Sonoran VIDEO SYSTEMS

October 2019

COYOTE

Coyote Hardware and Software
User Guide
v2.0

Notices / Warnings / Safety

FCC Declaration of Conformity

Part 15 Class A

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

System Recommendations

Recommended, at least a 1RU vent space directly above or below each Coyote for maximum air flow in warm environments.

Cool air in

Side Fan 1

Side Fan 2

Exhaust out

Do not block fans or vents

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System Requirements

Windows PC for Client

- Microsoft Windows 10 64bit x86
- 2gb Ram
- 120gb Hard Drive Space
- Ethernet Port or Adapter
- Screen needs a minimum resolution of 1440 x 900 @100% scaling. Recommended size is 1920 x 1080 @100%

Mac (Coming Soon)

- Mac OSX Sierra 10.3
- 2gb Ram
- 120gb Hard Drive Space
- Ethernet Port or Adapter

Additional Hardware Requirements

- Coyote Q3G or S12G Server

For Technical support please call 480-626-4110 or go to,
www.sonoranvideosystems.com/support

Coyote Hardware

- The Coyote is a 2 RU Playback Server and is designed with the most advanced computer components for incredible performance playback.

  - Front panel touch display. Designed for the user to control and service the hardware of the server.

- Power Button

- USB 3.1 A and C for saving and uploading files

- 2.5” SSD slot for saving and uploading files.

Coyote Hardware

- Every component installed has been designed for high performance and reliability.

Multiview Output

Vent for air flow

Genlock

Analog XLR balanced output w/Ground lift

Computer Lock Port

Power Input
110 - 240V
47 - 63hz
5amp fuse

USB 3.0 type A for saving, ingest of files and service

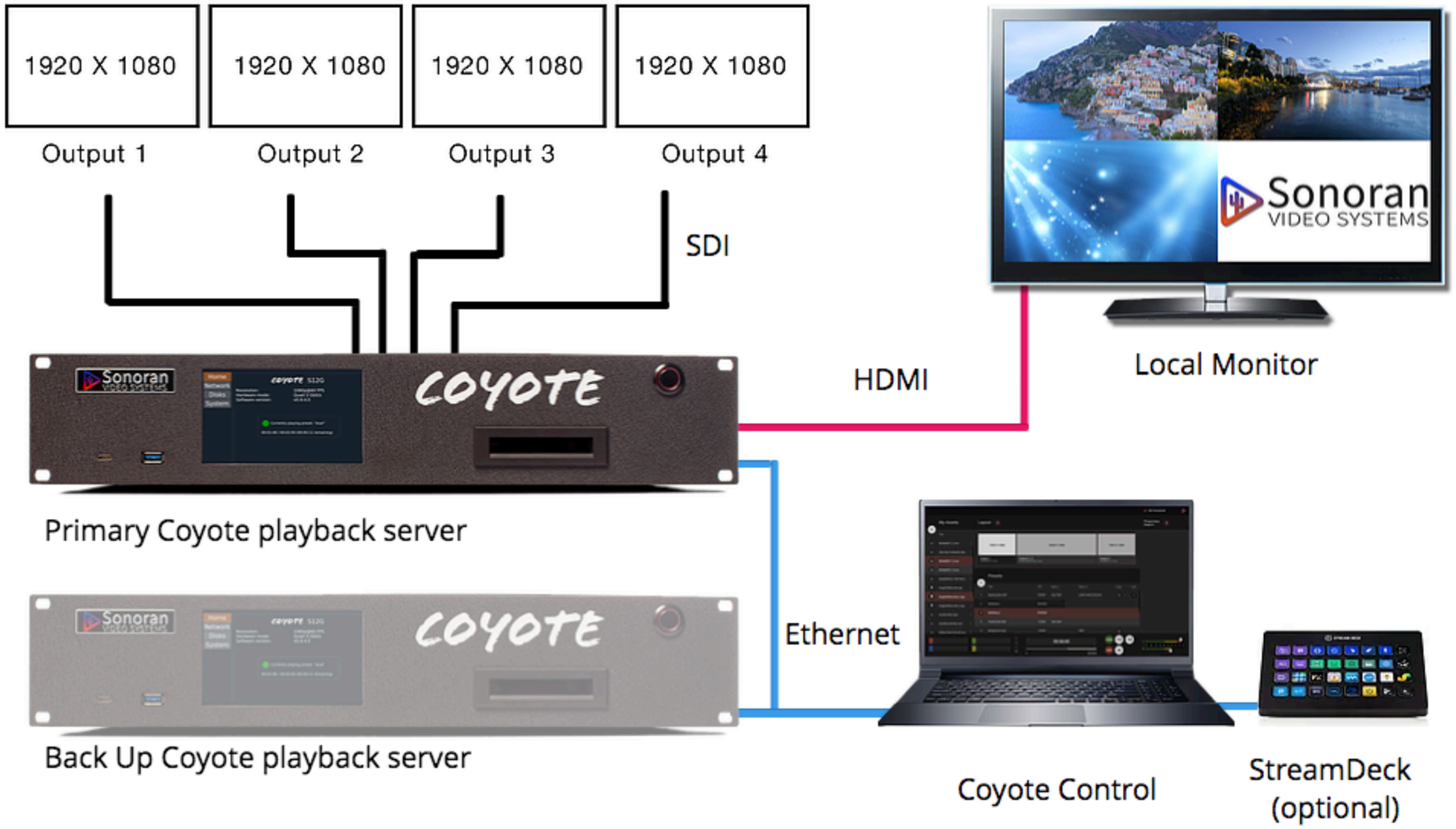
Main SDI Outputs
1080p (i) - 2160p (12G on output 3)
29.97, 30, 50, 59.94, 60

LTC In - used for future coyote frame sync
LTC out - Asset selectable in Coyote Control

Ethernet Ports
1. 1G Coyote Control, audio, transfer
2. 1G Coyote Control, audio, transfer
3. 10G Coyote Control, transfer, VOIP
4. 10G Coyote Control, transfer, VOIP

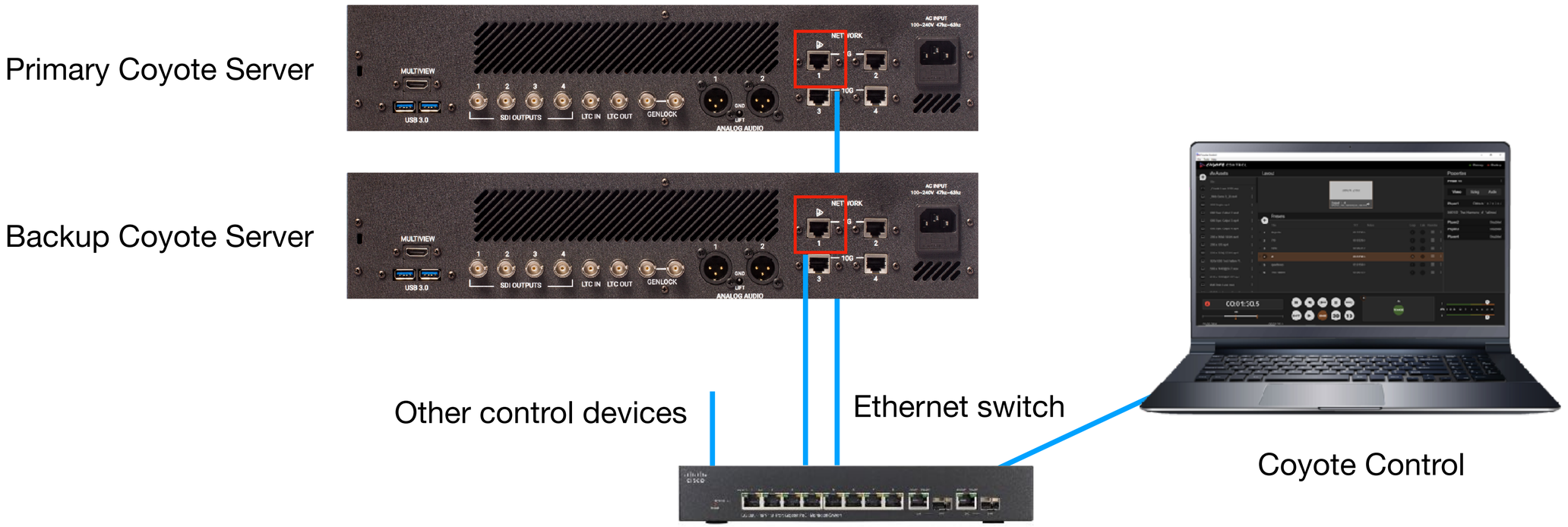
System Setup Diagram

- This is an example of a typical setup design of a Coyote Playback system.



Network Setup

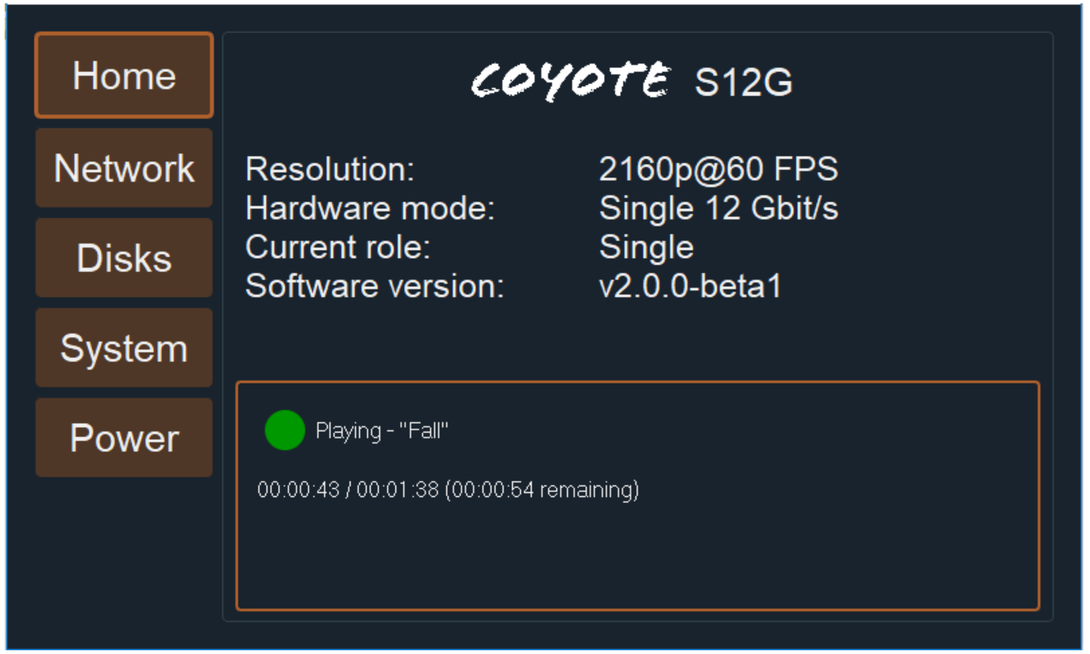
- Connect an ethernet network from the Coyote Server(s) port 1 to any client (pc control computer) or external controller. You can use an ethernet switch or connect directly using a standard ethernet cable if you are running just one to one server/client.
- Use a 1G network switch plugged into ports 1 or 2 when running a 1G network. Used for Coyote Control, Mirror Mode, and audio. Assets will also transfer between Coyotes via the network.
- Use a 10G network switch into ports 3 or 4 when using a 10G network. Used for Coyote Control, Mirror mode, video over IP and data transfer. Assets and communication are 10x faster using these Ports than on the 1G network.



Front Panel

The Coyote front panel has 6 tabs used for Status, Network, Disk information and eject, System control and Power

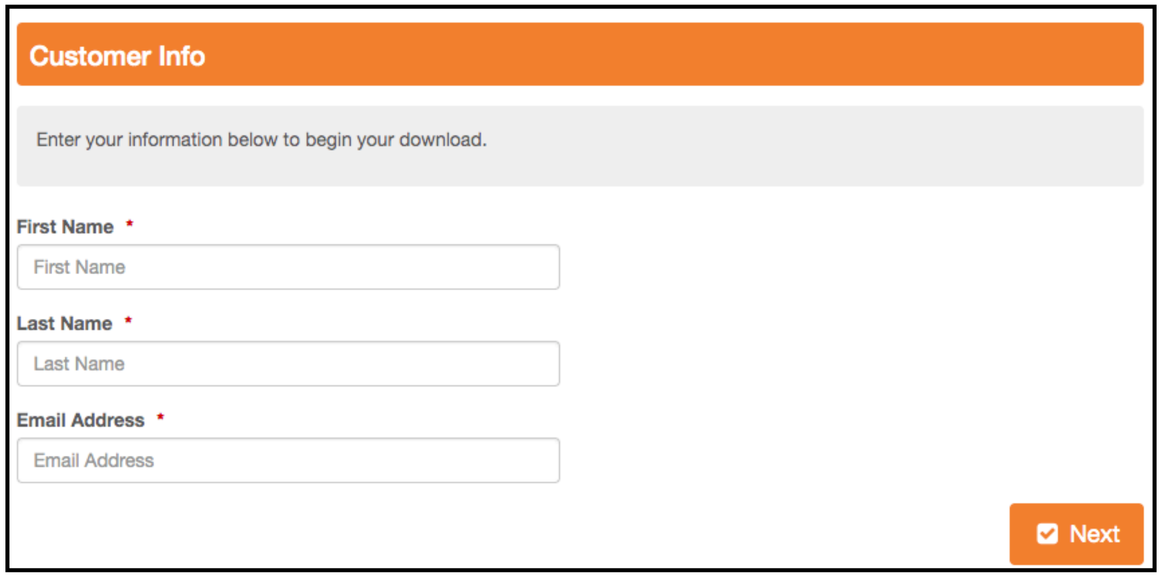
- **Home** gives the user an indication of what video resolution, hardware mode and current preset status.
- **Network** Change IP and subnet mask
- **Disks** Eject external disks
- **System** Update software and about page
- **Video** (Nov 2019) Resolution Changes and Genlock H timing
- **Power** Soft reboot (Just Coyote Services), Reboot, (Windows reboot) and Shut down



Software Installation

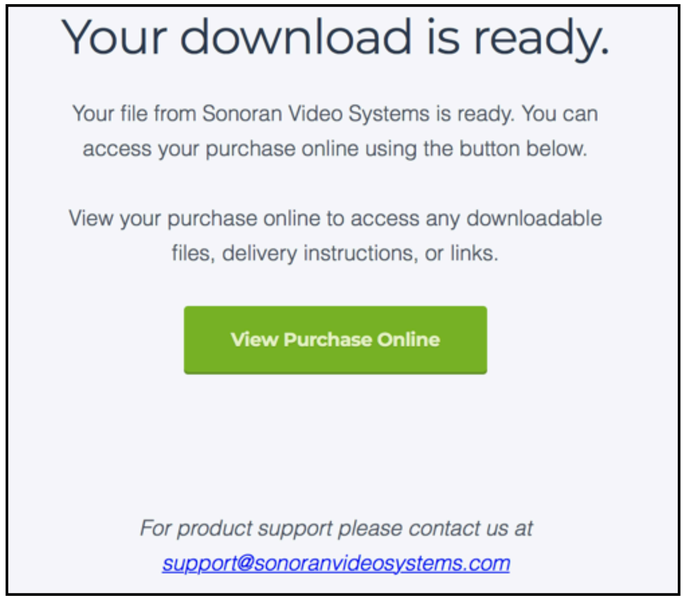
- Download the latest version of software from www.sonoranvideosystems.com/download.

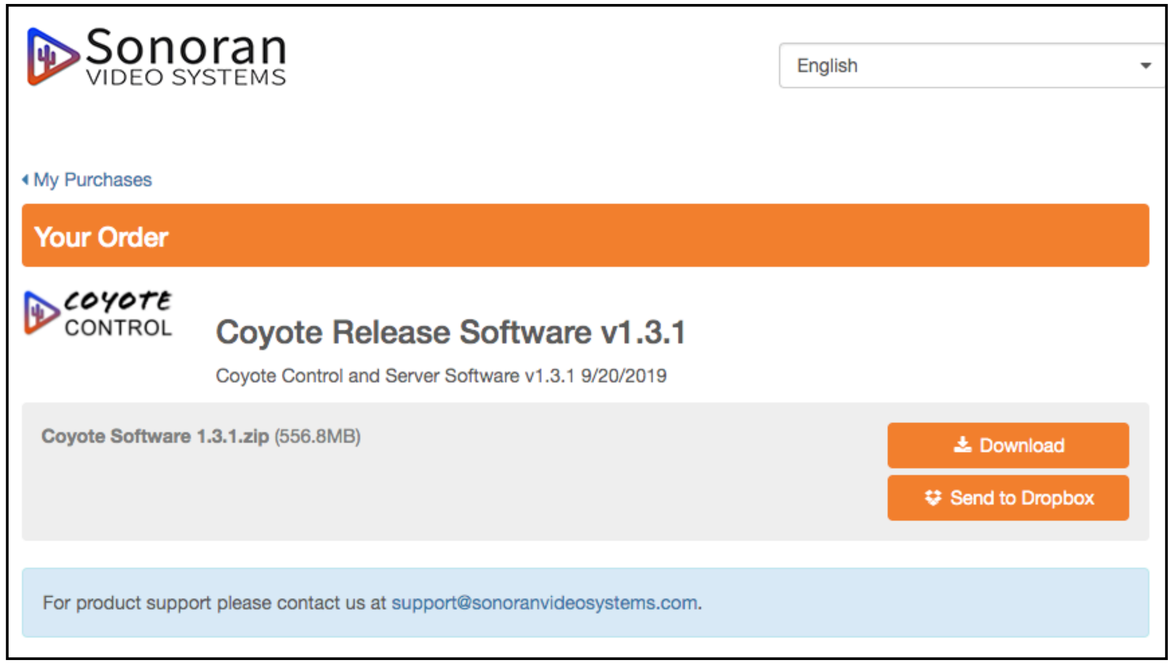
- Select the “Download” button on the latest version, then checkout and enter your name and email address. You will then be emailed the download link.



Software Installation

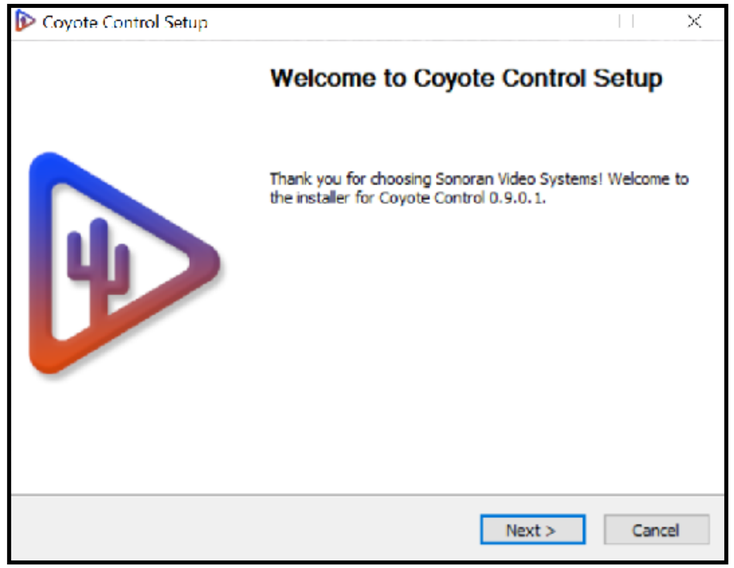
- After the email has been sent, select “View Purchase Online” Then simply download the software.

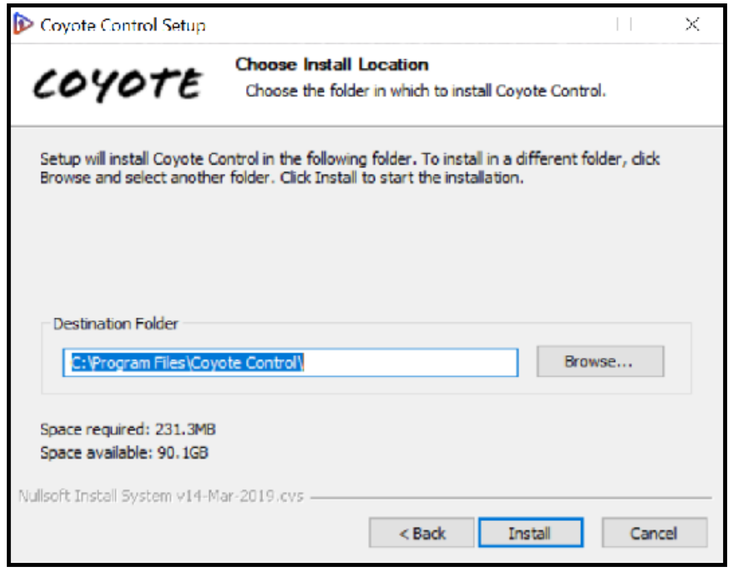




Software Installation

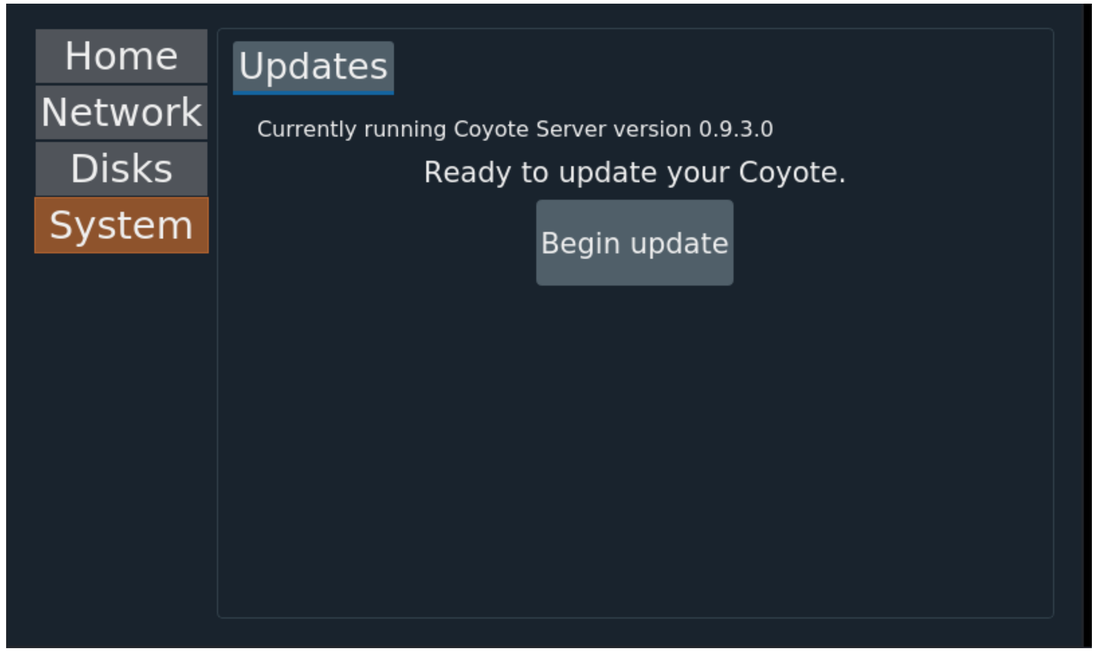
- Open the zip and run the CoyoteControlSetup-x.x.x.x.exe file on your client. (external control computer).
- Double click or right click and select install and follow the onscreen prompts.





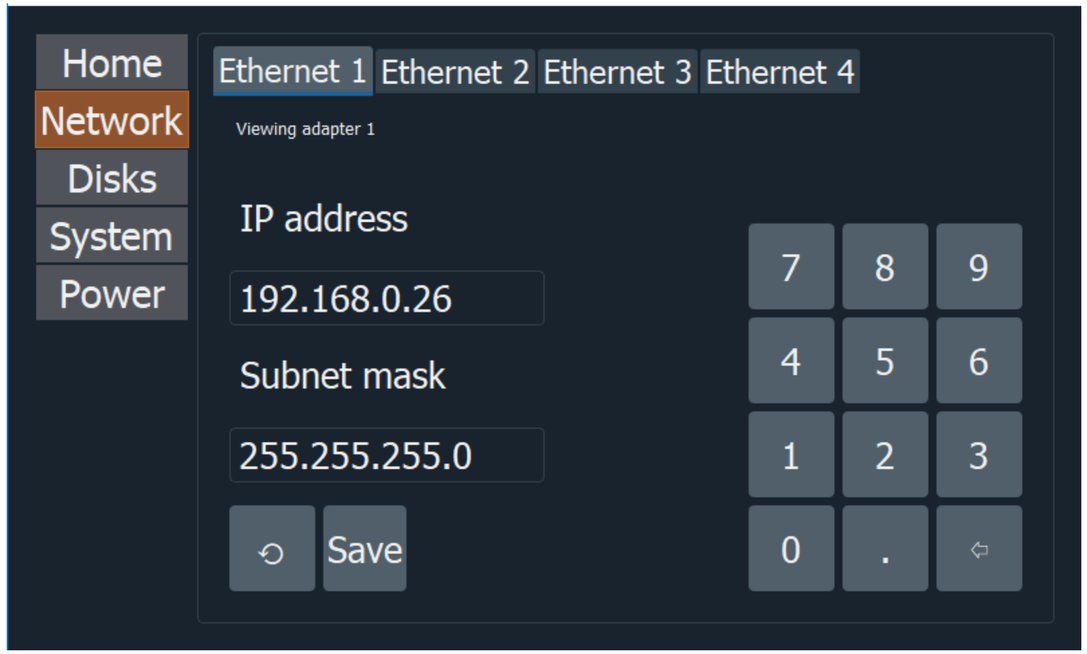
Software Installation

- For the Coyote Server update, place the CoyoteServerUpdate.x.x.x.x.exe file onto the root of an external drive. Then place the drive into one of the USB slots (two front and 2 rear) or use the 2.5” SSD slot.
- On the Coyote Front Panel Select system and then select Begin Update.
- Follow prompts on the installer.



IP Configuration

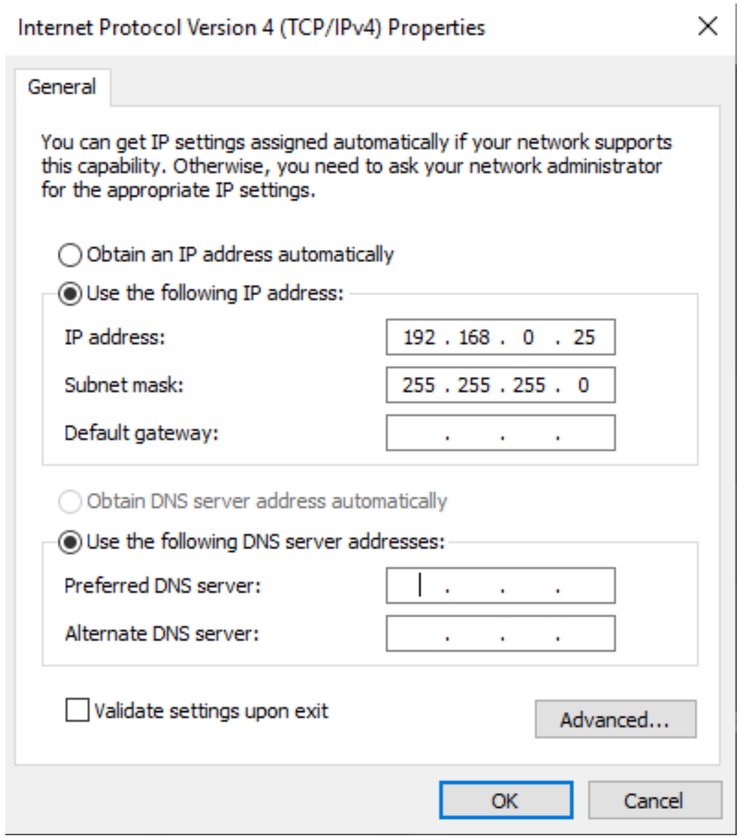
- **Make sure you are connected via ethernet**, on port 1 of the server, to a client computer. Either directly or on a switch.
- On the Front Panel select the network tab
- Set the IP address on the Coyote server(s) and client(s) to the same network with different ending addresses.
  ie: (Server) 192.168.0.10 (Client) 192.168.0.20



- To change the IP address or subnet of the Coyote server, simply touch the box and type in the new address
- The Coyote will reboot automatically after the IP address has changed. If it does not then manually reboot the Coyote in order for the IP address to change

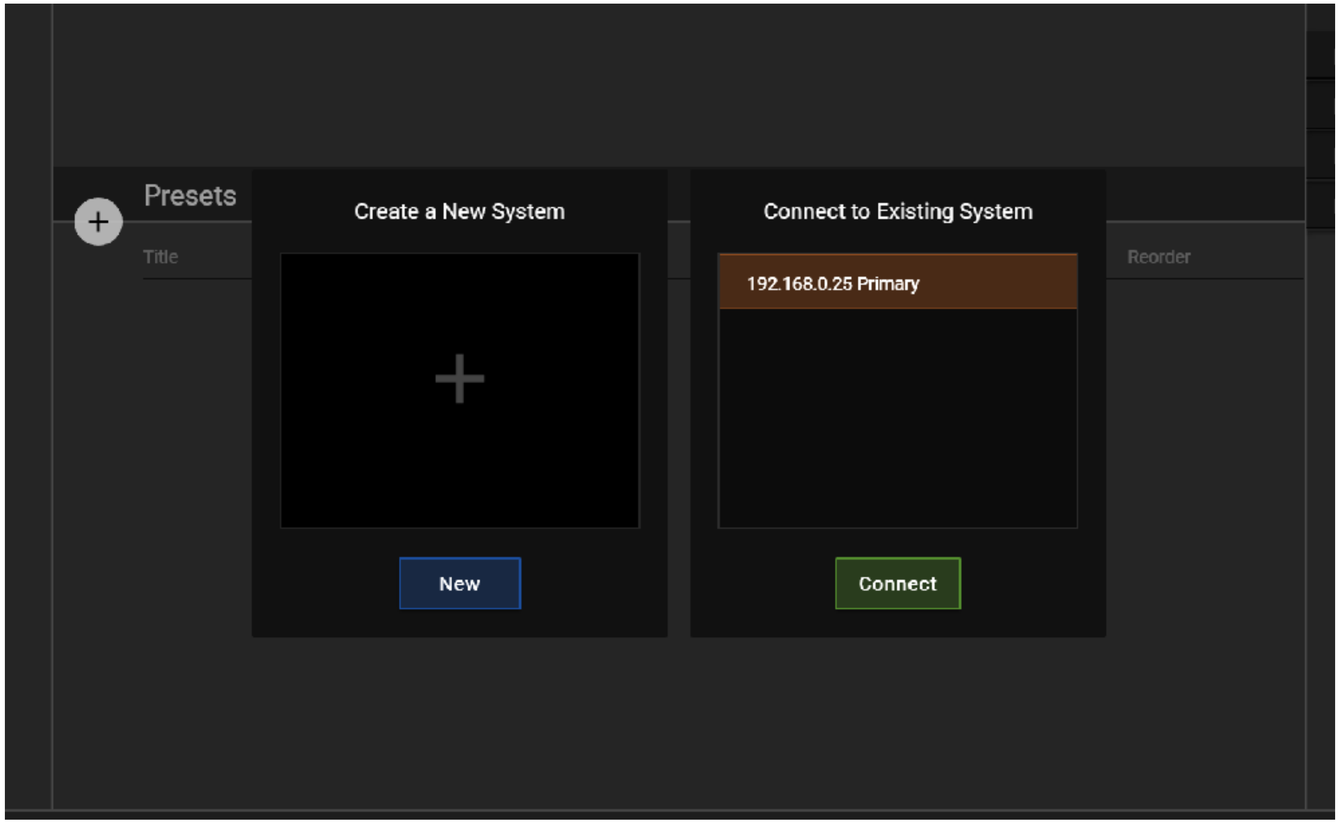
IP Configuration

- On the Coyote client, select the properties of your network adapter and manually configure the IP address. Set the IP address to the same network as the Coyote(s) Server. ie: 192.168.0.xxx with a different ending number.



Launching Coyote Control

- When initially launching Coyote Control, you will choose between creating a new system or connecting to a Coyote(s) already on the network.



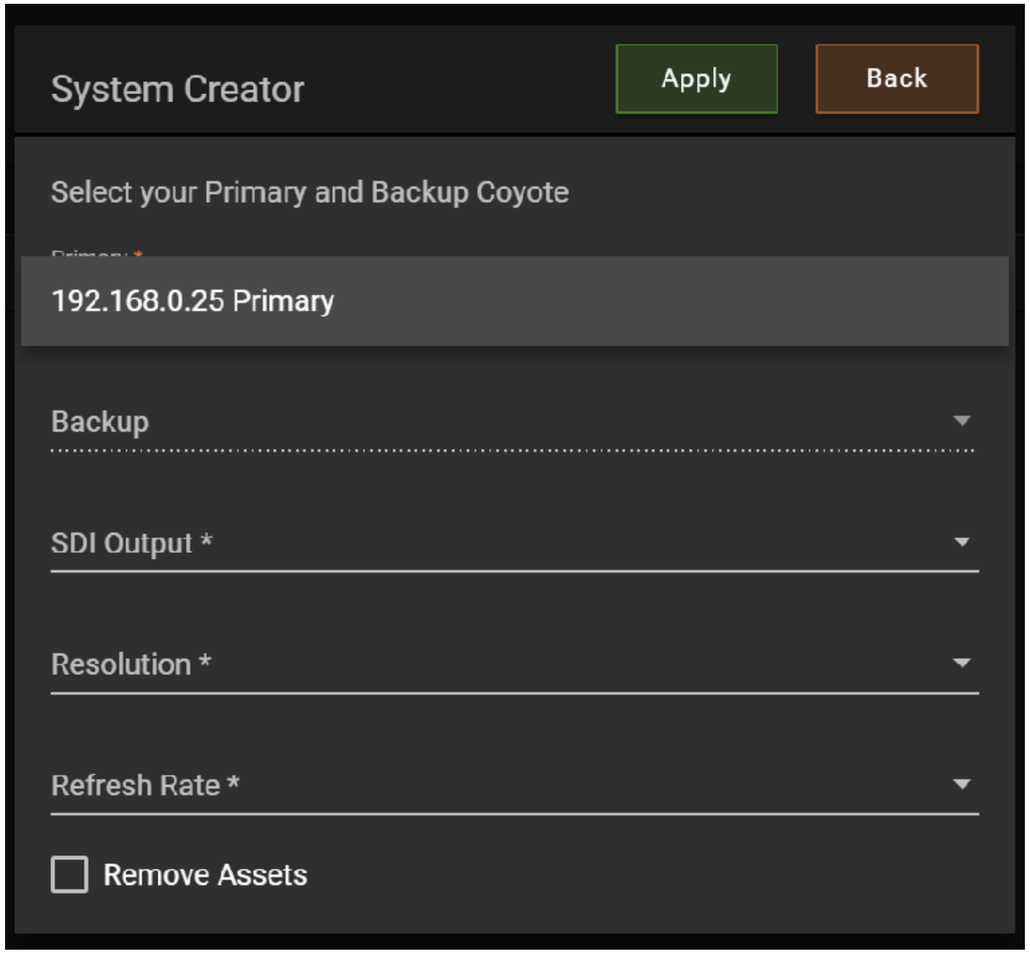
System Creator Setup

- Select your **Primary** Coyote Servers IP address from the drop down
- **Mirror Mode**

  If you have a **Backup** Coyote, select it's IP address from the second drop down menu.

  All data including assets, presets, properties settings will be synced from the primary to the backup Coyote automatically from just one Coyote Control UI.

  Note: All previous assets and presets will be erased on the backup in order to sync with the primary's file state.



**Click Apply to save your selections*

System Creator Setup

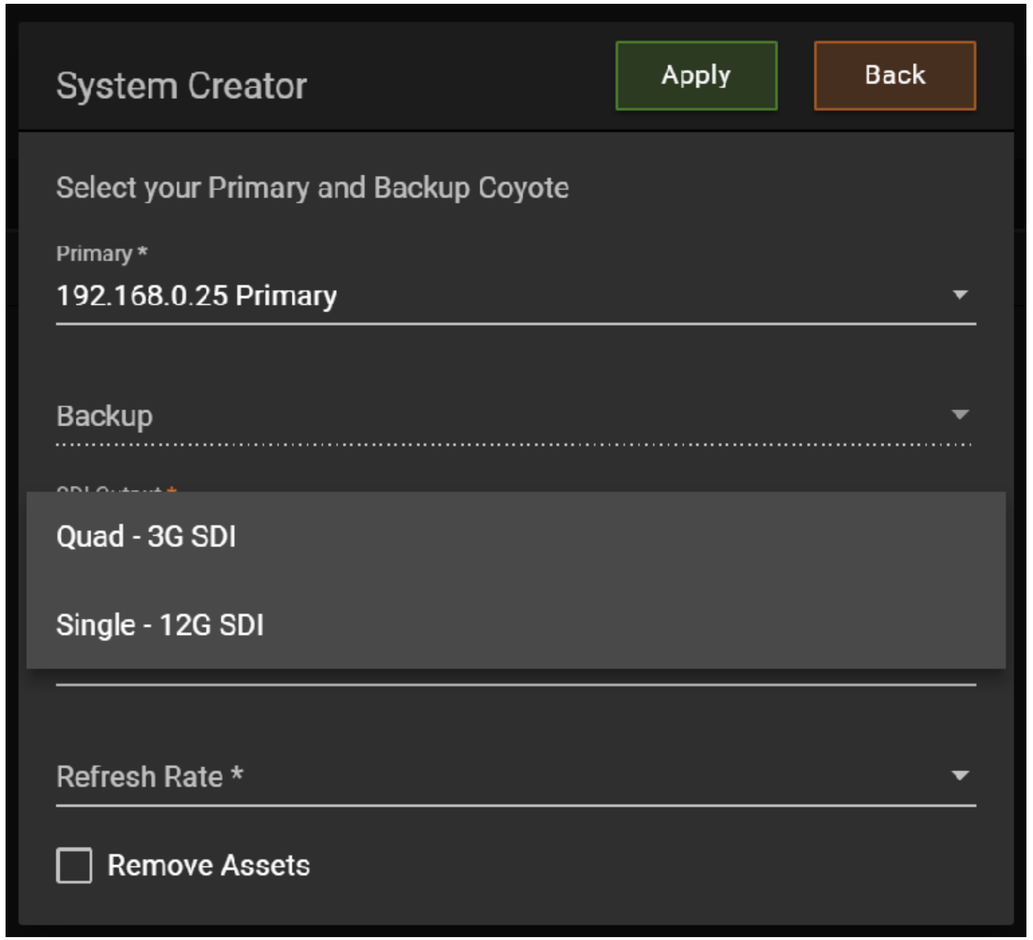
- Select your desired output **Mode**

Quad - 3G SDI
This mode allows the Coyote to play 4 discreet players in either 1080i 1.5Gb/s or 1080p 3Gb/s.

- Frame accurate outputs and files.
- Separate audio can be streamed from individual assets. Up to 8 channels per SDI output for a total of 32 channels of audio.

Single - 12G SDI
This mode allows the Coyote to output 2160p 12Gb/s out of output 3.

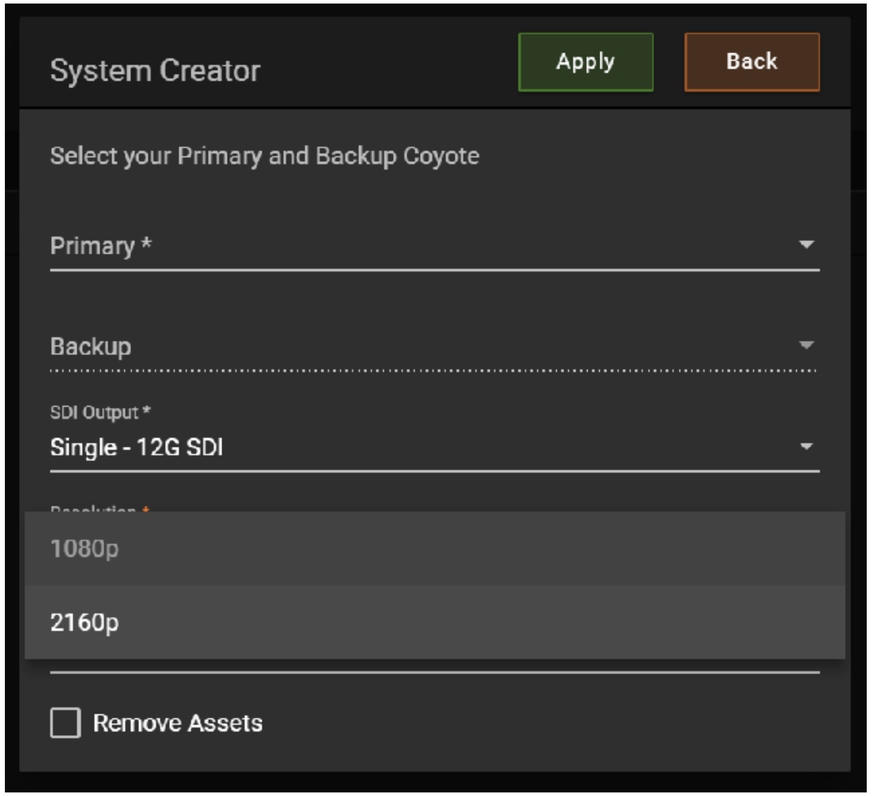
- Frame accurate files can play in any quadrant
- One stream of audio up to 8 channels



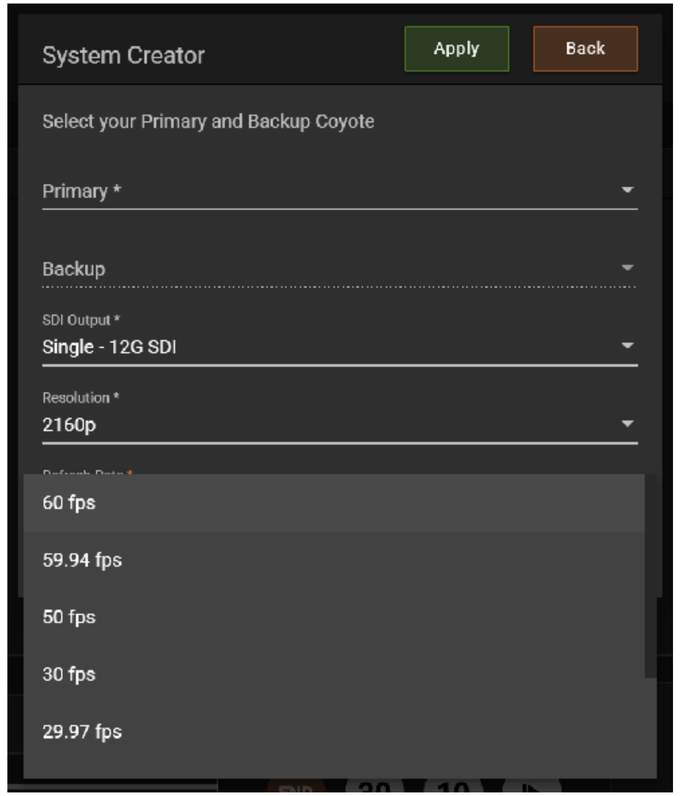
**Click Apply to save your selections*

System Creator Setup

- Select the resolution



- Select your desired **Refresh Rate**
  23.98fps- 60fps (1080i 50,59.94,60)



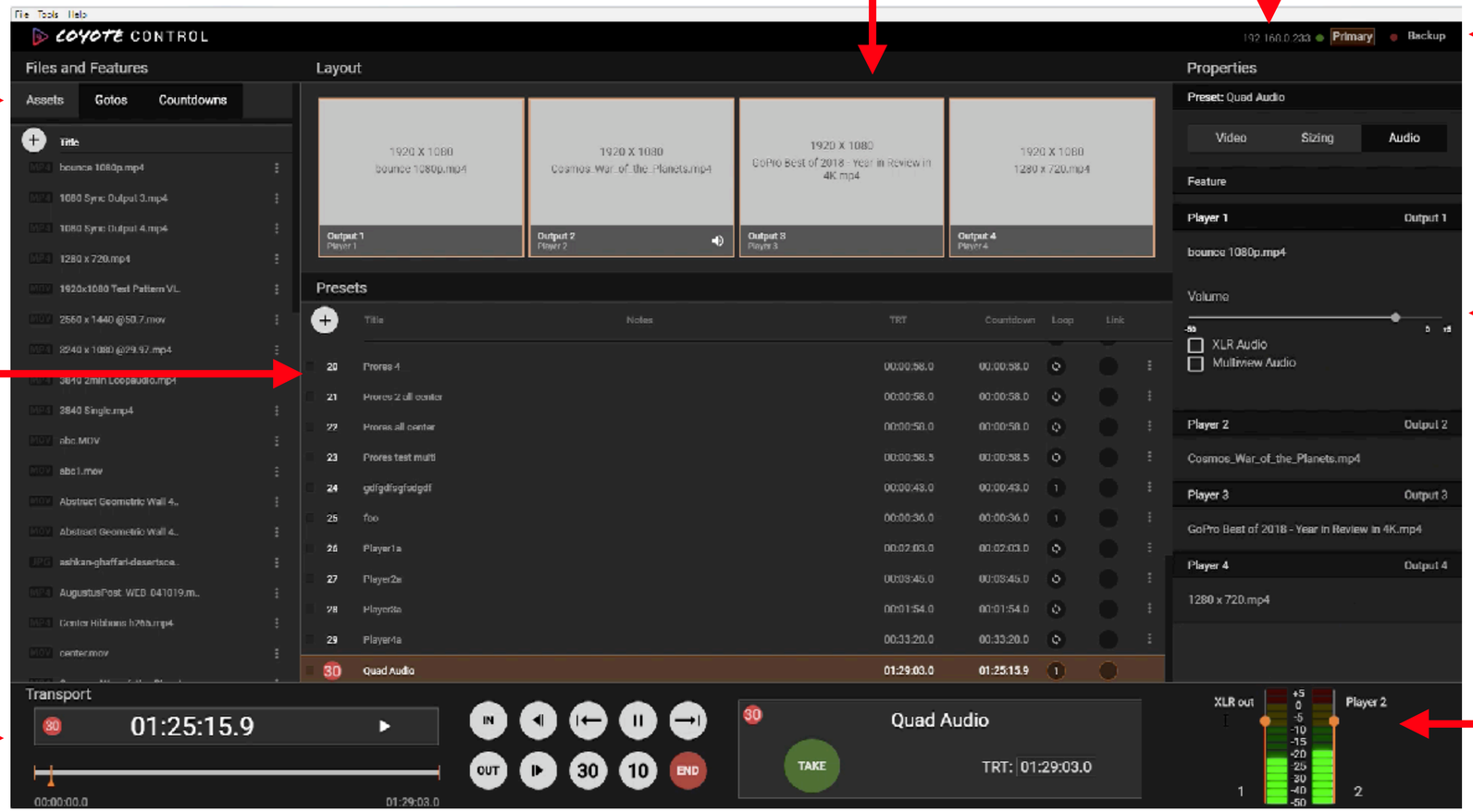
- Select Apply to create your system

User Interface

- The User Interface consists of 5 distinct panels

- **Layout Panel**

- Current connected Coyote IP address



- **Files and Function Panel**

- Current Primary or Backup Coyote

- **Preset Panel**
  Main playlist

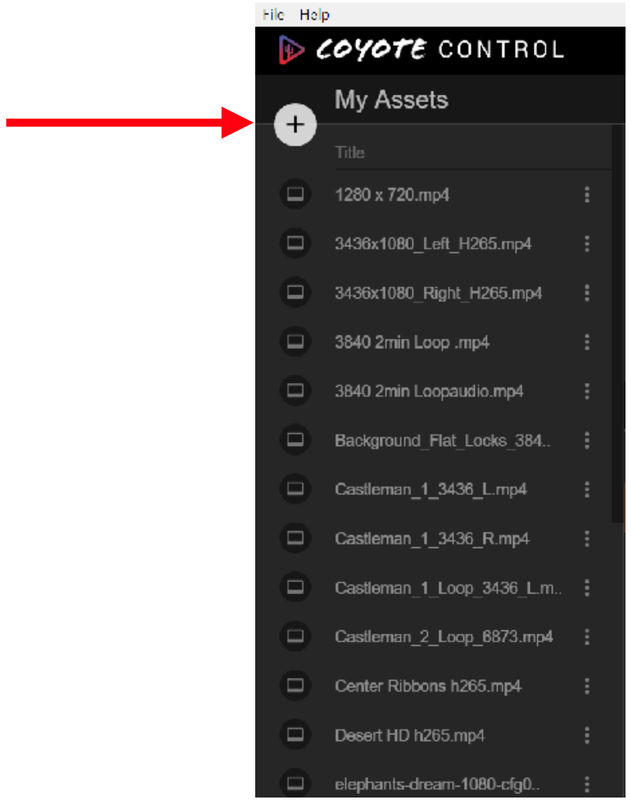
- **Properties Panel**
  settings are made for each preset

- **Transport Panel**

- Channel 1-2 VU meters

Importing Media (Assets)

- To import media select the **+ button** under my assets



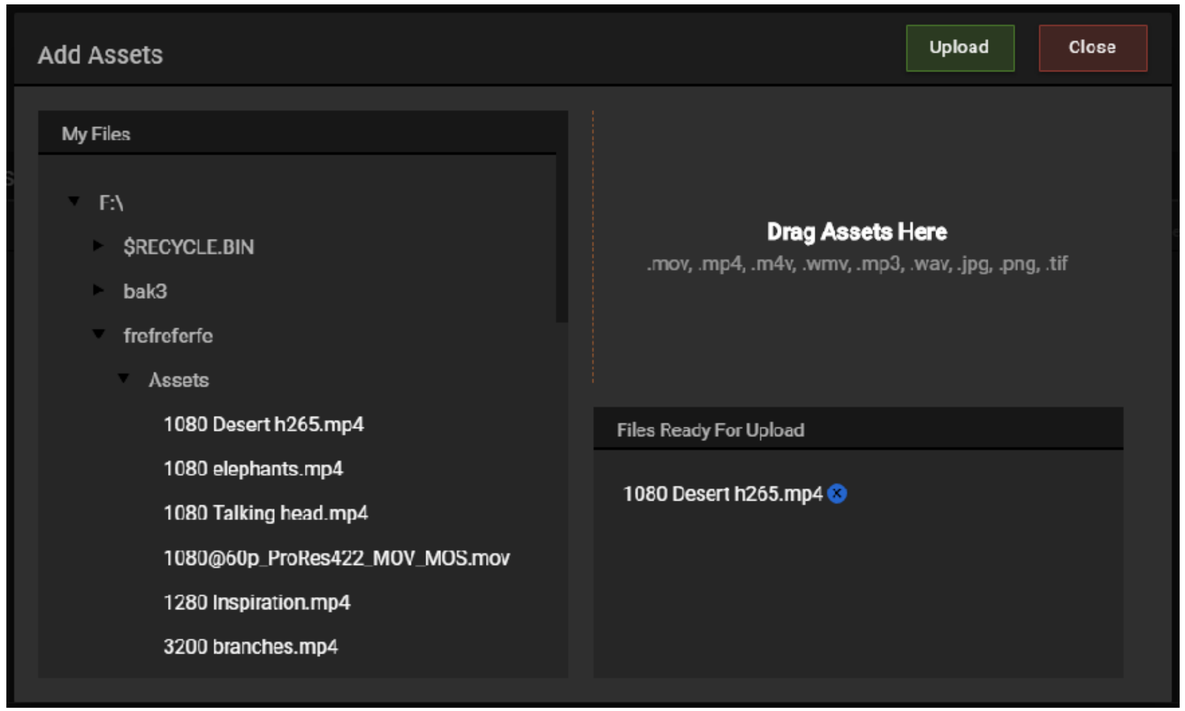
- Codecs and Files the Coyote can playback. The Coyote can play these codecs natively so you do not need to transcode files.

  H.264
  H.265 (HEVC), Standard and High Bit Rate
  Apple ProRes 4:2:2, HQ, Standard, LT, Proxy
  VP90
  WMV
  JPEG
  PNG
  TIF

Importing Media (Assets)

- The add assets panel will come up and show any folders and files on external drives plugged into the Coyote Server. *Media from the client computer is not supported at this time.

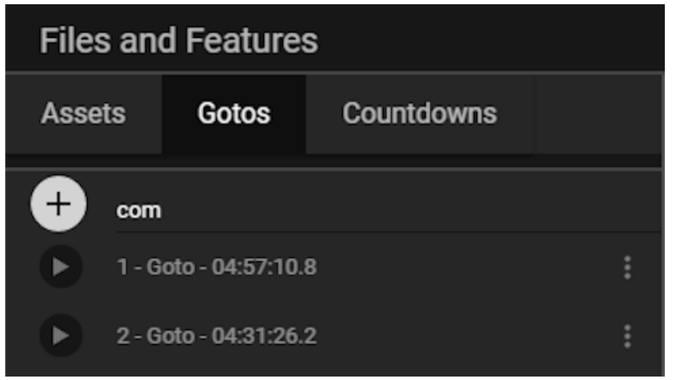
- Select your desired assets and drag them to the “**Drag Assets Here”** box. All compatible assets will appear in the "**Files Ready for Upload”** box below.
- Once all files are ready for upload, press the the “**Upload Button”**.



GoTo and Countdown Markers

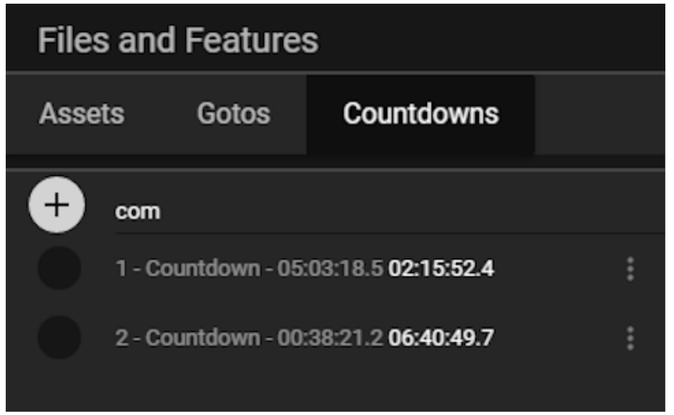
GoTo Markers

- GoTo Markers are for adding a point in your preset to “Go To” For instance if you have have several spots in a video you need to get to quickly for rehearsals you can add a “Go To” mark. Press the + button to add one. When you want to hit those marks quickly at any time press the “Play” button next to the marker and the playhead will move to that exact spot.



Countdown Markers

- Countdown Markers are for adding a point in your preset that you need a specific countdown to.
For instance if you have several places in a video that you need a countdown to, ie, Pyro, Kabuki drop etc. then press the + button where you want the countdown to end.



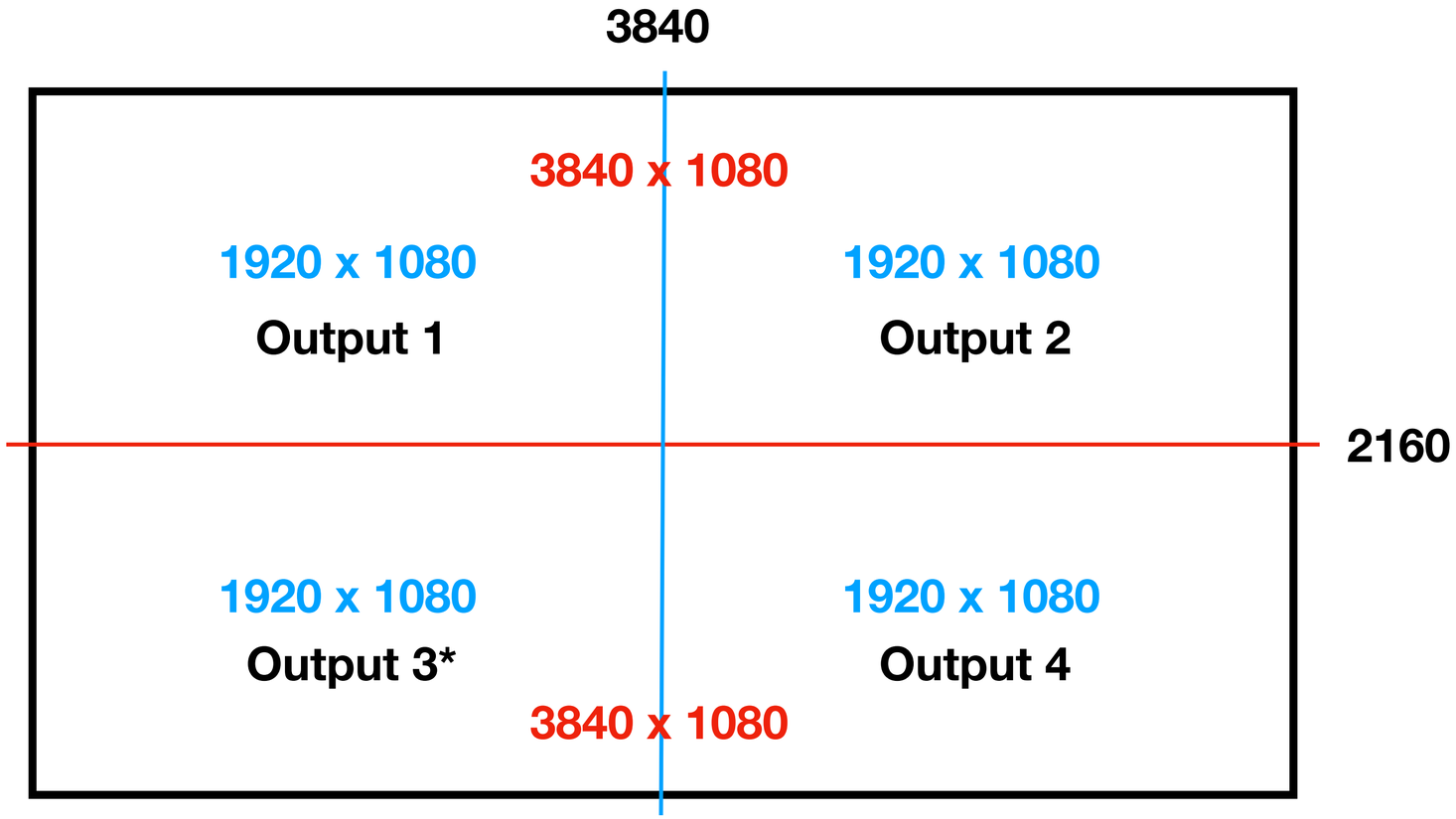
Coyote Architecture

The Coyote architecture is based on full SMPTE rasters including 4xHD (Quad 3G) and 1xUHD (Single UHD). There are several layouts that allow videos or stills to be played inside of the full UHD architecture.
Audio is designed to be 8 channels per SDI output for a total of 32 channels

- The Q3G and S12G models can be set up in quad 1920 x 1080 mode. This does not effect how videos are played or what presets you can play them in. The hardware mode is simply for the SDI output resolution.

- The S12G model allows this same architecture to be played on a single 12G signal from Output 3.

*3840 x 2160 with S12G

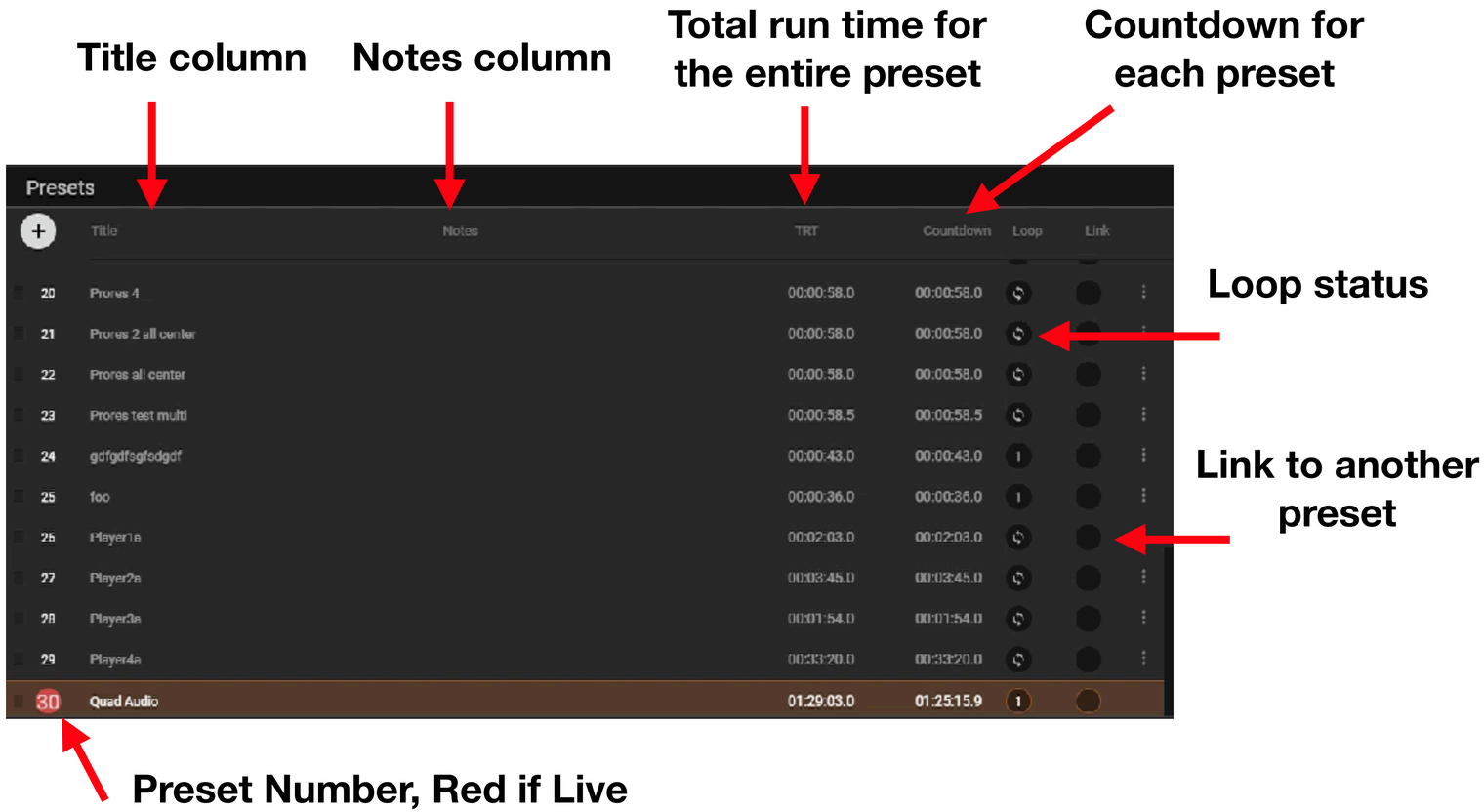


Preset Panel

The Coyote has a preset base instead of a timeline base. We designed the Coyote to be as powerful and as flexible as possible for live events as well as fixed installations

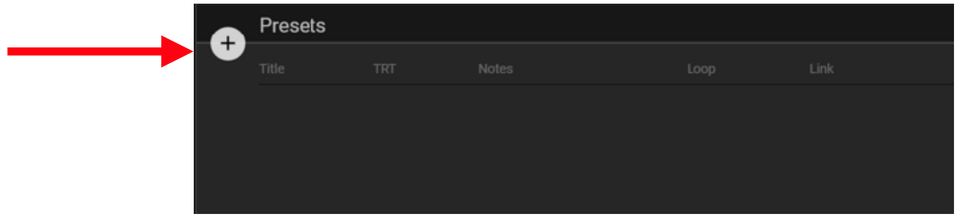
- Presets can be played and ended at any time, independent of each other.
- Loop and Link can be edited directly from the preset panel
- Presets can be played at the same time as long as they do not have conflicting outputs.

  Make **note** that if you select a preset that has an asset in the same place as one that is currently playing, **the new selected preset will overwrite the current one playing**.



Creating Presets

- To create a preset, press the + button in the **Presets** window to open the **Preset Layout** window.



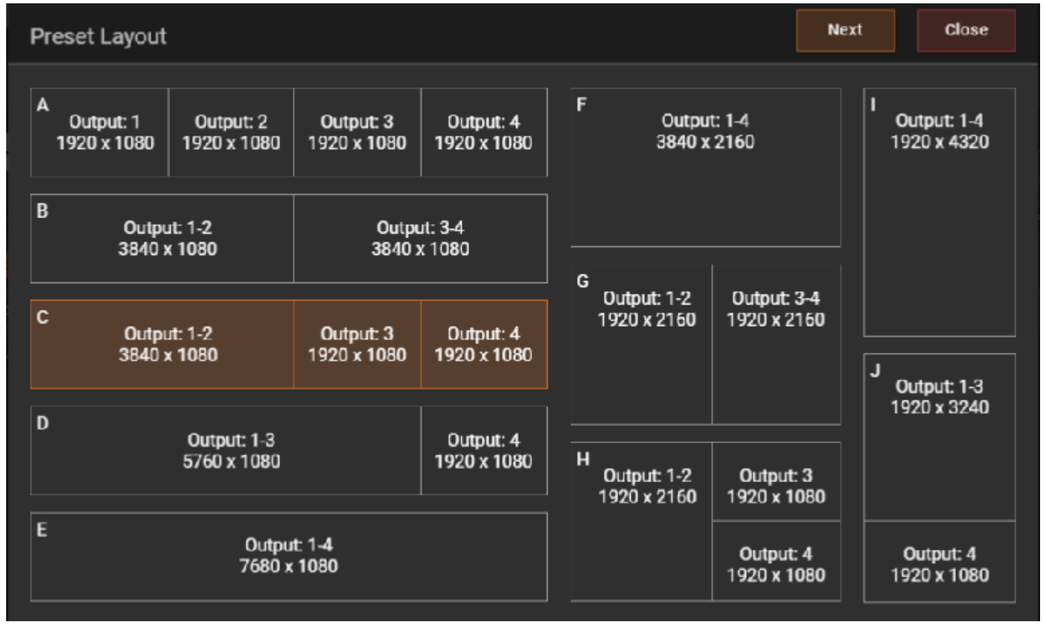
- There are 10 predefined layouts to choose from encompassing all the file placement options available for 4 separate SMPTE outputs.

  A layout is for 1, 2, 3 or 4 individual files to be played out of a 16x9 single output. You can drop any size video in each player however too many oversized files will give you poor performance

  B layout is for 1 or 2 wide videos/still files that will span across two outputs in Quad 3G mode. (Top and bottom half of a 12G output)

  C layout is for playing multiple mixed aspect ratio files. You can play a wide screen and play two more 16x9 files in sync. There are 3 option here: **C1** span 1+2, **C2** span 2+3, **C3** span 3+4.

  D layout is for a very wide file spanned across 3 outputs. Leaving you with one output for 16x9 content. There are 2 options for this layout: **D1** span 1+2+3, **D2** span 2+3+4.



Creating Presets

E layout is for 1 ultra wide file to be played across all four outputs. In 12G mode this file would span the left half across the top and the right half across the bottom of the UHD output.

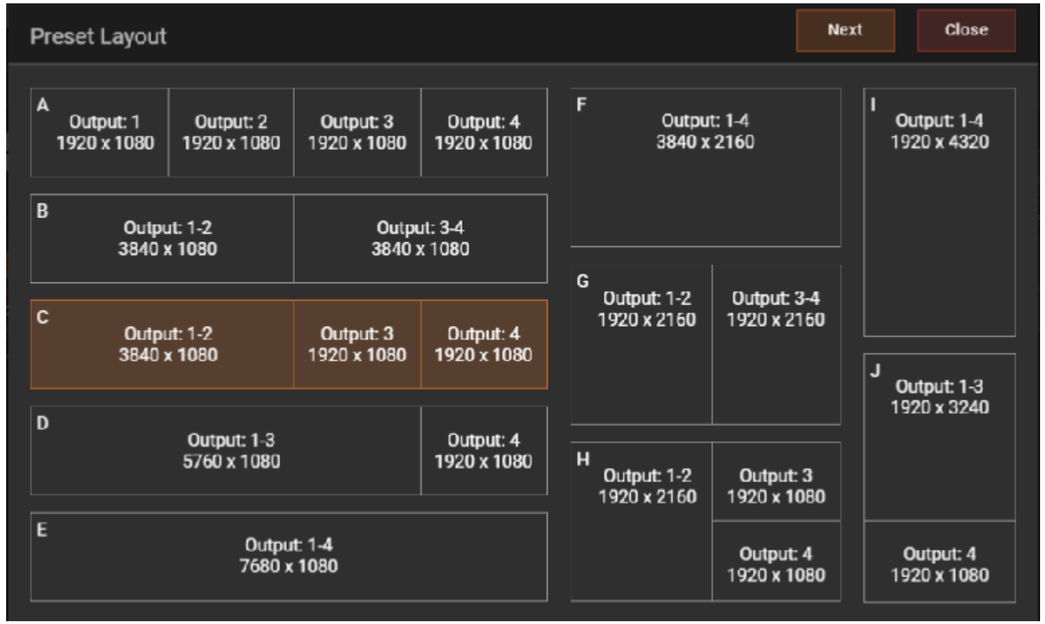
F layout is for a full UHD file played out of all four SDI outputs in Quad 3G or a single 12G output.

G layout is for 2 vertical files spanned across outputs 1+3 and 2+4.

H layout is for mixed vertical aspect ratio files. There are two option for this layout: **H1** span 1+3, **H2** span 2+4.

I layout is for an ultra tall file spanning over outputs 1+2+3+4

J layout is for very tall file spanned across 3 outputs leaving 1 16x9 output. There are 2 options for this layout: **J1** span 1+2+3, **J2** span 2+3+4.

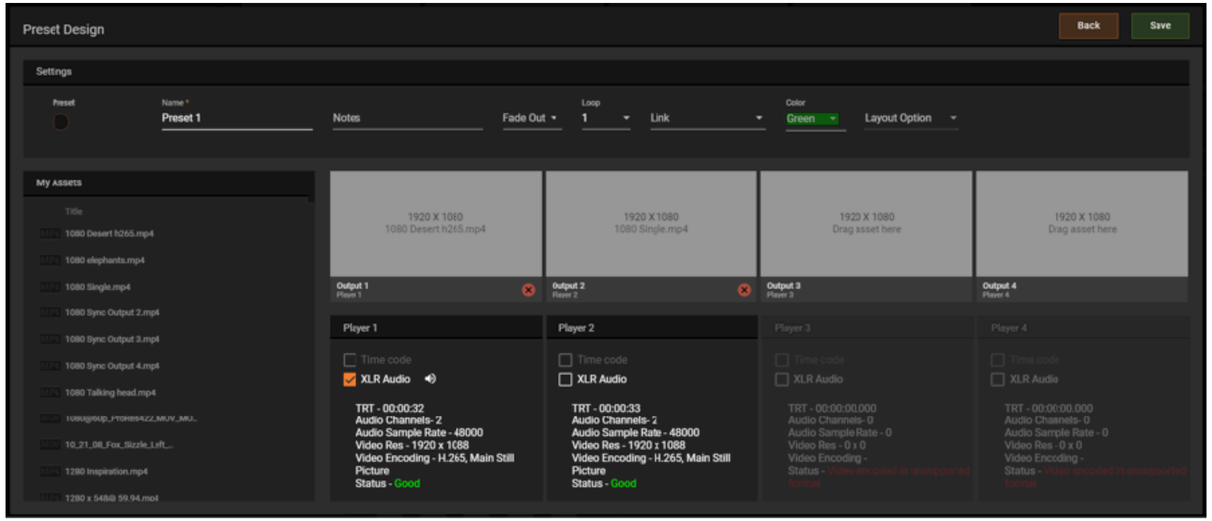


Preset Design

- The Coyote is based on **4 discrete players**. Each asset only uses one player.

  For instance If you have an asset such as a 3840 x 1080 spanned over outputs one and two then only player 1 is used and player 2 is turned off.

- You do not have to use every player in a preset. In this instance, to the right, we just want one 1920 video played in output one and two. The other **2 players are left off**
- When an asset is dropped onto one of the layout spaces it automatically activates the corresponding player.
- To clear an asset, press the X button.

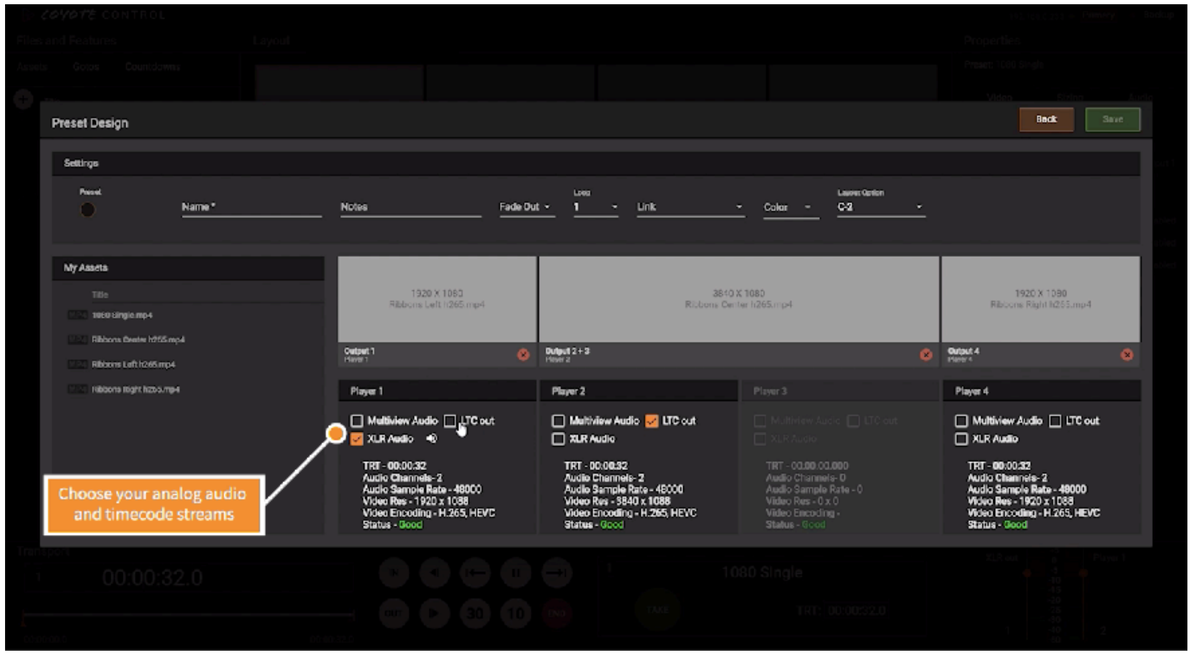


Preset Design

- To design a preset, simply drag desired media from the **My Assets** window into each Player window, as needed. Once you have created the preset, and named it, you can save and return to the main screen.

Global Settings

- **Name** your Preset
- **Notes**
- **Fade Out** How long of a fade to black at the end of the preset.
- **Freeze at end** freezes the longest file at the end of the preset (Link can not be selected)
- **Loop** can be set 1-10 times or infinite
- **Link** to any other preset in the playlist
- **Color** adds additional visual identifier for preset
- **Layout Option** If applicable, this allows the user to orient the layouts to the desired outputs.

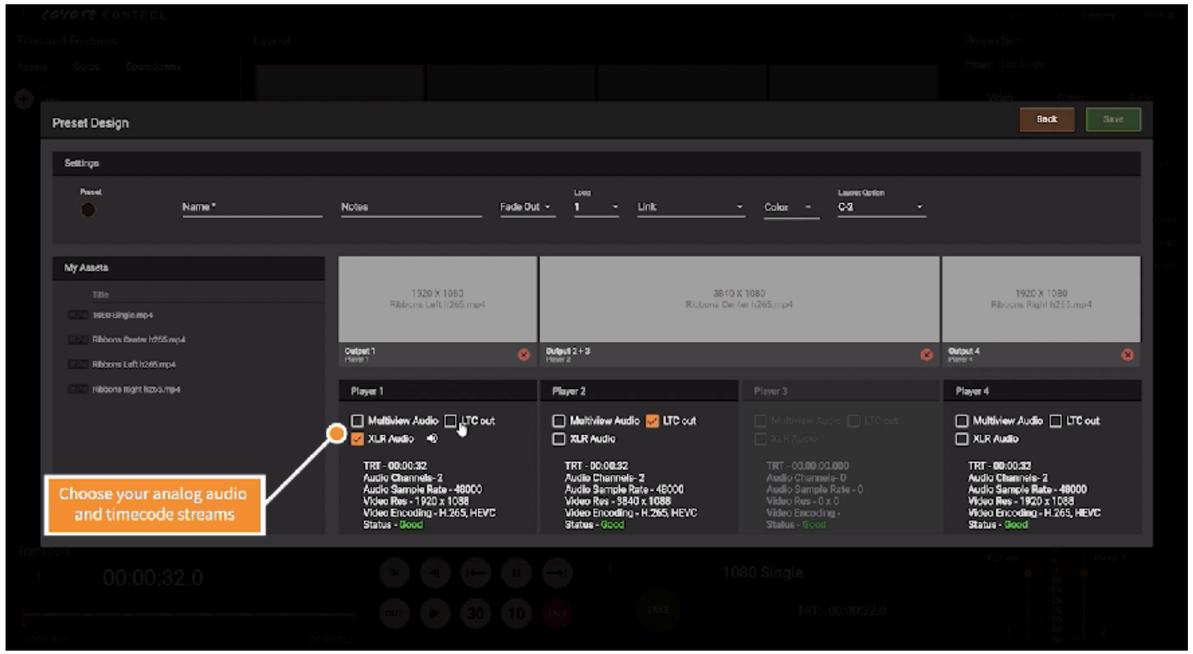


Preset Design

- To design a preset, simply drag desired media from the **My Assets** window into each Player window, as needed. Once you have created the preset, and named it, you can save and return to the main screen.

Player Settings

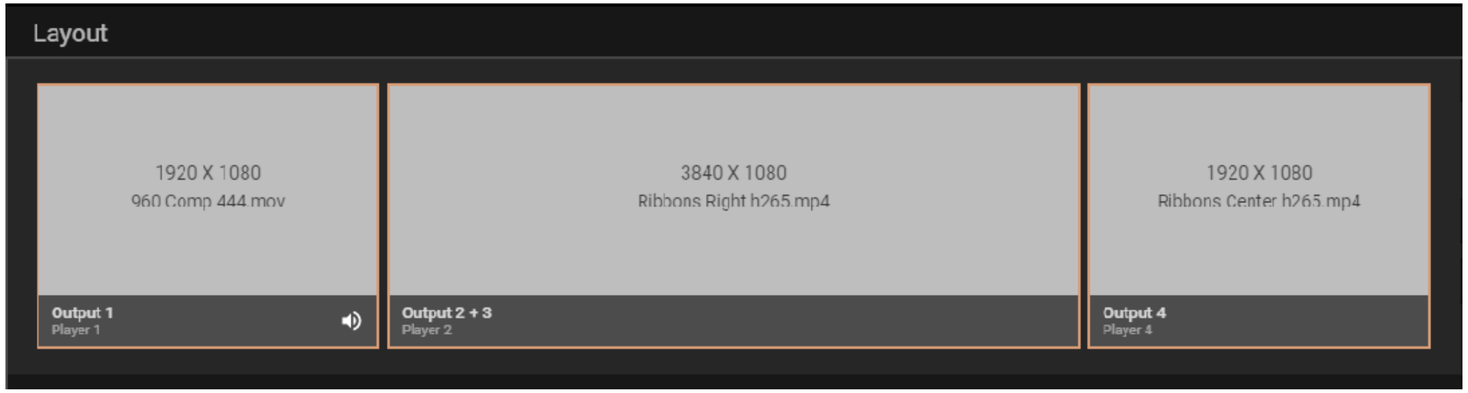
- **XLR Audio** This option selects which asset audio you want to outputthe XLR analog audio to.
- **Multiview Audio** This option allows the user to select which asset audio to go out of the dedicated HDMI rear output. This is a great feature for monitoring
- **LTC Out** You can select which file to pull timecode from for the dedicated analog LTC, rear BNC output
- **Metadata** Metadata per asset and a status check. Status will check to see if an asset will play based on the codec or if the preset will preform well based on total pixels and codec demands.



Layout

- Each Preset is represented by a layout look above the preset panel. File information, outputs and player info is displayed in each layout

  When selecting a preset you can see which layout and option was chosen, ie: 2- 1920 outputs and a single 3840

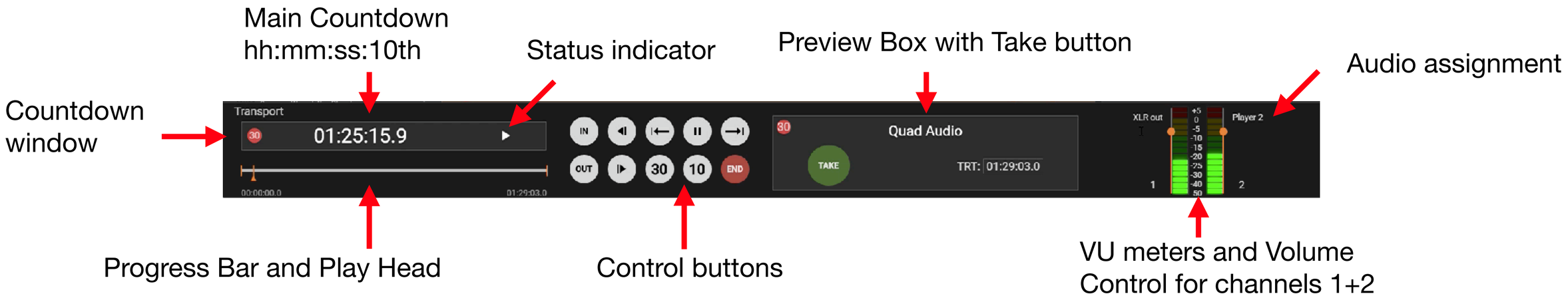


- If only one of the outputs has an asset in it then you will see the one highlighted and the other outputs will be greyed out.

  Audio is also indicated by an small speaker icon in the corner of the layout. This is selected from Preset Design

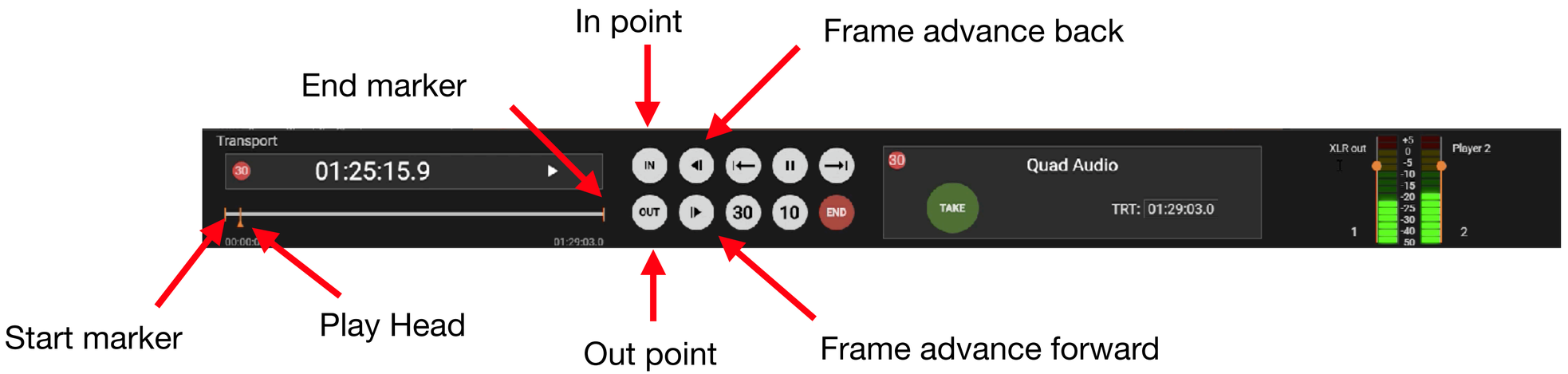
Playing Presets - Transport

- **Countdown window**
  Preset number, Countdown, status indicator
- **Progress bar**
  Progress bar, playhead, start and end indicators, start time, trimmed end time
- **Control**
  In and Out Trim points, frame advance, jump to Beginning and end, go to 30, go to 10, **End**
- **Preview box**
  Preset number, Title, **Take,** TRT of selected preset
- **Volume Control**
  Channel 1-2 volume control, player assignment, VU meters



Trimming Presets - Transport

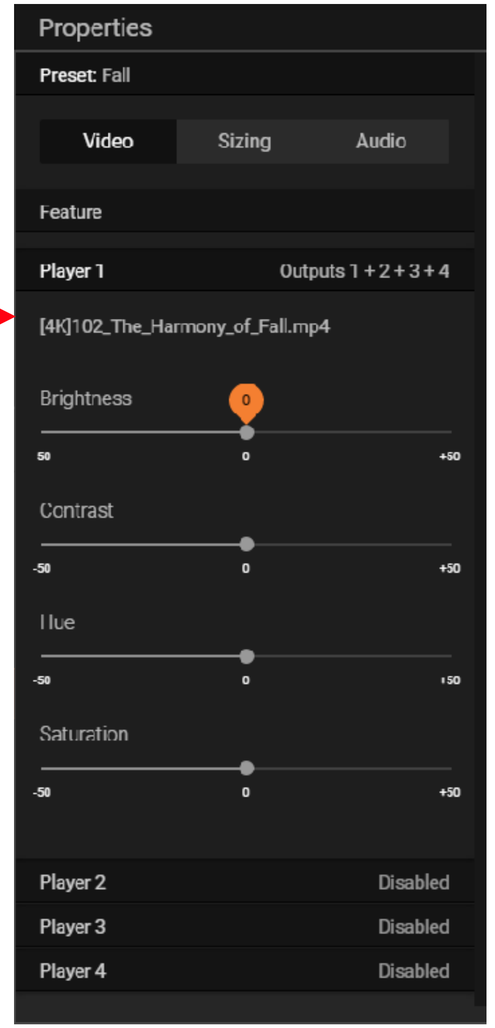
- Start by **Taking** a preset.
- Once you take the preset you have now activated the playhead. You can pause or continue playing.
- **Grab the playhead** and move it to your desired location.
- To move the playhead with fine adjustments, either use the **frame advance** buttons or use the **arrow keys left** and **right** to move the playhead in increments of 1/10th of a sec. The **Page Up and Down** button will move the playhead in 1 second increments. (Make sure you are focused on the playhead)
- Once you have your desired location select either **IN** or **OUT** and the start and end markers will move accordingly.



Properties

Video

The properties panel consists of **three main properties**, Video, Sizing and Audio. The panel is dynamic and saves automatically for each preset. The display shows player, asset title, and output information



- Each Player has its own set of Proc amps. (brightness controls etc.)
  If only one player has been selected for a preset, then the other 3 players will be disabled.

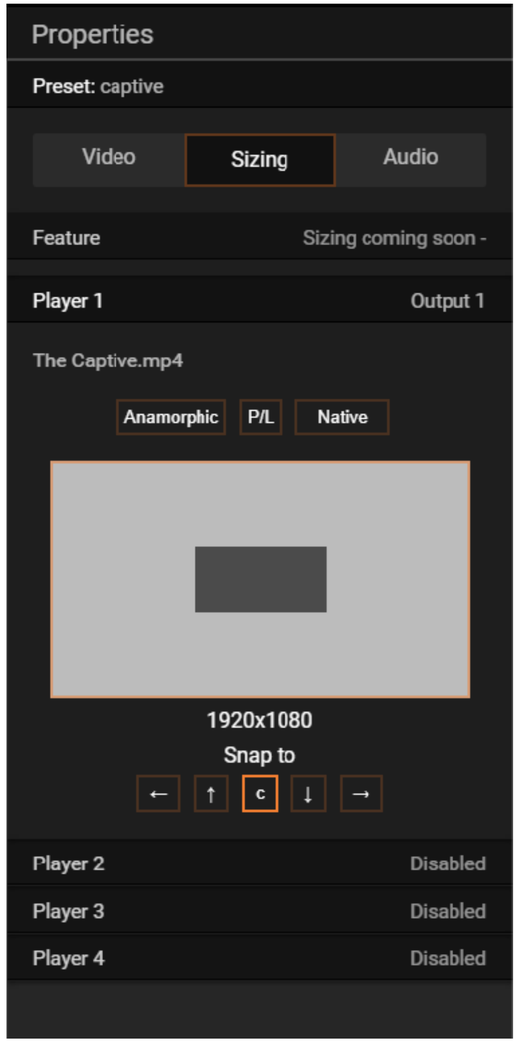
- If more than one player is activated in a preset then select which player you would like to adjust.

- Move each slider to control more or less values for each Proc-amp option

Properties

Sizing

Each Player has its own set of sizing ability. Each asset can be moved or placed inside of the raster it is assigned to



- **Anamorphic** Adjusts the aspect ratio of the file. Ie, If you have a 960 wide file and you press this button it will stretch the file to 1920

- **Pillar Box and Letter Box** This adjustment is the default when first placing a file in the preset design. All files are centered as default and will be scaled to either full height or full width depending on the size of the file. This option allows for the true aspect ratio that the file was created in.

- **Native** This option allows for a file to be placed in the raster in its native size. Ie, if a file is 1280 x 720 and you press this option the file will be scaled smaller than the raster and will be automatically centered.

- **Snap To** These buttons allow the file to be placed up against the raster left, right, up and down.

Properties

Audio

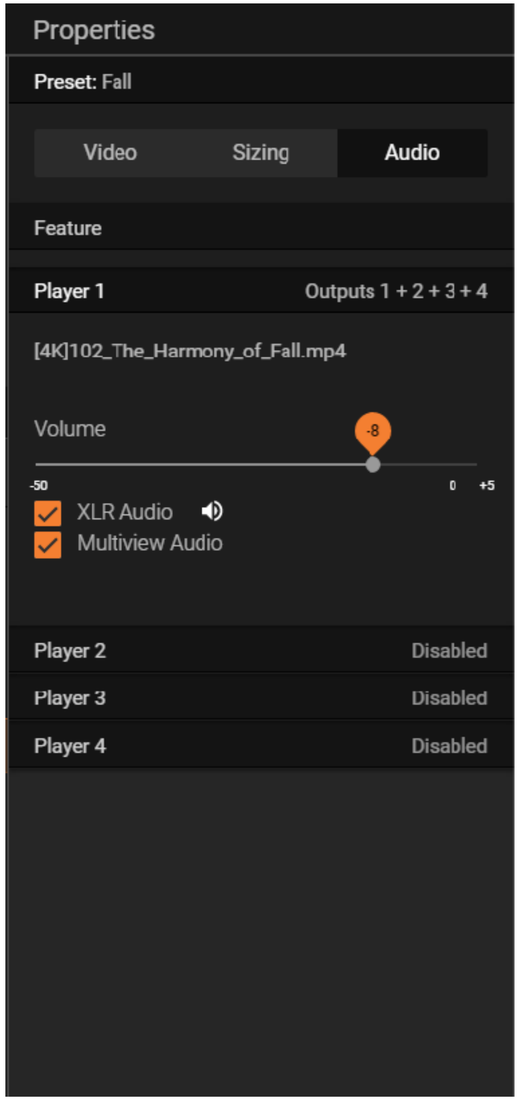
Each Player has its own volume control which also corresponds to each SDI output. There are 8 channels of audio available per asset, per SDI output for a total of 32 channels.

Q3G Mode
Player 1 = Output 1
Player 2 = Output 2
Player 3 = Output 3
Player 4 = Output 4

S12G Mode
All audio is sent down Output 1

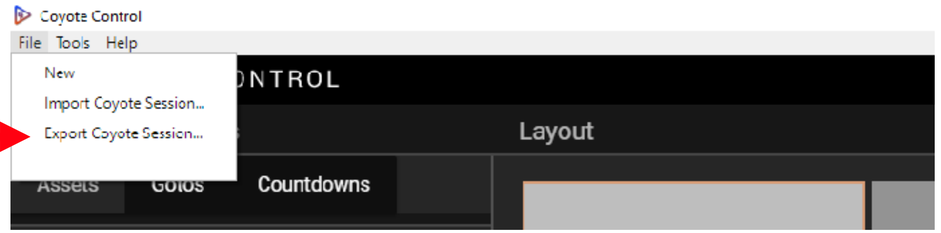
- **XLR Audio** This option allows the user to choose which player (asset) audio they would like to send through the XLR line balanced outputs

- **Multiview Audio** This option allows the user to choose which player (asset) audio they would like to send through the HDMI (Multiview) output for monitoring



Saving a Coyote session

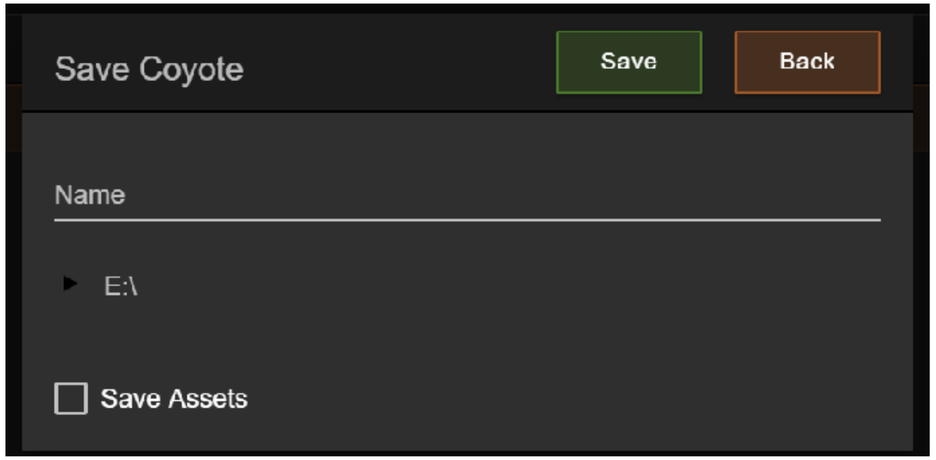
- The Coyote has its own file extension .cyt
  Select “Export Coyote Session”



- When you are ready to save a Coyote file, plug an external drive into the Coyote Server either from the front USB, rear USB or front 2.5” SSD.

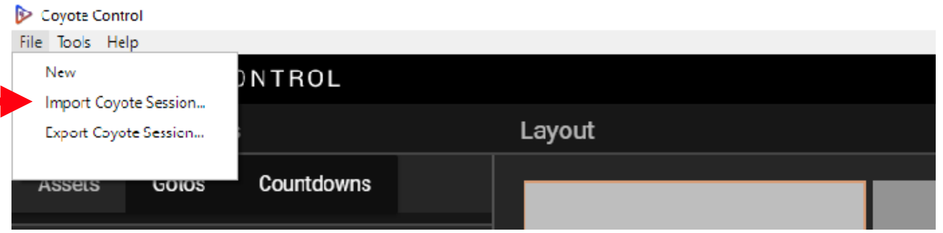
  Name the save then select the drive you want.

  You can save a .cyt file with or without assets. Coyote control will create an assets folder and place the .cyt in the folder with all the assets from the internal Coyote playback drive. Select **“Save assets”** check box



Opening a Coyote session

- Select from the drop down menu to open a .cyt file



- After creating a system or connecting, you can open a .cyt file form an external drive plugged into the Coyote Server.

  Select the drive from the drop down and then select open.

  If you have assets in the “Assets” folder you would like added, then check the box **“with assets”** and Coyote control will add them to your assets folder.