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Display Output Selection Tool
This tool makes it easy to select the desired output screen for a given playlist.

Output Display Picker
The display picker automatically draws an individual icon representing a screen destination. Only destinations that qualify as an external output will be displayed. The only one not shown is the one classified by the workstation, as the 'Main Display'. AV-Playback will always reserve that one for its own user interface. Do not confuse this with AVP’s ‘Primary’ designation, that is simply the apps way illustrating the one that is selected.

Selected Destination
To select simply click on the desired output and select "Make Primary".

As illustrated the icon’s background color will turn color from gray to green and the word “Primary”, as well as the owning playlist’s title, will also be displayed.

Another key feature of E1 is the ability to create custom spanned pixel spaces. A spanned space effectively extends a single program output across multiple display screens. This is useful when needing to display ultrawide resolutions that exceed the capability of a single output.

To prepare for a spanned space and before you open AV-Playback, first go to Windows Display Settings and ensure that all display outputs are arranged in a horizontal pattern with each aligned equally along the top of each other. Determine which outputs will be used together and arrange them in order left to right, like it appears below.

Now return to AV-Playback and this Output Display Control and select the first(left) output in your span and designate as the primary. Now right click on each of the next outputs in your span and select “Span With Primary”. After which it should appear like below:
Cancel button

This will close the form without saving any possible rendering changes.

Save / Re-Configure button

Click this to save the necessary selections. Once this is done, a sequence of events will occur... First, the window will close then the playlist will close but then immediately reopen using the newly selected outputs. It would be wise not to perform these steps while a clip is playing in program.

NOTE: This button will only become enabled once an active change to either the assigned display output, output spanning.

SEE ALSO
Playlist Control
Main Control Window

At the heart of AV-Playback E1 is the playlist unit control. It is with this control all primary functions are performed.

TIP:
You can rearrange the column order within the playlist grid, by clicking on the column header and dragging it to the desired location.

Clicking most anywhere within the row will select the clip and place it into standby, with the exception of its checkboxes (Fade, Link, Loop & Hold). Clicking these only effects, a direct change to that function’s current state.

Once the clip is selected the row’s back color will become yellow. This signifies the clip has been loaded into the video engine’s memory and is now ready for play.

When a clip in standby is instructed to play out to program, it is now considered “In the gate” and the back color will turn to red.

If you left click and hold you can then drag that clip and all it settings to any other index position within the list.

To edit certain properties, ones that require the need for direct typing of a value will first require you enable the ‘Edit’ button. When ‘Edit’ is enabled you will be unable to select a clip for standby, instead, mouse clicks are treated as a request to edit a particular field.

Clip ID
By default, when you add a new media element the system will insert a sequential index number. All single numbers will have a zero in front of them. Users, however, can enter any alphanumeric combination they like after the clip is in the playlist. There are some rules though. You can only use letters A to Z and number 0 to 9. No special characters or punctuation marks allowed, and there must always be at least two or more characters.

NOTE: It is this ID that you type when using a keyboard to select a clip for play.

Clip Title
Displays the clip’s current title. By default, the title is the file name for the clip. This field can be changed by enabling the ‘Edit’ button, double clicking on the cell and then type in a title you prefer.

Notes Column
If you choose, you can save user notes to any clip within a playlist. In order to type in this column first enable editing by clicking on the Edit button then double click the cell and type in your note. When done either click the enter key or click away.

**Total Running Time**

<table>
<thead>
<tr>
<th>Total Running Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:02:59:06</td>
</tr>
</tbody>
</table>

This field shows the clips total running time between the punch in and out points.

**Link & Loop Settings**

<table>
<thead>
<tr>
<th>Link</th>
<th>Del(ms)</th>
<th>Loop</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Link:**
Any clip can be linked with another. When one clip ends the next one will begin to play automatically.

To create a link, both clips their Link enabled. It is not required to have any of the linked clips next to one another in the list but the link flow is from top to bottom, so consider that when determining a sequence.

**Del(ms):**
If you wish, a delay of the next clip’s start can be implemented. By default, this value is ‘0’.

To edit the value, first, enable the ‘Edit’ button and then double click on the text field to type in a new value. This delay value must be set on the clip receiving the linked start. This way you can customize the delay value separately for each linked clip.

**Loop:**
As with the link, any individual clip can also be repeated automatically. When this is checked, the clip will loop continues until the ‘End’ button is pressed. The same delay value can be applied to the end of each iteration if you do not wish to perform a "seamless loop".

**NOTE:** By default, it is understood that when the loop is used, it will be seamless. When first checked the ‘Fade’, Link and ‘Hold’ features will be disabled. This strategy is helpful if you are instructed to loop the clip after it has already begun playing. Once it has been checked, you can re-enable the ‘Fade’ and/or adjust the loop's delay time.

There however one exception to this rule... The disabling of those of those other features will not occur if the clip already has its ‘Link’ enabled and is part of a sequence of linked clips,

**Looping Linked Clips:**
A sequence of 'linked' clips can also be looped. If the last linked clip has its ‘Loop’ enabled, then when that clip ends the first linked clip will begin playing. This entire sequence will continue until the ‘End’ button is pressed.

**Max:**
You can limit the total number of times a clip or linked group will repeat by entering a number other than zero. Once at the end of the last iteration the clip will automatically stop and return home. Otherwise if set to zero the element will continue indefinitely until you press the ‘Kill’ button.

**Clip Hold**

<table>
<thead>
<tr>
<th>Clip Hold</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Like the ‘Temporary Hold’ function, when checked, each time the clip played it will pause/freeze right at the punch out point and remain visible until the ‘End button is pressed’.

**NOTE:** Enabling this will automatically disable the ‘Fade’, ‘Link’ and ‘Loop’ functions.

**Punch/Set Time Points**

<table>
<thead>
<tr>
<th>Punch/Set Time Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00:00</td>
</tr>
</tbody>
</table>

These show the current punch in and out timecode points. By default, when a clip is added to the playlist these will show the clips native extents. You can edit these directly by first enabling the ‘Edit’ button and then double click on either, then you proceed to type a timecode point in manually. Click enter when done.

**NOTE:** When manually entering a value you must adhere to the standard timecode format, ensuring that the colons appear between each element of time, (hh:mm:ss:ff).

**Clip Settings Button**

Clicking this will open a small popup window which contains basic geometry settings.
Info Button
Clicking this will display window with a detailed information of the selected clip's properties.

Trash Button
Click to permanently remove the clip from the playlist.

Standby Clip Title
Once a clip is selected for standby its title will appear here.

Selecting a clip for standby is simply performed by clicking anywhere within the clip’s row, except for its checkboxes (Fade, Link, Loop & Hold), this is because those properties can be set without enabling the ‘Edit’ button.

NOTE: While the ‘Edit’ button is enabled any clicking on a row will not make a selection for standby.

In Program Clip Title
When the clip in preview is moved to program, its title appears here. Standby Clip Title’ text label will become blank until another clip is selected.

Timeline Control
The timeline control gives a graphical display of the clips time span.

The overall span of a timeline is determined by the base clip’s native duration. The hash marks are automatically scaled based on the clips total length. Their placement interval on the line is approximately one second for each small mark and five seconds for the larger. For long running clips, the interval will change to reflect minutes instead.

NOTE: When the clip is currently in standby it will appear yellow. In program it will appear red.

Video and Audio Clips:
Other than providing a visual reference, the icon has a red vertical bar at the left and right edges, these are your trim point handles. You can use them to set the clips punch in or out points by dragging them to the desired position.

Anytime it has had it’s in or out point trimmed the area between them and the elements extents will appear as a faded color with a crosshatch pattern.

NOTE: The overall length of the icon is determined by the elements native duration. However, the actual starting point of the element is this plus any additional span to reach finally reach its punch in point, e.g. left trim handle.
Still Image Files:

If these element types are used and since they have no clock the icon will provide only a visual representation providing no user control.

**NOTE:** All adjustments can be made even while the clip is currently playing.

**Scrub Bar**

The green scrub bar moves across the span to reflect the play head’s current position. The small timecode display on top of the scrub line will always show the actual position within the clip’s native extents, regardless of current punch points. By clicking on and dragging the trackbar icon you can manually set the current position of the play head.

It’s also possible to move the scrub bar in one frame increments hover the mouse cursor over the track bar and then use the mouse’s scroll wheel to move its position. You can also use the left and right arrow keys on your keyboard to move by 3 frames at a time.

All adjustments can be made even while the clip is currently playing.

**Auto Start Clip**

When checked a clip will automatically begin playing as soon as it is selected. This also applies to selections generated when pressing the Previous or Next buttons.

**Clear Selected**

This will clear the selection of all media clips. Any that were selected for ‘Preview’ or ‘Program’ removed from display.

**Edit Mode**

To edit certain details of a media clip, this must be enabled. When enabled you can double click and on either the clip’s title, fade rate, link delay time and the punch in or out time to manually edit those properties.

**NOTE:** While enable you will not be able to select any clips for play.

**Temporary Hold/Freeze**

When enabled a playing clip will pause and remain visible at its punch out time point and will remain there until the ‘END’ button is pressed. This feature overrides any of the clips individually enabled functions such as Fade, Link, Repeat and Hold. Once the ‘END’ button is pressed, the clip will return back to its starting point and this feature will become disabled.

**Temporary Loop**

When enabled a playing clip reaching its punch out time point will automatically return to the punch in point and begin to play again. This looping action will continue until the ‘END’ button is pressed. This feature overrides any of the clips individually enabled functions such as Fade, Link, Repeat and Hold. Once the ‘END’ button is pressed the clip will return to its starting point and this feature will be disabled.

**NOTE:** Both Temp Hold and Temp Loop can be enabled prior to the start of a base clip.

**Previous & Next**

Click to select for preview, either the clip before or after the currently selected clip. If there isn’t one selected it will go from the one currently in program. If none are selected it will begin at clip number one.

**Goto Time**

Clicking any of the four will instantly reposition the clip to either 60, 30 20 or 10 seconds before the clips punch out time. If clip is playing when pressed it will remain playing even after it is repositioned.

**Program Transport Group**

These should be self-explanatory but there are a few details that need to be discussed:

“END” will stop program play and automatically blank the video output as well as return the base clip and any layers back to its starting position.

“Pause” is a toggle. When paused the ‘Take’ button will be disabled you must click the ‘Pause’ again to resume play.

“Take” will always begin play at the base clip’s punch in point.
Timecode Display

Count down mode. Elapse time mode

Time Display Direction

These two separate buttons control the counting direction of the current clip position. When the down arrow is red, the display is counting down to zero. Conversely, when the up arrow is green then the display is counting up from zero. The color of the time display will also change. It will be red when counting down and green when counting up.

Confidence Monitor

Displays in real time, the clip currently in program.

Audio Gain

Use to adjust current audio output gain.

NOTE: These settings are saved to each clip separately. This aids the operator in leveling the overall output gain for the whole playlist.

Click to mute current audio output. Click again to return output gain back the clips saved level.

Backup Status & Update Button

Another exclusive feature is to have one networked workstation serve as a direct backup to the primary unit. The pictures above show the five different states of the backup’s status. These will only appear within the one workstation designated as the primary. Refer to Setup Backup Workstation to learn more.

SEE ALSO
Menus
Menus

File Menu

Open Playlist:
Browse and load an existing playlist file. If the control already has playlist open, this action will close that file first before loading the selected one.

New Playlist:
Use this to create a new blank playlist. It will open browser window enabling you to name the new file and select where it will be saved. As with ‘Open’, if the control already has playlist open, this action will close that file first before loading the new one.

Add Media File:
Once a playlist is opened this button will be enabled. Use it to choose the desired media clip and add it to the list.

Quit:
Shuts down the entire program.

Settings Menu

Force Computer To Stay Awake:
When enable AVP will periodically alert Windows to the fact that it is running and should not let the computer hibernate. This feature is recommended when configured as a remote node because of the lack of any mouse or keyboard activity while operating.

Disable High Performance Buffer:
The app offers two different ways to handle performance variables and computer resources. By default, E1 pre-loads all playlist media elements into memory. This is preferred because it ensures a much more responsive control. However, this method does require your computer to have enough memory to safely accommodate the gigabytes of space high-resolution video files require.

If you are having to work on a weaker computer but only need to playout clips once in while during to course of an event you can uncheck this. Now what happens is each time you select a clip only that clip will be loaded into memory greatly minimizing that amount of memory used.

Show Tool Tips:
When enabled each individual control will produce a helpful popup describing its purpose. Due to it sometimes interfering with mouse clicks, it is recommended that this feature be disabled once you feel comfortable with all aspects of the program.

Select Video Display Output:
Clicking will bring up the Display Output Selection Tool. Use it to select the desired display output.

Default Audio Output:
Clicking will reveal a list of installed audio playback devices found on the local computer. Select the one AVP will choose everytime a new media element is added to the playlist.

NOTE: If the last time your workstation was used, it employed an outboard audio device such as a USB to audio out or HDMI monitor audio out, and those devices are not being employed presently, there may no longer be a Windows default audio device and this list may appear blank. It is important that you always ensure you have a device selected before starting a new playlist or even loading a current one, especially if you plan to add any media to the playlist. If this is left blank all newly added media elements will not have an audio device assigned and when played any audio tracks will be mute.

Default Clip Storage Path:
Establishing a default file store path is mandatory, hence why the very first-time AV-Playback is started from a new install, a folder browser appears. A default folder should be selected before trying to open or create a playlist. Once one has been established you are still free to deposit and retrieve files from any other location. However, anytime a file browser is opened it will always use the default folder as its starting point. The default folder is especially necessary when setting up a backup or remote node infrastructure. Each will employ automated functions such a media file transfer as well as depositing playlists where the app can find them.

Enable External Device Control:
Clicking will reveal a submenu with two options one is to start our exclusive HyperDeck Emulation the other provides additional network protocol options enabling you to open a listener for AVP’s own External Device Command strings.

Workstation Role:
One of AV-Playback’s key features is its ability to establish a node based a network hierarchy with multiple workstations containing the AV-Playback program.

As in any hierarchy, there are multiple roles that members are given. In our case, there are three keys roles a given workstation can have.
Master:
If a backup workstation is currently linked to the primary then anytime media is added to the primary’s playlist and if those files do not currently exist in the backup’s default file folder, the primary will automatically copy through the network those files directly to the backup unit’s default event folder.

Backup Slave:
A workstation designated as a backup will support the primary in that it will remain in sync both with media elements and their properties, as well as with following along automatically with the primary’s current play status. This means if in the event the primary crashes and shuts down the backup will continue unimpeded.

Neutral:
When neither Primary or Backup is checked, the workstation effectively does not belong to any hierarchy, instead, it operates somewhat independently but can still link to the hub to receive transport commands from the Primary.
NOTE: This mode is the systems default.

Unit Index:
Each workstation must also have a unique index number and never be used more than once on the same network. Use this control to select an appropriate index number.

Start Delay:
If designated as a backup unit and receiving transport commands from the primary, you can choose to delay activation of the play command. This can be handy when you prefer to stagger play times between a primary and its backup. The default is 0.

Help Menu
About AV-Playback:
Should be self explanatory.

View Help:
Your already here.

Transfer License:
Transfer utility allows the user to deactivate and then reactivate it on a different computer.

Please refer to How to transfer license to another computer for step by step instructions.

Remake License:
The Remake utility is useful for resolving problems related to the license for the protected application. For example, the user may upgrade hardware to the machine without deactivating the license properly. This can affect the Key system and give the error messages such as "Error loading Key device!" or "Invalid Key device!". The user can run the Remake utility to remake the license, and activate it again.

NOTE: The Activation Key you received upon ordering is necessary for performing any action to the embedded machine license.

SEE ALSO
Main Control Window
External Control
There is several ways that AV-Playback can be controlled externally. The following describes how to use these features.
AVP Protocol Commands

To begin communicating with AV-Playback from an external controller, first open a network listening port.

Enable the UDP communication listener. By clicking on Settings || Enable External Device Control || AVP Connectionless Protocol (UDP), After which AVP will begin listening on the default port number '7000' for any command strings that match the appropriate structure outlined below.

NOTE: If you find that port 7000 conflicts with other software apps running on the same computer, you can go ahead and change it by going to the "Port Number" menu item and then using the up or down arrows on the numeric display. Once you have completed the change the port will automatically refresh itself and begin listening on the new port.

Direct the transmitting device to send strings to the workstation IP containing AV-Playback.

The control protocol is in simple ASCII text strings and is not case sensitive. I do, however, use case formatting in the following explanations simply to reflect clean document formatting.

Every command string needs to start with the prefix "AVP", followed by playlist unit index (starting from 1) surrounded on each side with the pipe character "|".

Example: AVP|1|

NOTE: If commands are being received via the AV-Sync Hub and you want all attached play units to receive the same command then use "|-1" as the unit index. If you are incorporating a backup node it will treated as if it were just another play unit so even if all you have is one primary and one backup you will still need to use -1 as the unit id in all strings.

Example: AVP|-1|

Following the opening character string, proceed immediately with the command string. Some commands require an additional integer value. Separate the command name and the number value with a comma ",".

NOTE: If your chosen control software removes commas from all command strings (e.g Universe V3) you can replace the use of a comma with a space " " instead.

Load clip to standby: 'LoadClip' + ',' + ## (clip ID)

NOTE: Clip ID is whatever is currently appearing in the clips ID column.

Complete example to load clip third down for the top, that is still using the default ID in the first playlist unit: AVP|1|LoadClip,03

Start playing program: 'PgmStart' + ',' + ## (operational flag)

Set the operational flag to '-1' to start the clip currently sitting in standby.

You can also use a clip's ID number to take it straight to program, bypassing the 'LoadClip' function.

Note: There will a slight delay when taking a clip straight to program. This is due to the fact that it must still be placed into standby first before it is executed to program.

Example to play clip in currently preview: AVP|1|PgmStart,-1

Example to load clip ID '2A' and take it straight to program: AVP|1|PgmStart,2A

Stop program: 'PgmStop'

Complete example to stop clip: AVP|1|PgmStop

Pause program: PgmPause'

Complete example to stop clip: AVP|1|PgmPause

Note: The pause command is a toggle, simply send the command again to resume program play.

Start playing program: ‘PrvStart’

Example to preview play clip in standby: AVP|1|PrvStart

Stop preview: ‘PrvStop’

Complete example to stop previewed clip: AVP|1|PrvStop

Pause preview: ‘PrvPause’

Complete example to pause previewed clip: AVP|1|PrvPause

Note: The pause command is a toggle, simply send the command again to resume preview play.

Fast forward clip: 'FForward'
Set the operational flag to the desired faster then normal speed.
The range of speed is entered as an integer value between 1000 to 4000. (1000 = normal and 4000 = 4X faster)
To end the fast forward and resume normal play speed then set flag to '0'

Complete example to start fast forward on the currently selected clip to 3.5X speed: AVP[1]FForward,3500
To end fast forward on the currently selected clip: AVP[1]FForward,0

Rewind clip: ‘Rewind’
Set the operational flag to activate or deactivate rewind. (1 = On , 0 = Off)
Complete example to begin rewind of the currently selected clip: AVP[1]Rewind,1
To end and resume normal play: AVP[1]Rewind,0
Note: The pause command is a toggle, simply send the command again to resume play.

Set current position: ‘SetPosition’ + ‘,’ + *timecode
*The current position is formatted as a timecode string ('hh:mm:ss:ff'.)
Complete example to set clip position to 30 seconds and 12 frames: AVP[1]SetPosition,00:00:30:12

Advance to time out: ‘GotoTimeOut’ + ‘,’ + ## (operational flag)
Set the operational flag using numbers 1 to 4 (1=60sec, 2=30sec, 3= 20sec, 4=10sec)
Complete example to advance to 10 seconds out: AVP[1]GotoTimeOut,4

Advance to next tag: ‘NextClip’
Complete example to select the next clip: AVP[1]NextClip

Go back to previous tag: ‘PrevClip’
Complete example to select the previous clip: AVP[1]PrevClip

Enable Temp Hold: ‘TmpHold’
Complete example to toggle the temp hold: AVP[1] TmpHold
Note: The command is a toggle, simply send the command again to disable.

Enable Temp Loop: ‘TmpLoop’
Complete example to toggle the temp looping: AVP[1] TmpLoop
Note: The command is a toggle, simply send the command again to disable.

Enable Auto Start: ‘AutoStart’
Complete example to toggle the auto start feature: AVP[1] AutoStart
Note: The command is a toggle, simply send the command again to disable.

SEE ALSO
HyperDeck Emulation
HyperDeck Emulation

Blackmagic ATEM users will really appreciate this feature.

When AVP’s “HyperDeck Emulation” server is enabled, AVP presents itself on the network and to an ATEM switcher as if it was an actual HyperDeck video play unit. This means that you can use the ATEM’s built-in deck control feature to control AV-Playback.

There is an enormous potential of having a robust play-out solution like AV-Playback integrate directly with an ATEM switcher. Now you can take advantage of the switcher’s autoplay feature. This feature automatically instructs AVP to play anytime the assigned input is selected. On top of that, last minute file additions can be added to an event playlist with so much more ease. No more worrying about whether the file is the correct resolution or frame rate, since the output is a computer display, the feed into the switcher’s HDMI port will always remain the same. All the current transport controls in the ATEM are enabled including the jog and shuttle. The ATEM will even be able to update automatically when clips are either added or removed from the AVP playlist.

To activate the server simply go to “Settings||Enable External Device Control” and click on “HyperDeck Emulation”.

NOTE: Before you can gain access to the AVP Protocol menus you need to first check the “Allow Local Remote Connections” menu item.
**Keyboard Shortcuts**

**NOTE:** For a chosen playlist to respond to shortcuts, that play unit must have keyboard focus. You can tell if the control has focus by noting whether or not a glowing red bar appears at the top of the play unit control.

**Operational Commands:**

<table>
<thead>
<tr>
<th>Shortcut</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>⏪</td>
<td>UP ARROW</td>
<td>Previous Clip&lt;br&gt;Select previous clip and place in standby.</td>
</tr>
<tr>
<td>⏫</td>
<td>DOWN ARROW</td>
<td>Next Clip.&lt;br&gt;Select next clip and place standby.</td>
</tr>
<tr>
<td>###</td>
<td>Select Clip By ID&lt;br&gt;Note: If you miss type a character you will need to wait a few seconds for the buffer to be cleared before retrying.</td>
<td>Simply type the same charters that appear in the clip's ID column within 3 seconds. Once the last character is typed that clip will be selected and placed into preview.</td>
</tr>
<tr>
<td>→</td>
<td>Advance Program Position Forward</td>
<td>Advance current position 1 frame. Hold key to quickly repeat move.</td>
</tr>
<tr>
<td>←</td>
<td>Move Program Position Back</td>
<td>Rewind current position 1 frame. Hold key to quickly repeat move.</td>
</tr>
<tr>
<td>HOME</td>
<td>Goto In Point</td>
<td>Jump position back to current punch in point.</td>
</tr>
<tr>
<td>END</td>
<td>Goto Out Point</td>
<td>Jump position forward to current punch out point.</td>
</tr>
<tr>
<td>ENTER</td>
<td>Start playback</td>
<td>Starts playback from punch in point.</td>
</tr>
<tr>
<td>SPACE</td>
<td>Pause Playback</td>
<td>Function is a toggle. press again to resume.</td>
</tr>
<tr>
<td>ESC</td>
<td>End Playback</td>
<td>Stops play and rewinds clip back to starting point.</td>
</tr>
<tr>
<td>ALT + I</td>
<td>Set Punch In Point</td>
<td>Set in point to the current scrub bar location.</td>
</tr>
<tr>
<td>ALT + O</td>
<td>Set Punch Out Point</td>
<td>Set out point to the current scrub bar location.</td>
</tr>
<tr>
<td>ALT + L</td>
<td>Toggle Temp Loop</td>
<td>Function is a toggle. press again to disable.</td>
</tr>
<tr>
<td>ALT + F</td>
<td>Toggle Temp Hold</td>
<td>Function is a toggle. press again to disable.</td>
</tr>
<tr>
<td>ALT + H</td>
<td>Increase Loop/Link Delay</td>
<td>Increases delay time used between loops or links on the currently selected base clip by 100 milliseconds at a time. If there are selections in both program and preview, the progam one will have priority.</td>
</tr>
<tr>
<td>ALT + G</td>
<td>Decrease Loop/Link Delay</td>
<td>Decreases delay time used between loops or links on the currently selected base clip by 100 milliseconds at a time. If there are selections in both program and preview, the progam one will have priority.</td>
</tr>
<tr>
<td>+</td>
<td>Increase Volume</td>
<td>Increase current gain 1%. Hold key to quickly repeat.</td>
</tr>
<tr>
<td>-</td>
<td>Decrease Volume</td>
<td>Decrease current gain 1%. Hold key to quickly repeat.</td>
</tr>
<tr>
<td>ALT + M</td>
<td>Mute Audio</td>
<td>Function is a toggle. press again to un-mute.</td>
</tr>
<tr>
<td>ALT + C</td>
<td>Clear Selected</td>
<td>Clears the selection of all clips and closes any open clips.</td>
</tr>
<tr>
<td>F1</td>
<td>10 Seconds Out</td>
<td>Advances current position to 10 seconds before the end of clip</td>
</tr>
<tr>
<td>F2</td>
<td>20 Seconds Out</td>
<td>Advances current position to 20 seconds before the end of clip</td>
</tr>
<tr>
<td>F3</td>
<td>30 Seconds Out</td>
<td>Advances current position to 30 seconds before the end of clip</td>
</tr>
<tr>
<td>F6</td>
<td>60 Seconds Out</td>
<td>Advances current position to 60 seconds before the end of clip</td>
</tr>
<tr>
<td>CTRL + F1</td>
<td>Show Help</td>
<td>Display help window</td>
</tr>
</tbody>
</table>
Tutorials

As with any complex program step by step instructions are vital asset in achieving a successful operation of the program.
Quick Start Guide
The purpose of this guide is to provide a basic step by step instructions for adding and playing a media file.

1) Launch the AV-Playback E1 application as you would any other program.

2) When started the main control window will appear but will be empty.

![Image of AV-Playback E1 interface]

Before continuing let's first check to ensure some important global properties are set correctly, doing this now will save you from having to deal with having any surprises later.

3) Click on the Settings menu item at the top of the window and then click on Default Clip Storage Path:

![Image of Settings menu selected]

After which a folder browser will appear:

![Image of folder browser]

Here you will want to ensure that the default file store path is set to the root event folder which you would have already created prior to starting the app. It is recommended that the folder is located under the "C" drive. NOTE: If also setting up for a synced backup unit and you want to use something like the Desktop to house the folder then you should be logged in to all other networked computers with the exact same user ID and/or make sure that the appropriate permissions are set to share those user folders on the network.

4) Next, go back to the Settings menu and click on Default Audio Output:
Now select the correct audio output device for your current system setup. This is important because each clip as it is being added to the playlist will first use this default as its output. If the default is blank, then each video/audio clip will not have an audio render assigned and will end up playing mute.

5) The app offers two different ways to handle performance variables and computer resources. By default, E1 pre-loads all playlist media elements into memory. This is preferred because it ensures a much more responsive control. However, this method does require your computer to have enough memory to safely accommodate the gigabytes of space high-resolution video files require. If you are having to work on a weaker computer but only need to playout clips once in while during to course of an event you can disable this feature by unchecking Disable High Performance Buffer under the Settings menu.

Now you are ready to create a playlist.

6) Click on New Playlist under the File menu and in the file browser select the folder you wish to save it in and go ahead and give it a custom name or if you wish you can just use the default label provided.

NOTE: Since we have already set the default event folder, anytime a file browser is called up it will already be at that folder.

7) Anytime a new playlist is created AVP will automatically select the first usable external display output. If you wish to choose a different output go ahead and click on Select Video Display Output under the Settings menu and the Display Output Selection Tool will appear.

NOTE: If no other displays other then your windows desktop is attached to the computer AVP will not produce an actual program pixel space, however, you can still review video files via the program confidence monitor.

8) Now all you have to do is start adding media files. There are three different way you can go about adding files:

a) In the main menu click on File || Add Media File.

b) Right click on the blank area of the Thumbnail array panel.

c) Using Window File Explorer select and drag media files directly onto a blank area within the playlist data grid.
9) Now that the data grid has some elements in it. You can just click on any one rows to place that clip on standby.

![Image of data grid]

Note that the selected row is now yellow, this signifies that it is now in standby. Also notice that the clips title now appears in the standby label, timeline now has a yellow bar across it and the Take button is enabled.

![Image of timeline and Take button]

10) If you wish to edit any of the clips trim points before taking to program click, hold and then drag the red vertical bar at the left or right edges, these are your trim point handles. You can use them to set the clips punch in or out points by dragging them to the desired time point. To aid you while dragging, a small label will appear showing you the exact time point you are currently at.

Anytime it has had it's in or out point trimmed the area between them and the elements extents will appear as a faded color with a crosshatch pattern.

NOTE: This same function can be performed even when the clip is currently playing.

11) When you are ready simply click on the **TAKE** button to begin playing.

Anytime program output is active both the clip's playlist row and timeline image will appear as red and the remaining transport controls will be enabled:

![Image of playlist and Take button]

SEE ALSO

- Main Control Window
- Menus
Workstation Roles & Networking Ground Rules

One of AV-Playback’s key features is its ability to establish a node based network hierarchy with multiple workstations containing the AV-Playback program. By having a combination of individual workstations configured to function as one, offers you the ability to create a large scale topology of interlinking workstations, expanding the total number of destinations all while relieving the stress a single workstation trying to supply all of the needed display outputs.

Workstation Roles:

As in any hierarchy, there are multiple roles that members are given. In our case, there are three keys roles a given workstation can have.

Primary:
The workstation in this role is responsible for the transmission of all its transport commands to the AV-Sync Hub. Which is, in turn, the hub relays to all other listening AVP workstations. It also serves as the unit supplying current clip position data to the hub’s LTC timecode output signal.

If a backup workstation is currently linked to the primary then anytime media is added to the primary’s playlist and if those files do not currently exist in the backup’s default file folder, the primary will automatically copy through the network those files directly to the backup unit’s default event folder.

Backup:
A workstation designated as a backup will support the primary in that it will remain in sync both with media elements and their properties, as well as with following along automatically with the primary’s current play status. This means if in the event the primary crashes and shuts down the backup will continue unimpeded.

Neutral:
When neither Primary or Backup is checked, the workstation effectively does not belong to any hierarchy, instead, it operates somewhat independently but can still link to the hub to receive transport commands from the Primary.

NOTE: This mode is the systems default.

Ground Rules:
AV-Playback communicates too much of its other internal function by way ethernet packets. Despite this, if AVP is just running on a single computer, having it connected to an external network topology is not necessary. However, the computer must have a fully functioning NIC so as internally, AVP can still pass data amongst itself.

If you are needing to employ the AV-Sync Hub to share data with other AVP nodes, then the proper setup of a local network is required.

To ensure a smooth and reliable exchange of data between workstations here are some recommended guidelines:

1) All AVP workstations must be on the same network switch or router. It is recommended that if you are not clear on how to set up using static IP’s then you should employ a DNS equipped router and setup each workstation to simply utilize DHCP. This way all IP’s will be assigned automatically.

NOTE: If using a network switch with static IP’s Windows will classify the network as Public. If you are using DHCP on a router, and each computer requires a password to log into it then make sure that Windows declares it as a Private network.

2) Enable advanced sharing of the “C” drive and set it permissions by enabling full control of the “Everyone” user group. This is mostly necessary for the backup node but will make other changes easier if you do this on all AVP workstations.

3) In the case of a primary and backup setup, both machines should have a common user ID. If not, then you will at least need to know the user login for each workstation. It is also helpful if all user ID’s have administrative rights. If that is not possible or if the computers are set up to not require login passwords at all, then the following steps need to be followed, primarily on the backup computer, but again it may come in handy if you do this on all non-password protected computers as well.
   a) Right click on the Network Notification Icon in the right-hand corner of the system tray and select Open Network & Internet Settings from the context menu.
   b) Click on “Sharing Options”
   c) Now expand the “All Networks” section.
   d) Finally switch the radial button to the “Turn off password protected sharing" setting and click "Save Changes"
4) Again in the case of a primary/backup scenario setup exactly matching show folders on both machines. This means all subfolders, as well as the drive letter, should also the same. It is recommended that the folder be directly under the “C” drive (that is now shared). It is not recommended but if you want to use something like the Desktop to house the folder then either be logged in to both computers with the exact same user ID and/or make sure that the appropriate permissions are set to share those user protected folders on the network.

**NOTE:** The end goal we are trying to achieve here is the freedom to be able to copy files from one computer to another. The above steps are just one possible way to achieve that. If perhaps you know of another feel free to give it a try. Just remember when we are trying to copy files from the primary to a backup the only information AVP as to guide it is the file path of media elements that have been added to the primary playlist. Therefore, attention needs to be paid to the setup of matching event media folders on both machines. This is the reason it is preferred to make the entire drive sharable as opposed to just a folder. If it was just a shared folder then the network path Windows assigns it will not match the path in the playlist.

SEE ALSO

*Working With AV-Sync Hub*
How to setup backup workstation

Instrumental in the success of a live multi-media event is to have a backup solution for many of the supporting systems involved. This tutorial outlines the steps you always need to take to make one workstation simply act as a direct backup to a primary and be ready to take over if necessary.

NOTE: Since so much about the setup of a backup node relies on you fully understanding your network and the role it plays here. We strongly recommend you first review the following topics:
Workstation Roles & Networking Ground Rules

For this tutorial, we are going to assume you have already established a proper network topology and are able to successfully pass files between nodes.

1) First Setup exactly matching show folders on both machines. This means all sub folders, as well as the drive letter, should also the same. It is recommended that the folder be directly under the “C” drive. If you want to use something like the Desktop to house the folder, then either be logged in to both computers with the exact same user ID and/or make sure that the appropriate permissions are set to share those user folders on the network.

2) On at least the master, add the events media files you already have.

3) Now let’s start with getting the backup workstation ready and standing by:

   a) Launch AV-Playback and click on the **Settings** menu item at the top of the window and then click on **Default Clip Storage Path** and ensure it has been set to the new event folder.

   ![Settings Menu](image)

   b) Select the **Default Audio Device** appropriate for your current setup.

   ![Default Audio Device](image)

   c) Now check **Backup Slave**:

   ![Backup Slave](image)

   d) Next select a unique workstation index. Must be different then the Master.
e) (Optional) If you wish to have all play commands delayed, go ahead and set the amount now.

f) If you are setting up for a new show go ahead and open a brand-new playlist. Once it is open go ahead and assign your display output if necessary.

4) You can now leave this workstation alone and go over to the Master.

5) Here you follow many of the same steps except make sure you check Master under Workstation Role. Also make sure that the unit index is set to something other then the one set for the Backup and also be sure that the Start Delay is set to 0.

6) Now you can launch either a brand-new playlist or one you have already created.

Note: It is not necessary but it would be easier to keep track if both playlist filenames are identical for both the backup and master.

7) Again, if creating a new playlist set the display output for the master before continuing.

8) On the master’s lower right hand corner, you will see the Backup Status button showing backup is offline. For the back up the button should appear like so:

9) No matter which machine you are on go ahead and click on either “Backup Offline” or “Backup Disabled” this will engage an active connection between the two. They now glow green signifying the connection. You can at anytime toggle either of these buttons to break and/or resume the link.

10) On the primary simply go ahead and add your media files to the playlist. As you add files, the backup will also be add the very same file automatically.

If the media files are not already saved into the backup’s event folder then the backup will notify the master, which in turn will begin to automatically transfer a copy onto the backup.

You should now wait until this process is completed before doing anything else.

Going forward from here:
From this point, most of the activities performed on the master will be duplicated on the backup as well. This includes all program transport functions and any individual property adjustments performed on any media element.

There are however times when you may need to perform a forced update of the backup’s playlist. Like when loading on the primary, a preexisting playlist which does not exist already on the backup.
In this situation, you can go ahead and create a new blank playlist on the backup unit then after loading the existing playlist on the primary go ahead and click this button that sits below to the Backup Online button.

At this point, the buttons will briefly glow yellow and you should see the backup unit reloading. Once done you are ready to go.

**WARNING:** Any time you perform a refresh backup all playback on both machines will stop and any selections will be cleared.
How to transfer license to another computer

You can easily transfer your embedded license to another computer by following these simple steps.

NOTE: In order to perform this operation both computers need to be connected to the internet and you will need a copy of the activation key data you received after making your original purchase.

1) Open the AV-Playback application but do not load any playlists. Instead click on Transfer License under the Help menu.

This window will now appear:

2) In this utility paste in the activation key you received after purchase into text box labeled Activation Key and click Deactivate.

3) At this point the current license status is encoded into the License Key and sent to the server automatically and the Key on the present computer is destroyed.

4) Now you can go to the new computer and activate its installed copy as if it were new by starting the unlicensed app and when the Registration dialog pops up go ahead and insert the same activation code into the text box labeled Activation Key and click Activate.

Thats your done!

There is no limit to how many times you can do this.