

## Section 7 – K-Frame Options



Current Auth Code for Perm  
V1BY-643D-B1HB-2Y3R-XP6-7BM7

Clear

New Auth Code for Perm

System ID

Kayenne

12345678

Option Group

Perm

Temp 1

Temp 2

Temp 3

Temp 4

Option	Enabled	Total Licensed	Perm	Temp 1	Temp 2	Temp 3	Temp 4	New
Full MEs	8	8	8					0
Controller ME	1	1	1					0
ClipStore Channels	4	4	4					0
Image Store Cache Size (GB)	32	32	32					0
Chroma Keys	54	54	54					0
DPM Channels	16	16	16					0
RGB Color Correction	Yes	Yes	Yes					0
eDPM	2	2	2					0
FlexiKey™	Yes	Yes	Yes					---
DoubleTake™	Yes	Yes	Yes					---
Ethernet Tally	Yes	Yes	Yes					---
Soft Panel	Yes	Yes	Yes					---
SNMP	Yes	Yes	Yes					---
SetDef MatchDef Scalers	32	32	32					0
HD 1080p	Yes	Yes	Yes					---
2D DPMs	Yes	Yes	Yes					---
Image Store Movies	Yes	Yes	Yes					---
ME View	Yes	Yes	Yes					---
Multiviewer	4	4	4					0
			Start Date					
			End Date					







## K-Frame DPM Options

- 2D-DPM - K-Frame, S-series and V-series – 1 per Keyer – Single license enables all
- iDPM - K-Frame, S-series and V-series
  - 4 Floating iDPM channels per Dual or Triple ME board – licensed individually
  - Floating channels can be used on any Keyer on any ME (except for the Controller ME K-Frame)
- eDPM - Software allows an ME (or VPE) to be used as an eDPM (1 per Suite)
  - The eDPM has 2D-DPMs (if Licensed) per Keyer and access to the pool of iDPMs as assigned in the Resource Acquisition Menu
  - An eDPM is controlled from separate Menus, Timelines and E-MEM registers
  - The eDPM E-MEMs and Timelines can however be controlled from Macros or a Master E-MEM eDPM 'control' Timeline



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.

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### eDPM - Resource Assignment

**iDPM channels available in this Suite**

**ME assigned as an eDPM for this Suite**

**iDPM channels for this Suite**

Logical Resources: CS 1-4, IS 1-10

Physical Resources: ME-A1/A2, ME-B1/B2, ME-CT, ME-C1/C2, ME-D1/D2, CS-A-D

User Logged In As: Suite2 CS A

eDPM Channels: 2 / Available

iDPM Channels: 10 / Available

DPM Chms 12 chans

ME-C1 Suite2 eDPM

ME 1-4, PGM, ME-B2

Effects, Stores & Viewers | Devices & PBus | Router Destinations | Camera Control | GPI Outputs

Eng Login | SetDef MatchDef | Source Definition | Outputs | Ports & Devices | Switcher Tally | Router | ClipStore Config | Video Settings | Node Settings | Install Options | Test Patterns | Status | Save Load | Acquire Resources

User Setups | File Ops | E-MEM & Timeline | Macros | Source Ops | ME | Keyer | iDPM | Wipes | Copy Swap | Devices | Image Store | Router | Eng Setup

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

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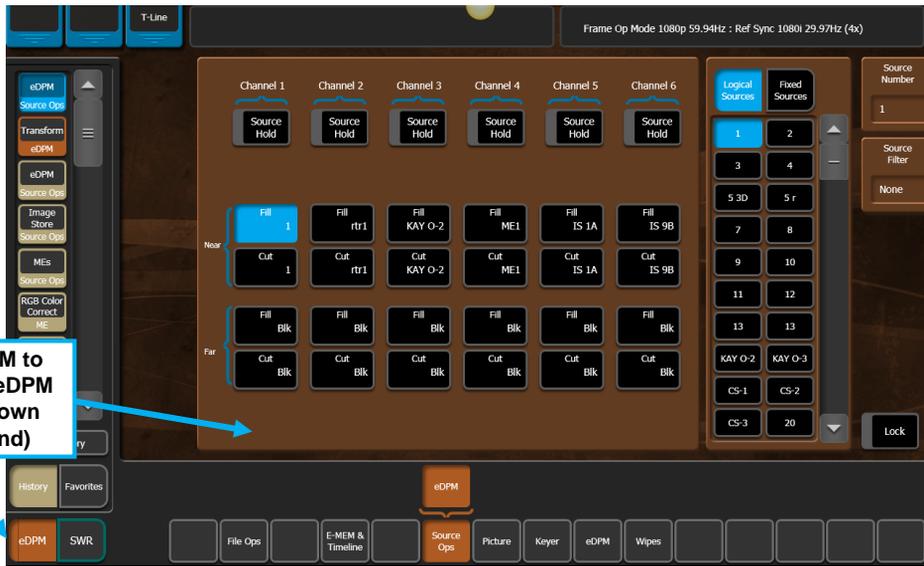


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## eDPM - Source Ops



Select eDPM to access the eDPM menu (Brown background)



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.

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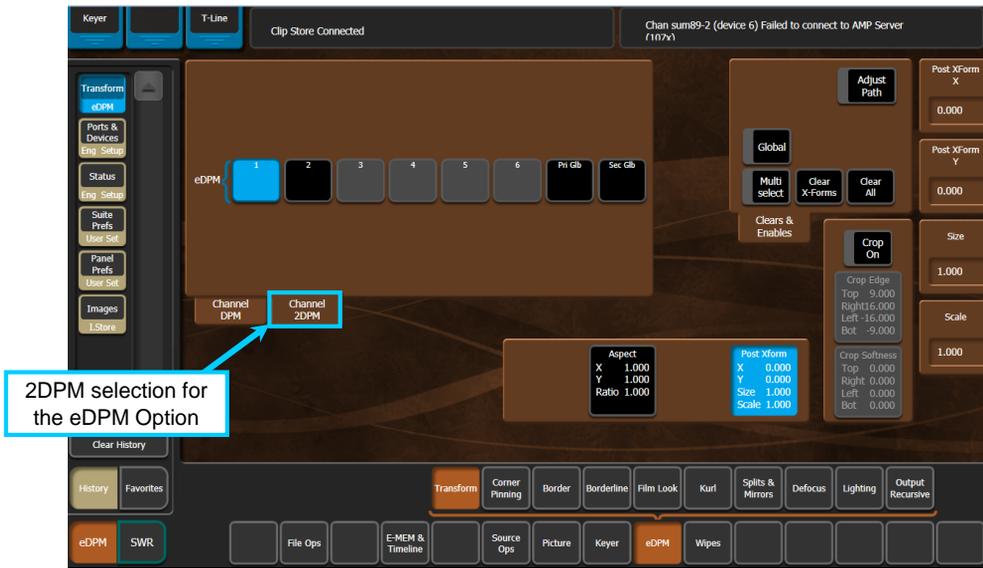
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## eDPM – 2DPMs



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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.

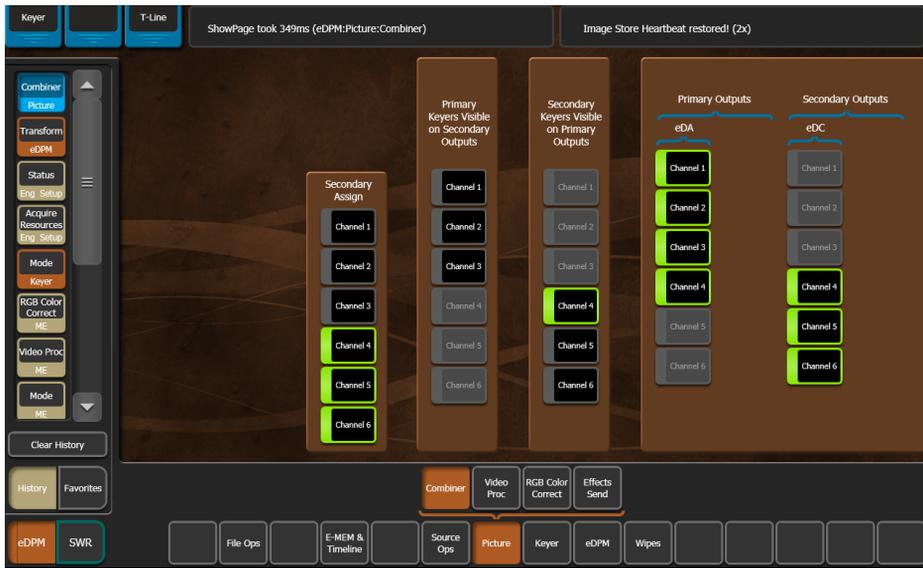
As it is a full ME it can use iDPM channels if made available from the licensed group of channels in the system.

However as it also has 2D DPM channels it does 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 its 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



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.

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## Image Store Capacities v7.0

**32G RAM  
Maximum  
Image Store  
Movie  
Lengths and  
Capacity**

Line Rate	Frequency	Seconds	Frames	Total Frames
525i	29.97Hz	1:39.03	2973	24027
625i	25Hz	1:40.12	2512	20443
720p	59Hz	19.15	1136	9179
720p	50Hz	22.36	1136	9179
1080i	29Hz	17.12	505	4059
1080i	50Hz	10.05	505	4059
1080p	59Hz	9.26	505	4059
1080p	50Hz	10.05	505	4059





## Image Store - Stills



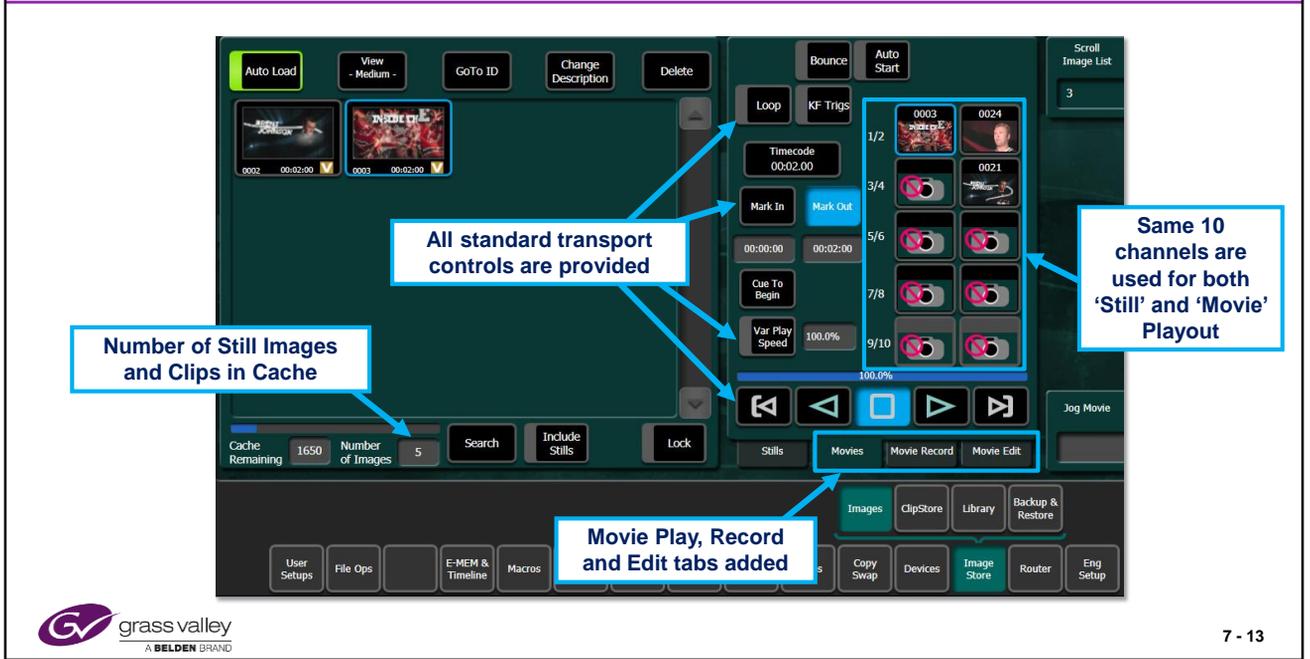
The folder list can be toggled between 3 Thumbnail Views (Large, Medium and Small) and List View.

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 - Movies Play



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.



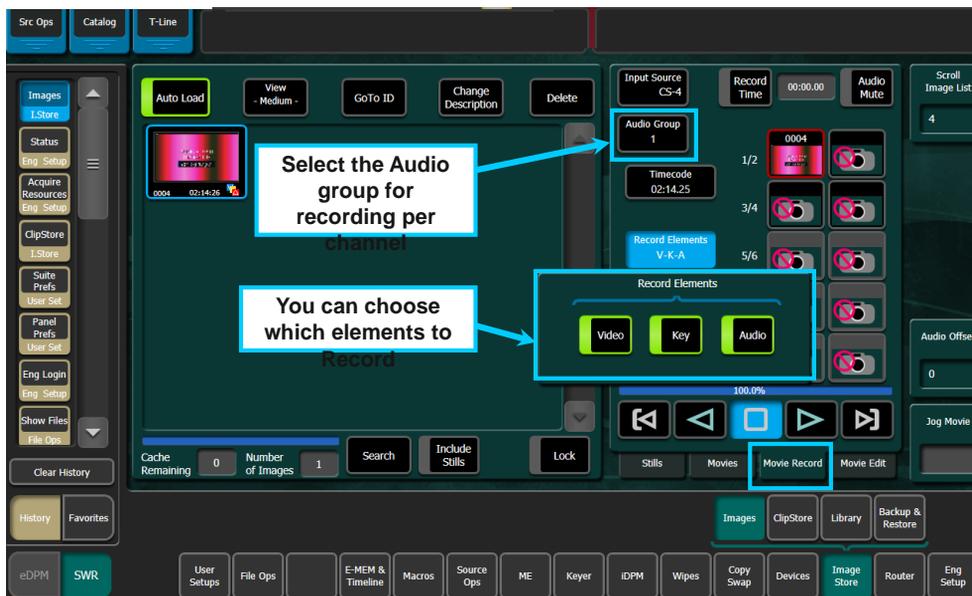




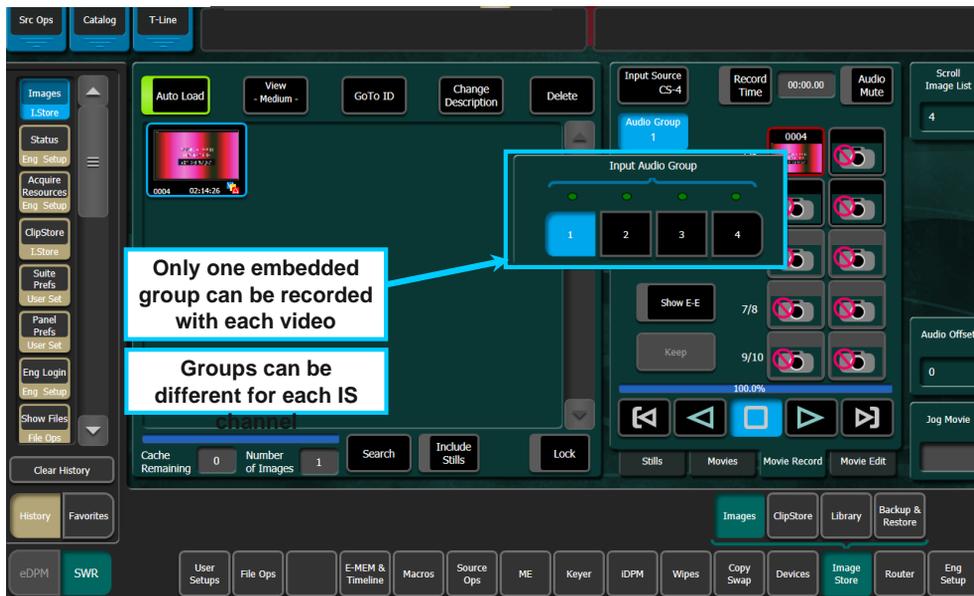




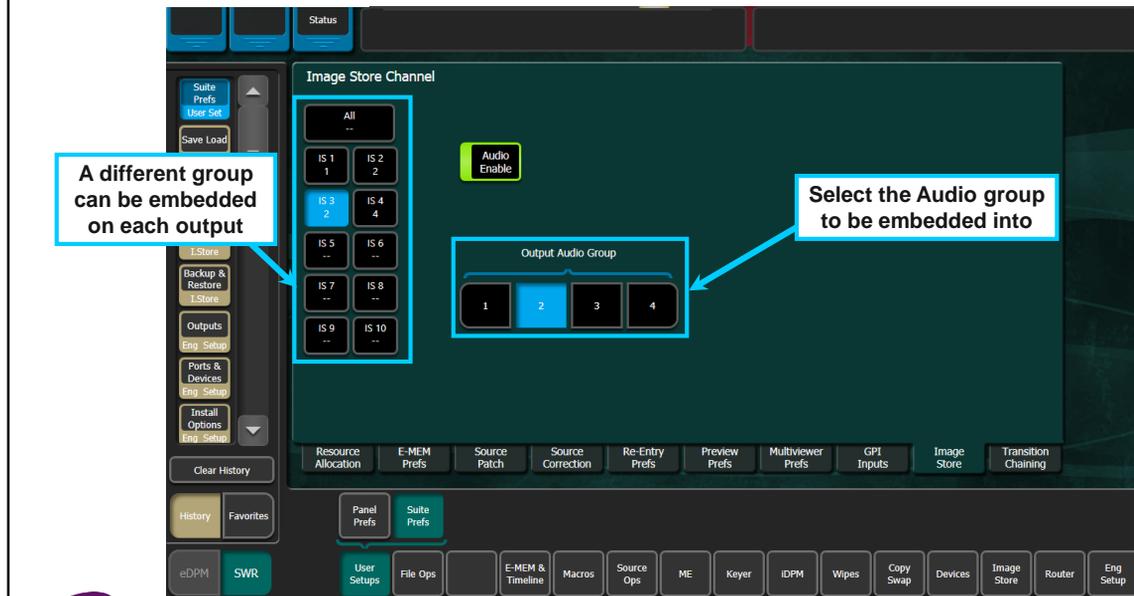
## Image Store - Audio



## Image Store – Audio Input Groups



## User Setups - Suite Prefs - Image Store - Audio Output Groups



## ClipStore (K2 Summit or Solo)

- The ClipStore can be either a 2 Ch (Solo) or 4Ch Summit device
- 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 can use DVCPro 100 or the AVCI encoder hardware for recording
- 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



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



## 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



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.

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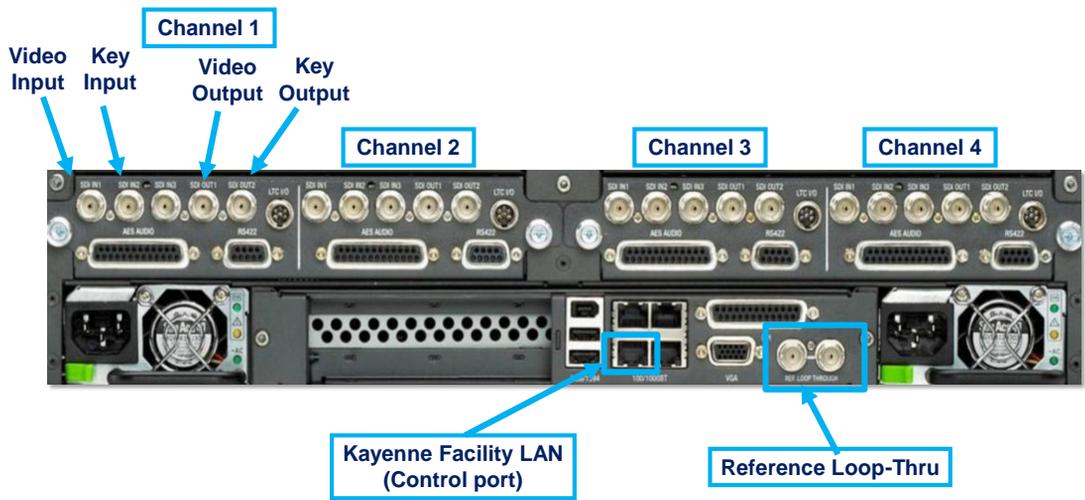
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### Clip Store - Connections (1)



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



- 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

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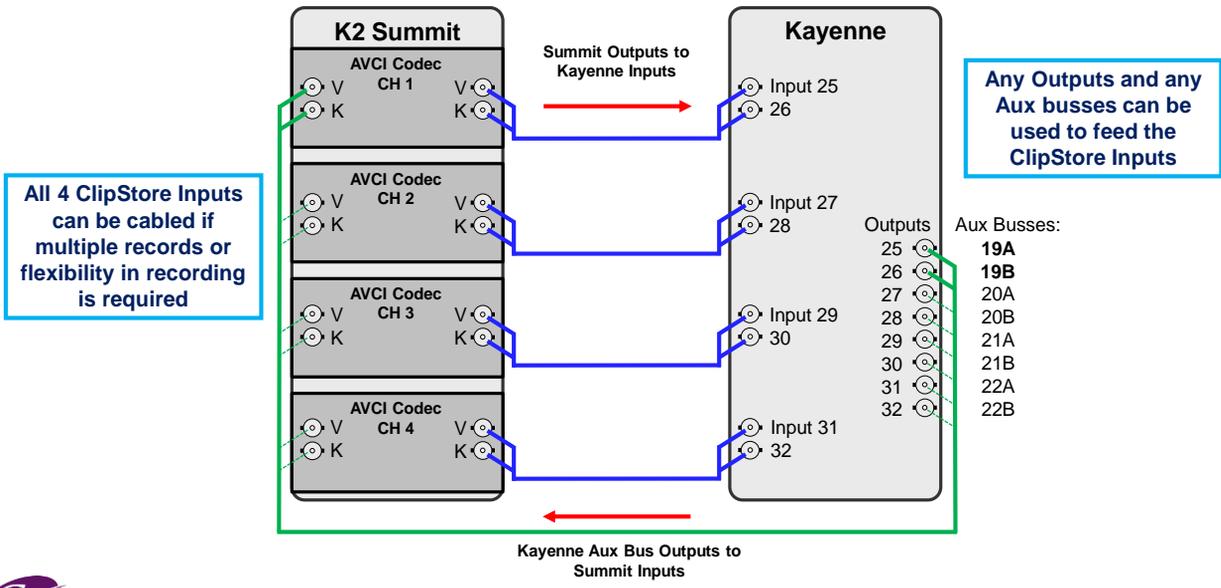
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## Clip Store - Connections (2)



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 the 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.

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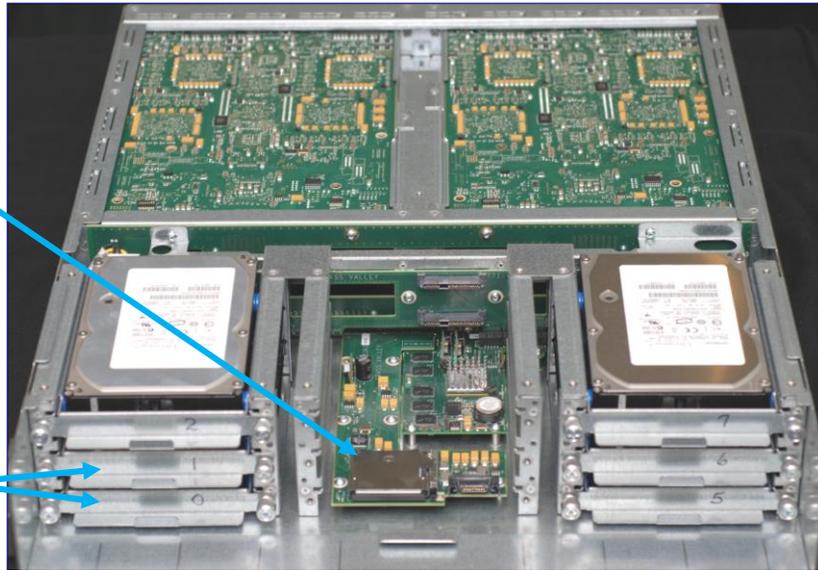


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## Clip Store - Hardware

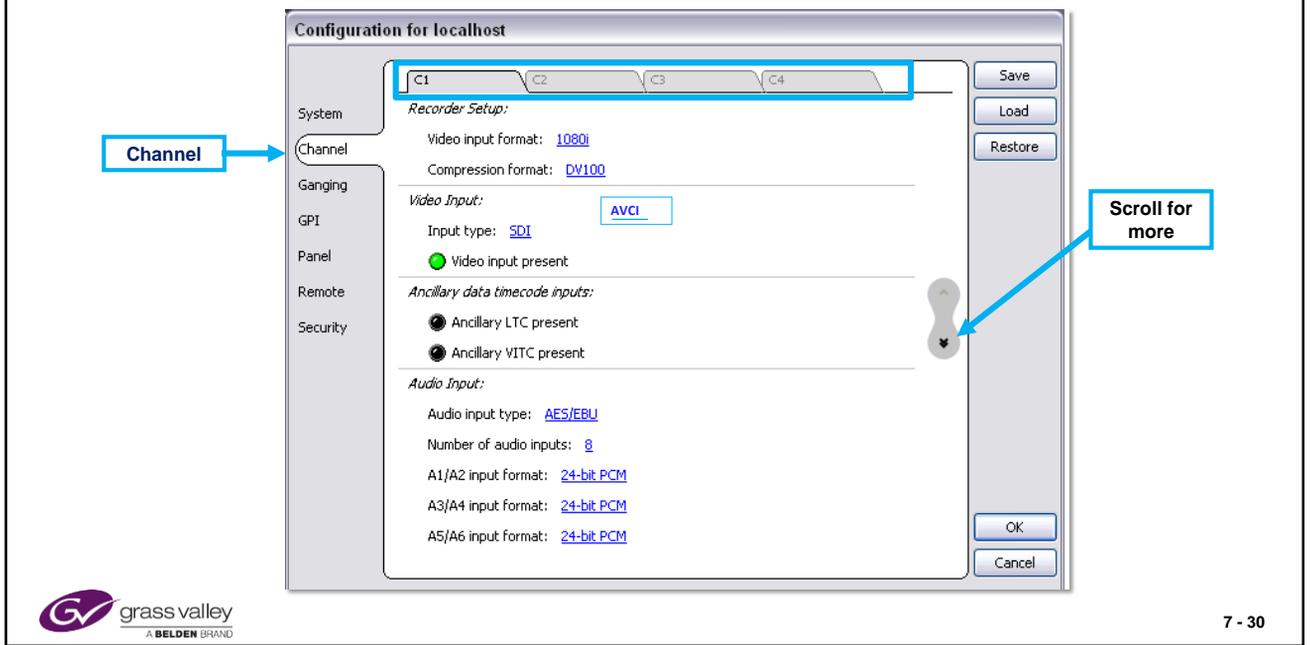


Earlier K2 Summit with 2 disk drives removed to show Compact Flash location

Drives are configured as Raid 1 pairs



## 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..

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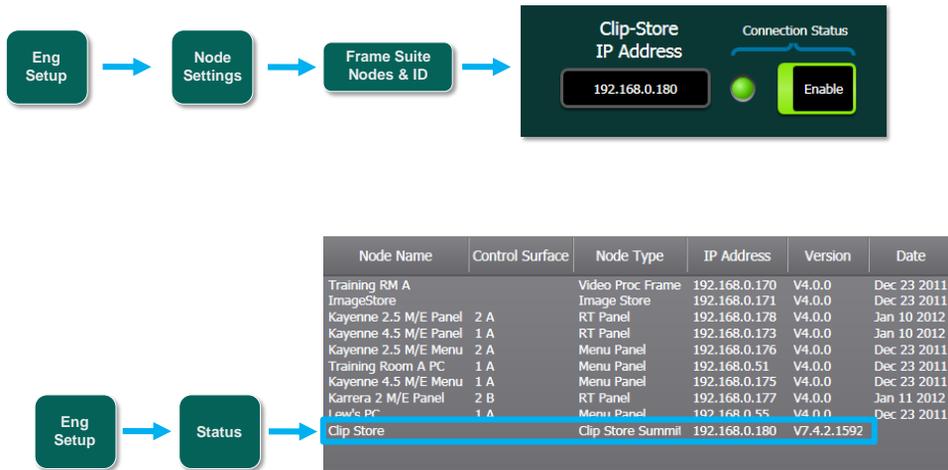
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## Clip Store - Configuration (1)



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 software location

## Clip Store - Configuration (2)

Option	Enabled	Perm	Temp 1
Number of Full M/Es Allowed	4	4	4
Enabled Chroma Keyers	16	2	16
Enabled iDPM Channels	16	2	16
Enabled SetDef Output Pairs	4	2	4
Enabled MatchDef Input Pairs	8	4	8
M/E+Aux RGB Color Correctors	Yes	---	Yes
eDPM Enabled	Yes	---	Yes
Image Store Size	8	8	8
Number of Clip Store Inputs	4	4	4
Camera Integration Enabled	Yes	Yes	Yes
Flexi Key Enabled	Yes	Yes	Yes
Double Take Enabled	Yes	Yes	Yes
Half ME Enabled	Yes	Yes	Yes
Soft Panel Enabled	Yes	---	Yes
SNMP Enabled	Yes	---	Yes
Beta Software OK	Yes	---	Yes

**The ClipStore must be licensed to be enabled**

Menu Path: Eng Setup / Install Options

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 2<sup>nd</sup>, 2010.







## Clip Store - Configuration (6)

The screenshot shows the 'Physical Outputs' and 'Logical Aux Buses' configuration screens. The 'Physical Outputs' table lists outputs 25 through 32, each with a CS channel and suite. The 'Logical Aux Buses' grid shows pairs of Aux buses (e.g., Aux 19A/B CS-1) assigned to specific CS channels and suites. Four callout boxes provide the following instructions:

1. Select a physical output connector
2. Select a Logical Aux Bus to apply to the desired output
3. Select "Aux Bus Pair" to create the Video + Key pair (Aux 19A/B)
4. Select the CS channel to apply to the Aux bus pair - Note the Suite!



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.

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### Clip Store - Configuration (7)

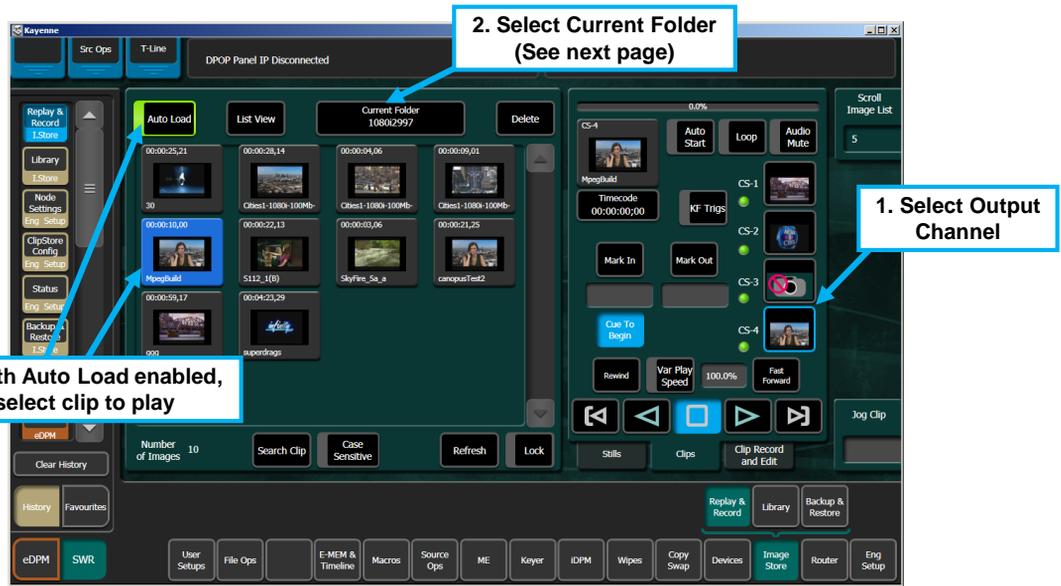
The screenshot shows the 'ClipStore Config' window in the Kayenne interface. Callouts include: 'Reads the Format & I/O Settings from ClipStore' pointing to the 'ClipStore Config' buttons; 'Sends Global Config from this page to ClipStore' pointing to the 'Send to ClipStore' button; 'Channel # - Input Number' pointing to the 'CS-1' through 'CS-4' buttons; and 'Independent channel Playback Settings' pointing to the 'ClipStore Config' button in the bottom menu. The interface includes sections for 'Current Switcher Video Settings', 'ClipStore Global Record Setup', 'ClipStore Source Numbers', and 'ClipStore Replay Setup'.

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.

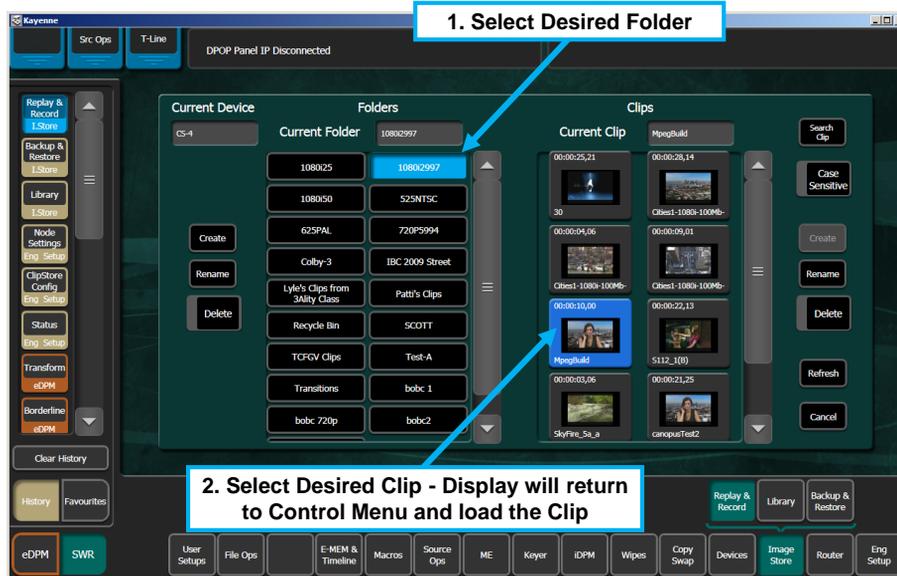
Insert below shows v8.0 menu for a Solo, the choice of 1080p and the selection of AVC Intra or DVCPRO HD.

This close-up shows the 'ClipStore Global Record Setup' menu. It features 'Frame Rate' and 'Input Aspect Ratio' (4:3 and 16:9) settings. The 'Compression Format' section has 'AVC-Intra' and 'DVCPRO HD' options. The 'Input Line Rate' section includes '525i / 625i', '720p', '1080i', and '1080p' options. On the right, 'Ancillary VITC / LTC' settings show 'Reference Present' and 'Reference Locked' indicators.

## Clip Store - Operations (1)



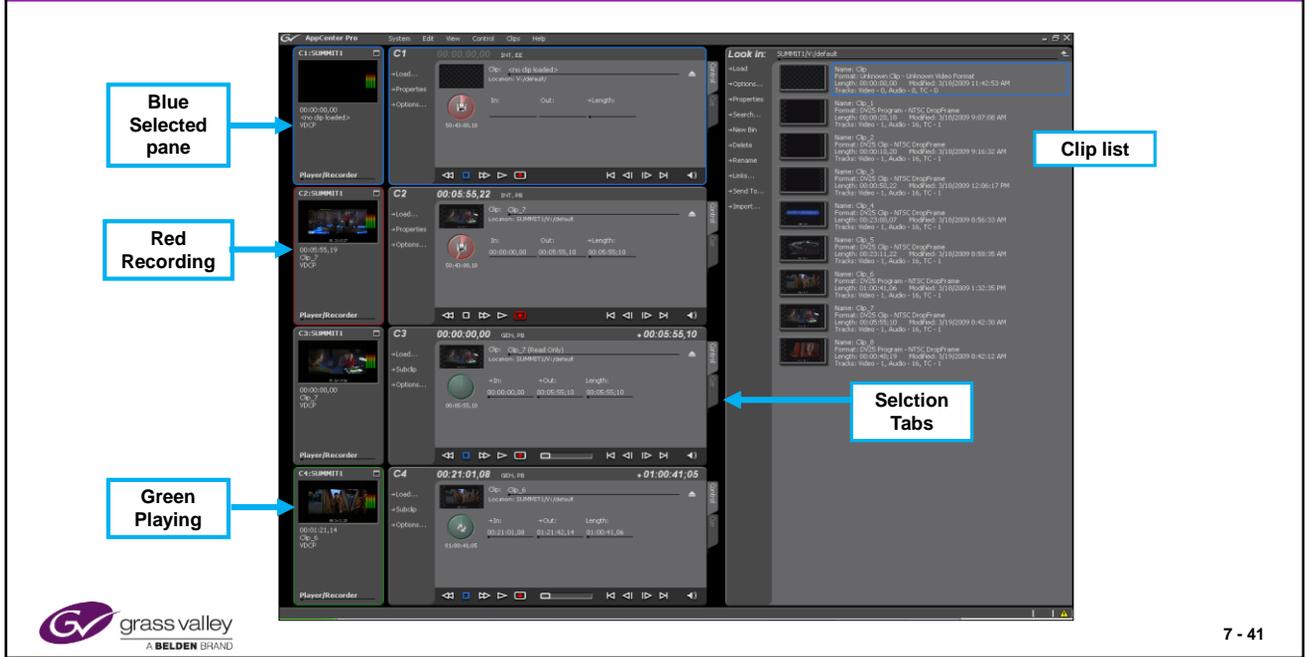
## Clip Store - Operations (2)



### Clip Store (Kayenne) Operations (3)



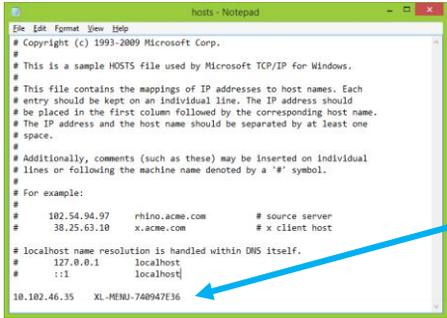
## Clip Store (K2 Summit) App Center Elite Operations



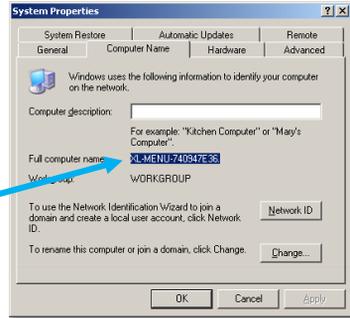
AppCenter Component	Description
Monitor pane	Displays the current information for the channel. Displays a thumbnail of the clip currently loaded in the channel and indicates the current control application for the channel. Contains a drop down menu for changing the channel's application. For the currently 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 to the Menu PC 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



Hosts file modifications require Administrator log in. Hosts is located in Windows/System 32/Drivers/etc/Hosts,

Also, if using Windows v 8.1 it may be necessary to add a User 'Movie' with password 'M0vieK2M0vie' and shared permissions to access the Images folder.

This applies to Menu or KSP on a PC for CS file transfers.