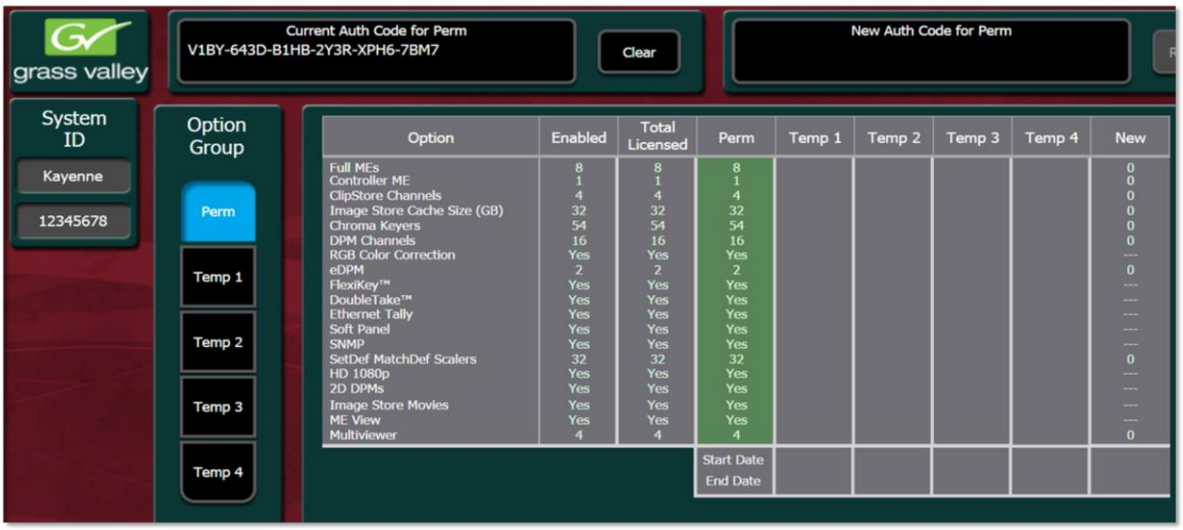
Section 7 – Karrera & Kayenne Options



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Section 7 – Karrera & Kayenne Options

- eDPM - 1.5G Circuit Board
- eDPM - 3G ME Configuration
  - Inputs and Outputs
  - Operation and E-MEM Control
- Image Store 1.5G frame
- Image Store Board 3G frame
  - Inputs, Outputs and Operation
  - File Export and Movies (v6.0+)
- Clip Store (Summit 4CH or Solo 2CH)
  - Overview and Configuration
  - Summit Overview
  - Operation and E-MEM control
- RGB Color Correction

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The Other options of ME View, MultiViewer and Ethernet Tally have already been covered in section 4

Section 7 – Objectives

Section Objectives

- Understand the function of the eDPM used in the 1.5G Large frame
- Understand the how to configure an ME as an eDPM in the 3G K-frame
- Know how to test and verify eDPM operation
- Know how to control an eDPM from Master E-MEM
- Know how to test the Image Store in the 1.5G frame
- Know how to test the Image Store Module in the 3G K-frame
- Know how to import and export files to the Image Store
- Understand the functions of the ClipStore and how to connect in to a Kayenne/Karrera system
- Know how to send Configuration files to the ClipStore
- Be able to test the ClipStore operation
- Be able to transfer files to and from the ClipStore
- Understand the RGB option and how to verify it's operation.

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Karrera & Kayenne DPM Options

- 2D-DPM (3G K-Frame Only) – 1 per Keyer – Single license enables all
- iDPM 1.5G Frame
  - 1 Floating DPM channel per complex Keyer on each ME – licensed in groups of 2
- iDPM 3G (K-Frame)
  - 4 Floating DPM channels per Dual ME board – licensed individually
  - Floating channels can be used on any Keyer on any ME except for the Controller ME
- eDPM Hardware and Software option for 1.5G Frame
  - 4 Channels (Keyers) with iDPM hardware
- eDPM 3G (K-Frame) Software allows an ME to be used as an eDPM (1 per Suite)
  - eDPM has 2D-DPMs (if Licensed) and access to the pool of iDPMs as assigned

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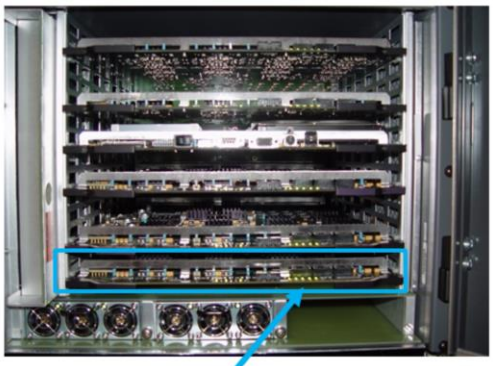
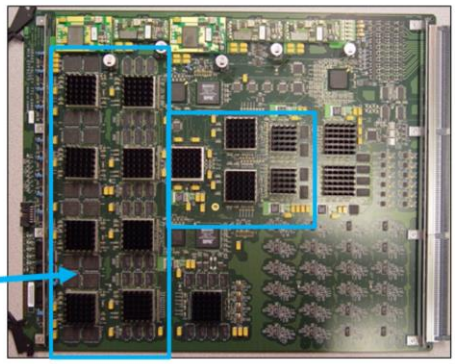
The 2D-DPMs and iDPMs are controlled through the MEs E-MEM effects

The eDPM has its own E-MEM and Timelines but may be controlled by the Master E-MEM eDPM Level. This requires a dummy time line on the switcher to send time information to the eDPM.

eDPM - Transform 1.5G frame



- Uses a standard ME board
- Only 1 available in 8 RU Frame (Bottom slot)
- Must be licensed



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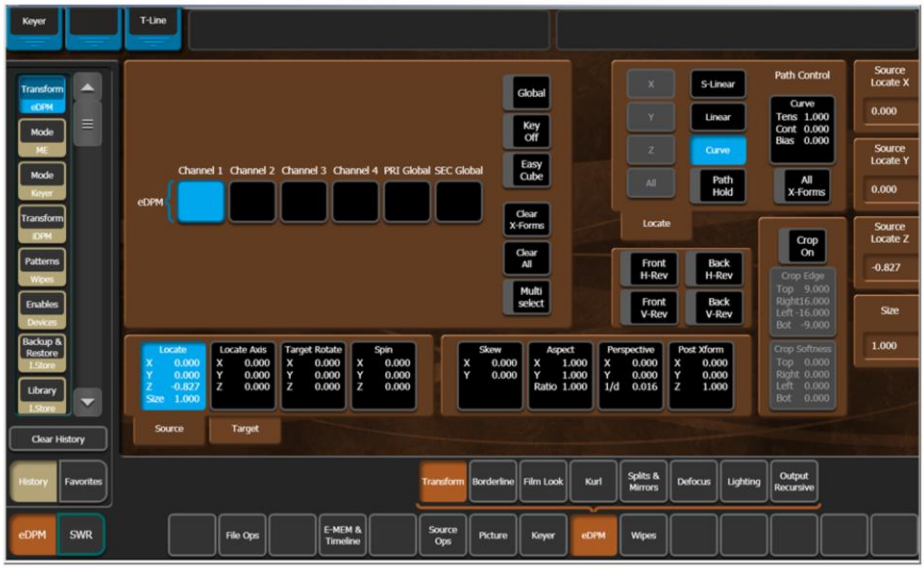
- The video Processing Board – eDPM module is a Video M/E processing board
- The system must be licensed for this board to function if inserted into the eDPM or option slot.
- The eDPM has 4 iDPM channels standard with Keyeing capability.
- Only the 4.5 M/E (8 RU) 1.5 G frame supports eDPM hardware option.
- While the previous version of this board (771-0061-xx) may work as a Kayenne M/E, we do not support its use as an M/E or as an eDPM. The current version board assembly number is: 771-0390-xx.
- Input and Output circuitry is not used in the eDPM slot.

eDPM - Transform 1.5G Frame



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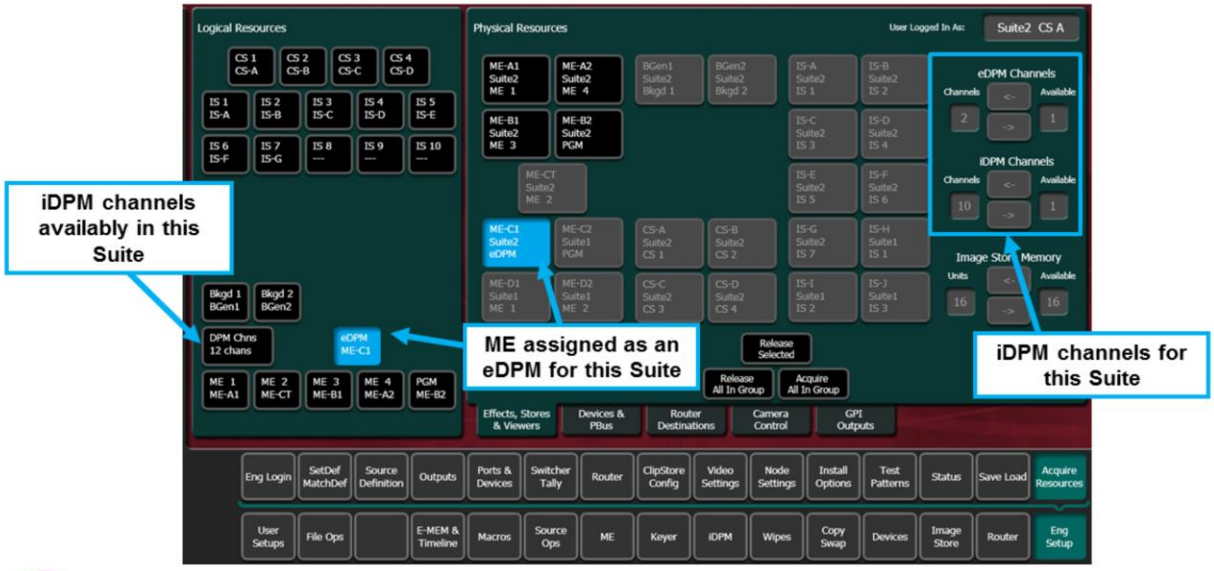
eDPM showing Transform page.

- The 4 eDPM channels can be split into Primary and Secondary groups ((0+4, 1+3 or 2+2).
- Each Output (eDA, eDB, eDC and eDD) can each be a combination of eDPM channels.

eDPM - Transform 3G - K-Frame



- In the 3G K-Frame any ME can be allocated to be used as the eDPM (if Licensed to do so)
- An eDPM can use either 2D-DPM or iDPM channels.
- In this example 2 iDPM channels are assigned to the iDPM from the pool of 12 iDPMs in this Suite
- There can be one eDPM per Suite.
- All 6 channels have Keying capability and optional 2D-DPMs and access to iDPMs

eDPM - Source Ops - K-Frame

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- To control the eDPM select the eDPM main menu and choose from the sub menus as in the switcher mode.
- eDPM showing Source Ops Menu.
- Sources can all be selected from the Aux panel by assigning eDPM inputs to the Aux Delegate buttons.

eDPM – 2DPMs - K-Frame (v6.0)

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The eDPM for the K-frame utilizes a ME hardware channel and configures it into Split layered mode thereby not requiring background inputs and generating a Key signal so it can be keyed anywhere on another ME as a Source.

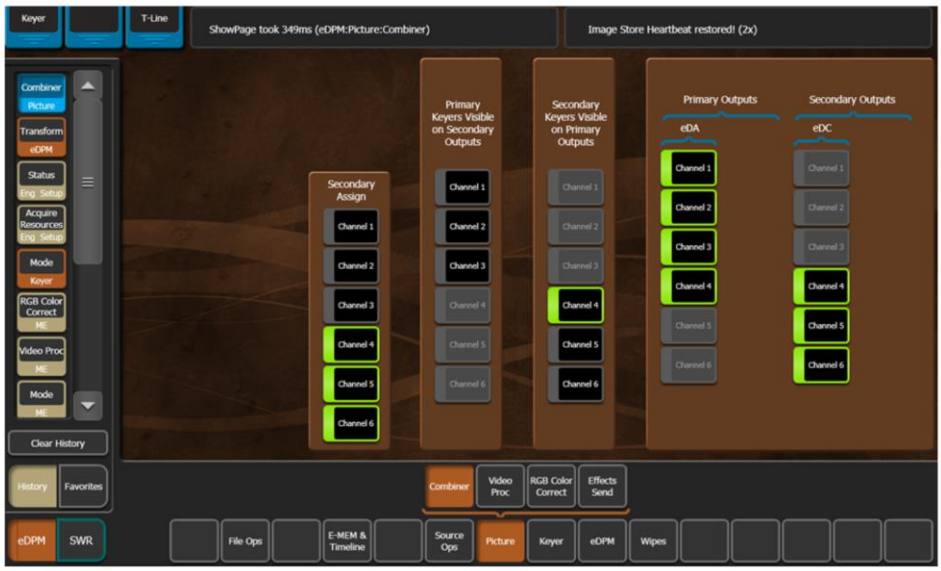
As it is a full ME it can use iDPM channels if made available from the licensed group of channels in the system.

However as it also has 2D DPM channels it doe not have to use the iDPMs if the desired Effects are simple 2D boxes with Borders, Aspect or Crops.

It also has Full Wipe and Key functions as on other ME Keyers including Chroma Key capability.

The eDPM has it's own timelines and Effects are built in the eDPM E-MEM and controllable from the Master E-MEM eDPM menu or through Macros.

eDPM - Picture Menu - K-Frame



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The eDPM 4 channels (6 channels in the K frame shown) can be allocated to the Primary, eDA, or Secondary, eDC, outputs. These can be mapped to the panel as required.

Channels are controlled based on which Output they are assigned to but may still be visible on the other Output.

In the K-Frame only the eDA and eDC outputs are used with the eDB and eDD outputs carrying the companion key signals.

eDPM - Timeline Edit

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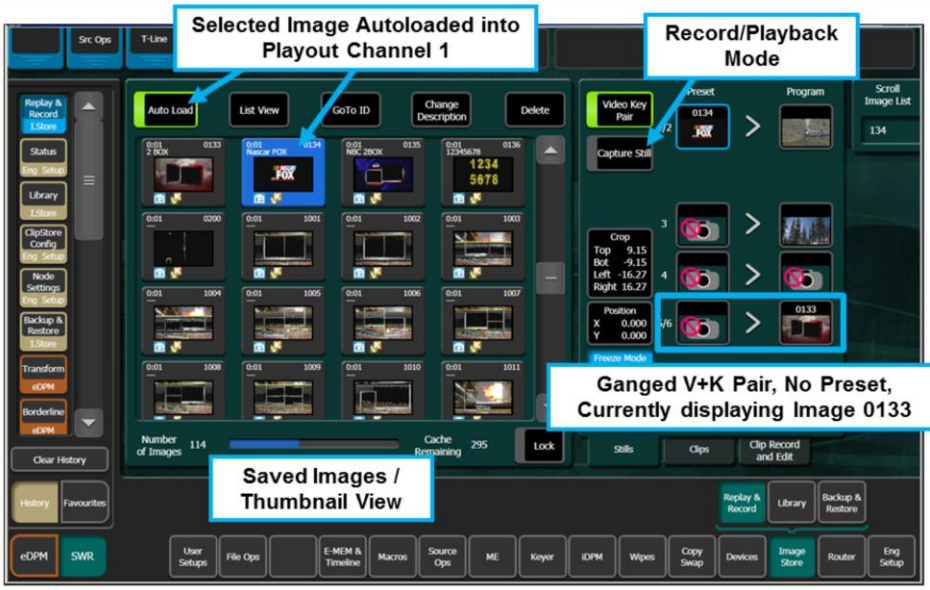
- eDPM Timelines showing sub level timelines.
- The eDPM timelines are created independently from Switcher timelines.
- Note: to run the eDPM from the Switcher Master E-MEM a timeline must be created on the Switcher eDPM level to control the eDPM timeline.

Image Store - 1.5G frame



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Menu Path: Image Store / Replay & Record / Stills

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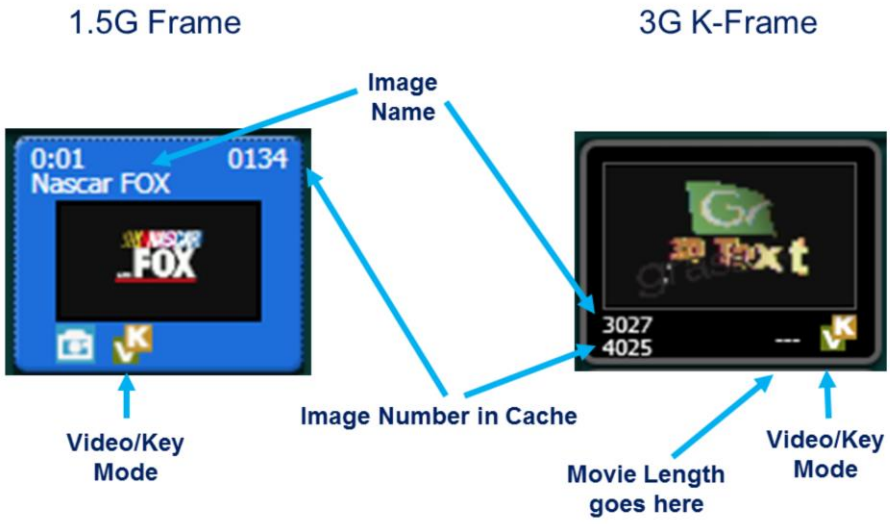
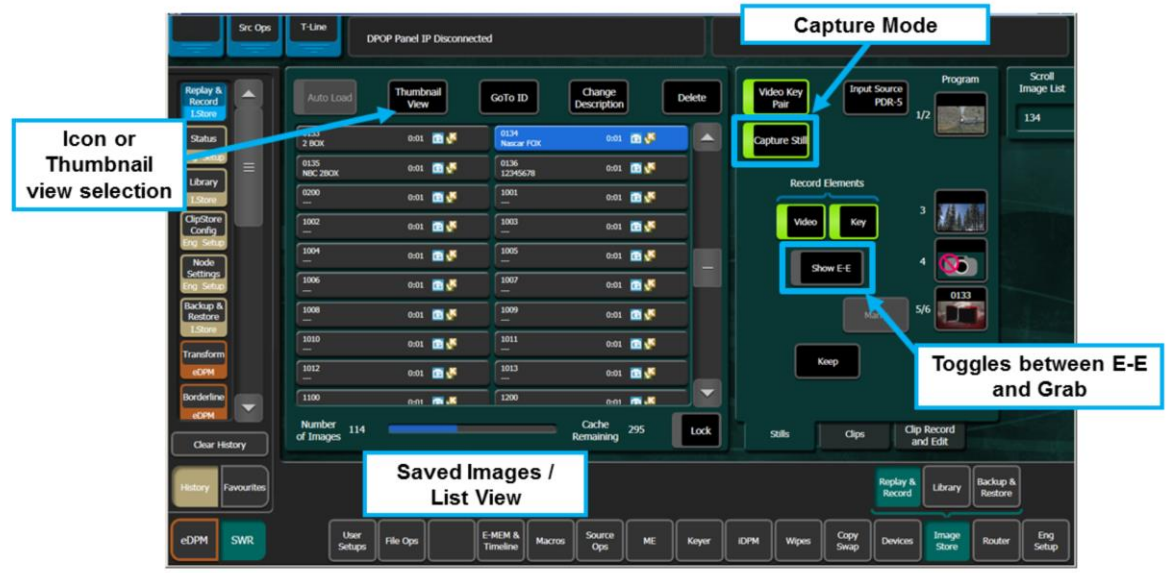
- Image Store showing images loaded on 3 outputs.
- Images can be loaded into the Preset window or directly to the Program Output.
- Video Key Pairs automatically associate the adjacent even # channel as the Key for the Odd # video channel.

Image Store - Icons



- Blue highlighted border indicates selected Image or Clip.

Image Store - 1.5G frame



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- The folder list can be toggled between Thumbnail View and List View.
- The amount of cache remaining depends on the switcher format and the amount of cache memory installed (4 or 8 GB).

Image Store - 3G Frame v5.1

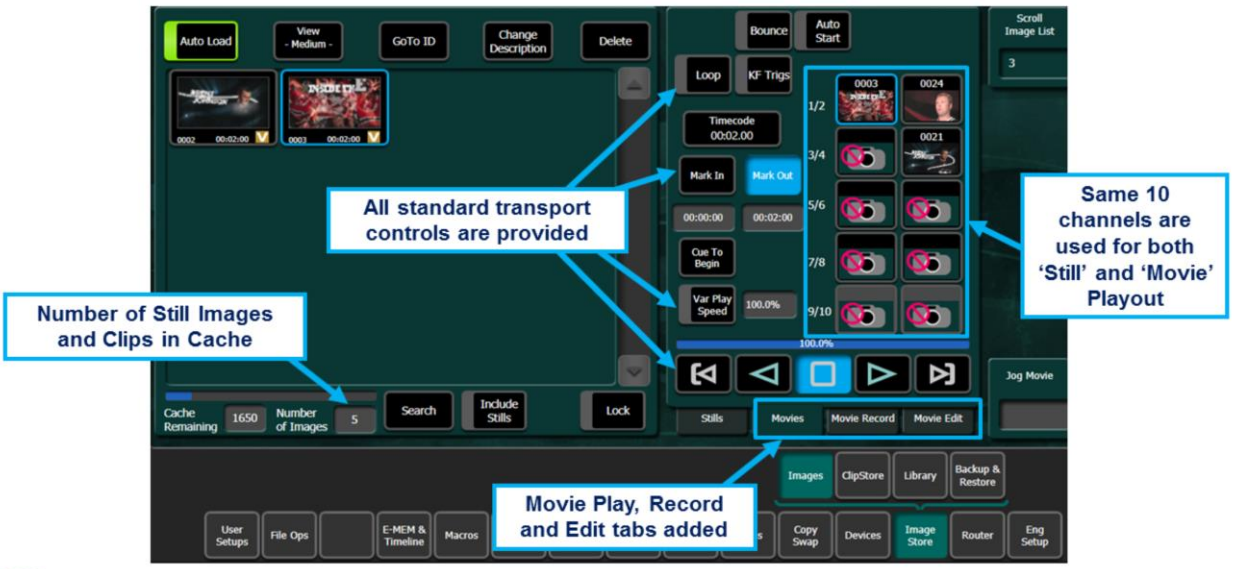
The folder list can be toggled between 3 Thumbnail Views (Large, Medium and Small) and List View.

The number of images available depends on the standard that the frame is operating in.

K-Frame image storage capacity (32GB Ram)

approx. image/key pairs per format = 3040/1080p, 3040/1080i, 6624/720p, 18144/525i, 15328/625i

Image Store – 3G Frame - v6.0 Movies Play



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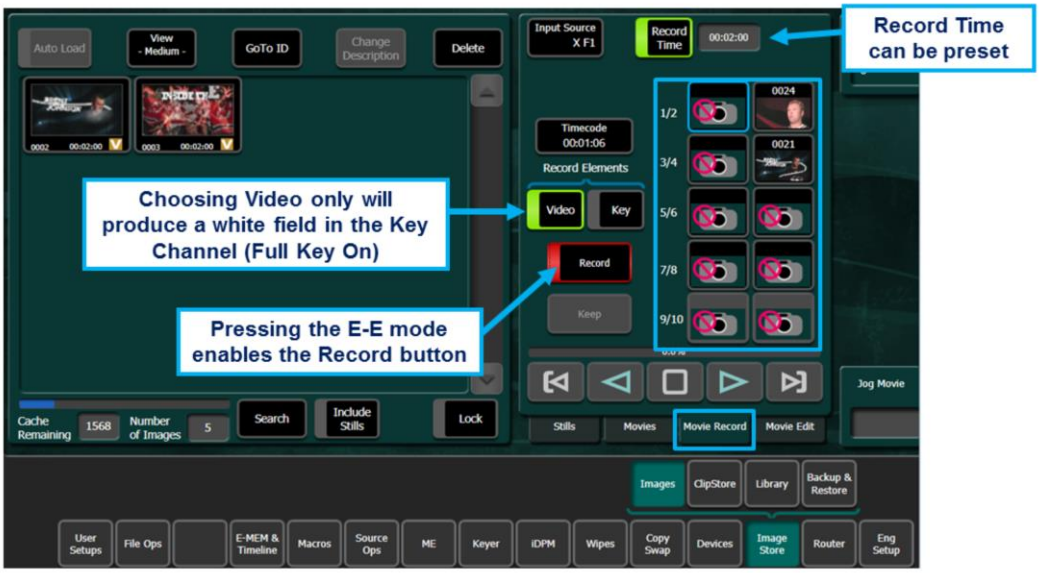
Movies can be played in any channel. All channels are always Video and Key!

Movie 'Saves' are limited to 8 seconds in v 6.0 and 13 seconds in v 7.0 software.

Movies can be controlled by any device control method available. Manual Menu control, System Bar, MFM, DCM Macros or E-MEM Triggers.

Image Store - v6.0 Movie Record



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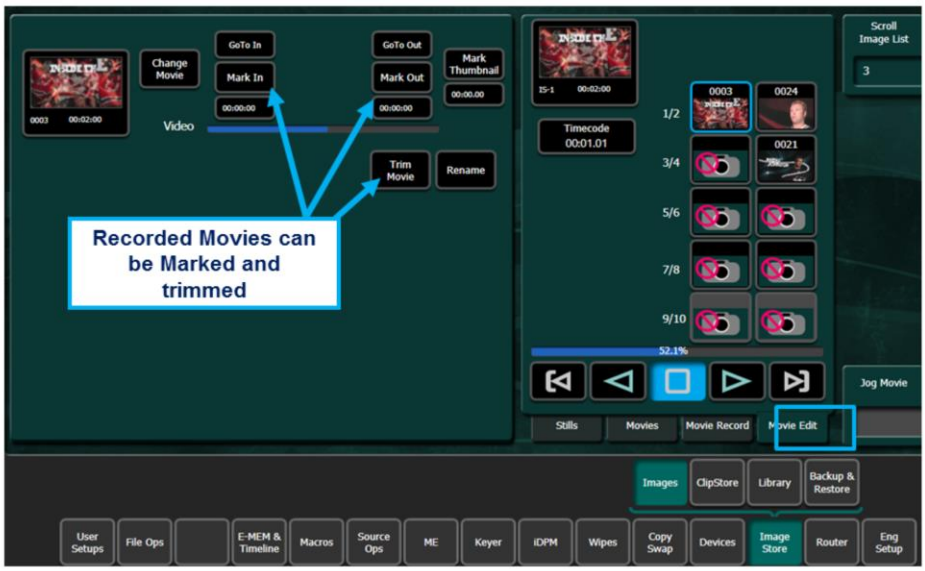
Movies can be recorded up to the maximum clip length available. Movies are limited to 8 seconds in v 6.0 and 13 seconds in v 7.0 software.

A specific Record length can be used if desired. The Record Source can be viewed on any channel. The input is selected from the menu or from a aux bus delegated Row.

Image Store - v6.0 Movie Edit



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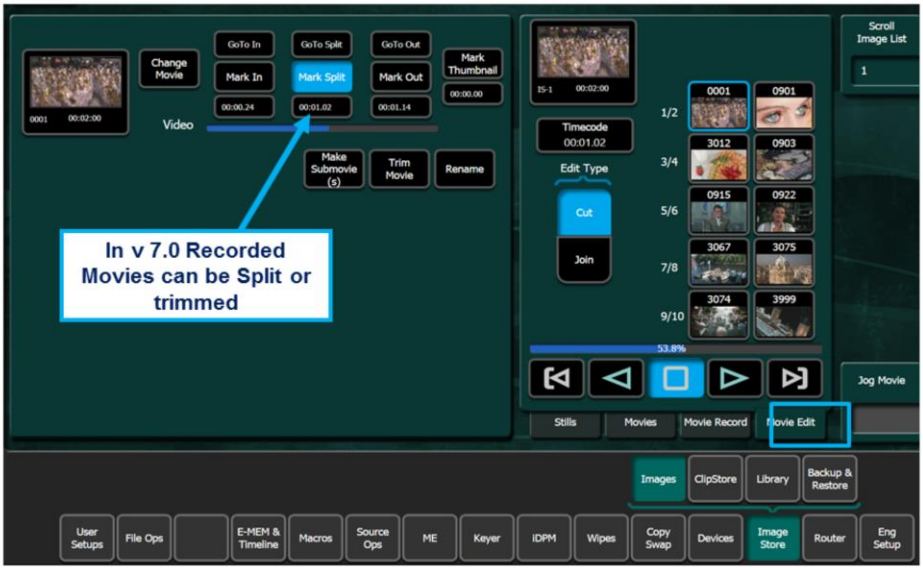
Trimming a Movie is irreversible!

Both Mark In and Mark Out must be set prior to Trimming a Movie.

Image Store - v7.0 Movie Edit



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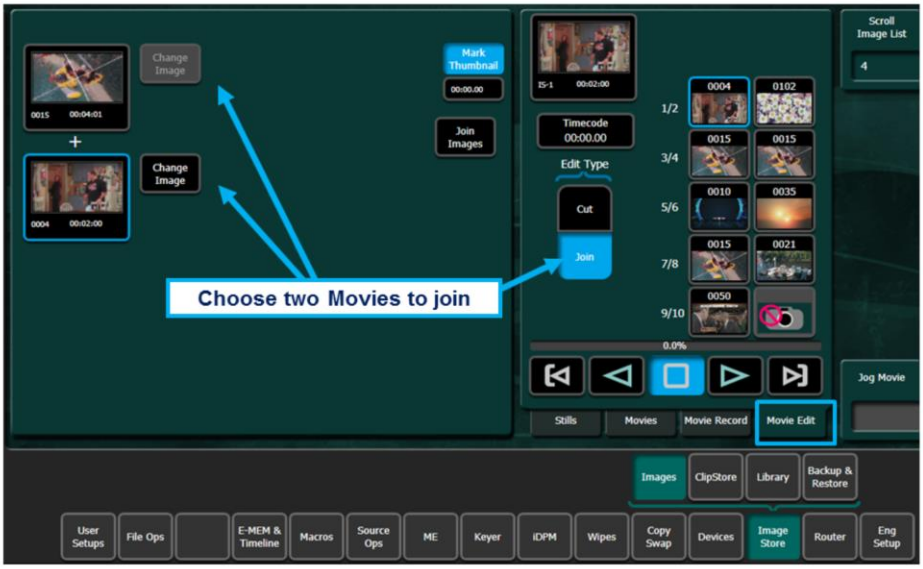
Trimming a Movie is irreversible! Splitting a Movie creates two independent movies from the original. The original no longer exists following a Split operation.

Image Store - v7.0 Movie Edit - Join



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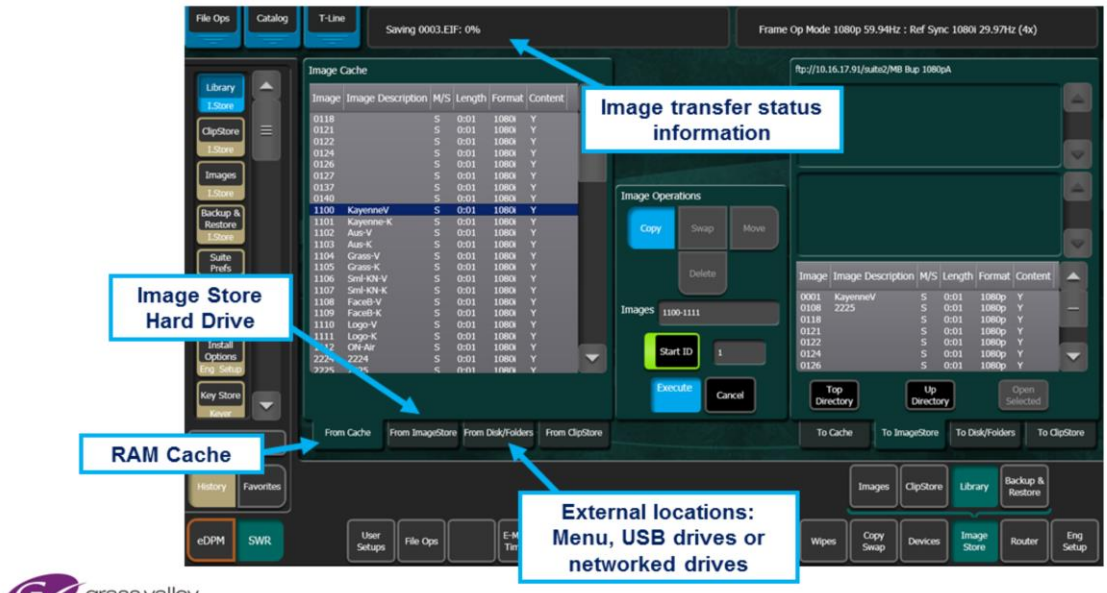
Joining a Movie is irreversible! The original Images become a new Image and no longer exist on their own.

Image Store - Library - 3G Frame



The K-frame Image Store Library allows copying to the IS Hard drive.

The 1.5G frame does not have any Hard Drive Storage for the Image Store.

Image Store - Library - 1.5G frame

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Image Store showing Library image Backup / Move functions.

Image Store - Import Formats

- K-Frame Image Store Import capabilities:
  - Images are automatically converted on Import
  - Supported formats are: Gif, Jpeg, Tif, Bmp, Png, Tga, Kif
  - Not supported – Kayak (XtenDD)
  - Images are stored internally in .eif format (Proprietary)
  - No resizing or positioning available on Import
  - Images will be centered and cropped to fit the current Image format
- New Features in v 6.0 up:
  - Export Still Images as .png from Disk to Disk
  - Export of Movies as .avi from Disk to Disk
  - Kalypso image import (I000000.gv./gva file names)
  - Movie up to 8 Seconds (13 Seconds in v7.0) can be Saved to Disk

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Note the Saved Movie length is based on what can be saved to storage. Longer Movies can be recorded in RAM but not saved to Disk (unless split into smaller sections!)

ClipStore (K2 Summit)

- The ClipStore can be either a 2 Ch (Solo) or 4Ch Summit device
- The ClipStore uses the AVCI encoder hardware for recording
- The ClipStore also uses App Center Elite Software
  - App Center Elite software allows for Video/Key or Video/Video operation per channel
- It can record and play in any of these formats: 525, 625, 720p or 1080i
- The ClipStore is configured directly from the Kayenne: Video/Key Record or Play and AVCI 100 or DVCPro 100 recording.
- The Playback format is determined by the Kayenne video format
- No configuration is required at the Summit except for initial setting of the IP address (and Host file information – Summit v9.0+)
- External sync reference (Analog Color Black) is required
  - Later hardware can use either Color Black or Tri Level Sync

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- Windows XP Embedded provides the basic operating system support as Windows XP.
- WinXPe is not a general-purpose operating system.
- It is specialized for Summit only! Limited options installed.
- No system page file!
- Memory and CPU are carefully budgeted for Summit applications and workflow.
- The ClipStore should be delivered ready to operate with a default IP address of 192.168.0.180. This system will automatically login and be ready to communicate with the Kayenne. If you need to change the IP address, you will need to:
  - Login (login = “Administrator” and password = “adminK2’).
  - Turn off or disable the FBWF (File Based Write Filter) as seen in next several pages.
  - Reboot & Login.
  - Go to Windows and change the IP address.
  - Reboot & login.
  - Verify IP address, re-enable FBWF.
  - Reboot.

Clip Store - Software

- The Clip Store uses Windows XPe OS
- It is NOT a general purpose operating system
- Software is tailored for use within Summit
  - Tuned to limit OS size and writes
- Summit is NOT a PC!
  - Only limited options installed
  - Does not have a system page file
  - Budgeted memory and CPU for use within Summit

- Make a duplicate compact flash
  - Ships with Acronis imaging software on bootable USB

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Clip Store - File Based Write Filter

- Note: The FBWF is no longer used in the Summit/Solo 3G (v8.0+)
- Based on Microsoft Enhanced Write Filter (EWF)
- Designed to extend the Compact Flash Life
  - Filters the writes made to the media
  - Shut down properly to save all data
- Performance is 'Mirrored' in RAM
- Protects
  - Write-through files and folders (write protect everything else)
  - CF remains intact after system failure
  - 'Disk full' recovery
  - Configurable
- Surprises:
  - Things 'disappear' if they were created with the FBWF active
  - Must turn off for system updates and configuration

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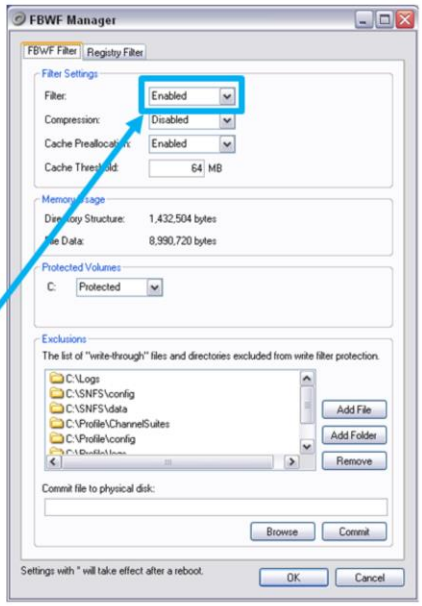
- The FBWF filters how often the software writes to the Compact Flash media so it is not constantly writing to the device.
- Writes are collected and flushed in larger blocks periodically.
- An orderly shut down is required to ensure that all data gets flushed to the compact flash.
- The Login for Summit and Solo servers is: Administrator.
- The Password for Summit and Solo is: adminK2. Note, the case must be correct for both the Login and Password.

Clip Store - File Based Write Filter (2)

- The FBWF must be disabled prior to installing software and other Windows related functions
- Start/GrassValley/WriteFilterUtility
- The FBWF Manager provides a way to control what folders are being protected by the Write filter
- This enables additional folders to be added or excluded from protection
- A restart is required when you wish to change the FBWF state from Enabled to Disabled



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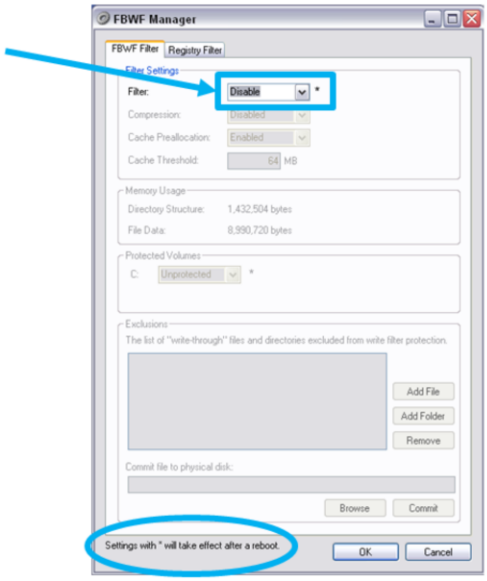
• Certain K2 Summit configuration files such as K2 Config files, SNFS configuration and Logs are excluded so that normal operation of the K2 Summit is not affected by the FBWF

Clip Store - File Based Write Filter (3)

- The FBWF Manager indicates Disabled but is not yet active (*)
- Normal state : Enabled
- When set to become disabled: Disable *
- After reboot
- The FBWF is now Disabled but shows as: 'Enable * '
- It is automatically set to be re-enabled after next reboot (see notes)
- After reboot
- Shows as: Enabled



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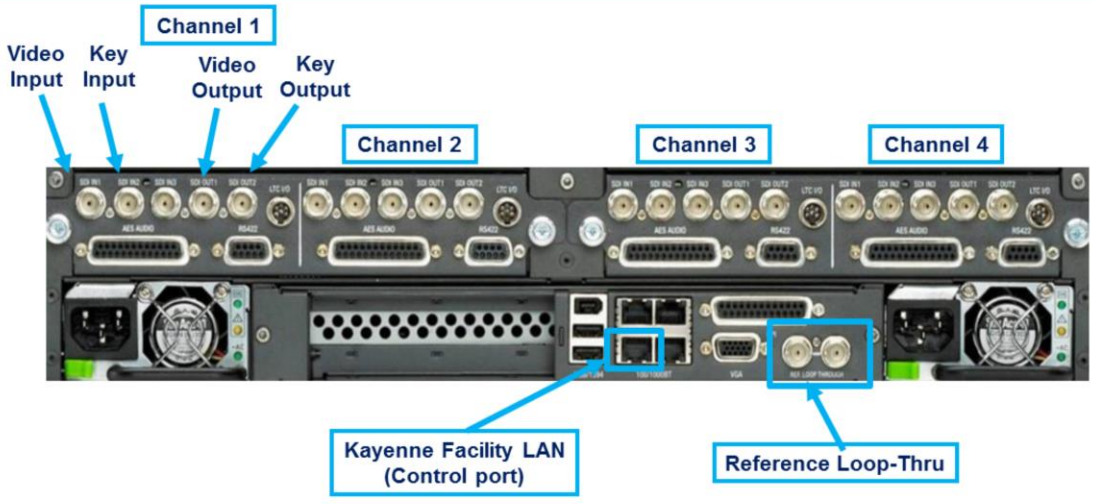
• After the FBWF is disabled and a reboot is performed the FBWF will automatically be set to be re-enabled following the next reboot (asterisk * appears). If you do not want this to happen open the FBWF manager and set it back to Disable to clear the asterisk.

• The FBWF is being removed in version 9 software.

Clip Store - Connections (1)



Make sure to set IP address of the Summit and the Menu IP in the Summit host file with the File Based Write Filter turned OFF

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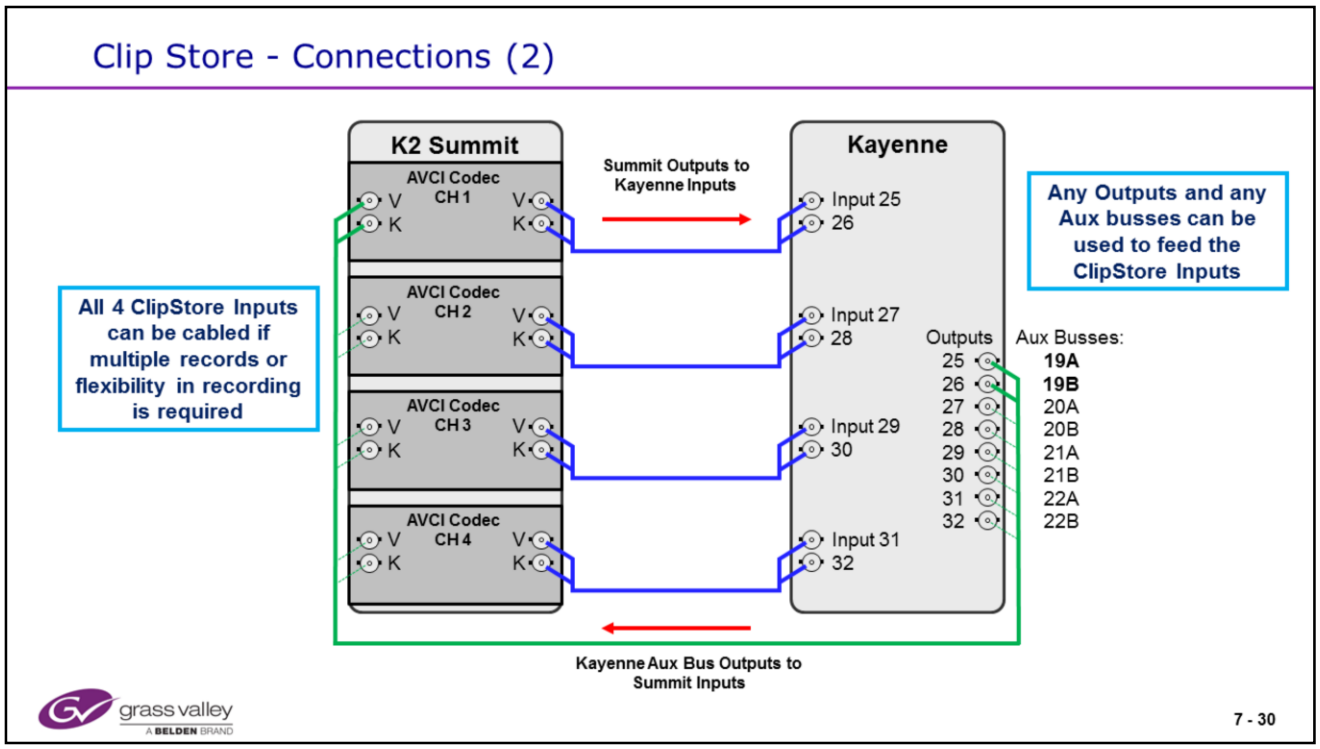
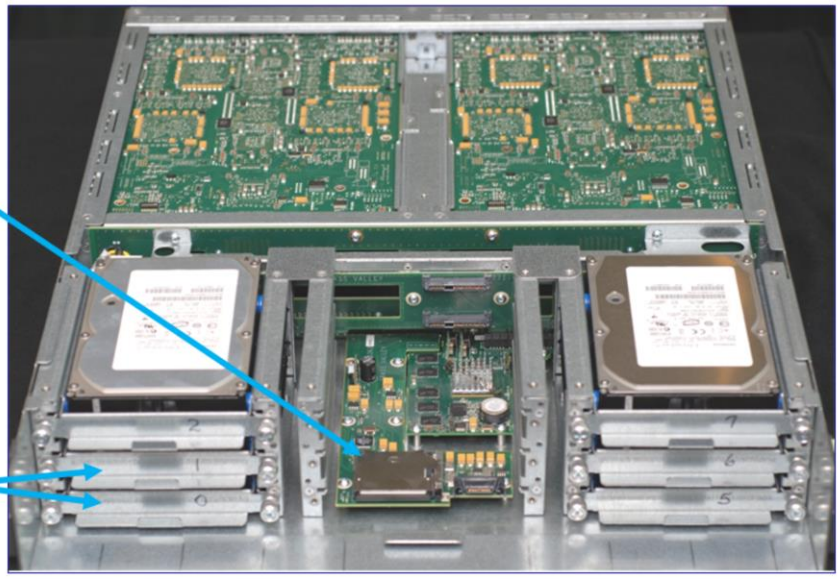
- 2RU Chassis, Redundant, Hot Swap Power
- Front accessible cooling
- OS located in Compact Flash
- Front accessible Media drives
- 2 - Dual Codec Boards (SD/HD)
- Multiple I/O connectors
- Breakout connector for Audio and Time Code



- Normal connections will vary with number of channels configured and / or licensed.
- The system may have between 1 to 4 sets (V+K) of paired Aux busses (Aux 19A + Aux 19B) feeding the ClipStore inputs.
- Each Codec is configured as a Video and Key pair.
- Any Aux busses may be used to feed the ClipStore. Aux bus pairs must start with an Odd number for Video + following Even number for Key. For example, Output 25 above is configured as Aux 19A for the Video channel and output 26 is Aux 19B for the Key channel.
- Any Kayenne Inputs may be used to receive ClipStore Video and Key outputs.
- Multiple inputs to the ClipStore are required only if simultaneous recordings are needed.

Clip Store - Hardware



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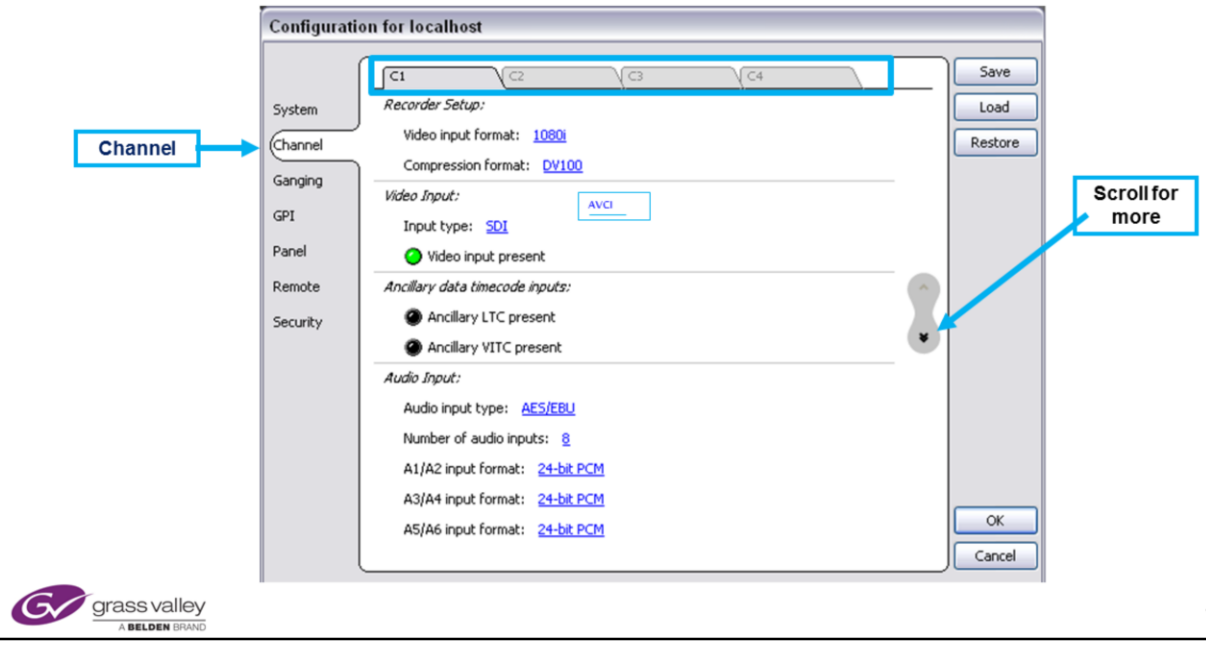
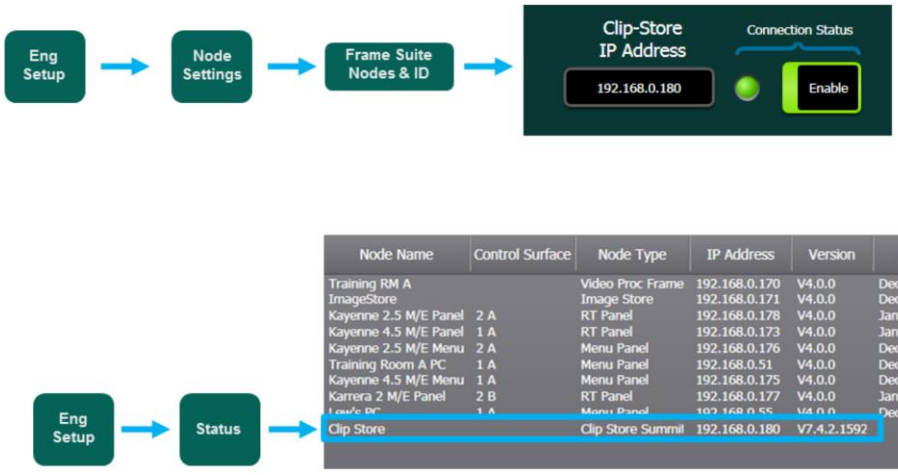
Clip Store - App Center - Configuration



- The Configuration of the Summit is sent from the Kayenne and does not need to be changed locally.
- Changes here will be overridden when a new configuration is sent from the Kayenne
- Record channels will be set to AVCI codecs or DVC Pro 100 as determined by the configuration.
- Record to Player mode is controlled from the Kayenne as determined by the Play/Record mode of the Chanel..

Clip Store - Configuration (1)



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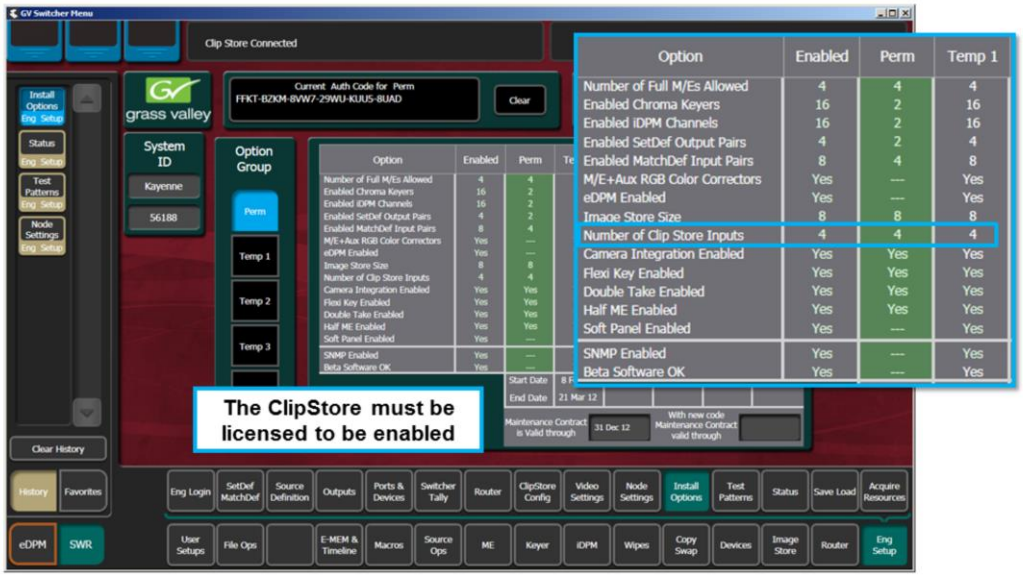
- The Default IP address of a ClipStore when shipped from the factory as a ClipStore is 192.168.0.180. This must be entered into the above Kayenne Menu page and enabled.
- A Red indication means that there is no communication between the Kayenne Frame and The Clipstore.
- A Yellow display indicates communication has been established but there are configuration errors between the devices. Possible causes may be: Incorrect or missing Kayenne license, system not enabled or AppCenter Elite not running in K2 Summit.
- A Green display indicates communication between devices and that the system is enabled.
- Check the Grass Valley website for the correct version of K2 Summit software to be used with the current Kayenne/Karrera software.
- Always download new ClipStore (K2 Summit) software from the Switcher softwrae location

Clip Store - Configuration (2)



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Menu Path: Eng Setup / Install Options

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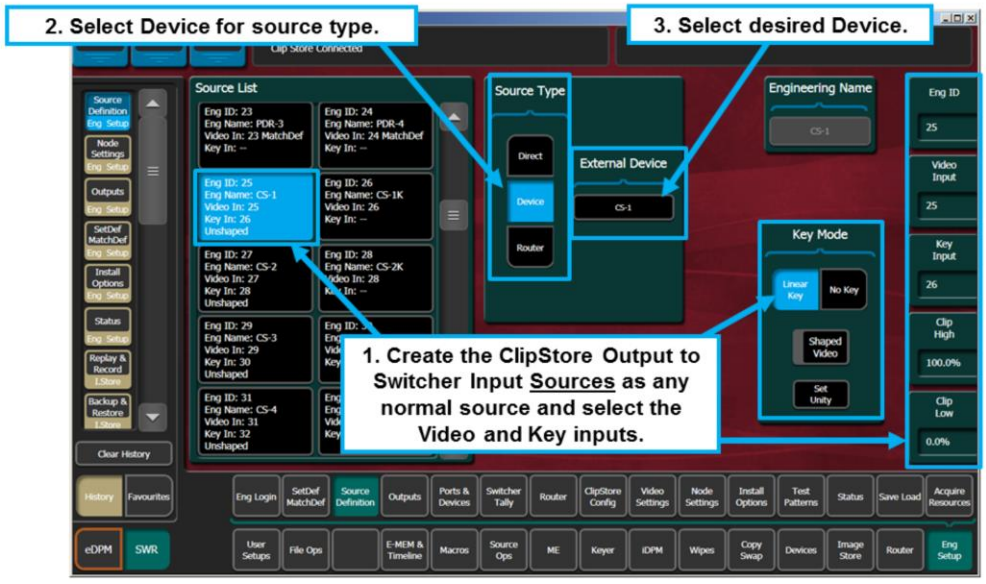
- The ClipStore will not function unless a new license (starting with Version 2.0) has been issued for older systems that includes a minimum of 2 ClipStore channels.
- Systems shipped with a ClipStore from the factory will have a valid license showing enabled channels in the “Permanent” column.
- The menu shown above (and detail below) shows 4 ClipStore channels enabled as part of Temporary license #1. This will allow the ClipStore to function until December 2nd, 2010.

Clip Store - Configuration (3)



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Menu Path: Eng Setup / Source Definition

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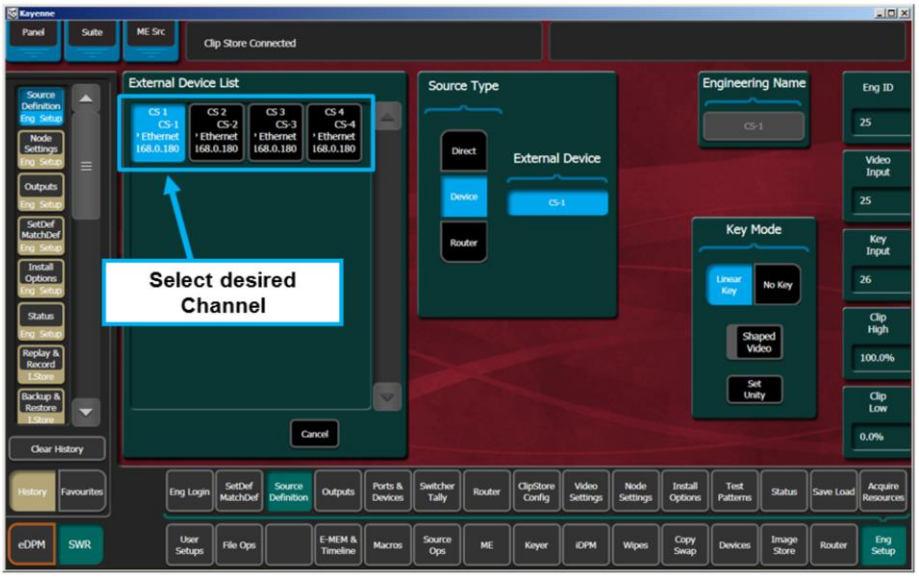
- ClipStore outputs feed Kayenne inputs and must be configured as such.
- ClipStore channels will be automatically configured as Video Key Pairs and will be configured like a CG input with Video and Key inputs being configured together as one source with one source name.

Clip Store - Configuration (4)



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Menu Path: Eng Setup / Source Definition

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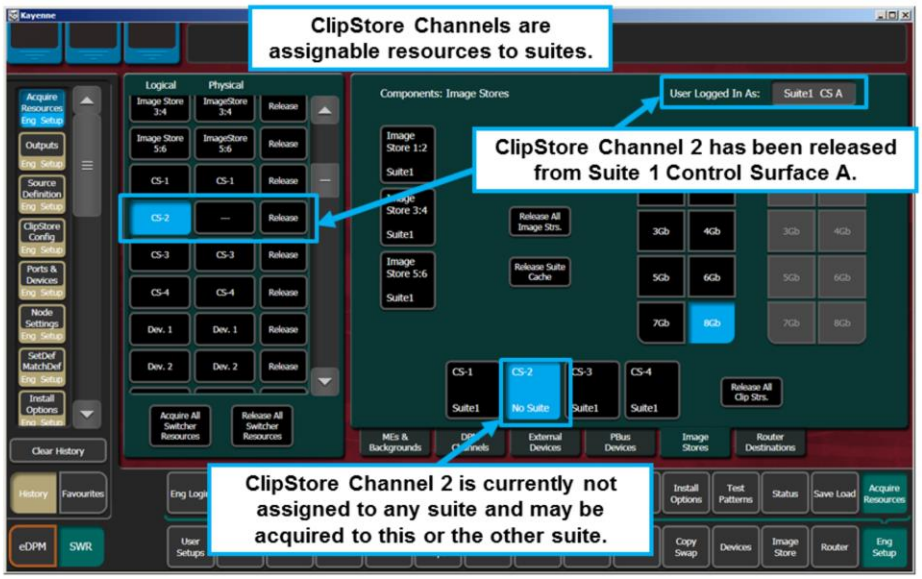
- The ClipStore channels are considered External Devices in some menus.
- The Kayenne can control 32 Devices. A 4 channel ClipStore will use 4 of the controllable 32 devices in the menus.
- Some menus will then only display 28 devices available.

Clip Store - Configuration (5)



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Menu Path: Eng Setup / Acquire Resources / Image Store

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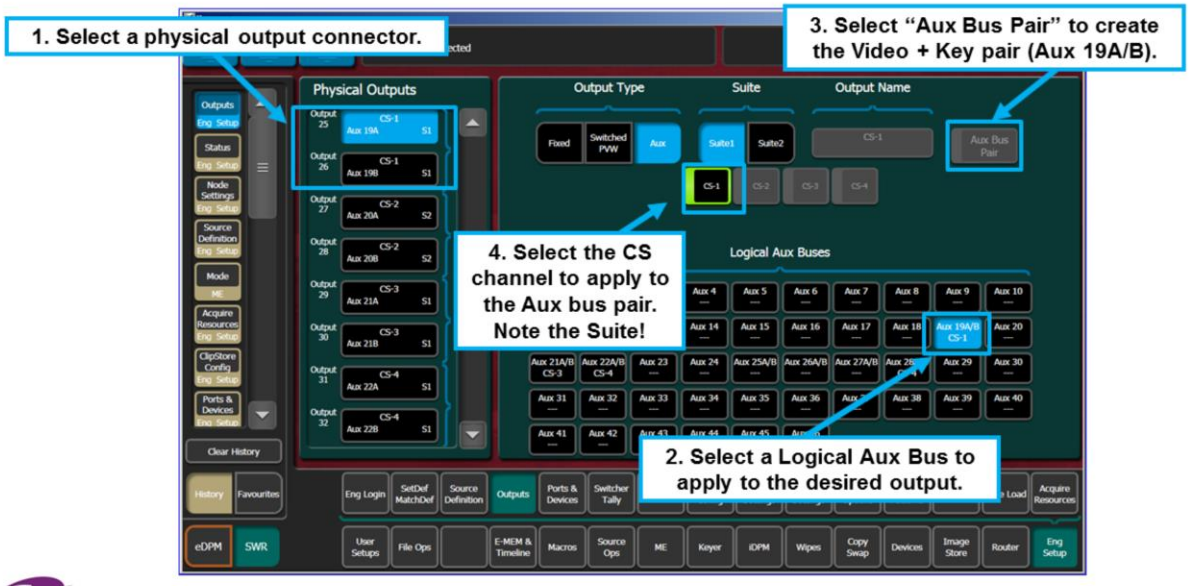
- The ClipStore channels are resources that can be acquired by any suite.

Clip Store - Configuration (6)



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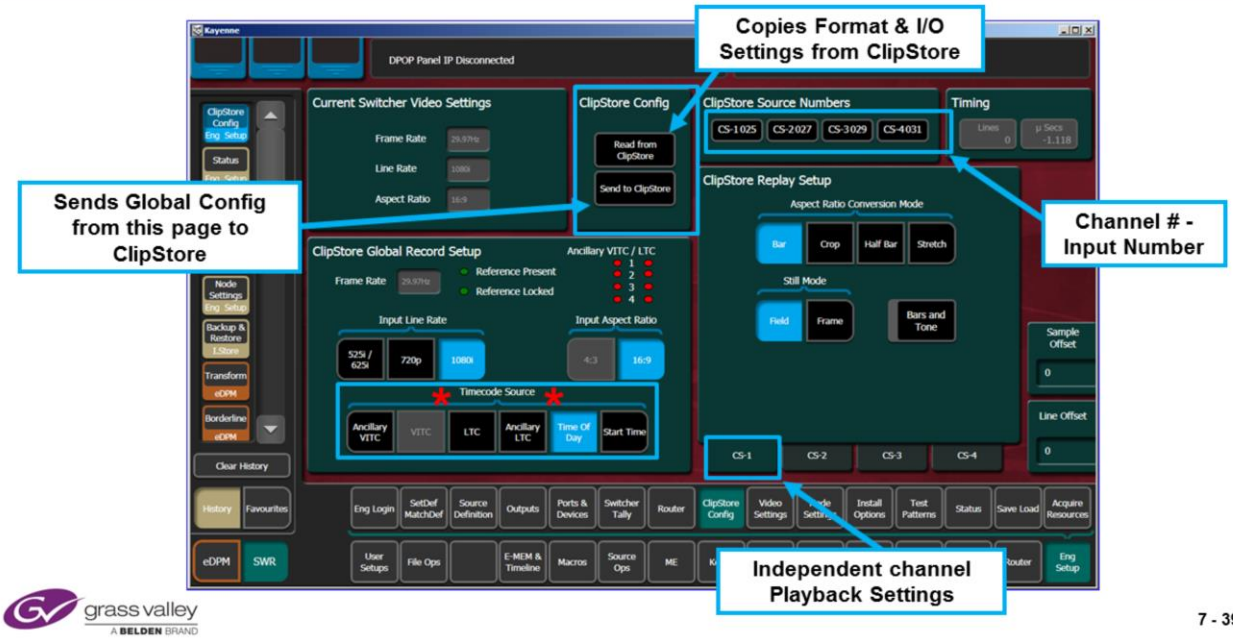
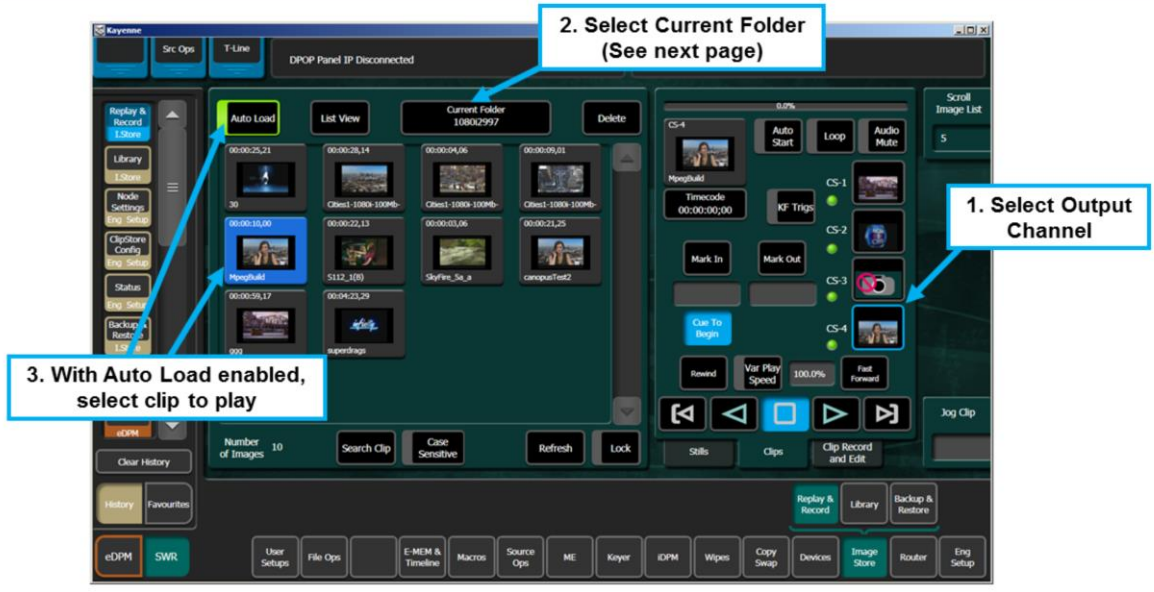
- The ClipStore inputs are fed by Kayenne outputs configured as Video Key Pairs on Logical Aux busses.
- The system may have between 1 to 4 sets (V+K) of paired Aux busses (Aux 19A + Aux 19B) feeding the ClipStore inputs.
- Each Codec is configured as a Video and Key pair.
- Any Aux busses may be used to feed the ClipStore. Aux bus pairs must start with an Odd number for Video + following Even number for Key. For example, Output 25 above is configured as Aux 19A for the Video channel and output 26 is Aux 19B for the Key channel.

Clip Store - Configuration (7)



* The ClipStore Time-Code Source selection is on this menu from versions 1 through 3.X. Starting with Version 4.0, this selection is only located in the "Devices / Enables" menu.

Clip Store - Operations (1)



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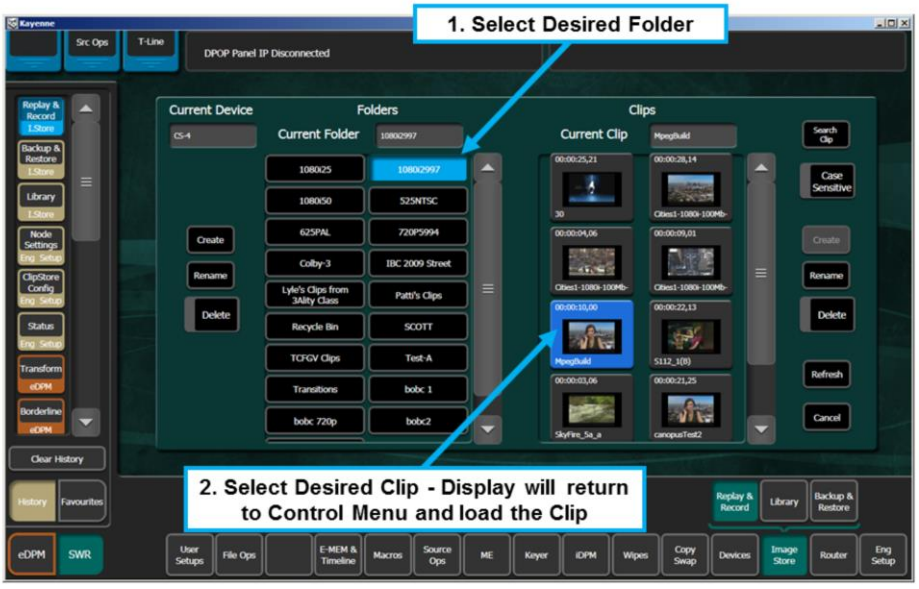
Clip Store - Operations (2)



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Clip Store (Kayenne) Operations (3)

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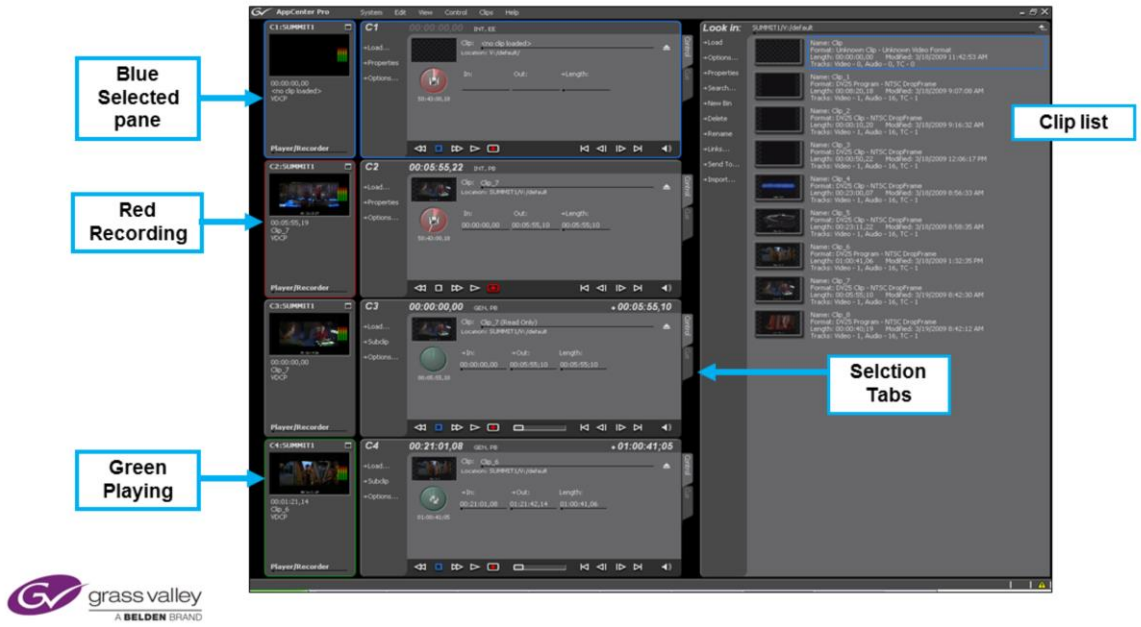
Clip Store (K2 Summit) App Center Elite Operations



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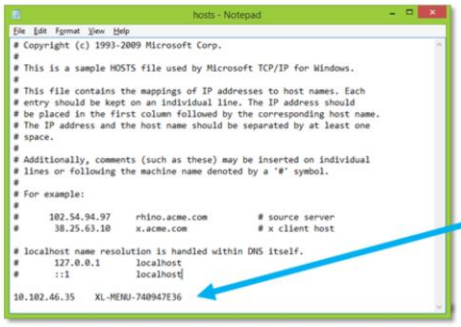
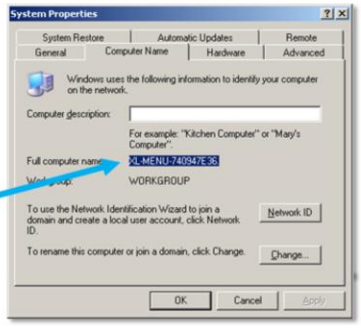
AppCenter Component	Description
Monitor pane	Displays the current information for the channel. Displays a thumbnail of the clip currently loaded in the channel and indicates the current control application for the channel. Contains a drop down menu for changing the channel's application. For the currently selected channel, the monitor pane has a white background.
Channel pane	Displays each channel in its current application. Only one channel can be selected at a time. The currently selected channel is displayed with a white background.
Clips pane	Displays media stored on the K2 system and provides controls for media management.
Status Bar	Displays status and error messages, and includes tool buttons for opening Transfer Monitor, StatusPane, or the Protocol Monitor dialog box.

Kayenne to Clip Store File Transfers

- The Summit/Solo software version 9.x requires the Kayenne Menu to be added to the 'hosts' file of the Summit/Solo before clip transfers will work
- Simply open up the host file on the Summit/Solo Windows Embedded software: C:\Windows\System32\drivers\etc
- Add the IP address of the menu to the host file with the exact name of the Menu PC



ClipStore Hosts file



Kayenne Menu Computer Name

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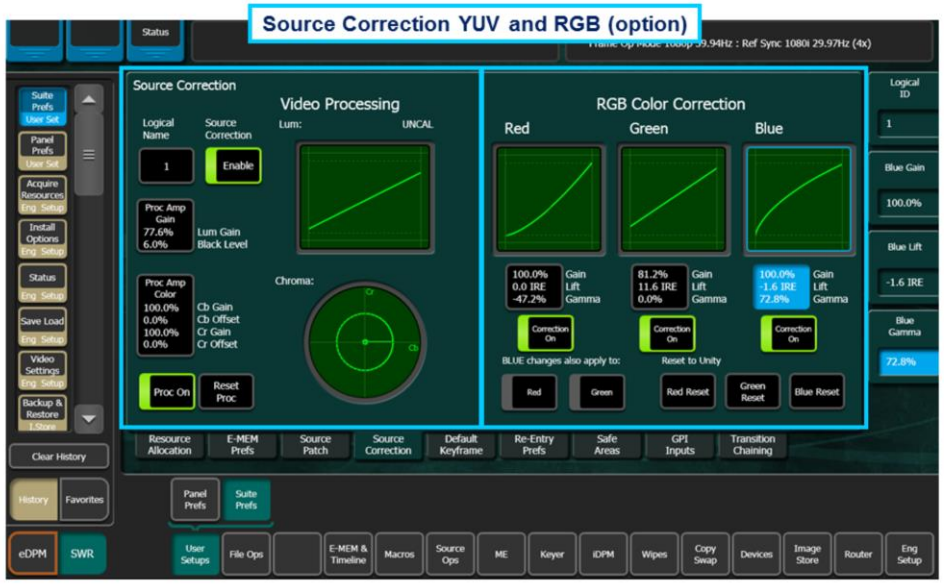
Suite Prefs - Source Correction - K-Frame



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Source Correction allows Video processing or RGB Color Correction (option) to be applied to the selected source for the entire switcher.