System Set-up** menu with a top-to-bottom finger swipe on the Control Surface Touchpad.



2. Select **Configuration**.
3. From the **Configuration Menu**, select **Control Surface Setups**.

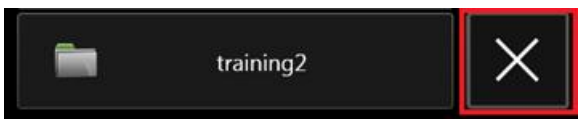


The Control Surface Setups menu **Lists Available Configuration Files**. (They are previously saved Control Surface setups.)

4. Tap the desired setup.
5. Press the **Select** button at the bottom of the screen. (This reloads the setup.)

Delete Control Surface Settings

- Select the **X** and this will delete the selected setup.



Removing Assigned Elements

In order to assign a different production element to a button that already has an assignment; you must first remove the element that is currently assigned.

1. Press and hold the **Clear** button at the right end of the upper button row of the Control Surface.

2. While holding the **Clear** button, press the button you desire to remove the current assignment.
3. When the light goes out and the label in the OLED goes away, the button is cleared.

Control Surface Operation

GV Director Server and Control Surface installation topics.

About Event List

The **Event List** is very useful with semi-scripted and semi-automated live productions.

A semi-scripted talk show is an example of using an **Event List** during a live production. There may be a specific number of guests coming on set in a specific order, and each has a clip to show and a lower third with their name and biographical information about each. You can step through each production element for each guest by pressing the **Take** button.

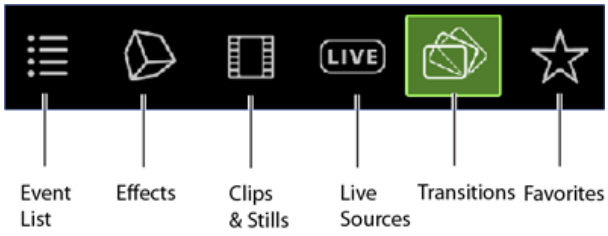
The operator is free to continue cutting the live show or go back to the **Event List** and resume taking the production elements in sequence, at any time.

Place production elements within **Event List** in the order you wish to take them to air, layered over background. A production element in the list with a red border means the production element is on-air. A production element highlighted green will be taken next in the sequence. By pressing the red **Take** button, the production element is live and the next production element in the sequence is highlighted green and ready.

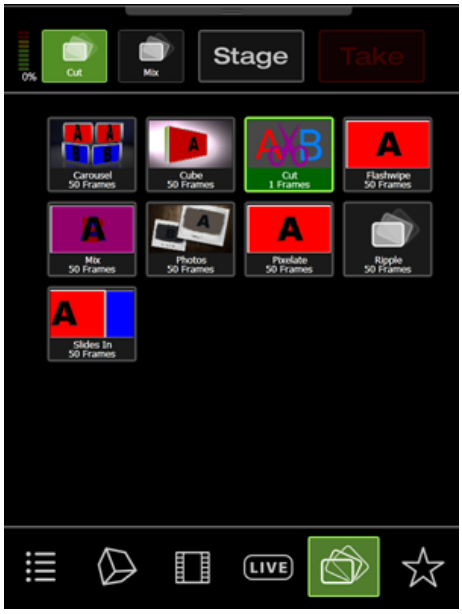
Creating an Event List

Create an ordered list of production elements that you can step through in sequence during a production.

1. Select one of the Production Element menu buttons.



2. Double-tap, hold, and drag a production element button.



3. Drag out from the production element button to display the Radial menu.

4. Drag until the **Add Event List** ring is highlighted and release.
5. Tap the **Event List** button to display the **Events** menu with the added production element.

Reordering an Event in the Event List

Events can be reordered in an event list to any position.

1. Tap the Event List menu button on the GV Director touchpad.
2. Tap the Edit button Edit; when highlighted the touchpad is in the edit mode.
3. Double-tap, hold, then drag the event to the new position and release.

Deleting an Event from the Event List

The event list can be edited including deleting events from the list.

1. Select the **Event List** menu button on the GV Director touchpad.
2. Select the **Edit** button Edit.
   When the Edit button is highlighted the touchpad is in the edit mode.
3. Touch the **X** at the right of an event to delete it.

About Modifying Audio Parameter Settings

The GV Director system supports the mixing of embedded audio on all 8 live SDI inputs and all Shotbox positions. Each source can have up to 16 audio tracks. Levels can be set on two analog inputs.

The audio mixer can be accessed from several places, the radial menu, the configuration menu in the Control Panel; accessed by swiping down from the top middle of the Touchpad, and in some menus in the upper right of the screen. To use the radial menu, double-tap a live input in the Live menu or a clip in the Clips & Stills menu, hold, and drag out until the Audio ring is highlighted and release. The mixer then appears where you can adjust individual channel levels as well as mute and solo each channel. The cog icon at the top right allows you to quickly access the audio faders for any of the other live or shotbox sources without having to come out of the mixer mode. So, for example, if audio is coming in on channels 1&2 on each of my first 4 camera feeds then I could simply solo tracks 1&2 on the first 4 live inputs. Levels can then be adjusted to make sure none are coming in too hot or too low. These adjustments would be done as part of the lineup before the show goes live.

Double-tapping an audio channel resets the channel to the default parameter settings.

About Modifying Effect Production Element Parameters

Effects can be created in GV Director Composer to allow parameters to be set from the GV Director Touchpad menu. This provides the ability to make text changes, for example in a lower third or to change player names for a sports production, etc., in pre-production or even during a show. In addition, graphics can be offset and live inputs can be selected when needed, for example in a two-box effect.

Effect parameters are set in the GV Director Touchpad **Effects** menu. When an effect has been setup by the author to require parameter setting changes from the Control Surface, a question mark will be displayed in the upper right-hand corner of the effect's menu button icon. Access the effect parameters through the radial menu (double-tap, hold, and drag until the Parameters ring is highlighted and release). The author in composer will have defined the parameters and if text is required they will have indicated the field name; for example Lap Time.

There are two ways to enter in data:

- Enter text directly using the keyboard; accessed by touching the **Keyboard** button. Once the data is entered and saved, the question mark on the effect button icon becomes a check mark indicating the parameter has been set.
- Create a group of keywords using the **Hierarchy** button rather than the keyboard button; this group of keywords will be available for all effects. Groups are similar to folders. This feature is particularly useful if for example you want to set all the player names for a sporting event. Names or text entries can be organized into groups. Within the group, you can add as many values as you want. Those values are used while the groups are just organizational tools for data. A group name can be entered and the names or text entries will be grouped under that name in the hierarchy.

Another type of parameter is a background production element, for example in a two box effect. The author of the effect can require that the feed for each box is to be user defined from the Control Surface, resulting in a question mark in the upper right-hand corner of the effect's menu button icon. Instead of requiring a text entry, live inputs and any available clips will be displayed to choose from for each box. Again the question mark will become a check mark once the inputs are selected and the parameter is set.

Effect position offset parameters can also be changed. Touching an offset button displays a keyboard for text entry to set the parameter.

Effects do not have to be taken offline to be changed. Any changes to an effect on air will be used the next time the effect is taken to air.

About Production Element Properties

Property settings for live inputs and media (clips) are provided in a shared menu in GV Director.

There are three types of properties that can be changed in the **Properties** menu:

- **Frame Sync** when enabled allows you to bring in an untimed source and introduce an extra frame of latency to that source, synchronizing it for output. It is available for live input production elements only and each live input can have this setting applied independently. This setting is disabled by default.
- **In Point:** and **Out Point:** is provided for clips and allows you to set in absolute time code a later start and earlier end point of a clip.

- **Aspect Ratio Conversion** is available for live and media (clips) production elements and allows you to format incoming clips of a different aspect ratio to be used with the current production. There are three settings for this property: The **Stretch** setting will stretch the image either x or y depending on the conversion. The **Fit** setting will stretch the edges of the image until it reaches the edge of the current format which results in either pillar boxes or letterbox when converting from SD to HD or from HD to SD. The **Fill** property results in the image completely filling the frame.

Adjust Chroma Key Object Properties

When a chroma key layer is applied to an effect production element, for example a mix or other background (created in GV Director Composer), the GV Director system provides runtime adjustment of chroma key values to improve the quality of the key for lighting and consistency of the matte (environment can affect the chroma key for example in a dynamic environment with live inputs, changing light, and possibly a subject in front of a green screen).

A chroma key layer must have been added when the effect was created for the adjustments to have any affect.

1. Tap **Effects** .
2. Double-tap, hold, and drag a production element button.

3. Drag out from the production element button to display the radial menu and release when **Properties** is highlighted.

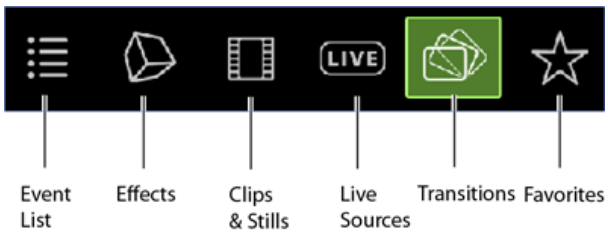
4. Touch to select **Blue** or **Green** key color.

5. Touch, hold, and move a slider to control:
   - **Edge Offset**: increase or descrease the distance between the subject and the chroma key
   - **Edge Smoothness**: increase or decrease edge smoothness
   - **Split Suppression**: increase or decrease the split suppression of the subject background; prevents the background from spilling onto the subject
   - **Light Wrap**: increase or decrease spill of the background (a keyed background) onto the subject

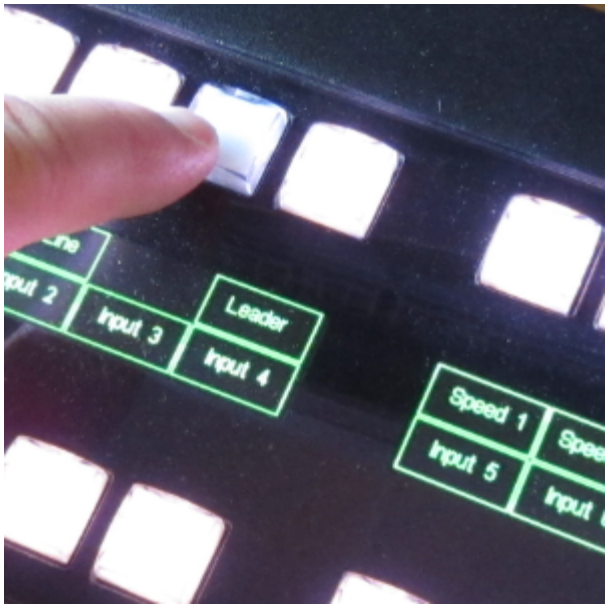
Assign Production Elements to Control Surface Buttons

Organize your workflow by assigning production elements from the GV Director Touchpad to the GV Director Control Surface buttons for taking graphic elements and effects, clips and stills, cameras, and transitions to Program with a single button press.

1. Select a **Production Element** menu button.



2. Press an unassigned **Control Surface** button.



3. Select a production element button from the menu.

Build a Compound Production Element Effect Using the Stage

Multiple production elements can be combined to form a composite effect using the **Stage** in the GV Director Touchpad. The compound effect can be rehearsed, named and saved, and taken to air from the **Stage**.

The following example procedure demonstrates building, rehearsing, naming and saving, and taking to air a compound effect with a background, graphic, and transition production element.

1. Open **Stage** in one of the following ways:
   - Tap **Stage** Stage.
   - Press the **Stage/PVW** button on the Control Surface, below and left of the Touchpad.

2. Tap **Clips & Stills** .
3. Hold down the **Stage/PVW** button on the Control Surface and select a clip or still.

   Selecting a production element from within the **Stage** menu adds that element to the **Stage**.

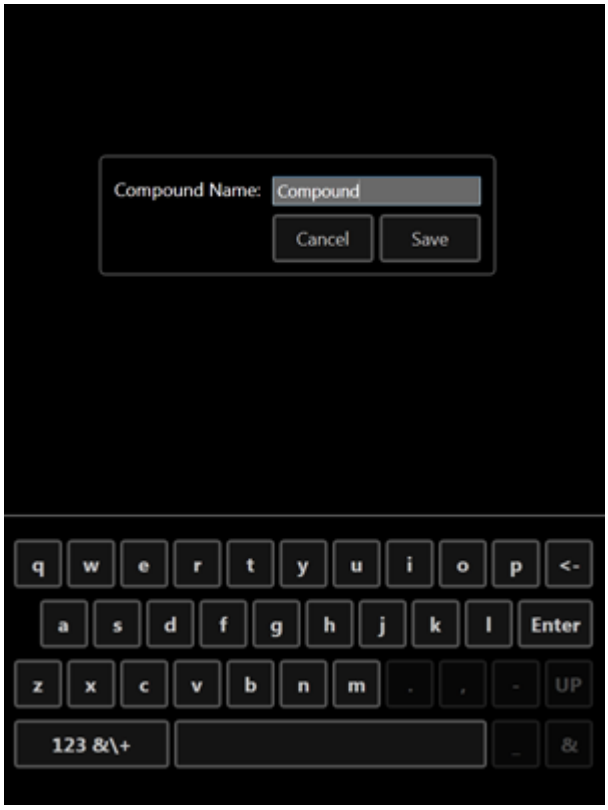
4. Tap **Effects** .
5. Hold down the **Stage/PVW** button on the Control Surface and select an effect.
6. Tap **Transitions** .
7. Hold down the **Stage/PVW** button on the Control Surface and select a Transition.
8. Tap **Rehearse**. Rehearse

   The compound production element effect is output to the **Stage** viewer and can be examined before taking it to air.

9. Tap the **Save** button . Save

   Production elements assigned to Control Surface buttons can also be placed in stage by holding down the **Stage/PVW** button then pressing a Control Surface button with a production element assigned.

10. Enter a name for the compound production element and tap **Save** .



11. Take the compound effect to air in one of the following ways:

- Tap the **Take** button. Take
- Press the **Take** button on the Control Surface, below and left of the Touchpad.

The compound production element has been named and saved in the **Stage** menu for reuse and taken to air.

Build and Take to Air a Compound Element During Production (Shortcut)

A compound element can be built and taken to air using the assignable selection buttons on the GV Director Control Surface.

Production elements are assigned to Control Surface assignable selection buttons.

1. Select the **Stage** menu in one of the following ways:

- Tap the **Stage** button. Stage
- Press the **Stage/PVW** button on the GV Director Control Surface, below and left of the Touchpad.

2. Hold down the **Stage/PVW** button (below and left of the GV Director Touchpad).

3. While holding down the **Stage/PVW** button, press the Control Surface selection buttons with the production elements assigned that will make up the compound production element.

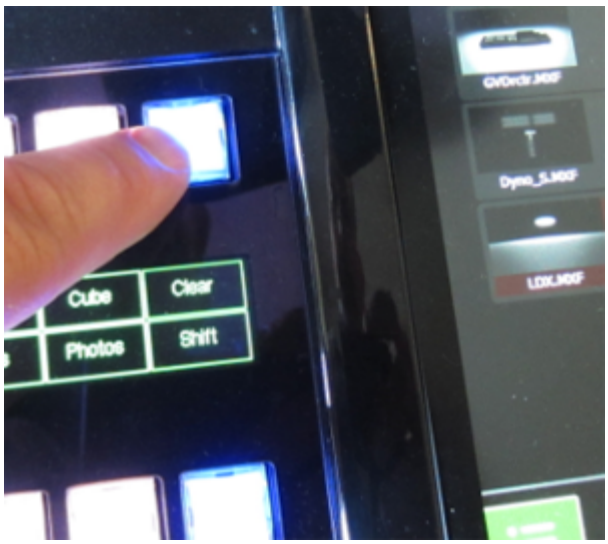
4. Release the **Stage/PVW** button.

5. Press the **Take** button (just right of the green **Stage/PVW** button).

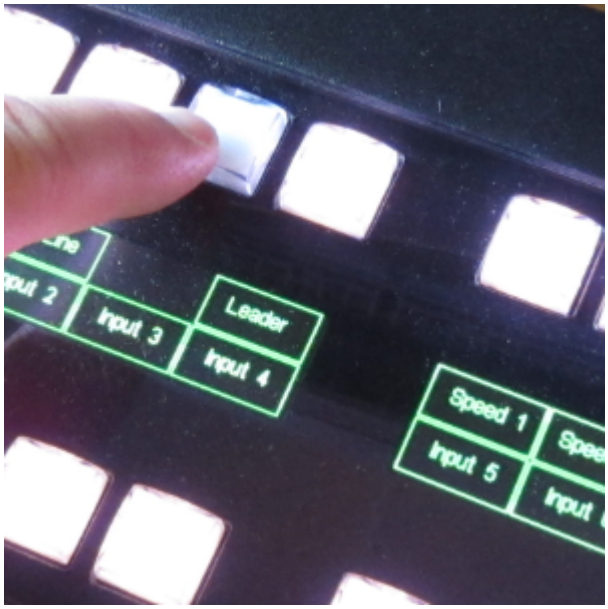
Clear Production Element Assignments from Control Surface Buttons

Use the Clear button to remove production element button assignments from the GV Director Control Surface.

1. Press and hold the **Clear** button on the Control Surface.



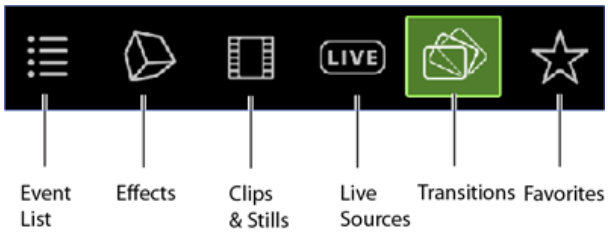
2. Press a **Control Surface** button with a production element assigned, to clear that assignment.



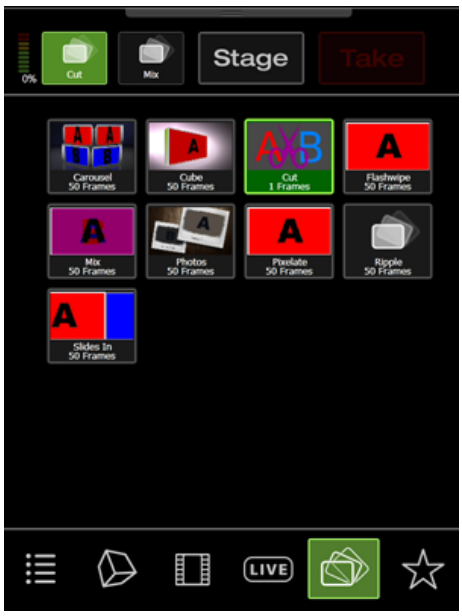
Create a Favorites Catalog

Add graphic elements and effects, clips and stills, cameras, and transition production elements to favorites for quick access using the Radial Menu.

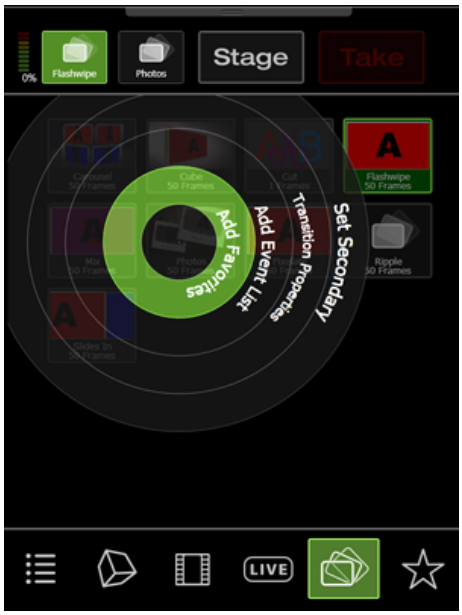
1. Select a **Production Element** menu button.



2. Double-tap, hold, and drag a **Production Element** button.



3. Drag out from the production element button to display the radial menu and release when **Add Favorites** is highlighted.



4. Select the **Favorites** menu button to display the Favorites menu with the added production element.

FTP Media Production Elements to the GV Director Server

Clips and stills can be moved through an FTP client to the GV Director Server from an external device. Supported formats for clips are: mpeg and for stills: TGA type 2 (uncompressed RGB) in 24-bit RGB or 32-bit RGBA, and BMP 24-bit uncompressed RGB.

1. Enter the path into your FTP client to transfer files:
   - For clips enter **server/system/objects/mpegves.**
   - For stills enter **server/system/objects/pictures.**
2. When prompted, enter the user name: **delta** and the password: **delta**.
3. Transfer files.

Monitor Live Inputs with Aux 1 and Aux 2 Outputs

Associate up to two live inputs with aux outputs for monitoring.

An SDI connection exists between the GV Director Server Aux 1 and/or Aux 2 and an external device.

1. Tap **Live** LIVE on the GV Director Touchpad.

2. Touch either the **Aux 1** or **Aux 2** buttons.
3. Touch a live input to associate it with an Aux bus output.

   Live inputs can be associated with Aux 1 and Aux 2 simultaneously. To change live inputs repeat the association procedure choosing a different input.

Preview Production Elements with Stage

Preview and rehearse production elements in **Stage** before taking them to air, for example a last-minute graphic or timeline effect with text could be evaluated for on-air integrity before taking it to Program.

1. Select the **Stage**menu in one of the following ways:

   - Tap the **Stage** button. Stage
   - Press the **Stage/PVW** button on the GV Director Control Surface, below and left of the Touchpad.

2. Hold down the **Stage/PVW** button on the Control Surface and select a production element (including compound production elements and timeline effects) from the **Stage** menu in the Touchpad.

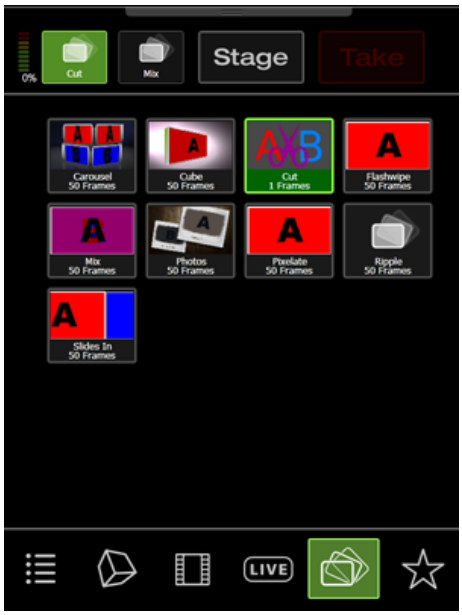
The production element source is displayed in Preview on a connected monitor.

3. For a timeline effect, tap **Rehearse**. Rehearse
   The production element plays out as it will on-air.
4. Take the production element to air in one of the following ways:
   - Tap the **Take** button. Take
   - Press the red **Take** button on the Control Surface, below and left of the Touchpad.

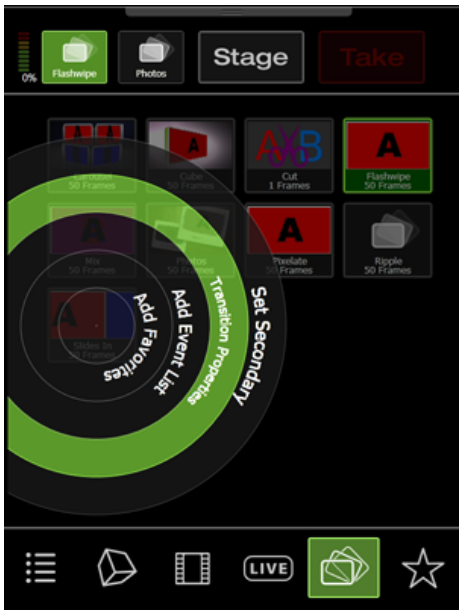
Set the Effect Take Point for a Transition Production Element

Triggering the take point of an effect animation during a transition, can be set to the beginning, middle, or at the end of a transition. This property can be set for each transition production element.

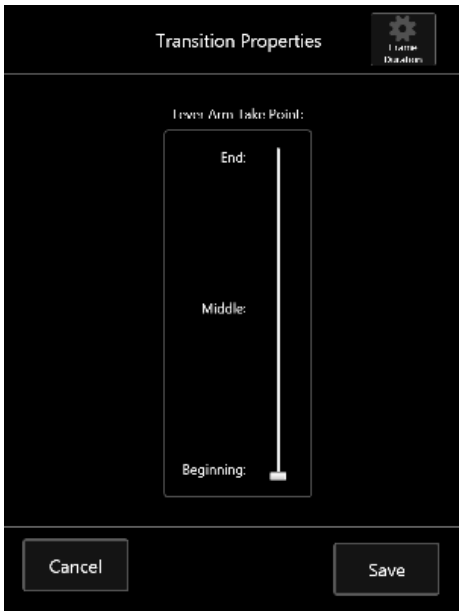
1. Tap **Transitions** on the GV Director Touchpad.
2. Double-tap, hold, and drag a transition production element button.



3. Drag out from the production element button to display the radial menu and release when **Transition Properties** is highlighted.



4. Slide the Transition Take Point selector to Beginning, Middle, or End and touch **Save**.



Take Clips and Stills at the Next Frame with Shotbox

Load clips and stills in up to 20 players in the **Clips & Stills** menu to create a Shotbox that will guarantee next frame availability for images.

1. Tap the **Clips & Stills** production element menu button on the GV Director Touchpad.

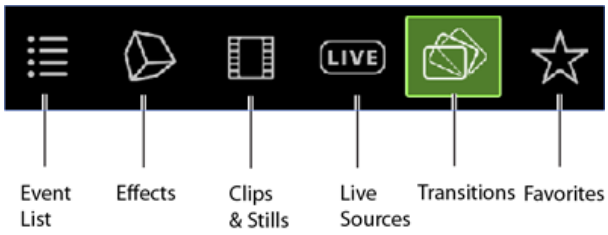
2. Tap one of the 20 players to select it.
   The clips and stills available for assignment to the player are displayed.
3. Tap a clip or still.
   The image is now loaded into the player. The image can be added to an assignable button on the Control Surface, added to the Stage, or taken to air from the Touchpad.
4. To create banks of players, double-tap on an empty media production element and drag until the **Save Shotbox** ring is highlighted.
5. Enter a name for the shotbox bank and touch **Save**.
6. To load a bank of shotbox players, double-tap on any player, hold, and drag until the **Load Shotbox** ring is highlighted.
7. Touch the shotbox bank to highlight it and touch **Select**.
8. To remove an image from a player, press and hold the **Clear** button on the Control Surface (top button row, far right with blue tally) then tap the image thumbnail on the Touchpad.

Take Production Elements to Air Using a Secondary Transition

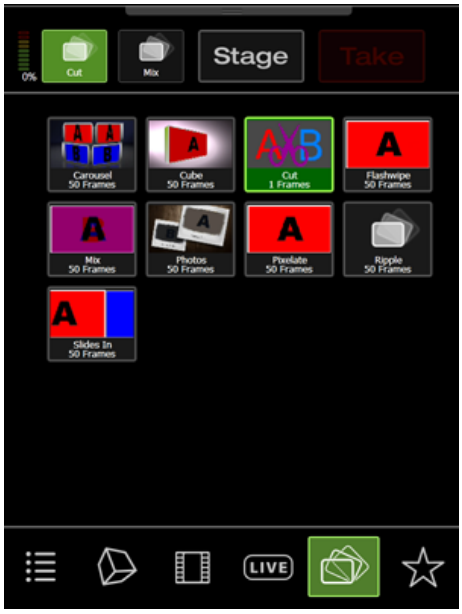
A secondary transition production element can be delegated to the GV Director Control Surface and will be transitioned on-air with the next button press from the Control Surface.

Background production elements (live inputs/clips/stills) are assigned to Control Surface assignable buttons.

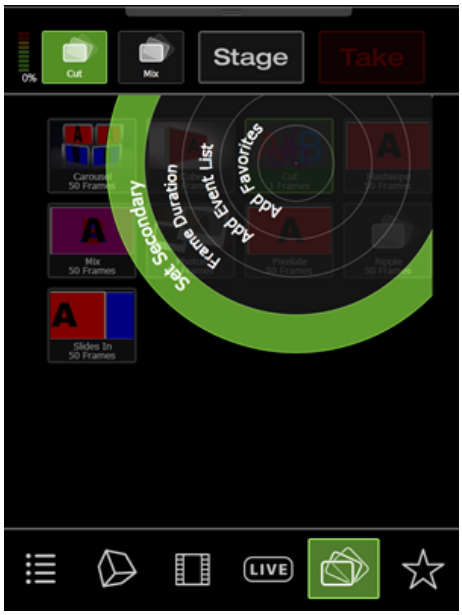
1. Tap the **Transitions Production Element** menu button on the GV Director Touchpad.



2. Double-tap, hold, and drag a **Production Element** button.



3. Drag until the **Secondary Transition** ring is highlighted and release.



The selected transition production element is now assigned as the secondary transition and will be taken to air when the secondary transition is initiated. Repeat this process to change the secondary transition production element assignment.

4. On the Control Surface, press a button with a background production element assigned.
5. Press the currently selected **Control Surface** button a second time.
   The twice-selected Control Surface button will begin to flash red. The next button pressed will cut that button's assigned production element to air using the secondary transition production element parameters.
6. Press a Control Surface button to cut on that source using the secondary transition.

   The Control Surface returns to primary transition delegation.

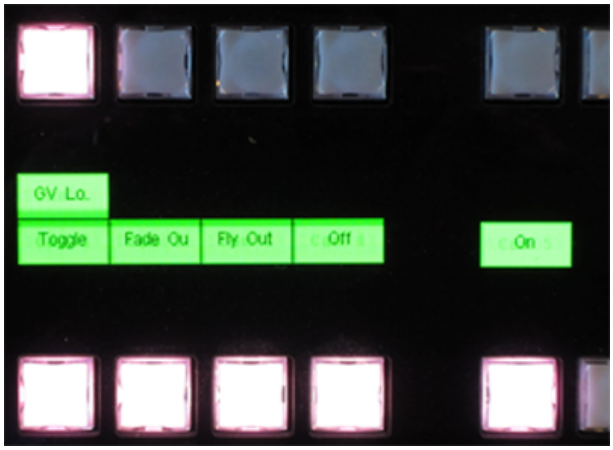
Trigger Effect Actions from the GV Director Control Surface

Effect actions can be included when the effect is created in GV Director Composer. Once these actions are part of the effect, they can be triggered individually from the GV Director Control Surface. For example an effect that includes

actions to fly on and fly off the screen can be triggered separately. Watch the Composer for GV Director tutorials and/or view the Composer for GV Director User Manual for information about adding actions to effect production elements.

The effect is assigned to a GV Director Control Surface assignable button.

1. While holding down the **Shift** button, press the assignable button on the Control Surface with the effect production element assigned containing the actions. The available actions are displayed.



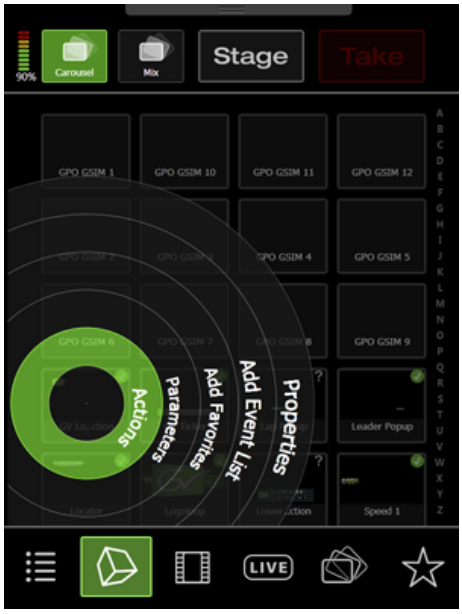
2. Press one of the available actions to trigger the event.

Trigger Effect Actions from the GV Director Touchpad

Effect actions can be included when the effect is created in GV Director Composer. Once these actions are part of the effect, they can be triggered individually from the GV Director Control Touchpad. For example an effect that includes actions to fly on and fly off the screen can be triggered separately. Watch the Composer for GV Director tutorials and/or view the Composer for GV Director User Manual for information about adding actions to effect production elements.

1. Tap **Effects** .
2. Double-tap, hold, and drag a **Production Element** button.

3. Drag out from the production element button to display the radial menu and release when **Actions** is highlighted.



4. Touch an action to trigger the event.

Basic Switching with the GV Director Control Surface

This section provides an overview of the processes for a live video production that requires the basic elements of live sources, clip elements and transitions between both and layered graphic elements.

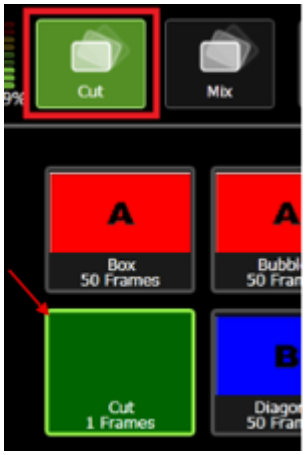
Using the Control Surface

In the previous section, you learned to assign the four basic production elements (Live, Clips, Transitions and Effects) to buttons on the Control Surface. If the sources that you have assigned to Control Surface buttons are all you need for the production you plan to do, the entire show can be switched using the buttons on the Control Surface.

Primary Transition to Program

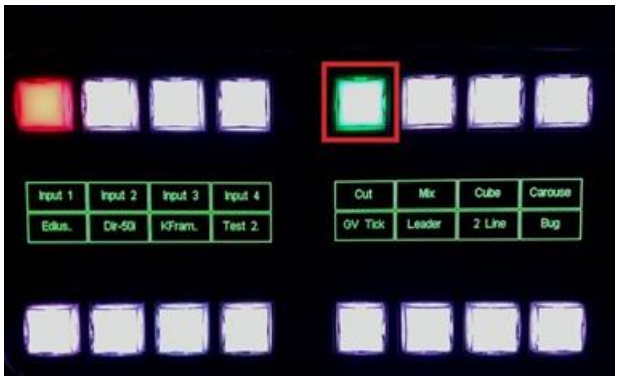
- Select a **Live** source or a **Clip** sources using an assigned button on the Control Surface. That will put that source to program using the currently selected **Primary Transition**.

If the **Primary Transition** is assigned to one of the Control Surface buttons, that button will light green to indicate Primary Transition.



Change the Primary Transition

- Select a different transition element by pressing an assigned Control Surface button to change the Primary Transition.



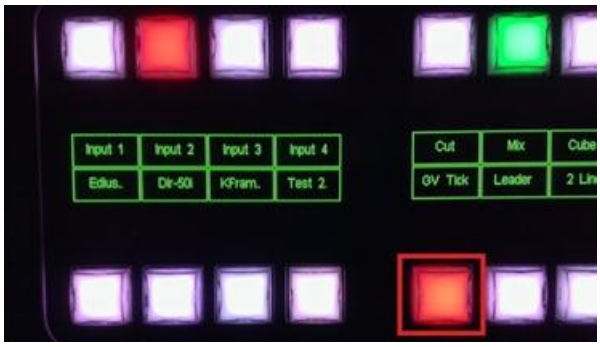
Subsequent Live and Clip source selections will use the newly assigned Primary Transition to place the source to air.

Put an Effect On or Off Air

A simple search checks the name, tags, description, comments, and custom texts of the assets.

1. In an Asset List panel Location drop-down list, select the location (search provider) you want to search.
2. In the Simple Search tool, enter the word or a fragment from the beginning of a word.
3. To start the search, press **Enter**.
    - Selecting a button that has an Effect assigned either puts the effect to air or takes the effect off air.

If an **Effect** is placed to air, the corresponding button on the Control Surface will light red to indicate that the Effect is currently on program.



Note: How an effect is placed to air is determined by how it was designed in Composer. Transitioning effects do not use the Primary Transition.

Using the Touchpad to Change On Air Content

If a production element isn't assigned to a button on the Control Surface, it can still be used to change the on-air content.

To Use any Production Element from the Touchpad

- Press and hold down the **Take** button to the lower-right of the assignable button area of the Control Surface.
- Select the any production element from any of the Touchpad menus.
- The selection will be applied to the program output of GV Director.

Using Stage to Preview

Any production element can be previewed by placing it in the **Stage** prior to taking it to air.

To Stage an input or clip:

- Press and hold the Stage/Preview button in the bottom-right of the assignable button area of the Control Surface.
- Hold the **Stage** button.
- Select an input or clip either from an assignable button or from the menu on the Touchpad..
- That input source or clip will be displayed in the **Stage** monitor.
- Press the **Take** button on the Control Surface to put the staged source to program to air using the primary transition.

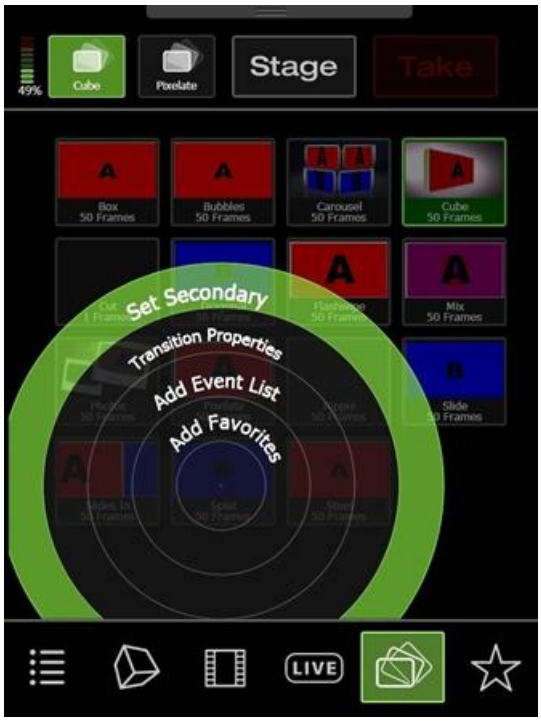
Advanced Operations

In addition to the operations discussed in Basic Switching section, there are additional operational functions in GV Director that can be preconfigured before a production or done on the fly to enhance the production value.

Secondary Transitions

In addition to the primary transition, a secondary transition can also be set. To select the desired transition that you want to designate as Secondary:

Double tap and hold on the desired transition to access the radial menu.



When the Secondary transition is set, the second box at the top-left of the Touchpad menu screen will indicate the selected Secondary transition.

The Secondary transition will be used anytime the operator presses the current on-air background source a second time.

That source button will begin to flash.

The flashing indicates that if you select another background source the Secondary transition will be used instead of the Primary transition.

Working with the Favorites Menu

Any of the production elements can be added to the Favorites menu on the Touchpad.

Working with Events Lists

Event lists can be created with any of the production elements in GV Director. These Event Lists give the operator the ability to compile multiple elements to be played back one after another.

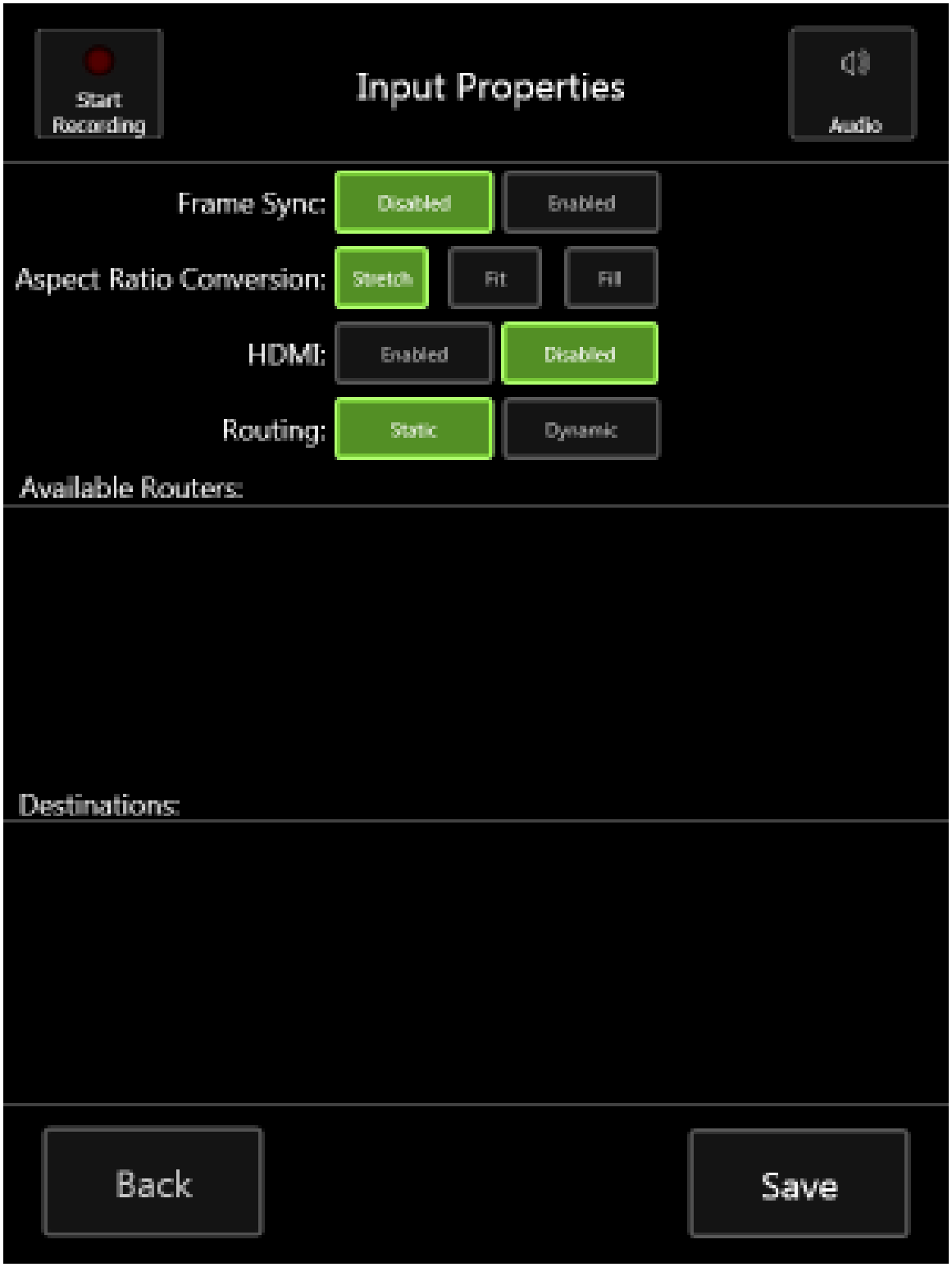
Second Record Channel

You may record a second channel in the Live feeds and the recording is automatically saved to the Shotbox library.

1. From the **Live** feed screen, select the live feed that you want to record.

2. Open the **Radial** dial menu and select **Properties**.

3. From the **Input Properties** screen, select **Start Recording**.



4. Give the recording a filename and click **Save**.

Note that the channel you are currently recording appears on the Live feed screen highlighted in red and with a red dot indicating that the feed is being recorded.

45%
Cut
Cut
Stage
Take
1
Input 1
2
Input 2
3
Input 3
4
Input 4
5
Input 5
6
Input 6
7
src16
8
Input 8
Black
Aux 1
Aux 2
LIVE

Stage Composited Elements

In the basic switching section we discussed how to use the Stage to preview a production element before putting it to program. Stage can also be used to set up a complex group of productions elements that can be put to program as a single action.

More than one element can be placed in the Stage at one time. (shown in the screen shot below).

1. Press and hold the **Stage/PVW** button on the Control Surface.
2. Use either assigned buttons on the Control Surface or Touchpad menu.
3. Select all the elements you want for the on-air composite.

   To **Preview** the element(s):

   - Select the **Rehearse** button on the Touchpad menu.

   To place the Element to air:

   - Use the **Take** button on the Control Surface or in the menu.

   If the stage composite is something that you will use again:

   - **Save** it to the Effects menu.

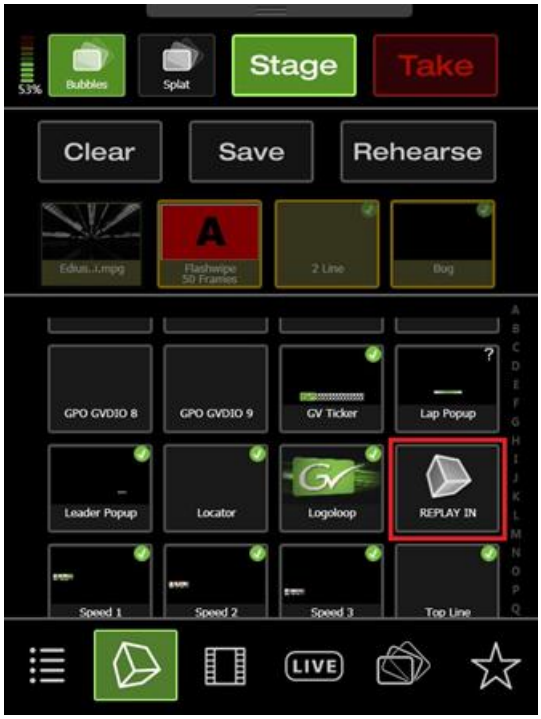
- **Name**the element and **Save**again.

Saved Stage composites are found in the Effects menu on the Touchpad.

Recalling a Saved Composite

Assets with names, tags, descriptions, comments or custom texts matching the search criteria are displayed in the Asset List panel.

- Press and hold the **Stage/PVW** button and select the composite from the Touchpad menu.

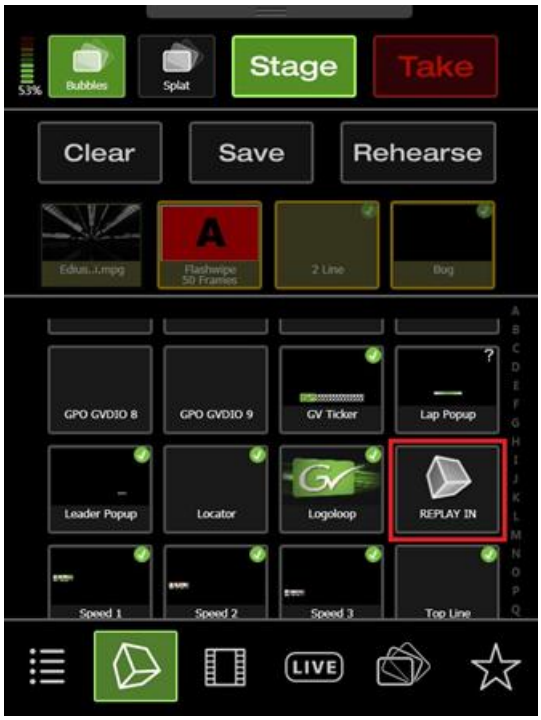


All items in the composite will then be reloaded into the Stage.

Removing a Composite From the Stage

Assets with names, tags, descriptions, comments or custom texts matching the search criteria are displayed in the Asset List panel.

- Select the Element in the Touchpad menu



- Press the **Clear** button in the Stage area of the Touchpad menu.

Assistant Director Tool (GVD-PRO-BL Optional for Flex)

The Grass Valley Assistant Director tool (GVD-AD) is an application that can run on any Windows 7 PC. It allows for a new assistant director workflow that allows you to make dynamic changes to a live production.You can select and modify properties and parameters for media, text, RSS feeds, etc. Any parameter types supported in GV Director can be updated here.

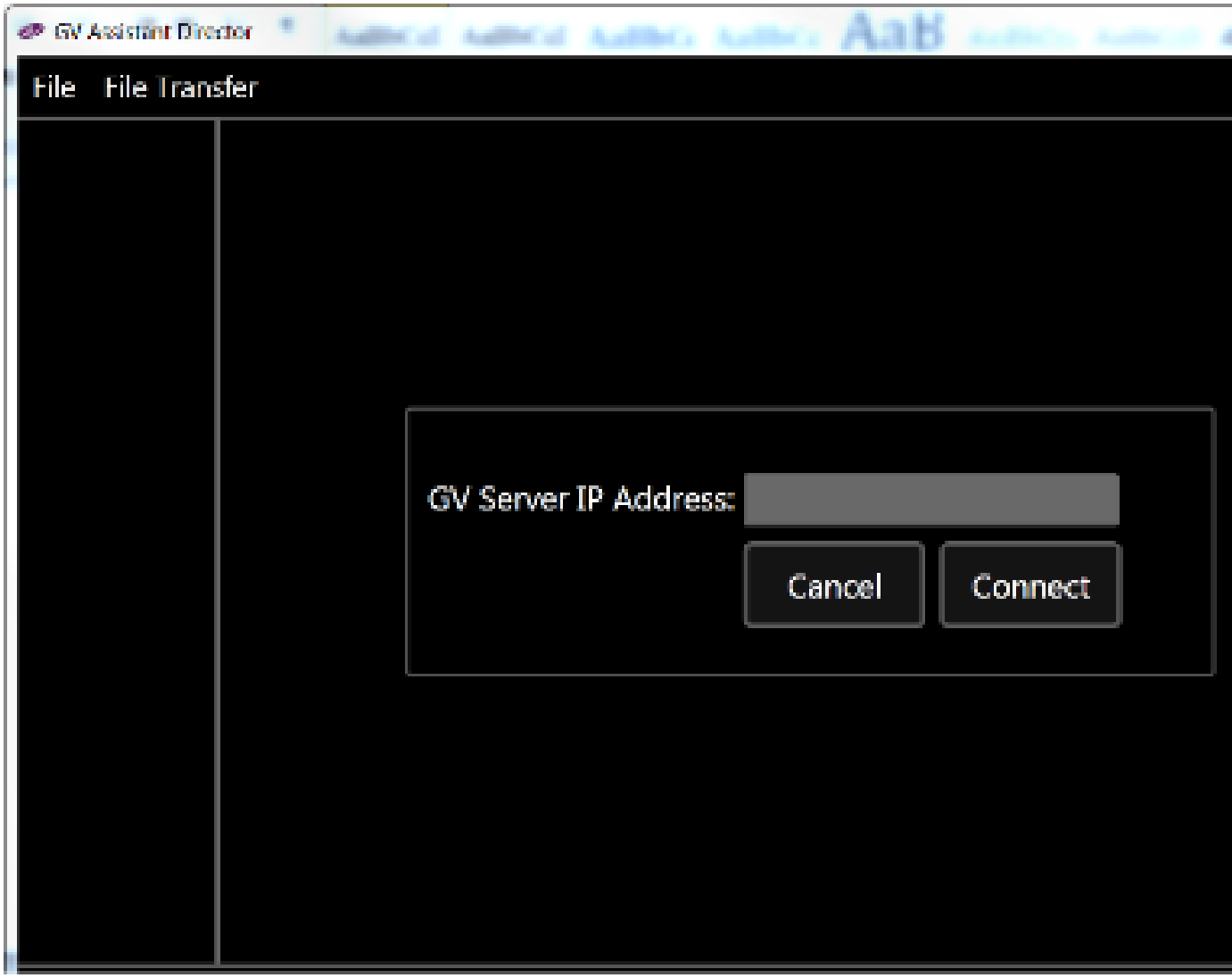
- The Effect tab allows you to choose from layered elements, GPIO triggers, ect. available from your production pack. The Effects screen also allows you to change the layered elements available for your production. You may view and modify properties and parameters for production packs and media.
- The Media tab allows you to access a shotbox of all available clips and stills. You may load up to 20 different clips into a player (one in each player) and you can save and recall a group of loaded clips as a shotbox playlist. You may view and modify media properties and parameters.
- Live feeds can be viewed and both the video format and frame rates display.
- Transitions in the library display the name of the transition and the current duration set for that transition. Transition Properties allows the operator to change the duration of the transition.
- The Event List option allows you to place production elements within Event List in the order you wish to take them to air, layered over background. Create an ordered list of production elements that you can step through in sequence during a production. You may view and modify Event List media properties and parameters.
- Using the file transfer feature, you may send media and production packs to a server or your PC.

Note: Ross expressions are not supported.

Login to the Assistant Director Tool

You login to the Assistant Director Tool application by connecting to the GV Server.

1. From the login screen, enter the **GV Server's IP Address**.

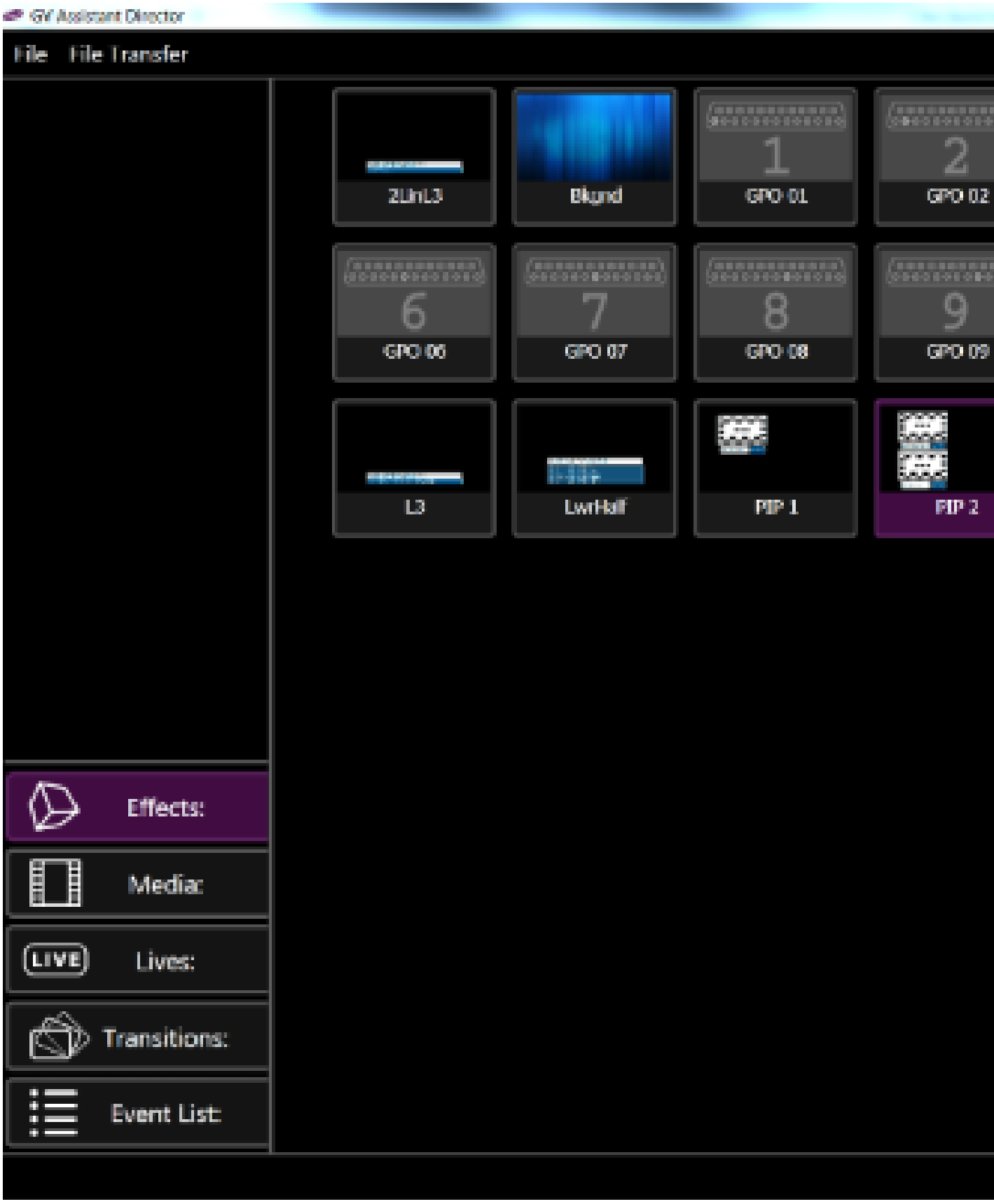


2. Click **Connect**.

Effects Tab

Select this option to choice from layered elements and GPO triggers, created in the Composer application – and other applications. As with transitions, the effects available in the Effects menu are based on the current Production Pack. Changing Production Packs may change the layered elements available for your production. You may also view and modify properties and parameters for production packs and media.The effects screen displays a preloaded event list. You use the File Transfer menu to send and get production packs and media. You can save production packs and media to a local PC or the server.

- To access the **Effects** screen, select the tab.


GV Assistant Director
File
File Transfer
2LinL3
Bkgnd
1
GPO 01
2
GPO 02
6
GPO 06
7
GPO 07
8
GPO 08
9
GPO 09
L3
LwrHalf
PIP 1
PIP 2
Effects:
Media:
LIVE
Lives:
Transitions:
Event List:

Selecting an Effect

When you select an effect and it has paramaters associated with it, it appears above the properties and parameters tab. You may modify the information that displays and save your changes.

Modifying an Effect's Properties

You may modify an effect's properties and save your changes directly from the Effects screen.

1. You tap to select an effect from the list. The effect's icon appears above the **Properties** and **Parameters** tab.
2. From the **Properties** tab, make your changes.
3. Click **Update** to save your changes.

Modifying an Effect's Parameters

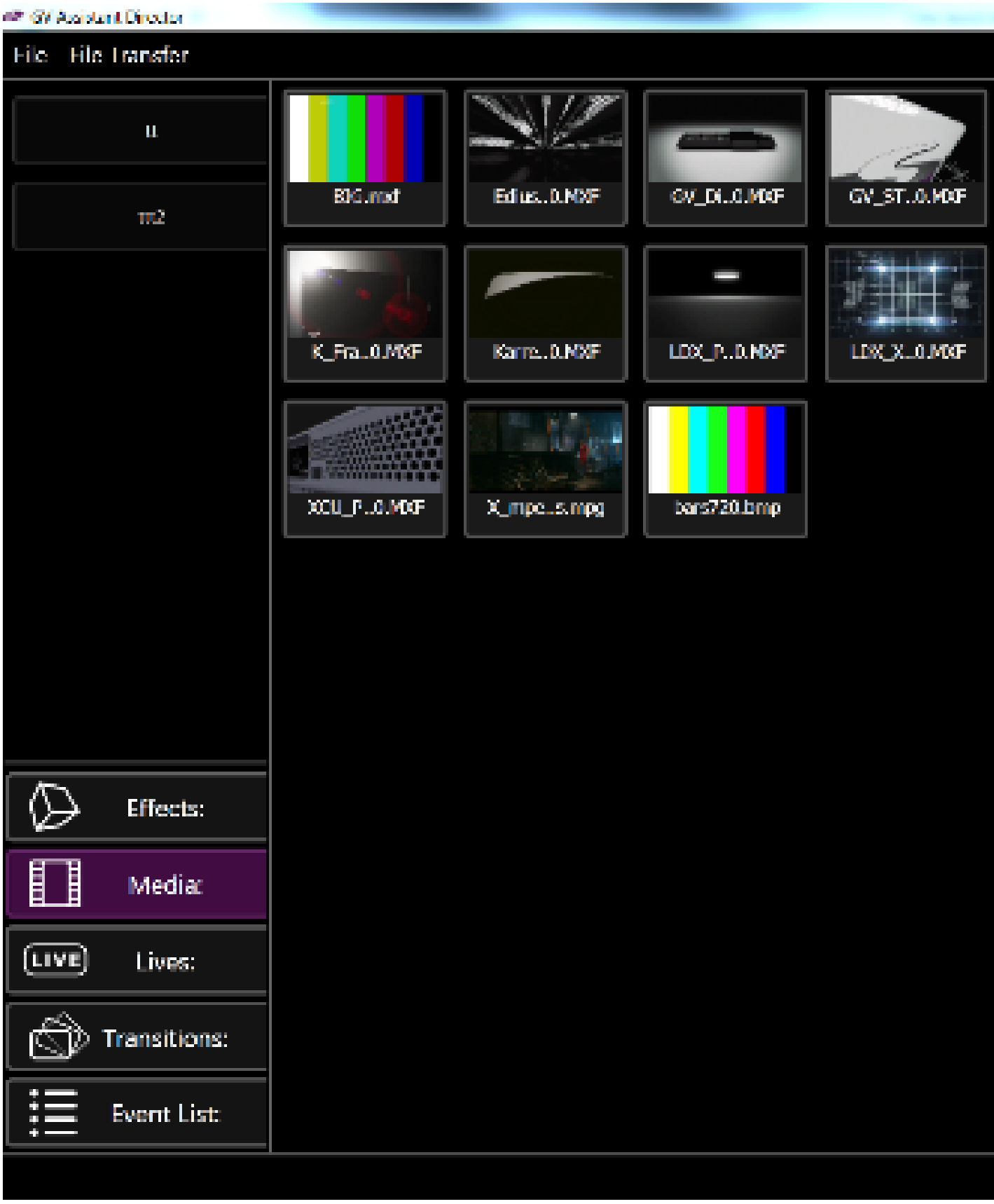
You may modify an effect's parameters in the Effects screen.

1. Select an effect from the list. The effect's icon appears above the **Properties** and **Parameters** tab.
2. From the **Parameter** tab, make your changes.
3. Click **Update** to save your changes.

Media Tab

Once clips are imported to the clip library on the server, they are available for use in the production. The Media library is a shotbox of all available clips and stills. With the media that displays here, you can load up to 20 different clips into a player (one into each clip player) at any one time, modify or delete an item and modify the media properties and parameters.You can also save and recall a group of loaded clips as a Shotbox playlist. This allows the operator to have several different Shotbox (or playlists) saved for recall during the production process. Any modifications that are made to a configuration can be saved and it will display in the assets list. Using the File Transfer menu, you may transfer production packs and media to the server or your local PC. Clips can be loaded and you can drag and drop them into a shotbox position. It is then immediately accessible by the director. You may also save and load multiple shotboxes. These saved, preset shotboxes display to the left of the media library. You can load different shotboxes by selecting them.

- To access the **Media** screen, select the tab.


File
File Transfer
BIC.mxf
Edius..0.MXF
GV_DI..0.MXF
GV_ST..0.MXF
K_Fra..0.MXF
Karre..0.MXF
LDX_P..0.MXF
LDX_X..0.MXF
XDU_P..0.MXF
X_mpc..s.mpg
bars720.bmp
Effects:
Media:
LIVE
Lives:
Transitions:
Event List:

Loading Media on a Player

The Clip Library is a grouping of all clips and stills that have been imported into the GV Director server. Clips cannot be played directly from the Clip Library. They must first be assigned to one of the 20 clip players.

Assigning a Player to a Clip

- Select the media from the Clip Library, double-tap on it and drag it to the player.

Saving a Group of Clips as a Shotbox Playlist

Once you have loaded clips into the player, you may save it as a shotbox playlist. Clips can be loaded and you can drag and drop them into a shotbox position. The shotbox is then immediately accessible by the director. You may also save and load multiple shotboxes. These saved, preset shotboxes display to the left of the media library. You can load different shotboxes by selecting them from the list.

1. Select the media from the list and place it in the shotbox area in the order in which you want the clip to play.
2. Click **Save** and enter a name for the shotbox file. The shotbox playlist will be saved to the server.

   If you restart the server, the shotbox will clear.

Accessing Saved Shotboxes

You can load a saved shotbox and modify its contents. Saved shotboxes display as a list to the left of the media library.

1. From the shotbox list, click on the shotbox. It will load in the shotbox area.
2. You may add, remove, delete and modify shotbox media.
3. Click **Save**.

Modifying Media Properties

You may modify an the media's parameters in the Media screen.

1. Select the media from the library. The media icon appears above the **Properties** and **Parameters** tab.
2. Select the **Parameters** tab.
3. Select the **Properties** tab.
4. Modify the properties that display.
5. Click **Update** to save your changes.

Modifying Media Parameters

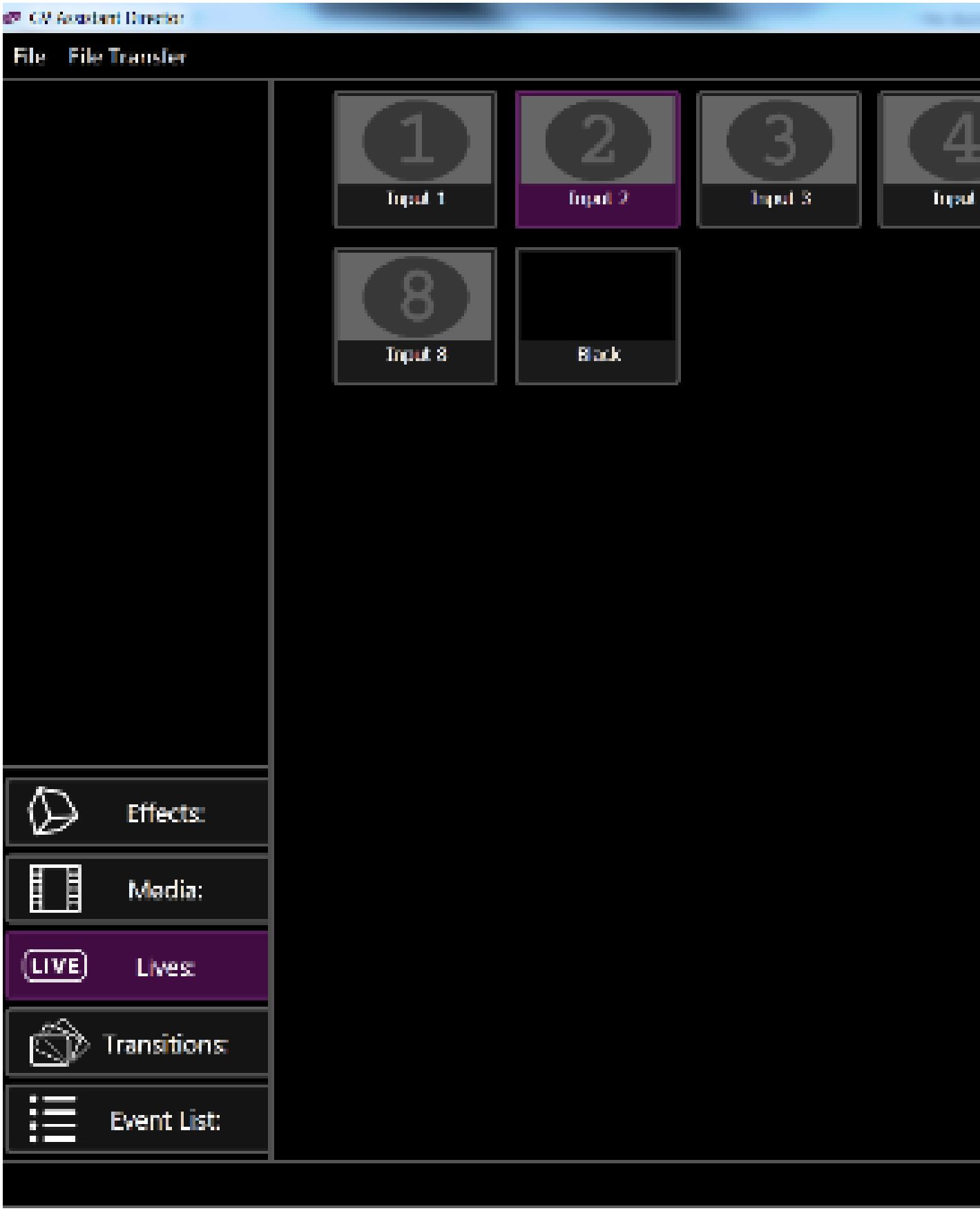
You may modify the media's parameters in the Effects screen.

1. Select the media from the library. The media icon appears above the **Properties** and **Parameters** tab.
2. Select the **Parameters** tab.
3. Modify the parameters that display.
4. Click **Update** to save your changes.

Lives Tab

Live elements are the sources that are connected to the server through either the 8 SDI inputs or the 2 HDMI inputs, or any combination thereof. Live elements can be a mix of acceptable video formats (i.e. NTSC, PAL, 720p-50Hz or 60Hz or 1080i-50Hz or 60Hz). Different frame rates and frame sizes can be mixed within a GV Director production, but GV Director cannot mix sources that are both progressive and interlaced.Select this option to view a list of live feeds and select live sources to put to the program output. You may modify and update properties and parameters for each feed. You may also add an RSS feed.

- To access the **Lives** screen, select the tab.


File
File Transfer
1
Input 1
2
3
8
Input 8
Black
Effects:
Media:
LIVE
Lives:
Transitions:
Event List:

Putting a Source to Air

You may put a source to air from the Lives screen.

- Select the source from the library.

Modify Live Feed Properties

You may modify an the live feed parameters in the Lives screen.

1. Select the feed from the library. The feed icon appears above the **Properties** and **Parameters** tab.
2. Select the **Properties** tab.
3. Modify the properties that display.
4. Click **Update** to save your changes.

Modify Live Feed Parameters

You may modify an effect's parameters in the Effects screen.

1. Select the live feed from the list. The live feed icon appears above the **Properties** and **Parameters** tab.
2. Select the **Parameters** tab.
3. Modify the parameters that display.
4. Click **Update** to save your changes.

Adding an RSS Feed

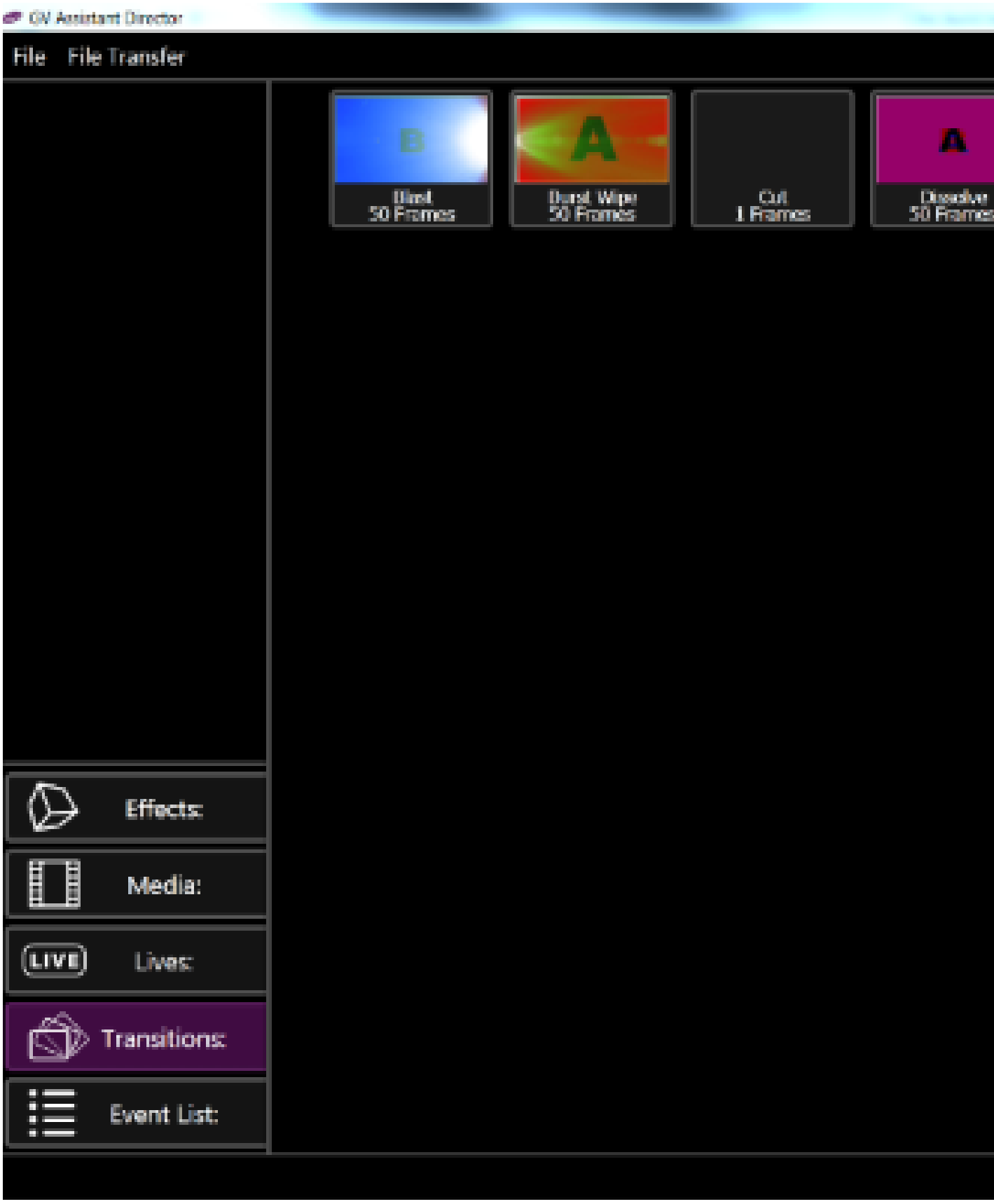
You may add an RSS feed to any of your live feeds in the Lives screen.

1. Select the source from the library and double-click it.
2. From the **Dynamic Input** field, click the **RSS Feed** button. A list of available feeds displays.
3. Select the feed you want to add to the live source.

Transitions Tab

Each transition in the library has the name of the transition and the current duration set for that transition. Transition Properties allows the operator to change the duration of the transition.

- To access the **Transitions** screen, select the tab.


GV Assistant Director
File
File Transfer
B
Burst
50 Frames
A
Burst Wipe
50 Frames
Cut
1 Frames
A
Dissolve
50 Frames
Effects:
Media:
LIVE
Lives:
Transitions:
Event List:

Selecting the Primary Transition

Any time a new input or clip source is selected for program, it will be put to air using this transition.

- To change the primary transition, select the primary transition.

It appears above the properties and parameters tabs. You may modify and update the selected transition.

Modifying Transition Properties

You may modify an effect's properties and save your changes directly from the Transitions screen.

1. Select the transition from the library. The transition icon appears above the **Properties** and **Parameters** tab.
2. Select the **Properties** tab.
3. Modify the properties that display.
4. Click **Update** to save your changes.

Modifying Transition Parameters

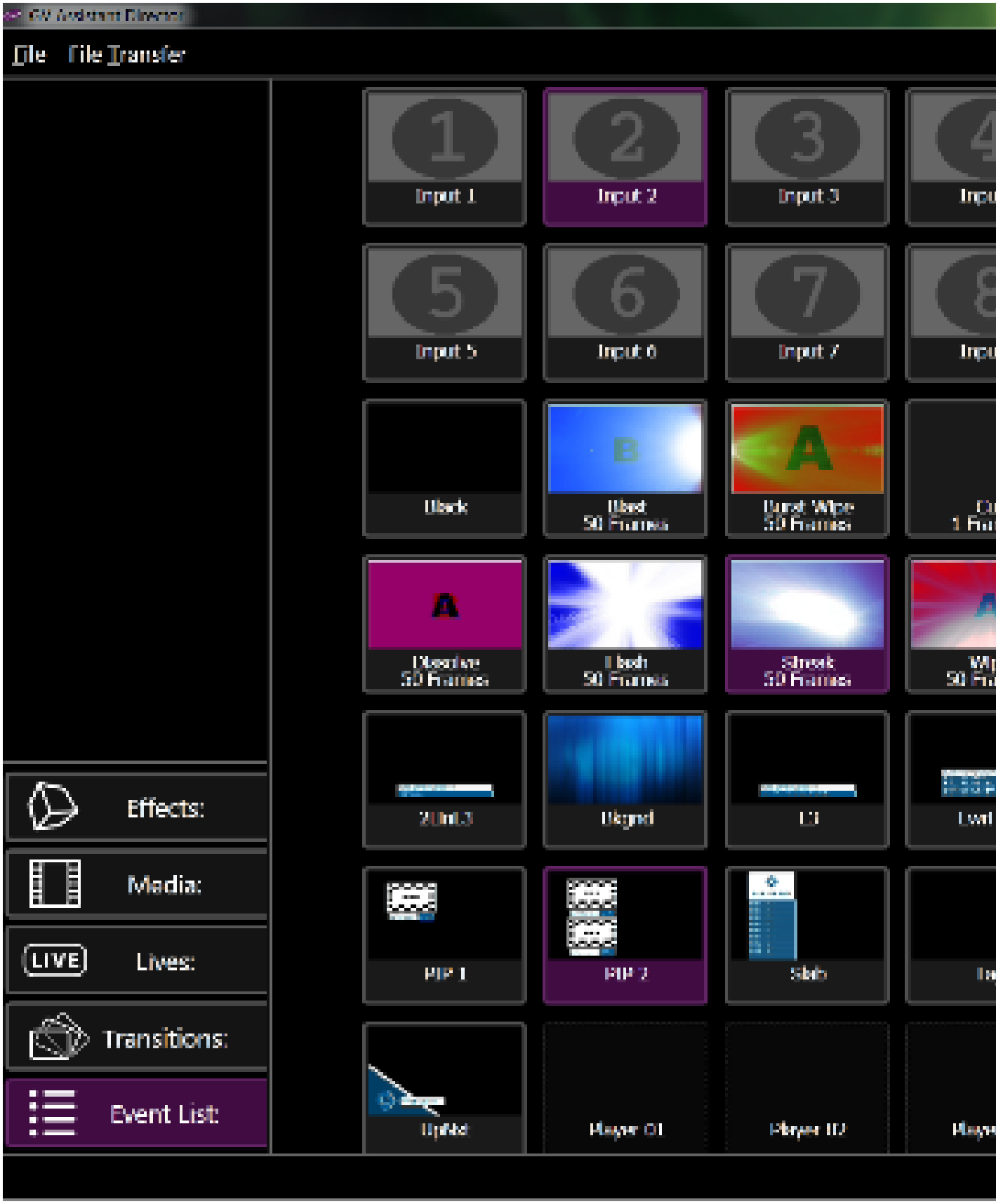
You may modify transition parameters in the Transitions screen.

1. Select the transition from the library. The transition icon appears above the **Properties** and **Parameters** tab.
2. Select the **Parameters** tab.
3. Modify the parameters that display.
4. Click **Update** to save your changes.

Event List

The **Event List** is very useful with semi-scripted and semi-automated live productions. Place production elements within Event List in the order you wish to take them to air, layered over background. This feature provides support for multiple event lists. .

- To access the **Event** list, click the tab.


File
File Transfer
Input 1
Input 2
Input 3
Input 5
Input 6
Input 7
Effects:
Media:
LIVE
Lives:
Transitions:
Event List:

Creating an Event List

This feature allows you to create an ordered list of production elements that you can step through in sequence during a production. You may also create multiple event lists.

1. From the Event library, click, drag and drop the media to the **Event** list.
2. Continue to add media in the order in which you want the list to play.
3. **Save** the Event list and give it a name.

Loading the Event List

After you load an Event List, it displays on the GV Director control panel and is ready to use by the Director.

1. Click **Clear** to remove the existing Event List.
2. Click **Load** and navigate to the Event List you want. Open it and it will load into the GV Director application.

The Event list is now ready to use on the Live side of GV Director. Note that the Event List is saved in an .XML format.

File Transfer

You use the File Transfer menu to transfer media and production packs to and from your PC or the server.

Sending Production Packs to Server

Use the File Transfer menu to send production packs from the GV Assistant Director tool to the server.

1. From the **File Transfer** menu, select **Send Production Pack** to the server. The library of available production packs displays.
2. Select the production pack.
3. Save it to the desired location on your server.

Sending Production Packs to PC

A simple search checks the name, tags, description, comments, and custom texts of the assets.

1. From the **File Transfer** menu, select **Send Production Pack to PC**. The library of available production packs displays.
2. Select the production pack.
3. Save it to the desired location on your server.

Sending Media to the Server

Use the File Transfer menu to send media from the GV Assistant Director tool to the server.

1. From the **File Transfer** menu, select **Send Media to the Server**. The library of a clips and stills displays.
2. Select the media.
3. Save it to the desired location on your server.

Sending Media to PC

Use the File Transfer menu to send media from the GV Assistant Director tool to your PC.

1. From the **File Transfer** menu, select **Send Media to PC**. The library of a clips and stills displays.
2. Select the media.
3. Save it to the desired location on your PC.

Exiting the Assistant Director Tool

To exit the Assistant Director Tool, select the File menu>Exit or the close window button.

Accessing Composer for GV Director

Read the topic library to learn about the Composer tool for creating and modifying production elements and production packs.

To access the Composer for Director topic library, click *http://wwwapps.grassvalley.com/manuals/gv_composer_v1.7.4/*

GV Director Tutorials

Quickly learn what you need to start creating and managing sophisticated live productions with GV Director. Grass Valley University (GVU) hosts a growing series of GV Director video tutorials. Click one of the links below to start learning now.

- If you already have a GVU account: *Grass Valley University*
- Create a GVU account: *Register*
- *GV Employees*
- *Resellers*

Grass Valley Knowledge Base

Visit the Grass Valley Knowledge Base site for technical articles and FAQs (Frequently Asked Questions) about Grass Valley systems and products.

Grass Valley Knowledge Base

Service

GV Director Server and Control Surface installation topics.

Field Replaceable Units

FRUs (Field Replaceable Units) are available for GV Director.

Table 18: FRU List and Replacement Notes and References

Name	Part Number	Replacement Notes and References
Panel		
Whole Unit Control Surface	7610529xx	
Server		
Zippy 960W Redundant Power Supply	7610564xx	1 Power Supply
OS 120G SATA SSD,S3500	7610557xx	with Drive Caddie
Media 480G SATA SSD,S3500	7610555xx	with Drive Caddie
Video I/O Board	7610556xx	with PCI Riser Card
Video Graphics Card	7610566xx	Nvidia Video Card
Audio/LTC Board	7610560xx	with ribbon cable
Front Fan	7610565xx	Fan Assembly with 2 fans
Server Rack Ears & Rails	7610553xx	
Bezel Assembly	7610559xx	Front Bezel (cover)
Whole Server Unit	7610530xx	

About removing and replacing Field Replaceable Units

Field Replaceable Units (FRUs) are modular hardware components that can be serviced without disturbing other components in the system. Only Grass Valley components are supported.

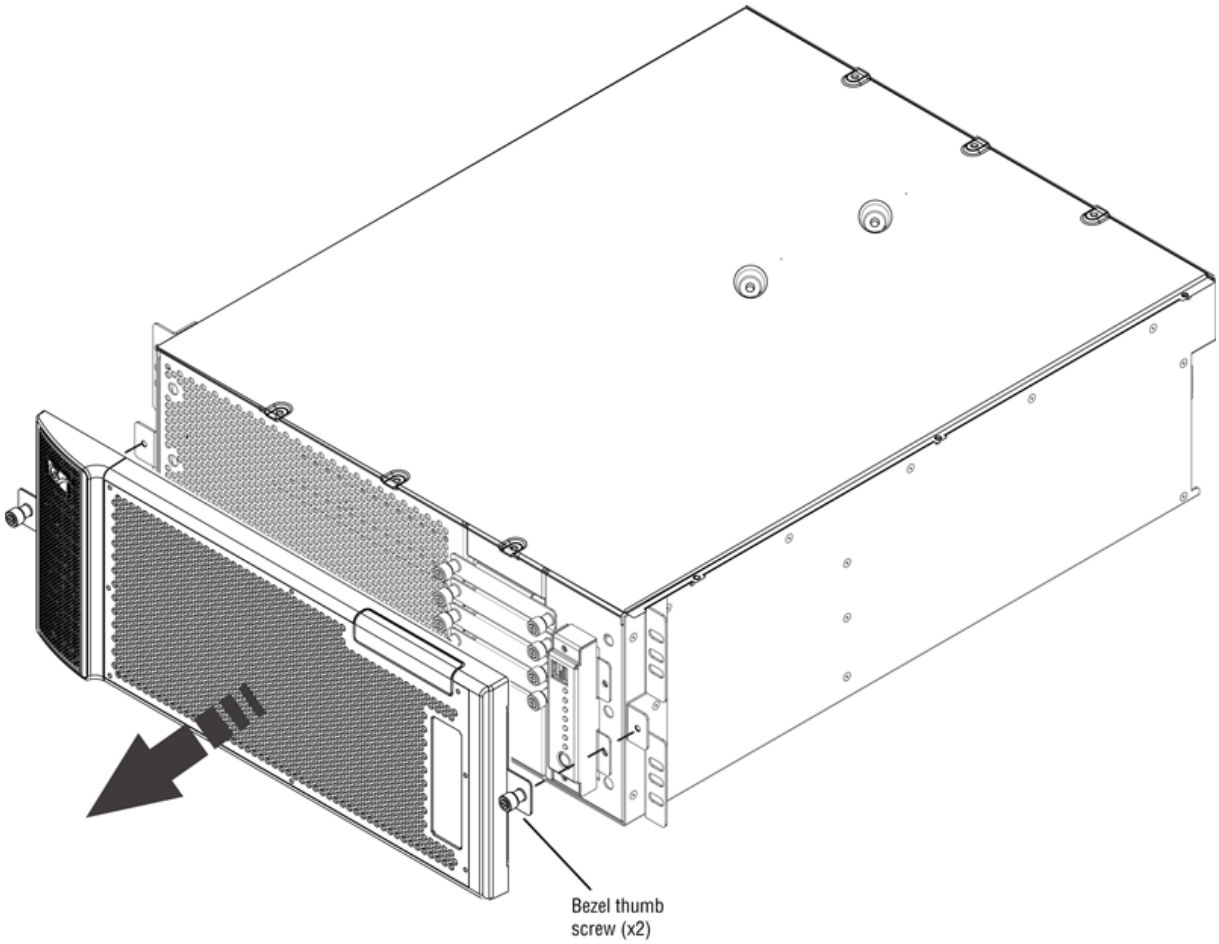
Caution: Do not attempt to use components procured from a source other than Grass Valley.

The FRU replacement topics describe how to remove the FRU components, re-assembly is the reverse unless otherwise indicated. Do not discard any hardware unless specicially instructed to do so.

A Torx tool with T15 magnetic tip is used to remove and replace parts in the GV Director Server, unless otherwise indicated.

Caution: This system contains board-level components that must be protected from static discharge and physical shock. Wear a wrist strap grounded to the system chassis when handling system components.

Remove the front bezel

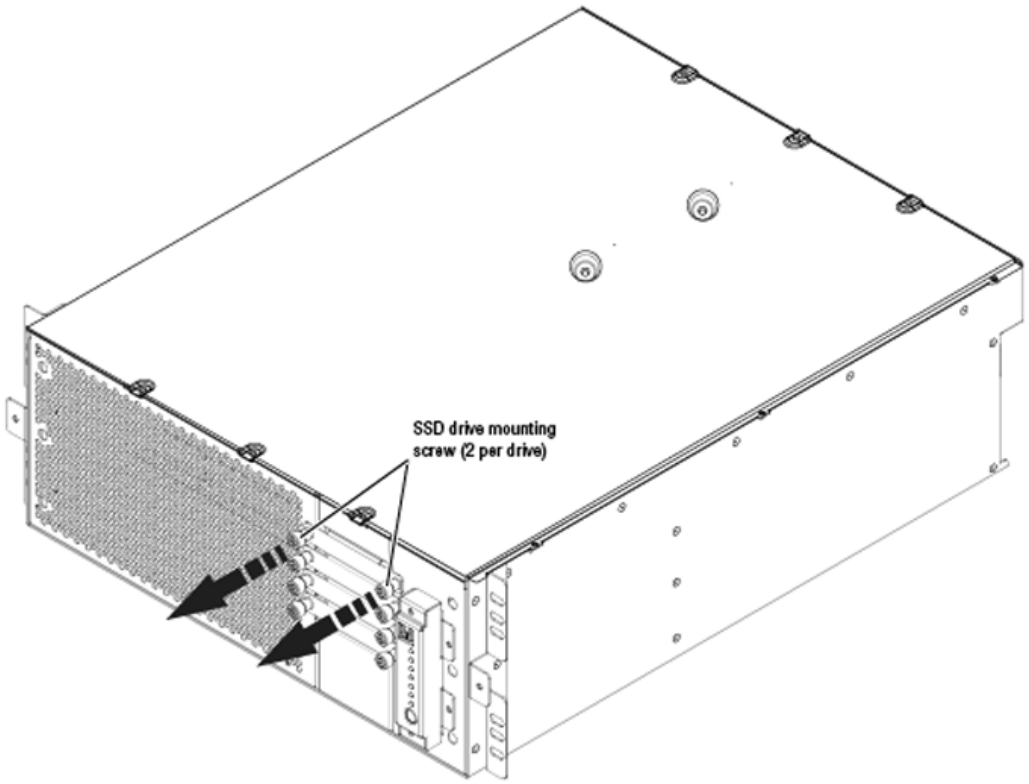


1. Loosen the front bezel thumb screws until the bezel is released.
2. Remove the bezel.

Replacing SSD drives

The front bezel assembly is removed.

Danger: To avoid serious injury from high currents, ensure that both power cords are disconnected from the GV Director Server prior to removing or replacing any parts.



1. Remove the two mounting screws fastening the SSD drive to the GV Director Server.

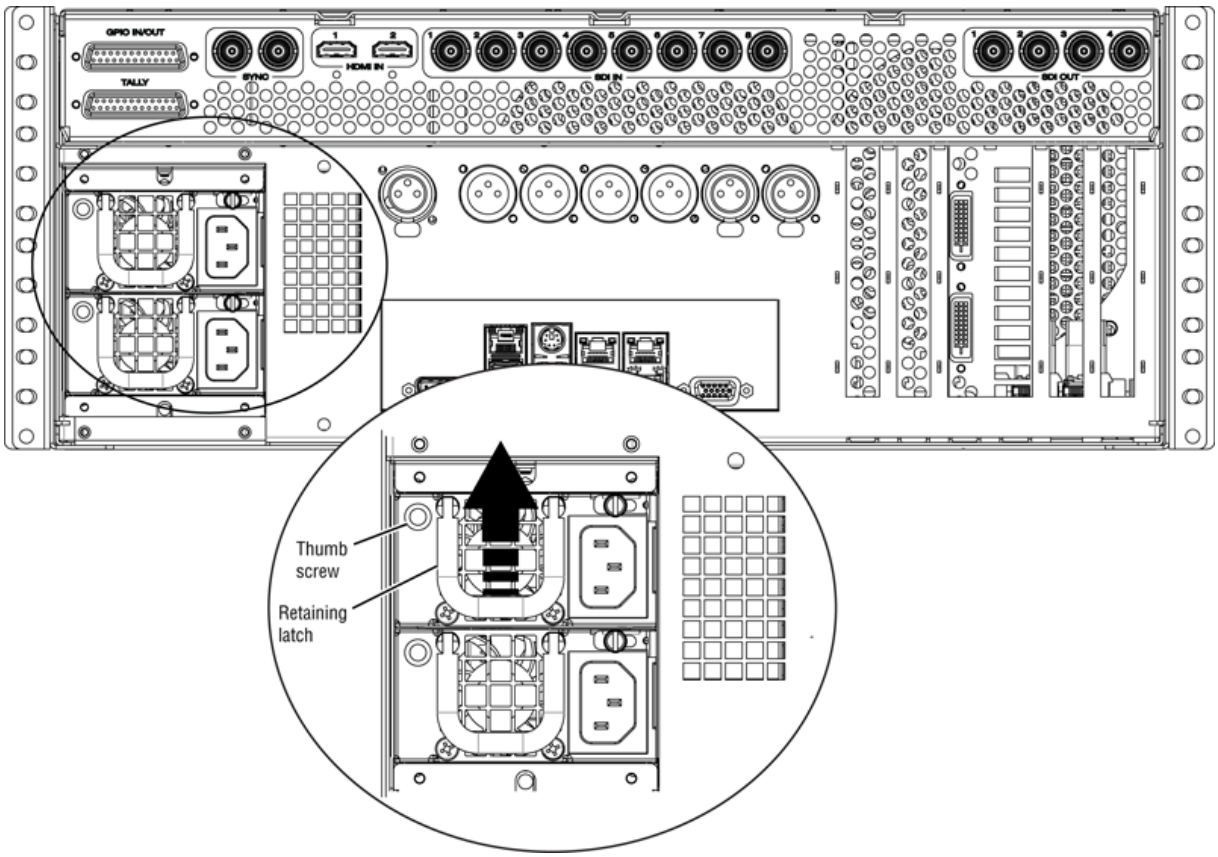
   Caution: GV Director Server SSD drives are not hot swappable, attempting to replace drives while the system is powered on may result in damage to the drives, corruption of data, and/or damage to the motherboard.

2. Pull the SSD drive caddy out.

Replacing power supplies

GV Director power supplies are hot swappable. Colored LEDs on each power supply indicate status; green for pass and red for fail.

Danger: To avoid serious injury from high currents, ensure that both power cords are disconnected prior to removing or replacing any parts.

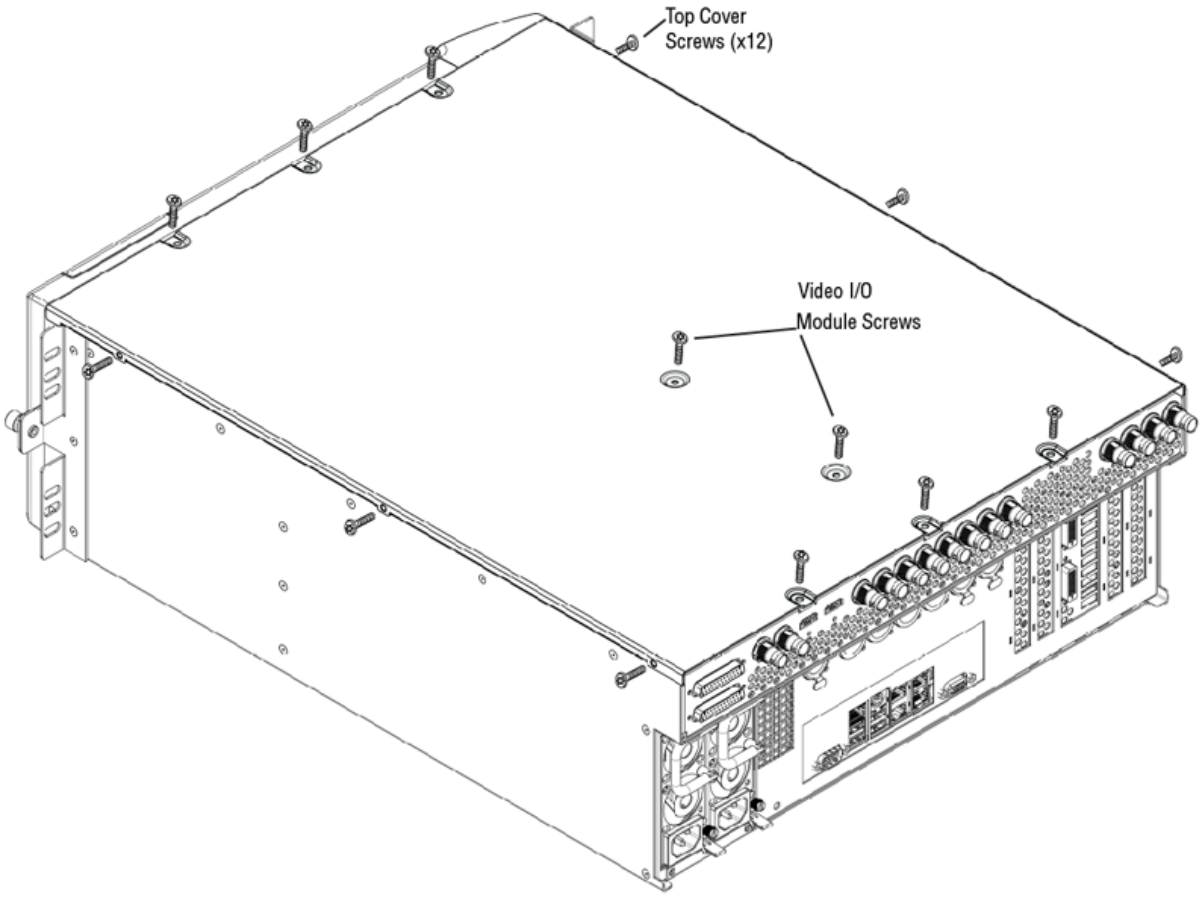


1. Loosen the thumb screw fastening the power supply to the GV Director Server.
2. Pull up on the retaining latch and hold it in the up position.
3. Pull the power supply straight out.

Remove the GV Director Server top cover

Remove the GV Director Server top cover to access the internal Field Replaceable Units.

Danger: To avoid serious injury from high currents, ensure that both power cords are disconnected prior to removing or replacing any parts.



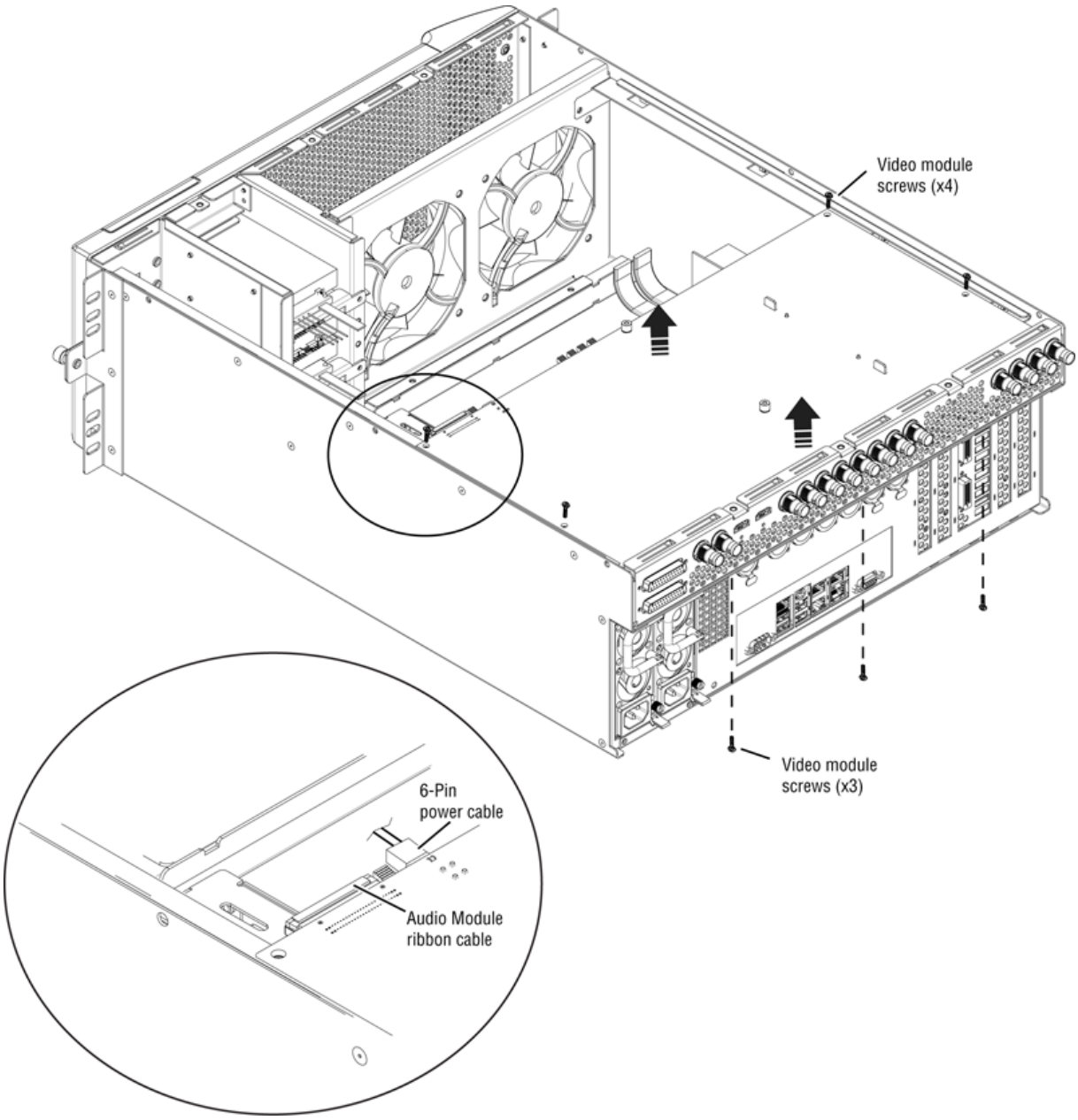
1. Remove the two screws that secure the video I/O module.
2. Remove the 12 screws around the edges of the top cover.
3. Lift off the top cover.

Caution: Do not overtighten screws when replacing the top cover.

Replace the video I/O module

The top cover is removed.

Danger: To avoid serious injury from high currents, ensure that both power cords are disconnected prior to removing or replacing any parts.

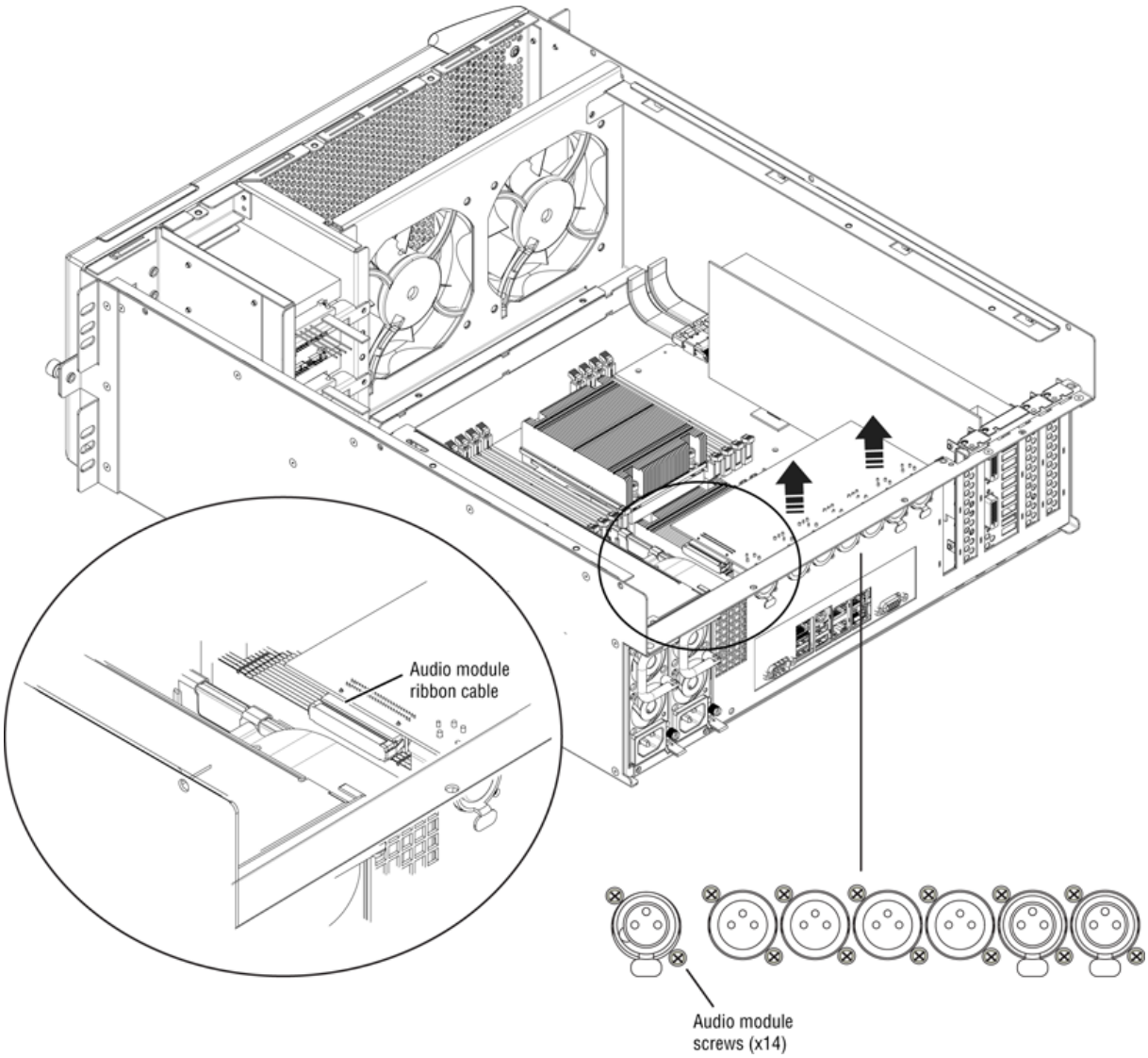


1. Discconnect the audio module ribbon cable and 6-pin power cable.
2. Remove the four screws that secure the video I/O module to the server chassis.
3. Remove the three screws that secure the I/O connectors to the server chassis.
4. Holding the video I/O module on each side, lift the module straight up.

Replace the audio module

The top cover and video I/O module are removed.

Danger: To avoid serious injury from high currents, ensure that both power cords are disconnected prior to removing or replacing any parts.

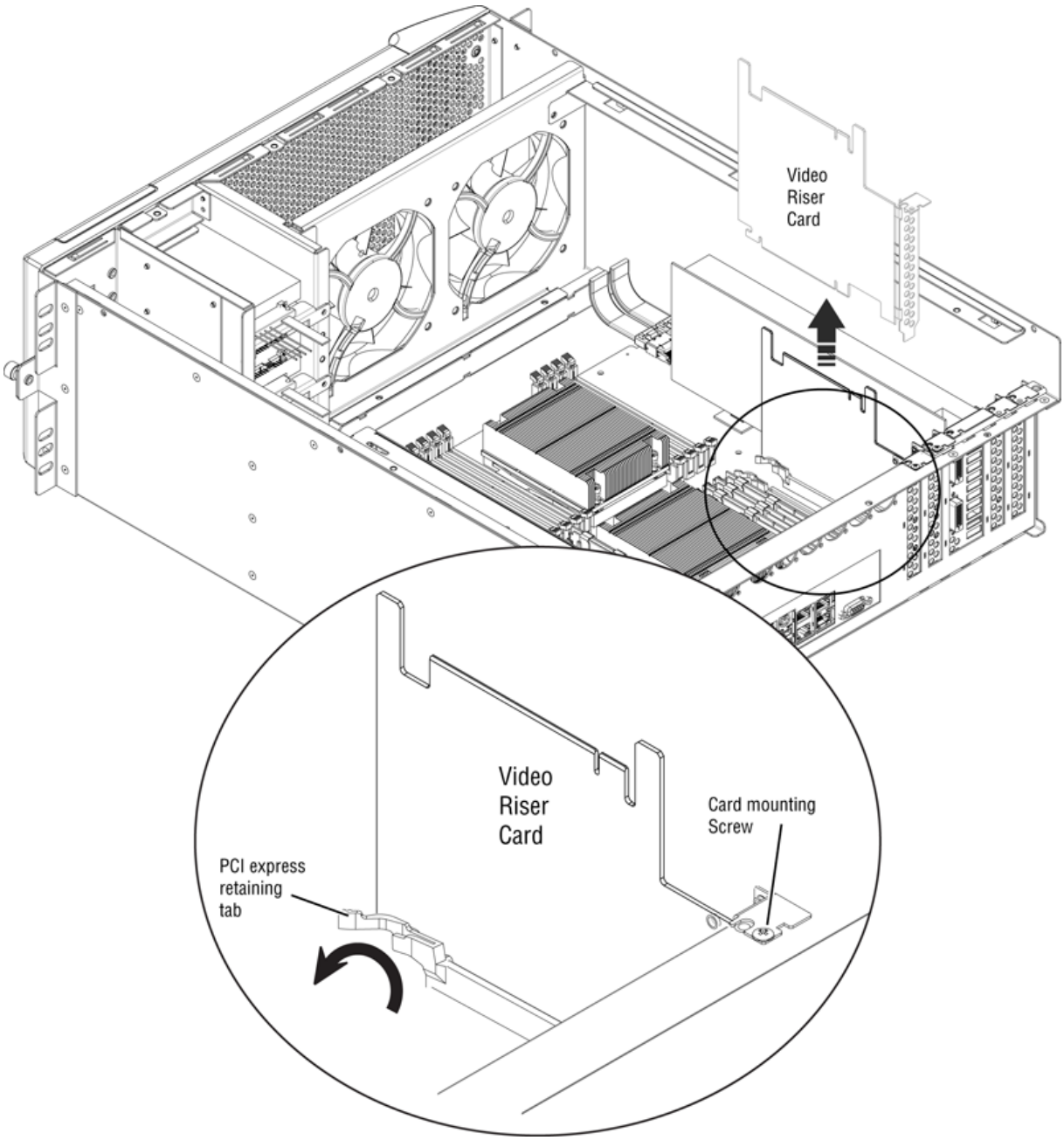


1. Remove audio module I/O ribbon cable.
2. Remove the 14 self-tapping screws.
3. Grasp the audio module on each side and pull straight up until free of the chassis.

Replace the video riser card

- The top cover is removed.
- The video I/O module is removed.

Danger: To avoid serious injury from high currents, ensure that both power cords are disconnected prior to removing or replacing any parts.

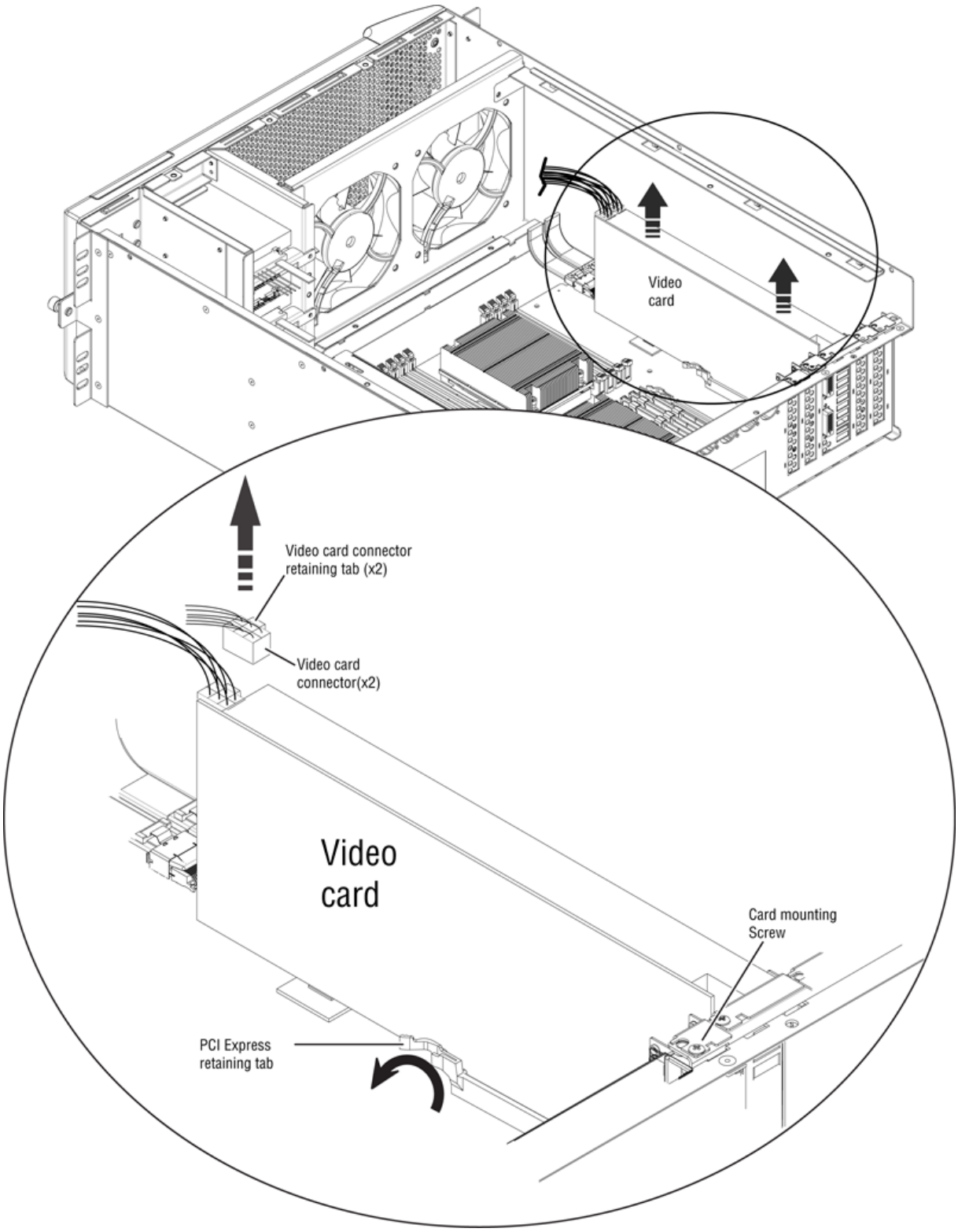


1. Remove the card mounting screw.
2. Pull the PCI express retaining tab away from the riser card and hold it in the released position.
3. Lift the video I/O riser card straight up.

Replace the video card

The top cover and video I/O module are removed.

Danger: To avoid serious injury from high currents, ensure that both power cords are disconnected prior to removing or replacing any parts.

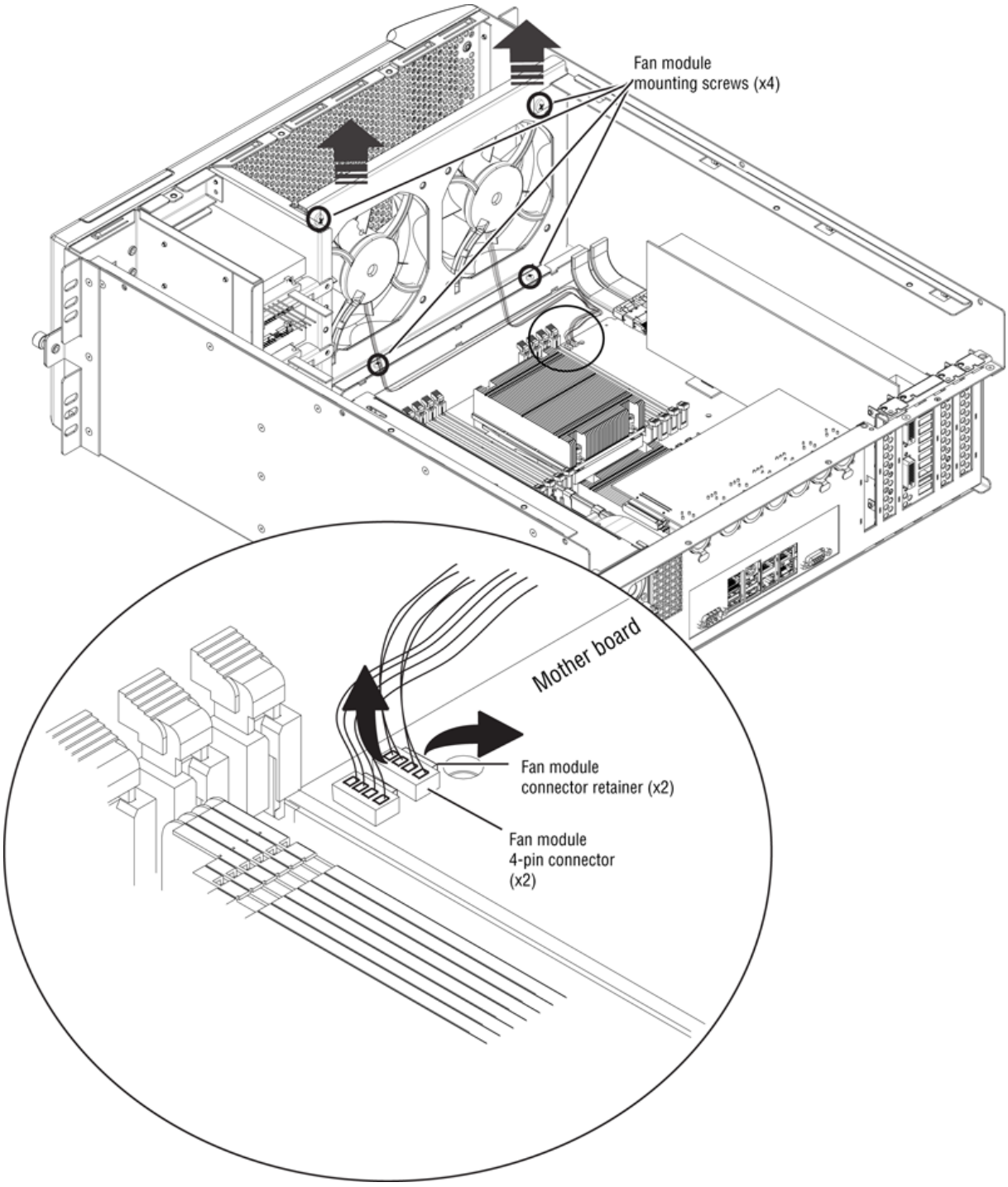


1. Disconnect the two 6-pin power cables by pushing in on the video card connector retaining tab and pulling straight up on the connector for each.
2. Remove the video card mounting screw.
3. Pull the PCI Express retaining tab away from the video card and hold it in the released position.
4. Lift the vedeo card straight up until it is clear of the chassis.

Replace the fan module

The top cover is removed.

Danger: To avoid serious injury from high currents, ensure that both power cords are disconnected prior to removing or replacing any parts.



1. Disconnect the two fan module cables from the motherboard, noting left and right, by pulling back the fan module connector retaining tab and unplugging the connector for each.

Caution: When installing the fan module verify that the left fan connects to the left connector and the right fan to the right.

2. Remove the four mounting screws fastening the fan module to the chassis.
3. Lift the fan module straight up until clear of the chassis.

Safety Summary

Safety Summary

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

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

Safety terms and symbols

Terms in this manual

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

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

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

Terms on the product

These terms may appear on the product:

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

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

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

Symbols on the product

The following symbols may appear on the product:

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

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

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

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

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

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

Warnings

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Cautions

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

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

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

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

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

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

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

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

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

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

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

Sicherheit – Überblick

Lesen und befolgen Sie die wichtigen Sicherheitsinformationen dieses Abschnitts. Beachten Sie insbesondere die Anweisungen bezüglich

Brand-, Stromschlag- und Verletzungsgefahren. Weitere spezifische, hier nicht aufgeführte Warnungen finden Sie im gesamten Handbuch.

⚠ ***WARNUNG: Alle Anweisungen in diesem Handbuch, die das Abnehmen der Geräteabdeckung oder des Gerätegehäuses erfordern, dürfen nur von qualifiziertem Servicepersonal ausgeführt werden. Um die Stromschlaggefahr zu verringern, führen Sie keine Wartungsarbeiten außer den in den Bedienungsanleitungen genannten Arbeiten aus, es sei denn, Sie besitzen die entsprechende Qualifikationen für diese Arbeiten.***

Sicherheit – Begriffe und Symbole

In diesem Handbuch verwendete Begriffe

Sicherheitsrelevante Hinweise können in diesem Handbuch in der folgenden Form auftauchen:

⚠ ***WARNUNG: Warnungen weisen auf Situationen oder Vorgehensweisen hin, die Verletzungs- oder Lebensgefahr bergen.***

⚠ ***VORSICHT: Vorsichtshinweise weisen auf Situationen oder Vorgehensweisen hin, die zu Schäden an Ausrüstungskomponenten oder anderen Gegenständen oder zum zeitweisen Ausfall wichtiger Komponenten in der Arbeitsumgebung führen können.***

Hinweise am Produkt

Die folgenden Hinweise können sich am Produkt befinden:

GEFAHR – Wenn Sie diesen Begriff lesen, besteht ein unmittelbares Verletzungsrisiko.

WARNUNG – Wenn Sie diesen Begriff lesen, besteht ein mittelbares Verletzungsrisiko.

VORSICHT – Es besteht ein Risiko für Objekte in der Umgebung, den Mixer selbst oder andere Ausrüstungskomponenten.

Symbole am Produkt

Die folgenden Symbole können sich am Produkt befinden:

⚠ Weist auf eine gefährliche Hochspannung im Gerätegehäuse hin, die stark genug sein kann, um eine Stromschlaggefahr darzustellen.

⚠ Weist darauf hin, dass der Benutzer, Bediener oder Servicetechniker wichtige Bedienungs-, Wartungs- oder Serviceanweisungen in den Produkthandbüchern lesen sollte.

⚠ Dies ist eine Aufforderung, beim Wechsel von Sicherungen auf deren Nennwert zu achten. Die im Text angegebene Sicherung muss durch eine Sicherung ersetzt werden, die die angegebenen Nennwerte besitzt.

⏚ Weist auf eine Schutzerdungsklemme hin, die mit dem Erdungskontakt verbunden werden muss, bevor weitere Ausrüstungskomponenten angeschlossen werden.

⏚ Weist auf eine externe Schutzerdungsklemme hin, die als Ergänzung zu einem internen Erdungskontakt an die Erde angeschlossen werden kann.

Weist darauf hin, dass es statisch empfindliche Komponenten gibt, die durch eine elektrostatische Entladung beschädigt werden können. Verwenden Sie antistatische Prozeduren, Ausrüstung und Oberflächen während der Wartung.

Warnungen

Die folgenden Warnungen weisen auf Bedingungen oder Vorgehensweisen hin, die Verletzungs- oder Lebensgefahr bergen:

Gefährliche Spannungen oder Ströme – Schalten Sie den Strom ab, und entfernen Sie ggf. die Batterie, bevor sie Schutzabdeckungen abnehmen, löten oder Komponenten austauschen.

Servicearbeiten nicht alleine ausführen – Führen Sie interne Servicearbeiten nur aus, wenn eine weitere Person anwesend ist, die erste Hilfe leisten und Wiederbelebungsmaßnahmen einleiten kann.

Schmuck abnehmen – Legen Sie vor Servicearbeiten Schmuck wie Ringe, Uhren und andere metallische Objekte ab.

Keine offen liegenden Leiter berühren – Berühren Sie bei eingeschalteter Stromzufuhr keine offen liegenden Leitungen, Komponenten oder Schaltungen.

Richtiges Netzkabel verwenden – Verwenden Sie nur das mitgelieferte Netzkabel oder ein Netzkabel, das den Spezifikationen für dieses Produkt entspricht.

Gerät erden – Schließen Sie den Erdleiter des Netzkabels an den Erdungskontakt an.

Gerät nur mit angebrachten Abdeckungen und Gehäuseseiten betreiben – Schalten Sie dieses Gerät nicht ein, wenn die Abdeckungen oder Gehäuseseiten entfernt wurden.

Richtige Sicherung verwenden – Verwenden Sie nur Sicherungen, deren Typ und Nennwert den Spezifikationen für dieses Produkt entsprechen.

Gerät nur in trockener Umgebung verwenden – Betreiben Sie das Gerät nicht in nassen oder feuchten Umgebungen.

Gerät nur verwenden, wenn keine Explosionsgefahr besteht – Verwenden Sie dieses Produkt nur in Umgebungen, in denen keinerlei Explosionsgefahr besteht.

Hohe Kriechströme – Das Gerät muss vor dem Einschalten unbedingt geerdet werden.

Doppelte Spannungsversorgung kann vorhanden sein – Schließen Sie die beiden Anschlußkabel an getrennte Stromkreise an. Vor Servicearbeiten sind beide Anschlußkabel vom Netz zu trennen.

Zweipolige, neutrale Sicherung – Schalten Sie den Netzstrom ab, bevor Sie mit den Servicearbeiten beginnen.

Fassen Sie das Gerät beim Transport richtig an – Halten Sie das Gerät beim Transport nicht an Türen oder anderen beweglichen Teilen fest.

Gefahr durch mechanische Teile – Warten Sie, bis der Lüfter vollständig zum Halt gekommen ist, bevor Sie mit den Servicearbeiten beginnen.

Vorsicht

Die folgenden Vorsichtshinweise weisen auf Bedingungen oder Vorgehensweisen hin, die zu Schäden an Ausrüstungskomponenten oder anderen Gegenständen führen können:

Gerät nicht öffnen – Durch das unbefugte Öffnen wird die Garantie ungültig.

Richtige Spannungsquelle verwenden – Betreiben Sie das Gerät nicht an einer Spannungsquelle, die eine höhere Spannung liefert als in den Spezifikationen für dieses Produkt angegeben.

Gerät ausreichend belüften – Um eine Überhitzung des Geräts zu vermeiden, müssen die Ausrüstungskomponenten entsprechend den Installationsanweisungen belüftet werden. Legen Sie kein Papier unter das Gerät. Es könnte die Belüftung behindern. Platzieren Sie das Gerät auf einer ebenen Oberfläche.

Antistatische Vorkehrungen treffen – Es gibt statisch empfindliche Komponenten, die durch eine elektrostatische Entladung beschädigt werden können. Verwenden Sie antistatische Prozeduren, Ausrüstung und Oberflächen während der Wartung.

CF-Karte nicht mit einem PC verwenden – Die CF-Karte ist speziell formatiert. Die auf der CF-Karte gespeicherte Software könnte gelöscht werden.

Gerät nicht bei eventuellem Ausrüstungsfehler betreiben – Wenn Sie einen Produktschaden oder Ausrüstungsfehler vermuten, lassen Sie die Komponente von einem qualifizierten Servicetechniker untersuchen.

Kabel richtig verlegen – Verlegen Sie Netzkabel und andere Kabel so, dass Sie nicht beschädigt werden. Stützen Sie schwere Kabelbündel ordnungsgemäß ab, damit die Anschlüsse nicht beschädigt werden.

Richtige Netzkabel verwenden – Wenn Netzkabel mitgeliefert wurden, erfüllen diese alle nationalen elektrischen Normen. Der Betrieb dieses Geräts mit Spannungen über 130 V AC erfordert Netzkabel, die NEMA-Konfigurationen entsprechen. Wenn internationale Netzkabel mitgeliefert wurden, sind diese für das Verwendungsland zugelassen.

Richtige Ersatzbatterie verwenden – Dieses Gerät enthält eine Batterie. Um die Explosionsgefahr zu verringern, prüfen Sie die Polarität und tauschen die Batterie nur gegen eine Batterie desselben Typs oder eines gleichwertigen, vom Hersteller empfohlenen Typs aus. Entsorgen Sie gebrauchte Batterien entsprechend den Anweisungen des Batterieherstellers.

Das Gerät enthält keine Teile, die vom Benutzer gewartet werden können. Wenden Sie sich bei Problemen bitte an den nächsten Händler.

Consignes de sécurité

Il est recommandé de lire, de bien comprendre et surtout de respecter les informations relatives à la sécurité qui sont exposées ci-après, notamment les consignes destinées à prévenir les risques d'incendie, les décharges électriques et les blessures aux personnes. Les avertissements complémentaires, qui ne sont pas nécessairement repris ci-dessous, mais présents dans toutes les sections du manuel, sont également à prendre en considération.

⚠ ***AVERTISSEMENT: Toutes les instructions présentes dans ce manuel qui concernent l'ouverture des capots ou des logements de cet équipement sont destinées exclusivement à des membres qualifiés du personnel de maintenance. Afin de diminuer les risques de décharges électriques, ne procédez à aucune intervention d'entretien autre que celles contenues dans le manuel de l'utilisateur, à moins que vous ne soyez habilité pour le faire.***

Consignes et symboles de sécurité

Termes utilisés dans ce manuel

Les consignes de sécurité présentées dans ce manuel peuvent apparaître sous les formes suivantes :

⚠ ***AVERTISSEMENT: Les avertissements signalent des conditions ou des pratiques susceptibles d'occasionner des blessures graves, voire même fatales.***

⚠ ***MISE EN GARDE: Les mises en garde signalent des conditions ou des pratiques susceptibles d'occasionner un endommagement à l'équipement ou aux installations, ou de rendre l'équipement temporairement non opérationnel, ce qui peut porter préjudice à vos activités.***

Signalétique apposée sur le produit

La signalétique suivante peut être apposée sur le produit :

DANGER — risque de danger imminent pour l'utilisateur.

AVERTISSEMENT — Risque de danger non imminent pour l'utilisateur.

MISE EN GARDE — Risque d'endommagement du produit, des installations ou des autres équipements.

Symboles apposés sur le produit

Les symboles suivants peut être apposés sur le produit :

Signale la présence d'une tension élevée et dangereuse dans le boîtier de l'équipement ; cette tension peut être suffisante pour constituer un risque de décharge électrique.

Signale que l'utilisateur, l'opérateur ou le technicien de maintenance doit faire référence au(x) manuel(s) pour prendre connaissance des instructions d'utilisation, de maintenance ou d'entretien.

Il s'agit d'une invite à prendre note du calibre du fusible lors du remplacement de ce dernier. Le fusible auquel il est fait référence dans le texte doit être remplacé par un fusible du même calibre.

Identifie une borne de protection de mise à la masse qui doit être raccordée correctement avant de procéder au raccordement des autres équipements.

I dentifie une borne de protection de mise à la masse qui peut être connectée en tant que borne de mise à la masse supplémentaire.

Signale la présence de composants sensibles à l'électricité statique et qui sont susceptibles d'être endommagés par une décharge électrostatique. Utilisez des procédures, des équipements et des surfaces antistatiques durant les interventions d'entretien.

Avertissements

Les avertissements suivants signalent des conditions ou des pratiques susceptibles d'occasionner des blessures graves, voire même fatales :

Présence possible de tensions ou de courants dangereux — Mettez hors tension, débranchez et retirez la pile (le cas échéant) avant de déposer les couvercles de protection, de défaire une soudure ou de remplacer des composants.

Ne procédez pas seul à une intervention d'entretien — Ne réalisez pas une intervention d'entretien interne sur ce produit si une personne n'est pas présente pour fournir les premiers soins en cas d'accident.

Retirez tous vos bijoux — Avant de procéder à une intervention d'entretien, retirez tous vos bijoux, notamment les bagues, la montre ou tout autre objet métallique.

Évitez tout contact avec les circuits exposés — Évitez tout contact avec les connexions, les composants ou les circuits exposés s'ils sont sous tension.

Utilisez le cordon d'alimentation approprié — Utilisez exclusivement le cordon d'alimentation fourni avec ce produit ou spécifié pour ce produit.

Raccordez le produit à la masse — Raccordez le conducteur de masse du cordon d'alimentation à la borne de masse de la prise secteur.

Utilisez le produit lorsque les couvercles et les capots sont en place — N'utilisez pas ce produit si les couvercles et les capots sont déposés.

Utilisez le bon fusible — Utilisez exclusivement un fusible du type et du calibre spécifiés pour ce produit.

Utilisez ce produit exclusivement dans un environnement sec — N'utilisez pas ce produit dans un environnement humide.

Utilisez ce produit exclusivement dans un environnement non explosible — N'utilisez pas ce produit dans un environnement dont l'atmosphère est explosible.

Présence possible de courants de fuite — Un raccordement à la masse est indispensable avant la mise sous tension.

Deux alimentations peuvent être présentes dans l'équipement — Assurez vous que chaque cordon d'alimentation est raccordé à des circuits de terre séparés. Débranchez les deux cordons d'alimentation avant toute intervention.

Fusion neutre bipolaire — Débranchez l'alimentation principale avant de procéder à une intervention d'entretien.

Utilisez les points de levage appropriés — Ne pas utiliser les verrous de la porte pour lever ou déplacer l'équipement.

Évitez les dangers mécaniques — Laissez le ventilateur s'arrêter avant de procéder à une intervention d'entretien.

Mises en garde

Les mises en garde suivantes signalent les conditions et les pratiques susceptibles d'occasionner des endommagements à l'équipement et aux installations :

N'ouvrez pas l'appareil — Toute ouverture prohibée de l'appareil aura pour effet d'annuler la garantie.

Utilisez la source d'alimentation adéquate — Ne branchez pas ce produit à une source d'alimentation qui utilise une tension supérieure à la tension nominale spécifiée pour ce produit.

Assurez une ventilation adéquate — Pour éviter toute surchauffe du produit, assurez une ventilation de l'équipement conformément aux instructions d'installation. Ne déposez aucun document sous l'appareil – ils peuvent gêner la ventilation. Placez l'appareil sur une surface plane.

Utilisez des procédures antistatiques - Les composants sensibles à l'électricité statique présents dans l'équipement sont susceptibles d'être endommagés par une décharge électrostatique. Utilisez des procédures, des équipements et des surfaces antistatiques durant les interventions d'entretien.

N'utilisez pas la carte CF avec un PC — La carte CF a été spécialement formatée. Le logiciel enregistré sur la carte CF risque d'être effacé.

N'utilisez pas l'équipement si un dysfonctionnement est suspecté — Si vous suspectez un dysfonctionnement du produit, faites inspecter celui-ci par un membre qualifié du personnel d'entretien.

Acheminez les câbles correctement — Acheminez les câbles d'alimentation et les autres câbles de manière à ce qu'ils ne risquent pas d'être endommagés. Supportez correctement les enroulements de câbles afin de ne pas endommager les connecteurs.

Utilisez les cordons d'alimentation adéquats — Les cordons d'alimentation de cet équipement, s'ils sont fournis, satisfont aux exigences de toutes les réglementations régionales. L'utilisation de cet équipement à des tensions dépassant les 130 V en c.a. requiert des cordons d'alimentation qui satisfont aux exigences des configurations NEMA. Les cordons internationaux, s'ils sont fournis, ont reçu l'approbation du pays dans lequel l'équipement est utilisé.

Utilisez une pile de remplacement adéquate — Ce produit renferme une pile. Pour réduire le risque d'explosion, vérifiez la polarité et ne remplacez la pile que par une pile du même type, recommandée par le fabricant. Mettez les piles usagées au rebut conformément aux instructions du fabricant des piles.

Cette unité ne contient aucune partie qui peut faire l'objet d'un entretien par l'utilisateur. Si un problème survient, veuillez contacter votre distributeur local.

Certifications and compliances

Canadian certified power cords

Canadian approval includes the products and power cords appropriate for use in the North America power network. All other power cords supplied are approved for the country of use.

FCC emission control

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

Canadian EMC Notice of Compliance

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

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

EN55103 1/2 Class A warning

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

This product complies with Class A (E4 environment). In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC emission limits

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

Laser compliance

Laser safety requirements

This product may contain a Class 1 certified laser device. Operating this product outside specifications or altering its original design may result in hazardous radiation exposure, and may be considered an act of modifying or new manufacturing of a laser product under U.S. regulations contained in 21CFR Chapter 1, subchapter J or CENELEC regulations in HD 482 S1. People performing such an act are required by law to recertify and reidentify this product in accordance with provisions of 21CFR subchapter J for distribution within the U.S.A., and in accordance with CENELEC HD 482 S1 for distribution within countries using the IEC 825 standard.

Laser safety

Laser safety in the United States is regulated by the Center for Devices and Radiological Health (CDRH). The laser safety regulations are published in the "Laser Product Performance Standard," Code of Federal Regulation (CFR), Title 21, Subchapter J.

The International Electrotechnical Commission (IEC) Standard 825, "Radiation of Laser Products, Equipment Classification, Requirements and User's Guide," governs laser products outside the United States. Europe and member nations of the European Free Trade Association fall under the jurisdiction of the Comité Européen de Normalization Electrotechnique (CENELEC).

Safety certification

This product has been evaluated and meets the following Safety Certification Standards:

Standard	Designed/tested for compliance with:
ANSI/UL 60950-1	Safety of Information Technology Equipment, including Electrical Business Equipment (Second edition 2007).
IEC 60950-1 with CB cert.	Safety of Information Technology Equipment, including Electrical Business Equipment (Second edition, 2005).
CAN/CSA C22.2 No. 60950-1	Safety of Information Technology Equipment, including Electrical Business Equipment (Second edition 2007).
BS EN 60950-1	Safety of Information Technology Equipment, including Electrical Business Equipment 2006.

ESD Protection

Electronics today are more susceptible to electrostatic discharge (ESD) damage than older equipment. Damage to equipment can occur by ESD fields that are smaller than you can feel. Implementing the information in this section will help you protect the investment that you have made in purchasing Grass Valley equipment. This section contains Grass Valley's recommended ESD guidelines that should be followed when handling electrostatic discharge sensitive (ESDS) items. These minimal recommendations are based on the information in the *Sources of ESD and Risks* on page 162 area. The information in *Grounding Requirements for Personnel* on page 163 is provided to assist you in selecting an appropriate grounding method.

Recommended ESD Guidelines

Follow these guidelines when handling Grass Valley equipment:

- Only trained personnel that are connected to a grounding system should handle ESDS items.
- Do not open any protective bag, box, or special shipping packaging until you have been grounded.

  Note: When a Personal Grounding strap is unavailable, as an absolute minimum, touch a metal object that is touching the floor (for example, a table, frame, or rack) to discharge any static energy before touching an ESDS item.

- Open the anti-static packaging by slitting any existing adhesive tapes. Do not tear the tapes off.
- Remove the ESDS item by holding it by its edges or by a metal panel.
- Do not touch the components of an ESDS item unless it is absolutely necessary to configure or repair the item.
- Keep the ESDS work area clear of all nonessential items such as coffee cups, pens, wrappers and personal items as these items can discharge static. If you need to set an ESDS item down, place it on an anti-static mat or on the anti-static packaging.

Sources of ESD and Risks

The following information identifies possible sources of electrostatic discharge and can be used to help establish an ESD policy.

Personnel

One of the largest sources of static is personnel. The static can be released from a person's clothing and shoes.

Environment

The environment includes the humidity and floors in a work area. The humidity level must be controlled and should not be allowed to fluctuate over a broad range. Relative humidity (RH) is a major part in determining the level of static that is being generated. For example, at 10% - 20% RH a person walking across a carpeted floor can develop 35kV; yet when the relative humidity is increased to 70% - 80%, the person can only generate 1.5kV.

Static is generated as personnel move (or as equipment is moved) across a floor's surface. Carpeted and waxed vinyl floors contribute to static build up.

Work Surfaces

Painted or vinyl-covered tables, chairs, conveyor belts, racks, carts, anodized surfaces, plexiglass covers, and shelving are all static generators.

Equipment

Any equipment commonly found in an ESD work area, such as solder guns, heat guns, blowers, etc., should be grounded.

Materials

Plastic work holders, foam, plastic tote boxes, pens, packaging containers and other items commonly found at workstations can generate static electricity.

Grounding Requirements for Personnel

The information in this section is provided to assist you in selecting a grounding method. This information is taken from ANSI/ESD S20.20-2007 (Revision of ANSI/ESD S20.20-1999).

Product Qualification

Personnel Grounding Technical Requirement	Test Method	Required Limits
Wrist Strap System*	ANSI/ESD S1.1 (Section 5.11)	< 3.5 x 10^7 ohm
Flooring / Footwear System – Method 1	ANSI/ESD STM97.1	< 3.5 x 10^7 ohm
Flooring / Footwear System – Method 2 (both required)	ANSI/ESD STM97. 1ANSI/ESD STM97.2	< 10^9 ohm
	ANSI/ESD STM97.2	< 100 V

Product qualification is normally conducted during the initial selection of ESD control products and materials. Any of the following methods can be used: product specification review, independent laboratory evaluation, or internal laboratory evaluation.

Compliance Verification

Personnel Grounding Technical Requirement	Test Method	Required Limits
Wrist Strap System*	ESD TR53 Wrist Strap Section	< 3.5 x 10^7 ohm
Flooring / Footwear System – Method 1	ESD TR53 Flooring Section and ESD TR53 Footwear Section	< 3.5 x 10^7 ohm
Flooring / Footwear System – Method 2 (both required)	ESD TR53 Flooring Section and ESD TR53 Footwear Section	< 1.0 x 10^9 ohm

* For situations where an ESD garment is used as part of the wrist strap grounding path, the total system resistance, including the person, garment, and grounding cord, must be less than 3.5 x 10^7 ohm.

Trademarks and Agreements

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JPEG acknowledgment

This software is based in part on the work of the Independent JPEG Group.