



Version 3.5

## Introduction to VenueMagic Help

Welcome to the VenueMagic help library. This library is intended to be a quick reference to the features and functions of the VenueMagic show control software. This manual covers the Express, Classic, DMV+AV and SC+ editions of VenueMagic, and notations will be included to identify which features and functions are available for which editions. If an edition includes a number that is in reference to the number of DMX Universes available in that edition. If no notation is included for a given topic, then assume that the feature is available for all versions. For a more detailed and comprehensive explanations of how to use VenueMagic, please consult the User Manual and tutorials included with your VenueMagic installation.

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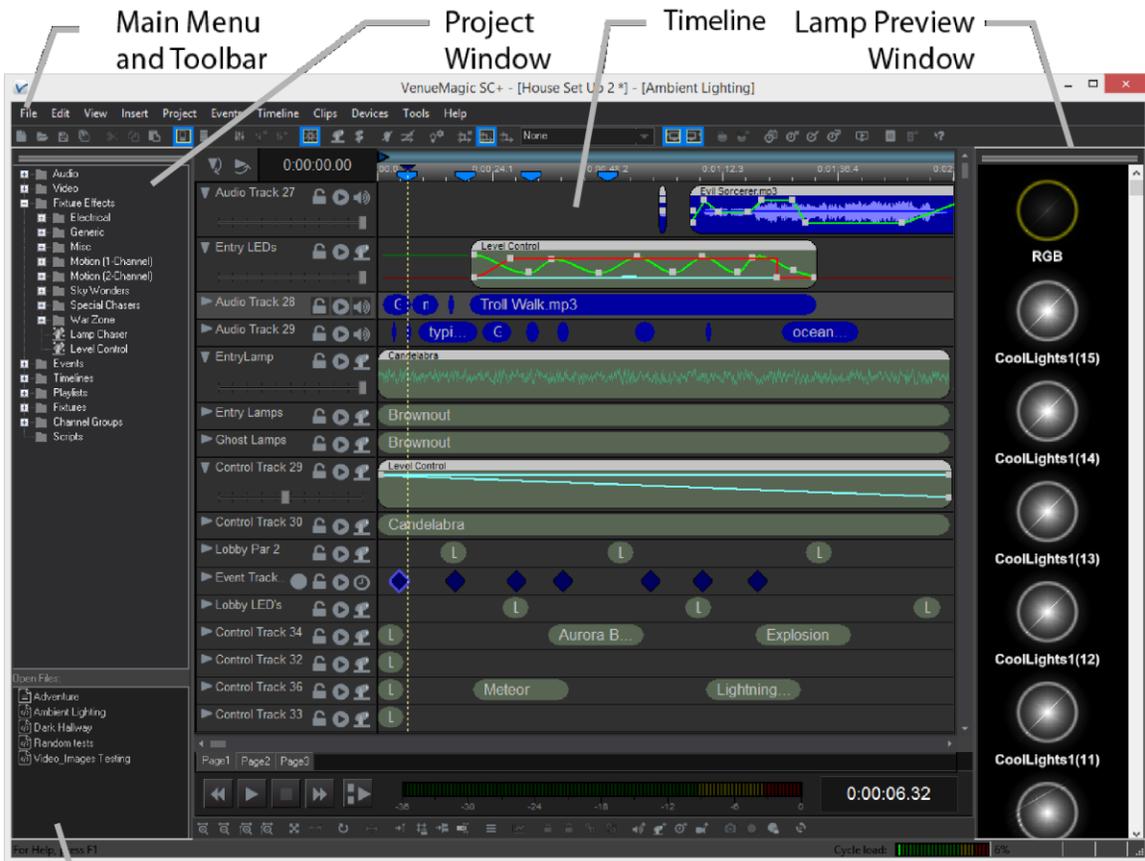
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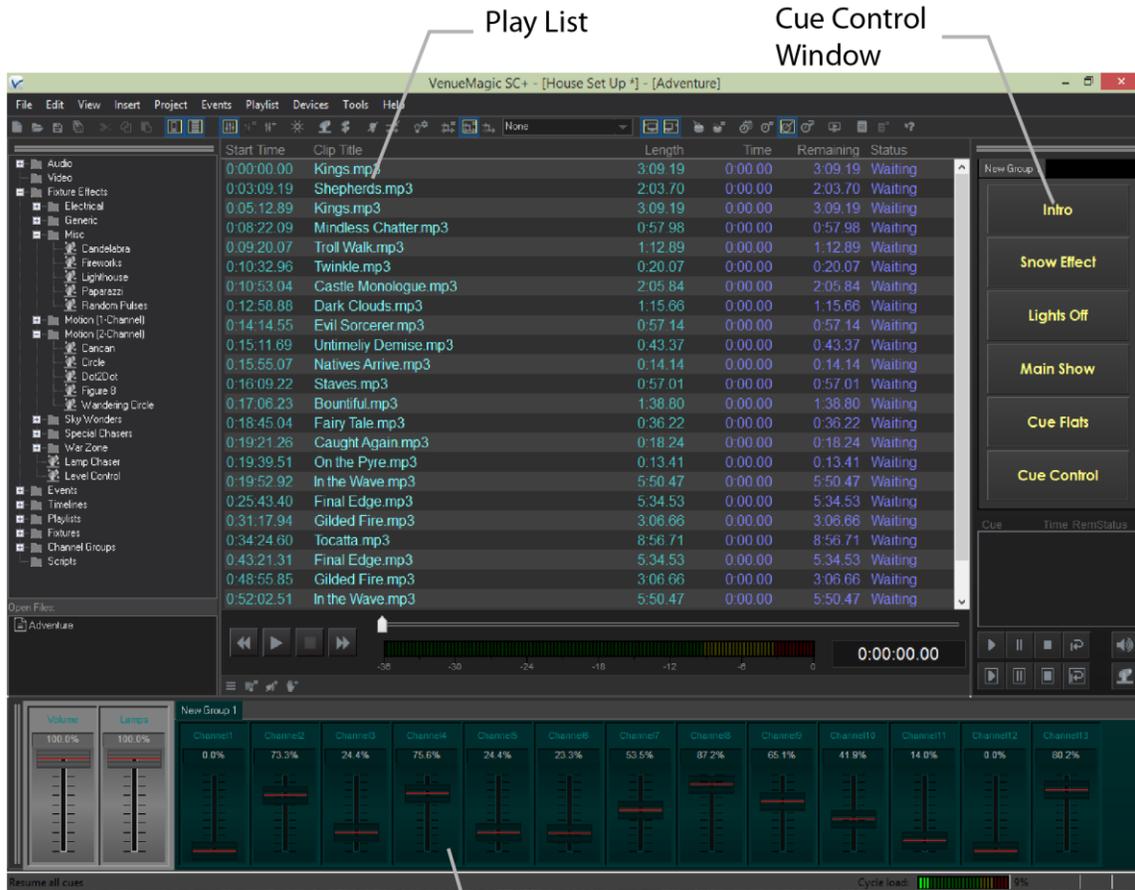
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# VenueMagic Main Screen



Open File Window



Play List

Cue Control Window

Virtual Control Surface (VCS)

The above figures show the elements of the VenueMagic main screen. These elements fall into two categories: *toolbars* and *documents*. Toolbars can be added or removed from the screen as desired by selecting them in the *View* menu. By grabbing the gripper bar, they can be moved and docked to any part of the main screen. Arrange the toolbars how you like them and VenueMagic will remember their position.

The toolbars are:

[Project Window:](#)

Contains all the project folders. Also includes the Open File Window.

[Fixture Preview Window:](#)

Real-time display of lamps and other channel information.

[Cue Control Window:](#)

Contains the cue list and the programmable cue buttons.

[Virtual Control Surface:](#)

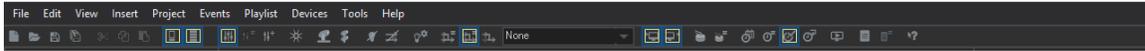
Programmable sliders for controlling a variety of VenueMagic functions.



VenueMagic also supports two documents types:

- [Timelines](#): Layout the performance of combined music, sound effects, lamp control, events, etc...
- [Playlists](#): Organizes audio files and timelines for sequential playback.

## VenueMagic Main Menu



The main menu changes depending on which type of document (i.e.: timeline or playlist) is currently shown. The following tables briefly describe the function of each menu option in the main menu. If there is an associated button in the toolbar, that will also be noted.

### File Menu

<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
New	—	Create a new timeline, playlist or project.
Open		Open a timeline, playlist or project.
Close	—	Close currently displayed timeline or playlist.
Save		Save currently displayed timeline or playlist.
Save As...	—	Save currently displayed timeline or playlist under a different name.
Save Project	—	Save currently open project.
Save Project As...	—	Save currently open project under a different name.
Save All		Save currently open project and all open timelines and playlists.
Reports	—	Select from a list of available reports to create.
Recent Projects	—	Select from a list recently opened projects.
Exit	—	Exit VenueMagic.

### Edit Menu

<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
Undo	—	Undo the last change made to a <a href="#">timeline</a> or <a href="#">playlist</a> .
Cut		Delete an item and place it into clipboard.
Copy		Copy an item into the clipboard.
Paste		Paste an item from the clipboard.
Delete	—	Delete selected item.

### View Menu

<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
Status Bar	—	Show/Hide status bar at the bottom of the screen.

Project Window		Show/Hide <a href="#">project window</a> .
Cue Control Window		Show/Hide <a href="#">cue control window</a> .
Beat Tapper		Show/Hide <a href="#">beat tapper</a> control. Available on when cue control window is shown.
Virtual Control Surface		Show/Hide <a href="#">virtual control surface</a> (VCS) window.
Fixture Preview Window		Show/Hide <a href="#">Fixture Preview</a> window.
Video Playback Window		Show/Hide <a href="#">video playback</a> window.
Redock all	—	Select this option to restore all floating window to their docked state.
Properties...	—	Set properties for currently selected item. Refers only to clips in timelines and playlists.

## Insert Menu

('T'=Timeline, 'P'=Play list)

<i>Menu item</i>	<i>T</i>	<i>P</i>	<i>toolbar</i>	<i>Description</i>
Audio Track	✓		 *	Add an <a href="#">audio track</a> into a <a href="#">timeline</a> .
Video Track	✓		 *	Add a <a href="#">video track</a> into a <a href="#">timeline</a> .
Control Track	✓		 *	Add a <a href="#">control track</a> into a timeline.
Event Track			 *	Add an <a href="#">event track</a> into a timeline.
Control Tracks from Profile	✓	—		Import profile and <a href="#">auto-populate</a> timeline.
Silence		✓	 **	Add a <a href="#">silence block</a> into a <a href="#">playlist</a> .
Wait		✓	 **	Add a <a href="#">wait block</a> into a playlist.

\* Located in the toolbar at the bottom of the timeline window.

\*\* Located in the toolbar at the bottom of the playlist window.

## Project Menu

<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
Project Options	—	Set <a href="#">project options</a> .

## Event Menu

<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
Event Scheduler...		Open <a href="#">event scheduler</a> .
Event Table...		Open <a href="#">event table</a> .
Enable Event Table		Enable/disable <a href="#">event table</a> operation
Reset Event Groups		Resets triggers for all <a href="#">event groups</a>

## Timeline Menu

(Shown only when a timeline is shown)

<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
Play	—	Play/stop currently shown <a href="#">timeline</a> .
Enable External Sync	—	Enable/disable <a href="#">external syncing</a> of the timeline playback.
Insert Marker		Inserts a <a href="#">timeline marker</a> at the current <a href="#">time cursor</a> position.
Mixdown Audio...	—	Perform and audio mixdown for the timeline.
Add Page	—	Add a <a href="#">timeline page</a> .

Organize Pages...	—	Open timeline <a href="#">page organizer</a> .
Timeline Options...	 *	Set <a href="#">timeline options</a> .

\* Located in the toolbar at the bottom of the timeline window.

## Playlist Menu

(Shown only when a playlist is shown)

<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
Play	—	Play/stop currently shown <a href="#">playlist</a> .
Playlist Options...	 **	Set <a href="#">playlist options</a> .

\*\* Located in the toolbar at the bottom of the playlist window.

## Clips Menu

(Shown only when a timeline is shown. For toolbar buttons, see [Timeline Toolbar](#).)

<i>Menu item</i>	<i>Description</i>
Lock Clip(s)	Lock all currently selected clips in the timeline.
Unlock Clip(s)	Unlock currently selected clips in the timeline.
Link Clip(s)	Link all currently selected clips in the timeline.
Unlink Clip(s)	Unlink currently selected clips in the timeline.
Split Clips at Cursor	Splits selected clips at the <a href="#">time cursor</a> position.
Edit Envelopes...	Open the <a href="#">envelope editor</a> for the selected clip.
Record Channels	Enables/Disables <a href="#">channel recording</a> .
Clip Properties...	Set properties for selected clip.

## Devices Menu

<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
Fixtures...		Show <a href="#">Add Fixtures</a> window.
Groups...		Show <a href="#">Group Builder</a> window.
Virtual Fixtures...		Open <a href="#">Setup Virtual Fixtures</a> window.
Variable Table...		Open <a href="#">Variable Table</a> window.
ShowNodes Manager...		Open <a href="#">ShowNodes Manager</a> window.
Setup Channel Routing...		Setup <a href="#">channel routing</a> .
Enable Channel Routing		Enable/disable channel routing.
Setup Channel Expressions...	—	Opens the <a href="#">Setup Channel Expressions</a> window.
Turn Off Lamps		Turn off all lamps. Only affects dimmable lamps.
Reset DMX Control	—	Resets DMX interfaces in case of a malfunction.
Setup Devices...	—	Select audio, DMX and MIDI devices. (see <a href="#">Device Setup</a> ).
Enable External Inputs		Enable input from external input devices (MIDI, VCS, etc...)
Enable Device Communication		Enable communications with DMX devices, etc...

## Tools Menu

<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
Calibrate Lamps...		Show <a href="#">Calibrate Lamps</a> window.
Chaser Library		Show <a href="#">Chaser Library</a> window.
User Fixture Library...	—	Show <a href="#">User Fixture Library</a> window.
Monitor MIDI Input...	—	Show the <a href="#">Monitor MIDI Input</a> window.
Monitor DMX Input...	—	Show the <a href="#">DMX Input Monitor</a> window.
Monitor DMX Output...	—	Show the <a href="#">DMX Output Monitor</a> window.
Record DMX...	—	Show the <a href="#">Record DMX</a> window.
Monitor Serial Input...	—	Show the <a href="#">Monitor Serial Input</a> window.
Watch Inputs...	—	Show the <a href="#">Watch Inputs</a> window.
Events Status...	—	Show the <a href="#">Events Status</a> window.

## Help Menu

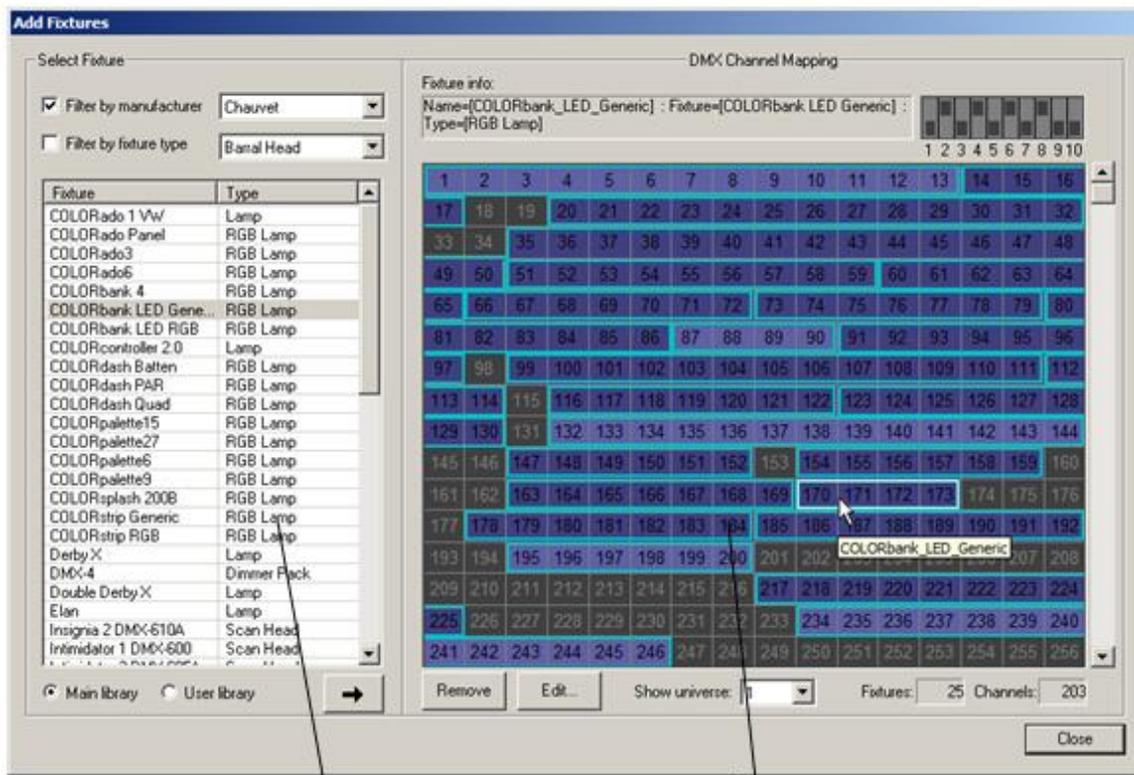
<i>Menu item</i>	<i>toolbar</i>	<i>Description</i>
Contents		Show help table of contents tab.
Search	—	Show help search tab.
Index	—	Show help index tab.
VenueMagic on the Web	—	Opens a browser to <a href="http://www.venuemagic.com">www.venuemagic.com</a> .
Check for Updates		Goes online to check for updates to your VenueMagic software. If updates are available you are given the option to download and install them.
Download Support Client	—	This options will open the default browser and send it to a web page from where you can download an application that gives the VenueMagic support team remote access to your computer to assist in resolving issues. It is recommended that you do not download this
Register VenueMagic	—	If you have not yet registered your copy of VenueMagic, this option will start the VenueMagic Registration wizard.
About VenueMagic	—	Show <i>About VenueMagic</i> window.

## Fixtures

VenueMagic includes a library of a numerous DMX fixtures from a variety of manufacturers. These fixtures are added and organized in the Add Fixture window. Each fixture is composed of one or more channels which correspond to a DMX channel. Some channels may be further broken to sub channels. In this case, the sub channels correspond to DMX channels.

### Add Fixtures

Select fixtures from the Fixture Library and drag them into Fixture Placement window. The numbered cells correspond to DMX addresses. To change the address range of a fixture, select the fixture in the window and drag it to the desired address.



Fixture Library

Fixture Placement Window

**Filter by manufacturer**

Check this to filter the fixture library by manufacturer\* in the adjacent selector box. Uncheck to show all fixtures for all manufacturers.

**Filter by fixture type**

Check this to filter the fixture library by fixture type in the adjacent selector box. Uncheck to show all fixtures types.

**Main/User Library**

Use these selectors to choose which library is currently displayed in the *Fixture Library* list. Select *Main library* to display the fixture library that came with the VenueMagic installation. Select *User library* to show fixtures that have been entered into the user fixture library. (See [User Fixture Library](#)). Fixtures that were dragged over from the user library are shown displayed as a lighter shade of blue in the *Fixture Placement Window*.

**Fixture info:**

Displays information about the fixture currently under the mouse cursor. *Name*=user selected name. *Fixture*=manufacturer name for fixture. *Type*=type of fixture.

<b>Address switch settings:</b>	Graphical display of the address switch settings for the fixture currently under the mouse cursor.
<b>Remove (button)</b>	Remove selected fixtures from window.
<b>Edit (button)</b>	Edit fixture settings (see <a href="#">Edit Fixture Settings</a> ).
<b>Show universe:</b>	Select which DMX universe is currently displayed in the Fixture Placement Window. The number of universes available depends on which version of VenueMagic you have installed.
<b>Fixtures:</b>	Shows how many fixtures are in the window.
<b>Channels:</b>	Shows how many fixture channels are in the window.

## Cut, Copy and Pasting Fixtures

Common clipboard functions are available from a pop-up menu. To cut or copy, select the desired fixtures, right-click on one of the selected fixtures and select *Cut* or *Copy*. To paste copied fixtures, right-click on a channel and select *Paste*.

## Remapping Fixtures

*(Available in DMX+AV and above)*

A powerful and unique feature available to VenueMagic fixtures is the ability to substitute one fixture for another. This is particularly useful in situations such as when a moving head breaks-down at the last minute just before a show and the replacement head is a completely different brand with a completely different channel mapping.

### Procedure:

1. In the [Add Fixtures](#) window select a replacement fixture from the Fixture Library and drag onto any empty channel range in the *Fixture Placement Window*.
2. Right-click on the fixture you wish to replace and select *Remap...*
3. Follow the instructions on the Select Item Replacements wizard.

Upon completion of the remapping procedure, VenueMagic will have mapped all references to the original fixture—including control tracks, fixture effects, channel routing, channel groups, etc... to the replacement fixture. You are now free to delete the original replaced fixture and move the new replacement fixture to take its place in the DMX map. Is desired.

## Select Item Replacement Wizard

The screenshot shows a dialog box titled "Select Item Replacements" with a close button (X) in the top right corner. The dialog is divided into two columns of instructions and two lists of fixtures.

**1. This list shows fixtures in the imported timeline that can be replaced by fixtures in this project. Select a fixture in this list and then check the fixture or fixtures to replace it with in the list on the right.**

**2. This list shows project fixtures that can replace the imported fixture currently selected in the list on the left. If you wish to import the selected fixture rather than replace, do not check any replacements.**

**3. When you have finished replacements for imported fixtures, click "Next" to fine tune your replacements on the channel level,**

The left list is titled "Lightning" and is currently empty. The right list contains 14 items, each with a checkbox:

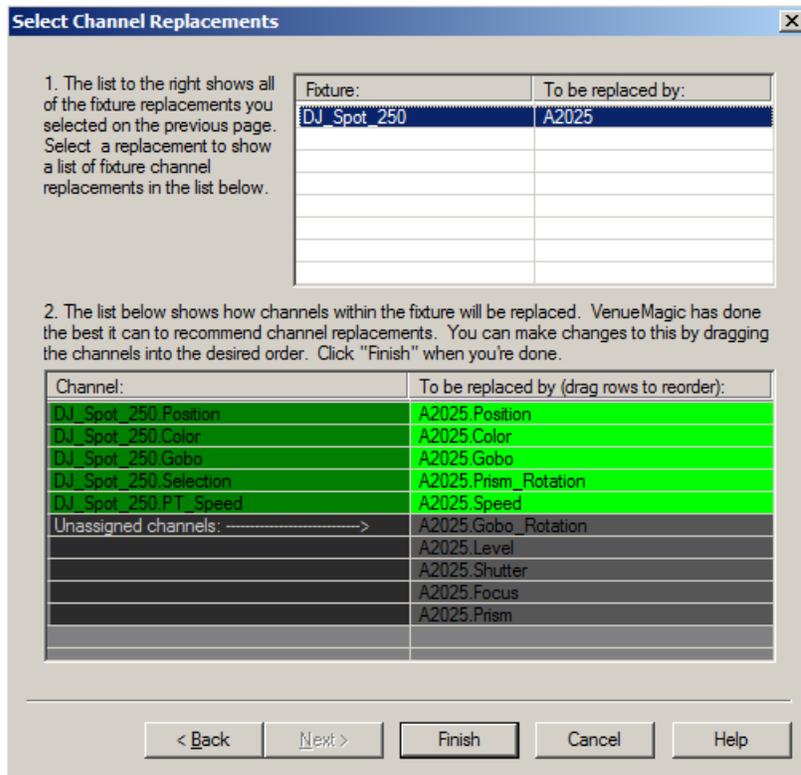
- RGB\_15
- RGB\_16
- RGB\_17
- RGB\_18
- RGB\_19
- RGB\_2
- RGB\_20
- RGB\_21
- RGB\_22
- RGB\_23
- RGB\_24
- RGB\_25
- RGB\_26
- RGB\_27
- RGB\_28

At the bottom of the dialog are five buttons: "< Back", "Next >", "Finish", "Cancel", and "Help".

This Select Item Replacement Wizard steps you through the process of replacing a fixture in the [Add Fixtures](#) window.

*List #1* on the left shows the fixture selected for replacement. *List #2* on the right shows all of the fixtures currently included in the [Add Fixtures](#) window.

In *List #2*, check the fixture you would like to replace the fixture in *List #1* and click *Next*.



In most instances, VenueMagic will be able to remap the individual fixture channels automatically. If you are replacing a fixture with an identical fixture this task is easy. However, if the two fixtures are quite different, VenueMagic may need some additional help.

In List #1, you will see a summary of all of the fixture replacements that were assigned in the previous screen. Select one of them, and List #2 will be populated with VenueMagic's best guess as to how the individual channels should be replaced. In most cases, VenueMagic will do a pretty good job. However, if changes need to be made, you can click and drag channels on the right side of this list to line them up with different channels on the left. This is, of course, subject to certain rules. For more details on how to modify channel replacements, see [Selecting Track Channel Replacements](#), which functions similarly.

After you have verified (and perhaps corrected) channel replacements for channel, click *Finish*.

## Mapping Fixtures to Capture Polar 3D Visualizer

*(Available in Classic and above)*

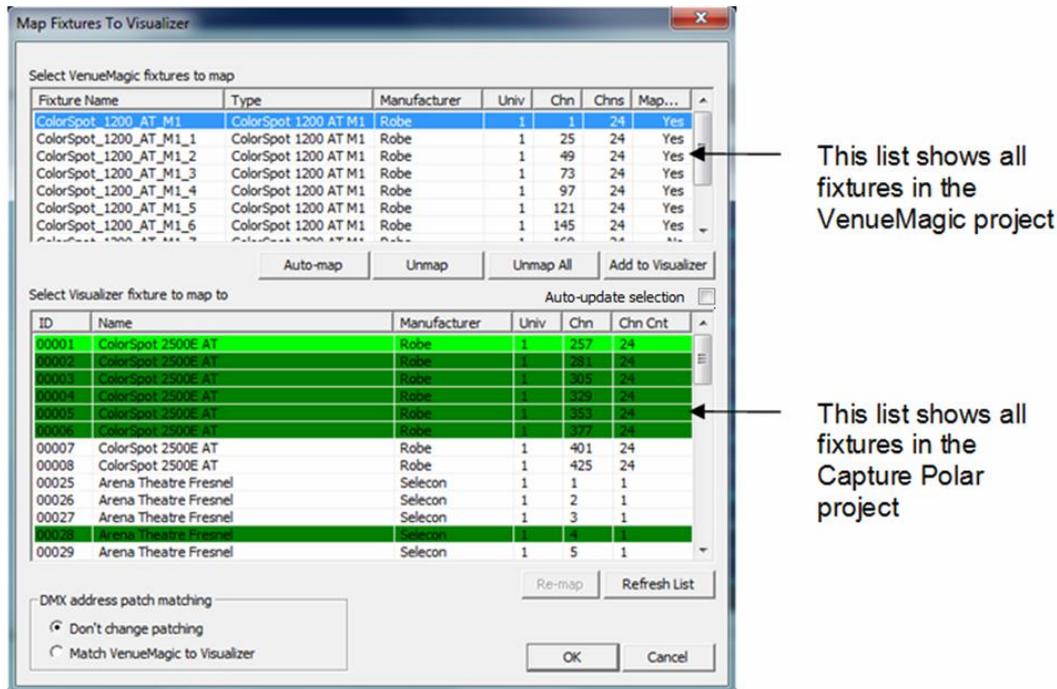
VenueMagic supports interfacing to the *Capture Polar* 3D Visualizer versions 2.8.11 and above. Before doing this, you must setup this feature in the [Project Visualizer Settings](#) window. If this feature is enabled in the Edition of VenueMagic you are using, an additional Visualizer button appears at the bottom of the [Add Fixtures](#) window:



Click on this button to open the Map Fixture to Visualizer window.

## Map Fixture to Visualizer Window

This window lets you set up fixture mapping between VenueMagic and the current default instance of *Capture Polar* (see [Project Visualizer Settings](#)).



This window has two lists. The list on the top, lists all of the fixtures included in the VenueMagic project. Fixture data includes:

- Fixture Name** The name of the fixture as specified in the VenueMagic project.
- Type** The fixture type or model.
- Manufacturer** The fixture manufacturer.
- Univ** Which DMX universe the fixture is associated with.
- Chn** The current DMX base address.
- Chns** How many DMX channels are in the fixture.
- Mapping** Specifies whether or not the fixture is currently mapped to a fixture in the Capture project (Yes/No).

The buttons beneath the list (*Auto-Map*, *Unmap*, *Unmap All*, *Add to Visualizer*) will be discussed later.

The list on the bottom shows all of the fixtures in the currently loaded Capture project. Fixture data includes:

- ID** A unique numeric identifier for the fixture. This value corresponds to the Capture *Channel* value of the fixture.

- Name**            The fixture type or model.
- Manufacturer**    The fixture manufacturer.
- Univ**             Which DMX universe the fixture is associated with.
- Chn**              The current DMX base address.
- Chns**             How many DMX channels are in the fixture.

**Mapping Fixtures**

You can map the fixtures from one list to the other by following these steps:

1. Select a VenueMagic fixture in the top list.
2. Select a Capture fixture to map to in the bottom list.

You're done. Repeat those steps to map other fixtures.

The Capture fixture (bottom) list is color-coded to help keep track of how things are mapped.

Select Visualizer fixture to map to Auto-update selection

ID	Name	Manufacturer	Univ	Chn	Chn Cnt
00001	ColorSpot 2500E AT	Robe	1	257	24
00002	ColorSpot 2500E AT	Robe	1	281	24
00003	ColorSpot 2500E AT	Robe	1	305	24
00004	ColorSpot 2500E AT	Robe	1	329	24
00005	ColorSpot 2500E AT	Robe	1	353	24
00006	ColorSpot 2500E AT	Robe	1	377	24
00007	ColorSpot 2500E AT	Robe	1	401	24
00008	ColorSpot 2500E AT	Robe	1	425	24
00025	Arena Theatre Fresnel	Selecon	1	1	1
00026	Arena Theatre Fresnel	Selecon	1	2	1
00027	Arena Theatre Fresnel	Selecon	1	3	1
00028	Arena Theatre Fresnel	Selecon	1	4	1
00029	Arena Theatre Fresnel	Selecon	1	5	1

Mapped fixtures  
 Mapped to currently selected VenueMagic fixture (top list)

Re-map    Refresh List

A dark-green highlight shows Capture fixtures that are currently mapped to other VenueMagic fixtures. Light-green shows which Capture fixture is mapped to the currently selected VenueMagic fixture.

Fixture mapping is one-two-one. If you select a Capture fixture that is already mapped to a different VenueMagic fixture, the highlight will turn yellow and the mapping will not take place. Click Re-map to force a re-mapping of the selected Capture fixture to the currently selected VenueMagic fixture.

00006	ColorSpot 2500E AT	Robe	1	377	24
00007	ColorSpot 2500E AT	Robe	1	401	24
00008	ColorSpot 2500E AT	Robe	1	425	24
00025	Arena Theatre Fresnel	Selecon	1	1	1
00026	Arena Theatre Fresnel	Selecon	1	2	1
00027	Arena Theatre Fresnel	Selecon	1	3	1
00028	Arena Theatre Fresnel	Selecon	1	4	1
00029	Arena Theatre Fresnel	Selecon	1	5	1

Fixture already mapped to a different VenueMagic fixture

Re-map    Refresh List

Click to force remapping

Click **Refresh List** to request an update of available fixtures from Capture.

### Additional Mapping Function

The row of buttons beneath the VenueMagic fixture list provides additional mapping functionality.



- Auto-map** Click this button to automatically map fixtures based on DMX addresses. VenueMagic fixtures are mapped to Capture fixtures with the same DMX address. VenueMagic fixtures with no matching Capture fixture are left unmapped.
- Unmap** Click to un-map selected VenueMagic fixtures.
- Unmap All** Click to un-map all VenueMagic fixtures.
- Add to Visualizer** Click this button if you would like the currently selected VenueMagic fixture to be added to Capture Polar's *Console Patch* window. Brings-up the *Add Fixture to Visualizer* window.

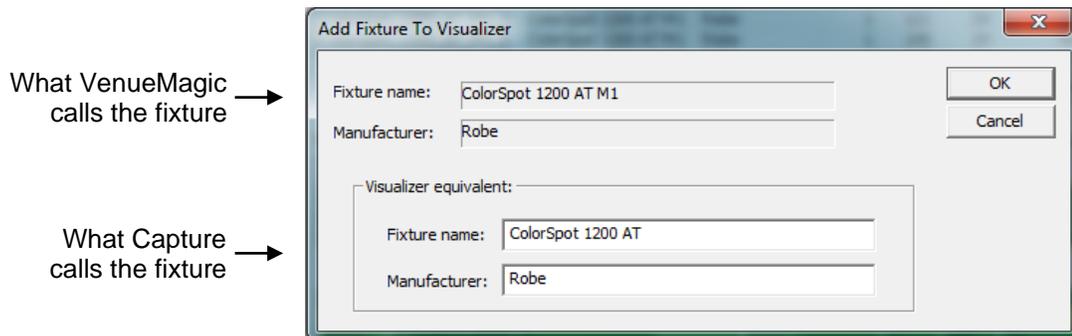
### Auto-Update Selection

Check this box to enable the *Auto-update selection* feature. With this feature enabled, any fixture selected in the *Select visualizer fixture to map to list* (a.k.a. the "bottom" list), will automatically be selected in the view windows in Capture Polar. Likewise, any fixture selected in a Capture Polar view window will also be selected in the *Select visualizer fixture to map to list*. This feature can greatly simplify the fixture mapping process.

### DMX Address Patch Matching

The *Setup Dmx address patch matching* group sets up patch matching action that occurs when *OK* is clicked. Select **Match VenueMagic to Visualizer** and all of the VenueMagic fixture DMX channels will be changed to match those of the Capture fixtures they are mapped to. Again, this matching occurs when the window is closed by clicking the *OK* button. It will not continue to match automatically. If you do not want DMX address matching, select **Don't change patching**.

### Add Fixture to Visualizer



This window lets you assist Capture in adding a fixture to Capture's *Console Patch* window based on a VenueMagic fixture.

In the *Visualizer equivalent* section, enter the Capture equivalent of the VenueMagic fixture name and manufacturer displayed in the top section of the window. This must be entered exactly as it appears in the Capture fixture library. VenueMagic will remember the substitution so that the next

time you wish add this fixture to the Console Patch window, it will be automatically loaded with the previously entered fixture name and manufacturer equivalent for that fixture.

Click OK and the fixture is added to Capture's *Console Patch* window, from where it can be dragged into the view. You must drag the fixture from this window into a Capture view to get control over it.

### ***Strategies for Mapping VenueMagic Fixtures to Capture Polar***

VenueMagic provides a number of tools and features designed to help simplify the process of using Capture Polar to visually display VenueMagic playback. The most time consuming part of this is, of course, mapping fixtures in the VenueMagic project to the fixtures in the Capture Polar project, and vice versa. Below are some examples of how the [Map Fixtures to Visualizer](#) window can be used to accomplish this in different situations.

#### ***Example #1: Adding VenueMagic fixtures to map to existing Capture fixtures.***

If you already have a completed Capture Polar project that you want to control with VenueMagic, follow these steps:

1. Print out a list of all the fixtures in the Capture project (see Capture Polar manual for more information on how to do this).
2. Locate the fixtures in the VenueMagic database and add them to the VenueMagic project (see [Add Fixtures](#)). Note: some of the fixtures you need may not be available in the VenueMagic library. You may add them yourself using the [User Fixture Library](#), or request a fixture from [support@venuemagic.com](mailto:support@venuemagic.com).
3. Use the [Map Fixtures to Visualizer](#) window to map VenueMagic fixtures to capture fixtures.

#### ***Example #2: Adding Capture fixtures to map to existing VenueMagic fixtures.***

If you wish to add fixtures to a Capture project to map to an existing VenueMagic, there are a couple of approaches:

##### *Approach #1 – Best for large numbers of fixtures.*

1. Print out a list of all VenueMagic project fixtures (*Files → Reports → DMX Fixtures*).
2. Locate matching fixtures in Capture library and add them to the view. The Capture fixture library is extensive but there are a number of VenueMagic fixtures that Capture does not support. Contact Capture Sweden concerning updates to your Capture Polar library (<http://www.capturesweden.com>).
3. Use the [Map Fixtures to Visualizer](#) window to map VenueMagic fixtures to capture fixtures.

##### *Approach #2 – Good for small numbers of fixtures.*

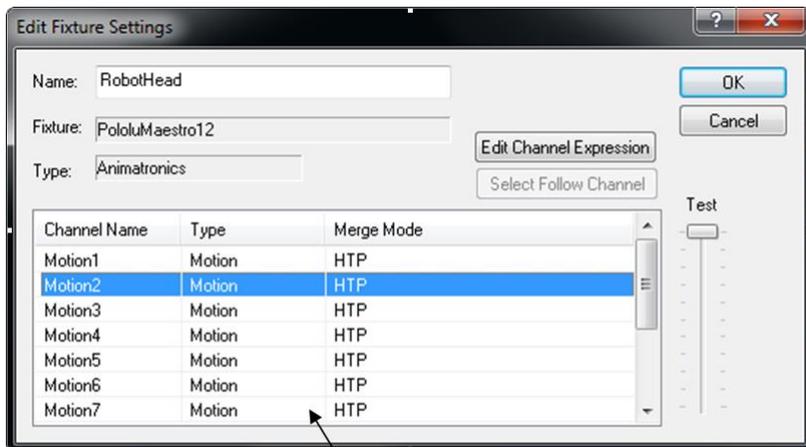
1. Right-click on a fixture in the [Add Fixtures](#) window and select *Map to Visualizer*. This will open the [Map Fixtures to Visualizer](#) window with the fixture selected.
2. Click *Add to Visualizer* and add a new fixture to the Capture *Console Path* window using the [Add Fixture to Visualizer](#) window.

#### ***Example #3: Mapping fixtures automatically through DMX addressing.***

Whether you use Example #1 or #2 above, you can really speed-up the mapping process by making sure to give VenueMagic fixtures and their Capture counterparts the same DMX addresses. Then you can map them automatically using the Auto-map tool in the [Map Fixtures to Visualizer](#) window.

## **Edit Fixture Settings**

Customize settings for fixture channels.



Fixture Channel List

**Name:** Enter the desired name for the fixture channel or leave it as the default. This name can contain only letters, numbers or the underscore ('\_'). The name must also be unique within the project.

**Fixture:** Manufacturer's name for the fixture (not editable).

**Type:** Fixture type (not editable).

**Fixture channel list**

**Channel Name** Click on a channel in the list to select it. Then click again in the Channel Name column to change the name. When you have finished entering the name, press the *Enter* key. (See: [Setting Fixture Channel Names](#)).

**Type** Displays the channel type. Not editable. (See: [Fixture Channel Types](#)).

**Merge Mode** Click on a channel in the list to select it. Then click again in the Merge Mode column to activate the merge mode selector. Select the desired mode and press *Enter*. (See: [Fixture Channel Merge Modes](#)).

**Test** Dragging this slider will output the DMX level for the selected channel. Use this to make sure the fixture hardware is addressed properly.

**Edit Channel Expressions** Click this button to open the Setup [Channel Expressions](#) window and set the selected output channel to the currently selected channel in this window. If the channel is not currently included in the

Channel Expressions window, the user will be asked if it should be added.

### **Follow Channel Merge Mode**

If the selected channel has its Merge Mode set to Follow, the *Select Follow Channel* button is enabled.

Channel Name	Type	Merge Mode
HangingLights	Dimmer	HTP
Par1	Dimmer	HTP
Par2	Dimmer	HTP
Par3	Dimmer	Follow [LM4_Bathroom2.BathroomPar1]

Select Follow Channel

Click this channel to bring up the [Select Channels](#) window and select the output channel that the selected channel will follow.

### **Setting Fixture Channel Names**

Fixture channel names are generally displayed as dot notation in the form:

*fixture.channel.subchannel*

The subchannel is optionally used when the library has grouped several channels into one *composite* channel for convenience (see Fixture Channel Types). You can change the name of the channel in the fixture channel list of the [Edit Fixture Settings](#) dialog window. This list omits the fixture portion of the channel name, displaying it as:

*channel.subchannel*

Again, *subchannel* is optional depending on what the library has defined. The following rules apply as you change channel names in the list that include the *subchannel* (note: these rules do not apply for *channel* names that do not include a *subchannel*):

1. You may enter *subchannel* name without retyping the *channel* name. The channel name is automatically added when you press *Enter*.
2. You may change the *channel* name by entering *new\_channel.subchannel*. When you press enter, all of the *channel* names for that channel in the list will be changed to the new name.

Example: Changing RGB1.Red to RGB\_1.Red:

Channel Name	Channel Name
RGB1.Red	RGB_1.Red
RGB1.Green	RGB_1.Green
RGB1.Blue	RGB_1.Blue
RGB2.Red	RGB2.Red
RGB2.Green	RGB2.Green
RGB2.Blue	RGB2.Blue

→

## Fixture Channel Types

The VenueMagic fixture library defines several channel types. These channel types help VenueMagic know how to deal with a particular channel or group of channels. Channel types mainly affect the operation of the [Envelope Editor](#), the Fixture Preview Window and all Fixture Effects. They are pre-defined and not user settable. The channel types are:

<b>Bitfield</b> <i>(Available in SC+ and above)</i>	Splits DMX channel into 8 separate VenueMagic subchannels, each channel representing a single bit in the DMX output value. Individual bit channels are selectable as <i>On</i> or <i>Off</i> .
<b>Color Wheel</b>	A special case of the Selector type designed to deal with color wheel selection.
<b>Dimmer</b>	Defines a dimmer channel.
<b>Dimmer16</b>	Defines a high precision dimmer channel that take two DMX channels.
<b>Gobo Wheel</b>	A special case of the Selector type designed to deal with gobo selection.
<b>Motion</b>	Any channel that deals with a single channel of motion.
<b>Motion XY</b>	Composite of two motion channels in a scan (x-y) head that can work in coordination with each other (to make circles, for example). Further divided into subchannels <i>X</i> and <i>Y</i> .
<b>Motion PT</b>	Similar to Motion XY type but deals with pan-tilt heads. Further divided into subchannels <i>Pan</i> and <i>Tilt</i> .
<b>Motion XY-16</b>	Same as Motion XY but takes two DMX channels for higher precision.
<b>Motion PT-16</b>	Same as Motion PT but takes two DMX channels for higher precision.
<b>Motion-16</b>	Same as Motion but takes two DMX channels for higher precision.
<b>Reserved</b>	For channels that have no purpose but have been reserved by the manufacturer for one reason or another.
<b>RGB</b>	Defines an RGB (Red-Green-Blue) <i>composite</i> channel. RGB channels are further divided into three the subchannels: <i>Red</i> , <i>Green</i> and <i>Blue</i> .
<b>Selector</b>	Any channel that uses a range of values to select a lamp function.

<b>Speed</b>	For channels that set the speed of a lamp function.
<b>Time Duration</b>	For channels that set a time duration for a lamp function.
<b>Time Interval</b>	For channels that set a time interval for a lamp function.

## ***Fixture Channel Merge Modes***

You may wish to control a single [fixture channel](#) from several sources at once. For example, you can add the same channel to multiple [control tracks](#) in a [timeline](#) (or in different timelines) and simultaneously run multiple [fixture effects](#) on the same channel. VenueMagic will merge (or mix) all of the sources into the channel according to preset merge mode. The merge mode for each channel may be set in the [Edit Fixture Setting](#) window to one of the following:

<b>Add</b>	All sources are added together before output to the channel.
<b>Average</b>	All sources are added together and the resulting value is divided by the number of sources before output to the channel.
<b>HTP (highest takes precedence)</b>	The highest value among all the sources is output to the channel.
<b>Follow</b>	Causes this channel to always precisely match the value of another channel specified in the <a href="#">Edit Fixture Setting</a> window. A channel set to Follow mode cannot be controlled by any other means.
<b>Override</b>	Takes complete control of channel(s). No other source will affect it. If more than one route is set to Override for the same channel, the results will be unpredictable.

In addition, the [Channel Router](#) offers the following merge modes that pertain only to level commands it sends:

<b>Default</b>	Behaves as defined in the <a href="#">Edit Fixture Setting</a> window.
<b>HTP (highest takes precedence)</b>	The highest value among all the sources is output to the channel.
<b>Add</b>	Adds in the Channel Router level regardless of the merge mode set in the Edit Fixture Setting window.
<b>Scale</b>	Scales the final result of all other sources going into the channel. Acts somewhat like a “master level control” for the channel.

**Override**

Takes complete control of channel(s). No other source will affect it. If more than one route is set to Override for the same channel, the results will be unpredictable.

The [Control Track Channel Settings](#) window offers these merge modes that pertain only to the level commands for a channel sent by the associated track:

**Default**

Behaves as defined in the [Edit Fixture Setting](#) window.

**HTP (highest takes precedence)**

The highest value among all the sources is output to the channel.

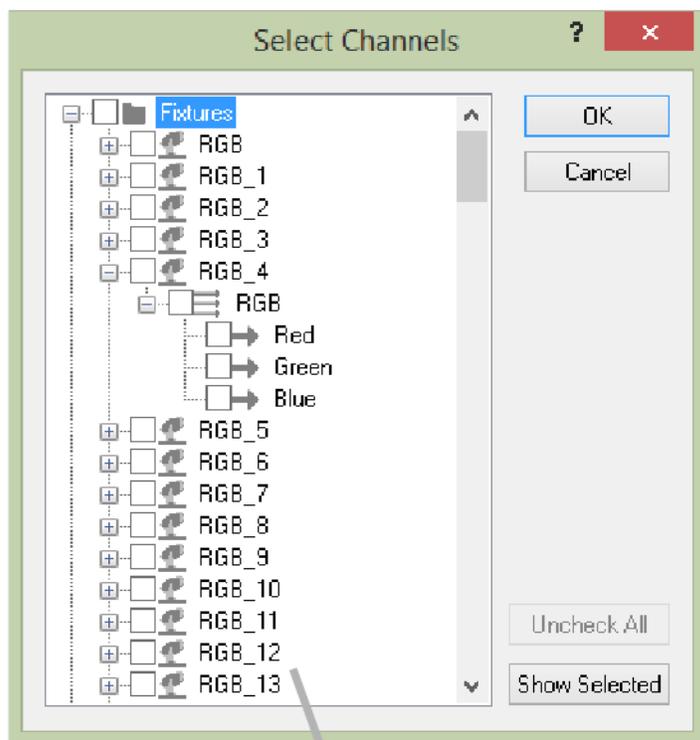
**Add**

Adds in the channel level regardless of the merge mode set in the Edit Fixture Setting window.

**Scale**

Scales the final result of all other sources going into the channel. Acts somewhat like a “master level control” for the channel.

## Select Channels



Fixture Channel Tree

This window is used by VenueMagic functions that need the user to select one or more fixtures, channels or groups. These functions include:

- Adding channels to [Control Tracks](#).
- Selecting channels to be displayed in the [Fixture Preview](#) window.
- Selecting output channels for the [Channel Router](#).

The behavior of the Select Channels window adapts to the needs of the function that uses it. In general, it has two top level folders: *Fixtures* which contain all [fixtures](#)/channels and *Groups* which contains all user-defined [groups](#). The following apply:

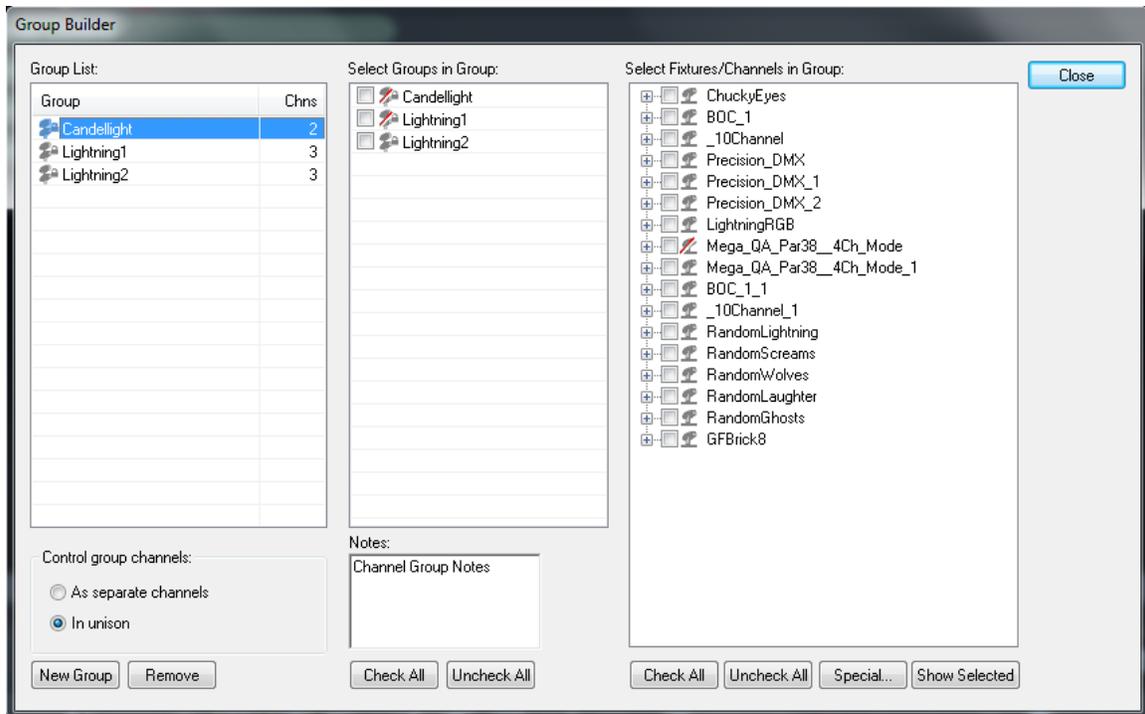
- Icon meanings:
  -  Lamp fixture
  -  Lamp fixture channel or subchannel
  -  Fixture channel with multiple subchannels.
  -  Fixture channel group
- Items with the  icon cannot be selected. This is to prevent duplication of channels within a single track (applies to Control Tracks only).
- Checkbox rules for different functions:

<b>Control Tracks</b>	Checking the checkbox for any item in the tree will select that item and all child items associated with it.
<b>Fixture Preview Window</b>	Any item can be selected individually without affecting the selection of other items
<b>Channel Router</b>	Only one item at a time can be selected. Other items are automatically deselected.
- The Uncheck All and Show Selected buttons behave accordingly for all functions.

## ***Group Builder***

*(Only Available for VenueMagic Classic and above)*

The Group Builder lets you combine multiple fixtures, channels and even other groups into a single group. VenueMagic offers a variety of group functions that simplify lamp control for large numbers of channels with similar functions.



### Group List

Select from existing groups which group you would like to add members to. The Chns column shows how many channels are currently in the group. To rename a group, click on the group to select it, then click the Group column to change the name.

**Control group channels** Defines how a group will behave. Select from:

- **As separate channels:** Fixtures and channels in group are individually controlled. The group type is used mainly to make it easier to organize fixtures and channels together.
- **In unison:** Fixtures and channels are treated as if they were a single channel. Each channel will receive the same channel level.

**New Group button** Add a new group.

**Remove button** Remove the selected group from the list

### Group Notes

Enter notes for group.

### Select Groups in Group

Check the checkbox next to the groups you would like to add to the currently selected group.

Groups with the  icon cannot be checked because doing so would cause channel duplication within the selected group or within a track in one of the project timelines.

**Check All button** Check all groups in the list that do not have the  icon.

**Uncheck All button** Uncheck all checked groups.

### Select Fixtures/Channels in Group

Check the checkbox next to the fixture or individual channels you would like to add to the currently selected group. Groups with the  icon cannot be checked because doing so would cause channel duplication within the selected group or within a track in one of the project timelines. Checking a fixture implies that all channels within the fixture are also included in the group, even though they are not checked. Checking a channel will uncheck its fixture.

**Check All button** Check all fixtures/channels in the list that do not have the  icon.

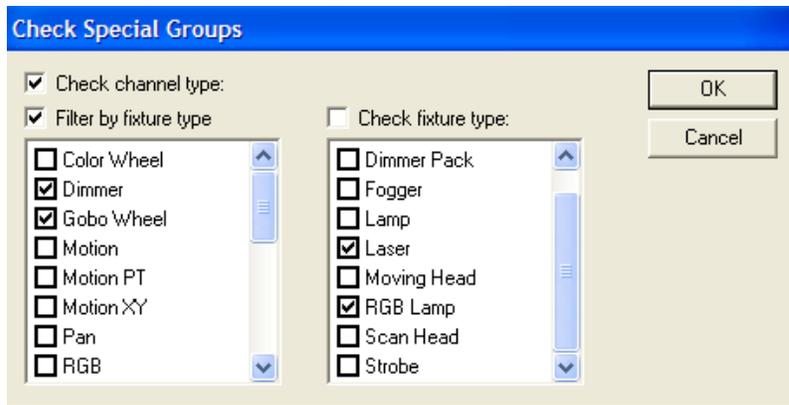
**Uncheck All button** Uncheck all checked fixtures/channels.

**Special... button** Opens the [Check Special Groups](#) dialog window.

**Show Selected button** Expands the tree to show all selected fixtures/channels.

You may add a single channel to as many groups as you like.

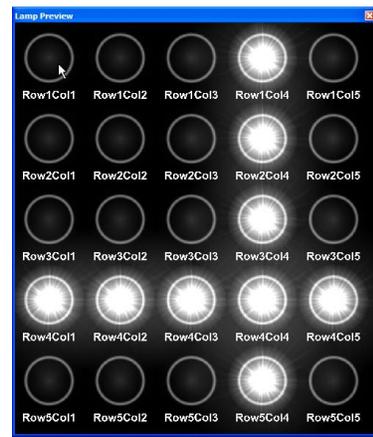
## Check Special Groups



## Important Uses for Channel Groups

Channel groups are very powerful though it may not always be clear what they can be used for. Here are just a few examples of how Channel Groups can be used:

- **Zoned light balancing:** After setting up all of your timelines with desired lighting effects, you may wish to independently control zones of lights to balance them without messing with the timelines. You can do this by assigning all of the lamp channels in each zone to a unison group. Then add it to the Channel Router (with merge mode set to Scale). You will be able to control the master level of each zone without having to make any changes to timelines.
- **Stage light color balancing:** The *zoned light balancing* application described above could be modified to allow individual control of different colored lights on a stage. This will allow you to do on-the-fly stage lighting color adjustments without interfering with timelines—even during playback.
- **Overlapping channel effects:** You can have multiple channel effects working simultaneously on multiple

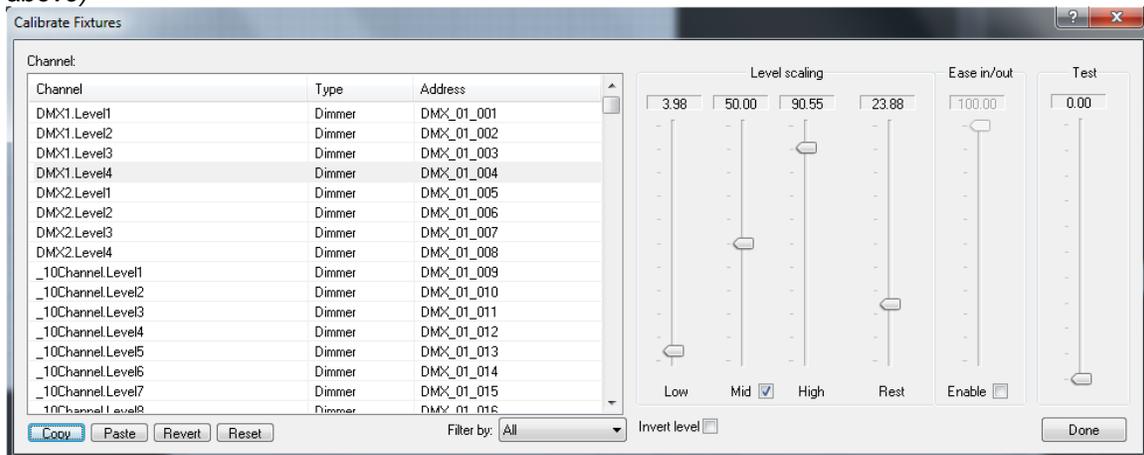


groups that have overlapping channels. A good example of this would be an array of lamps (say 5x5) that you want to use to create a chaser pattern of vertical and horizontal lines (see figure). Simply create a unison group for each row and each column (total 5 groups of each) and put the appropriate lamp channels in each. Now create a timeline with two control tracks. Put all the rows in one and all the columns in another, then put a chaser in each track and run it. Presto—a chaser pattern of vertical and horizontal lines.

- **Custom fixtures:** If the fixture you have is not in the library, let us know and we'll stick it in. In the meantime, add multiple fixtures from the "Generic" fixtures in the library and "glue" them together in a group.

## Calibrate Fixtures

(Only Available for VenueMagic Classic and above with some features available only in SC+ and above)



## Calibrating Fixture Settings

When setting-up and programming lamps for a show, there are a few things that should be kept in mind:

- It is not wise to frequently turn lamps on and off because it wears out the filament much faster, reducing the life of the bulb. The best thing to do is to select an "off" level that is still on, but at a very low level.
- It is unnecessary to run a lamp at 100% when a lower level is sufficient. This also improves bulb life.
- Bulbs are usually non-linear, meaning that setting a level of 50% does not appear to turn the light on half brightness.

Use the *Low*, *Med* and *High* to compensate for each of the above issues. Use the *Low* and *High* sliders to setup a "virtual" range of lamp levels to be used during timeline playback. If desired, enable the *Mid* slider to make the lamp control more "linear." Once set, you can test your settings using the *Test* slider. A simple procedure for setting-up lamps is as follows:

1. Select the *fixture channel* you wish to calibrate.
2. Drag the *Low* slider and pick a lamp level that is barely visible. (The lamp level will change to reflect the level of the slider the moment you start sliding it).
3. Drag the *High* slider to set the lamp level to the maximum brightness level you believe you will need.
4. If desired, check the *Mid* checkbox to enable the *Mid* slider, and then drag the slider until the lamp level appears to be at roughly half brightness.
5. Drag the *Test* slider up and down to test your settings. It should appear to go up and down smoothly. If not, adjust the *Mid* slider until you are happy with the results.

6. Repeat steps 2-6 for each channel you wish to calibrate.

**Important note:** If the *Mid* slider is enabled, the method uses a parabolic function to help compensate for lamp linearity problems. If you notice strange “dips” or “rises” in the lamp intensity as you move the Test slider, then you may have positioned the *Mid* slider too close to one of the other two. Positioning the *Mid* slider a little closer to the center of the range should eliminate this problem.

#### Setting Range of Motion for Moving Heads

You can use the lamp calibration window to set the range of motions for moving heads:

1. Select a channel that controls motion.
2. Make sure that the *Mid* slider is disabled (uncheck the *Mid* box)
3. Adjust the Low and High sliders to encompass the desired range of motion.
4. Verify the range using the Test slider.

#### **Channel Rest Setting (SC+ and above only)**

The *Turn Lamps Off* function in the *Devices* menu of the VenueMagic main menu as well as the *Turn off lamps after playback* settings in the [Timeline Fixture Control Options](#), [Playlist Lamp Options](#) and the [Envelope Editor Settings](#) windows are all functions that set channel output values to zero for the described condition. In many cases, a channel value other than zero may be desired. For instance, turning a lamp “off” in the case of certain lamps requires setting a gobo or color channel to a “black out” setting, which may not necessarily be at zero. Animatronics and other position control devices may also need defined a “rest” or “home” position that is not at zero. Use this slider to define a rest position that is used instead of zero for the conditions described above.

#### **Ease-in/out Setting (SC+ and above only)**

This feature is primarily a safety feature for control of motion axes in animatronics and other devices. Adjust this slider to adjust the maximum acceleration that can occur on this channel. Any level commands sent to the channel will first pass through this acceleration limiter to prevent any fast, jerk movements that may damage\*. The higher the slider value, the lower the acceleration. Try experiment with different setting, testing them with the *Test* slider, until you find one that best suits your situation.

This should not be confused with the ease-in/out functions associated with the [Timeline Fixture Control Options](#) and the Project Options, which are independent and not related to the Calibration window ease-in/out function.

\*Note: Please review the [VenueMagic End User License Agreement](#) which limits Entertainment Sciences Group, Inc’s liability with respect to damage to equipment arising out of the use of VenueMagic products.

#### **Copy and Paste Settings**

You can copy the settings of a selected channel into another channel by doing the following:

1. Select the channel you wish to copy settings from.
2. Click the **Copy** button.
3. Select the channels you wish to paste settings to (hold down the Ctrl key to select multiple channels).
4. Click the **Paste** button.

#### **Additional Functions**

**Revert** Restore calibrations settings for a selected channel to the values it had before being selected.

**Reset** Restores calibration settings to their default

values of *Low*=0%, *Mid*=50% and *High*=100%.

**Filter by**

Select the channel type to filter the channel list by, or select *All* to show all channels.

**Zero All Levels**

(Not available in SC+)

Sends a zero level command to all channels. Does not affect calibration settings.

**Invert level**

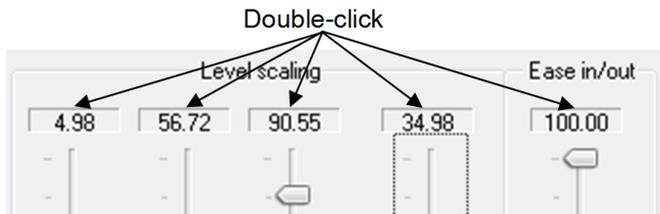
Tells VenueMagic to invert any level command sent to the selected level so that a value of zero corresponds to full on and 100 corresponds to full off. Inversion takes place before scaling, so that the set min and max levels are not affected.

**Using Arrow Keys to Adjust Levels**

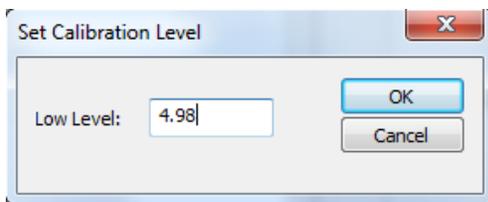
Use the up/down arrow keys on the keyboard to make small adjustments of 0.01% on the selected slider. By simultaneously holding down the Shift key, up/down arrows will adjust the selected slider by 0.1%.

**Setting Level Values Directly**

Double-click on a **Level scaling** or **Ease in/out** level display to open the [Set Calibration Level](#) window. From here you can set level values directly.



**Set Calibration Level Window**

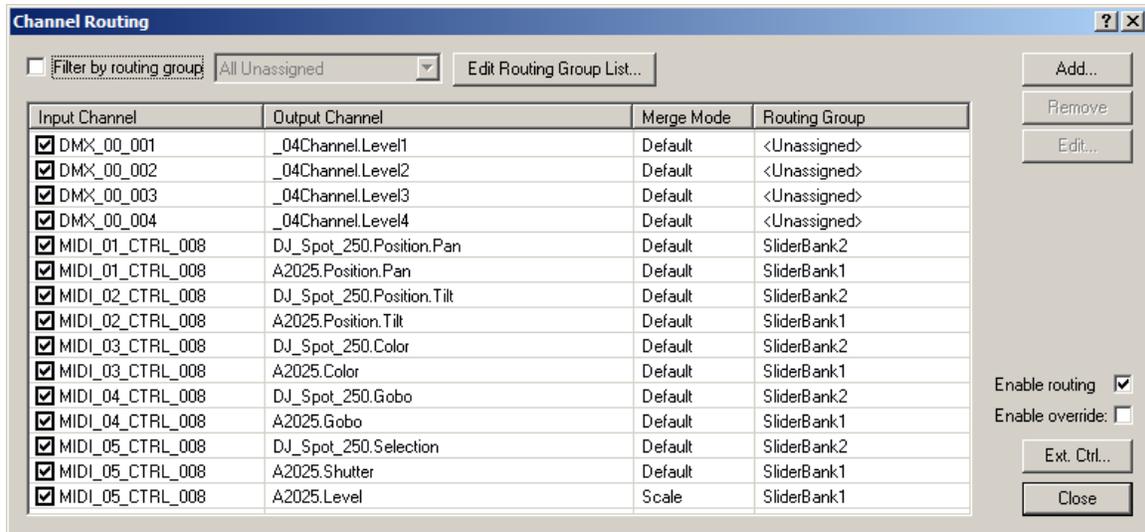


Opened by double-clicking on a Level scaling or Ease in/out level value display in the [Calibrate Lamps](#) window. Enter an exact value for the desired calibration setting level. Must be a number between 0 and 100.

**Channel Routing**

*(Only Available for VenueMagic Classic and above)*

Control channels or group of channels from an external source. External sources include MIDI input and the [Virtual Control Surface](#) (VCS).



To add a channel route, click on the *Add* button to bring up the [Add Channel Route](#) dialog window. Likewise, you can remove selected channel(s) by clicking on *Remove*. The *Edit* button brings up the *Edit Channel Route* window, which is identical to the *Add Channel Route* window.

Beside each route entry is a checkbox that can be used to enable (checked) or disable (unchecked) the route entry. Uncheck the *Enable routing* checkbox to disable general channel routing. The *Enable override* checkbox will let you enable/disable all routes with the [merge mode](#) set to *override*.

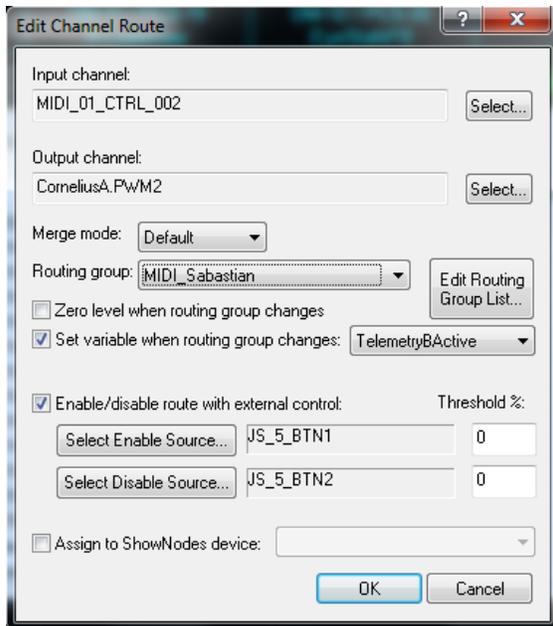
Click the *Ext. Ctrl* button to setup external control of enabling/disabling general routing and routing override (see [General Channel Routing External Control](#)).

To show routes only for a single [routing group](#), check *Filter by routing group* and select the group you would like to see.

To add, remove or edit routing groups, click on *Edit Routing Group List* to bring up the [Channel Routing Groups](#) window.

## **Add Channel Route**

Sets up a new channel route in the Channel Routing window.



### Input channel

The input channel that will be routed to the output channel. Click the adjacent *Select* button to bring up the [Select External Control](#) window.

### Output channel

The output fixture, channel or group. Click the adjacent *Select* button to open the [Select Channels](#) window.

### Routing group

Select the [routing group](#) to assign this route to, or set it to “<Unassigned>”. This route is enabled only when the routing group is active. Routes that have not been assigned to a routing group are enabled regardless of which routing group is currently active.

This item defaults to the current group shown in the Routing Group Selector on the main menu tool bar (see [Channel Routing Groups](#)).

This setting is not available when the route has been assigned to a ShowNodes device.

### Merge mode

Select how the input channel will affect the output channel. See [Fixture Channel Merge Modes](#).

### Enable/disable Route with external control:

Check this box if you would like enable/disable the route with an external control. Input sources and thresholds for enabling and disabling the route can be set independently. The *Select Enable Source* and *Select Disable Source* buttons will each bring up the [Select External Control](#) window for selecting the enable source and the disable source, respectively. This is the equivalent of checking/un-checking the route enable box in the

channel routing list in the [Channel Routing](#) window.

**Zero level when routing group changes**

Check this box and the routing level for this Channel Route is set to zero when the preset that this route is assigned to is selected.

**Set variable when preset changes**

Check this box to have the current value of the routes input assigned to a variable in the [Variable Table](#). Since variables can be redirected to MIDI controller outputs, this feature becomes very useful for controlling motorized slider consoles being used in conjunction with channel routing.

This setting is not available when the route has been assigned to a ShowNodes device.

**Assign to ShowNodes device**

Check this box to assign the channel route to a [ShowNodes](#) node. Select a node from the adjacent drop list.

Assign to ShowNodes device:

This list will only show project nodes that are capable of doing channel routing. Changes to these settings will not take effect on the selected node until the next [Build & Upload](#).

Checking this box disables **Routing group** selection and the **Set variable when preset changes** feature.

If a fixture is selected as an output channel, all channels in the fixture will be simultaneously affected by input channel. The same will happen if a group or a channel with sub channels is selected. (See: [Fixtures](#), [Group Builder](#)).

## General Channel Routing External Control

The screenshot shows a dialog box titled "Channel Routing External Control". It has three main sections, each with a checked checkbox and a "Threshold %" field. The first section is "Enable/disable Routing with external control" with "Select Enable Source..." set to "JS\_1\_BTN4" and "Threshold %" set to "0". The second section is "Enable/disable Override with external control" with "Select Enable Source..." set to "JS\_1\_BTN5" and "Threshold %" set to "0". The third section is "Navigate routing groups with external control" with "Next Group Source..." set to "JS\_1\_BTN6", "Prev Group Source..." set to "JS\_1\_BTN7", and "Last Group Source..." set to "JS\_1\_BTN8". At the bottom are "OK" and "Cancel" buttons.

You can control general routing and override routing using external controls. This is the equivalent of checking/un-checking the *Enable routing* and *Enable override* boxes in the [Channel Routing](#) window.

### Enable/disable Routing with external control

Check this box if you would like enable/disable general routing with an external control. Input sources and thresholds for enabling and disabling the route can be set independently. The *Select Enable Source* and *Select Disable Source* buttons will each bring up the [Select External Control](#) window for selecting the enable source and the disable source, respectively.

### Enable/disable Override with external control

Check this box if you would like enable/disable all override routing with an external control. Selecting an external control is identical to selecting one for general routing (above).

### Navigate routing groups with external control

Check this box if you would like to enable [routing group](#) navigation. Then set up an external control as the source for each of the following functions:

**Next Group** – causes the activation of the next routing group in the list (relative to the currently active group).

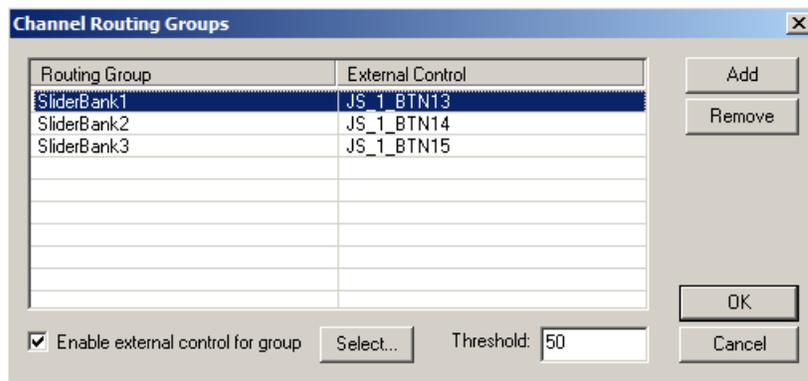
**Previous Group** – causes the selection of the previous routing group in the list.

**Last Group** – causes the activation the routing group that was active just before the currently active group was selected. For instance, if group

“A” is selected, followed by group “C”, the *Last Group* function will restore “A” as the active group.

## Channel Routing Groups

(Only Available for VenueMagic DMX+AV and above)



Channel routing groups enable you to enable/disable multiple channels routes at a time. This has many applications, the most obvious of which is setting up slider banks where a limited set of sliders can control an unlimited number of channels simply by changing the slider bank.

The *Channel Routing Groups* window manages the routing groups available in a project. It is accessed by clicking on the *Edit Routing Group List* button in either the [Channel Routing](#) or [Add/Edit Channel Route](#) windows.

### Routing Group list

Lists routing groups and associated external control channel (if any). If no external control channel is selected, “<Disabled>” is displayed.

### Add

Click this button to add a routing group to the list with a default name. The *Routing Group* column for the new group is enabled for editing so you can enter a name for the group.

Change the name for an already added routing group by selecting the group, and then clicking in the *Routing Group* column.

### Remove

Click to remove selected routing groups from the list.

### Enable external control for group

Check this box to enable external control of the currently selected routing group. Next, click *Select* to bring up the [Select External Control](#) window, select an external input, then fill in the appropriate threshold value (see [Understanding Threshold Values](#)).

When the selected external input is received with the proper threshold value, this group will be

selected by the Channel Router.

### **Real-time Selection of Routing Group**

Only one routing group can be active at a time. There are three ways to select the currently active routing group:

1. Manually select a routing group using the routing group selector in the applications [main tool bar](#).



Routing Group  
Selector

2. External control:
  - a. Activate a specific routing group (*Enable external control for group* checkbox above)
  - b. Navigate through presets sequentially (see [General Channel Routing External Control](#)).
3. Using the [Set Routing Group event](#).

### **Unassigned Routes**

If a channel route is not assigned to a routing group it will display "<Unassigned>" in the [Channel Routing](#) list. Unassigned routes are active at all times regardless of the currently selected routing group.

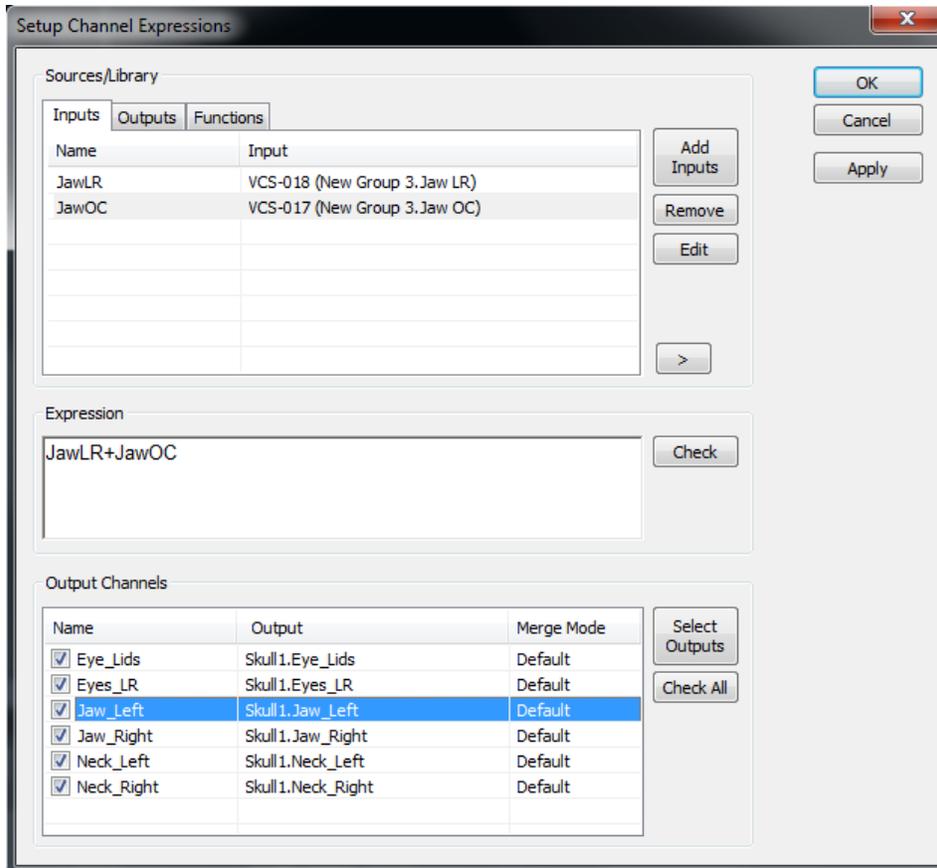
## **Channel Expressions**

*(Only Available for VenueMagic SC+ and above)*

*Channel Expressions* lets you control output channels as a mathematical relationship that includes external inputs and other outputs. In some ways its function is similar to that of [channel routing](#) but allows for more complex control than simply a single external input to an output.

Channel expressions are used in situations where outputs need to be controlled as a combination of different sources (inputs and other outputs). Suppose you wanted to control an animatronic motion that required two or more motors working together in a coordinated fashion to achieve that motion. A good example of this would be a two-channel articulated jaw. Controlling one channel at a time would move the jaw diagonally in a strange, contorted way. However, moving both channels together would allow the jaw to open and close and to move from side to side.

From the main menu, select *Devices* → *Setup Channel Expressions...* to open the **Setup Channel Expressions** window. You can also open the window by right-clicking on a channel in the [Edit Fixture Settings](#) window or by right-clicking on a fixture or channel in the *Fixture* folder of the [Project](#) window and selecting *Edit Expression...*

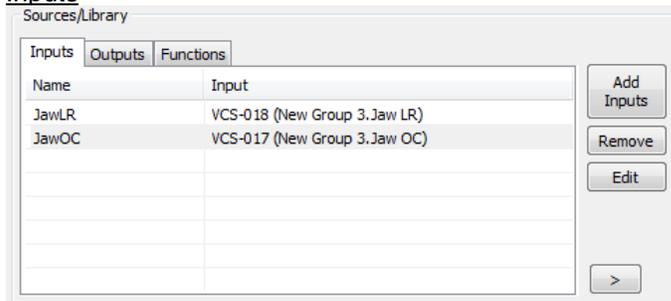


This window is divided into three sections: *Sources/Library*, *Expression* and *Output Channels*.

### **Sources/Library**

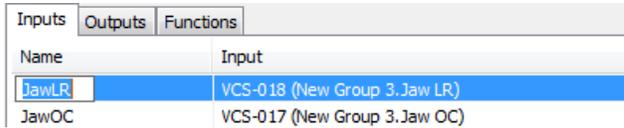
Here is where you assemble the sources you will need to build your channel expressions. Items listed in this section can be dragged into the Expression field, or inserted at the current cursor position by clicking on the  button. These three tabs are included:

#### Inputs

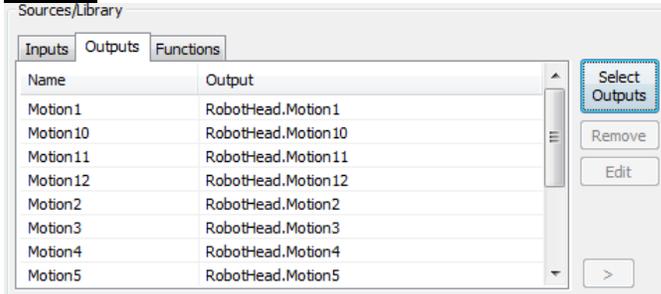


Select the *Inputs* tab to show a list of selected external inputs. To add to this list, click the *Add Inputs* button. This will bring up the [Select External Control](#) window, from which you can select the desired external inputs. To remove inputs from the list, select the inputs(s) to remove and click on the *Remove* button. The *Edit* button brings up the [Select External Control](#) window so you can change the associated external input source for the selected input.

The input list has two columns. The “Input” column shows the fixed name of the external input. The “Name” column shows a user-specified name for each item which will be used to reference the associated input in the *Expression* field. The name can be changed by first selecting the desired item in the list and clicking on the name field. A new name can then be entered.

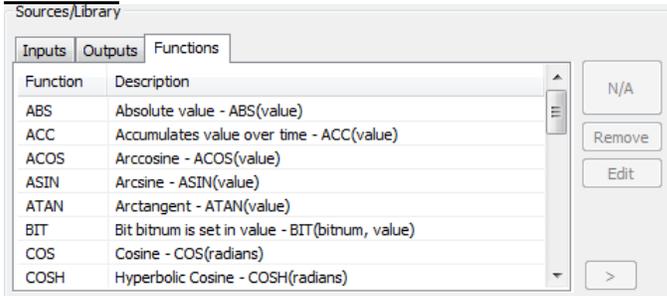


## Outputs



Select the *Outputs* tab to show a list of selected outputs. To add/remove items to this list, click the *Select Outputs* button to open the [Select Channels](#) window. Similar to the Inputs tab, each item can be renamed by the user.

## Functions



The *Functions* tab shows a list mathematical functions that can be included in a channel expression. Each function includes a brief description.

## Expression



The expression field contains a mathematical expression to be applied to the currently selected output in the *Output Channels* list using the channels default [merge mode](#). Expressions can include the following components:

### Operators

*Arithmetic:* The following arithmetic operators are supported:

+	Addition
-	Subtraction
*	Multiplication

/	Division
%	Modular division (returns the remainder when two integers are divided)
<<	Bit shift left
>>	Bit shift right
**	Raise a value to a power

*Comparator:* The following comparison operators are supported. Comparison statements resolve into 1 if true, 0 if false:

=	Is equal to
<	Is less than
>	Is greater than
<=	Is less than or equal to
>=	Is greater than or equal to
<>	Is not equal to

*Boolean:* The following Boolean comparison operators are supported. boolean statements resolve into 1 if true, 0 if false:

<b>AND</b>	Logical AND
<b>OR</b>	Logical OR
<b>NOT</b>	Logical inversion
<b>XOR</b>	Logical XOR

*Bit-wise:* The following bit-wise operators are supported:

<b>&amp;</b>	Bit-wise AND
<b> </b>	Bit-wise OR
<b>~</b>	Invert-bits
<b>^</b>	Bit-wise XOR

*Math Functions:* The following math functions are supported (all trigonometric functions are in radians):

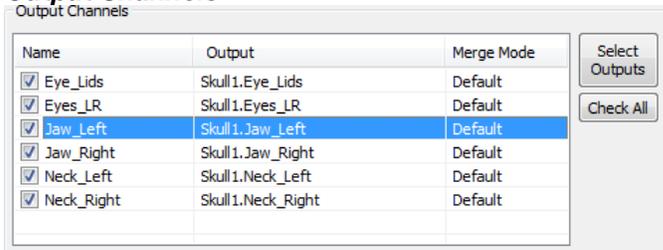
<b>ABS (x)</b>	Absolute value of x.
<b>ACC (x)</b>	Keeps a running sum of x.
<b>ACOS (x)</b>	Inverse cosine of x.
<b>ASIN (x)</b>	Inverse sine of x.
<b>ATAN (x)</b>	Inverse tangent of x.
<b>BIT (x, y)</b>	Evaluates bit x of the integer y. Returns 1 if set, 0 if not set.
<b>COS (x)</b>	Cosine of x.
<b>COSH (x)</b>	Hyperbolic cosine of x.
<b>EXP (x)</b>	Exponent function e <sup>x</sup> .
<b>HOLD (x, t)</b>	Samples x and holds it for t seconds. This function is useful for sampling random numbers.
<b>LOG (x)</b>	Natural log of x.
<b>LOG10 (x)</b>	Log base 10 of x.
<b>MAX (x, y)</b>	Returns the maximum value between x and y.
<b>MIN (x, y)</b>	Returns the minimum value between x and y.
<b>RND (x)</b>	Returns a random number between zero and x-1.
<b>SIN (x)</b>	Sine of x.
<b>SINH (x)</b>	Hyperbolic sine of x.

<b>SQRT</b> ( <i>x</i> )	Square root of <i>x</i> .
<b>TAN</b> ( <i>x</i> )	Tangent of <i>x</i> .
<b>TANH</b> ( <i>x</i> )	Hyperbolic tangent of <i>x</i> .

### *Special Variable and Constants*

<b>t</b>	Current application time in seconds.
<b>dt</b>	Change in time since last expression evaluation.
<b>PI</b>	3.14159265

### **Output Channels**



The *Output Channels* section lists the fixture channel outputs that are to be affected by channel expressions. To add/remove channels from the list, click on the *Select Outputs* button to open the [Select Channels](#) window. The *Name* column can be set by the user (similar to the *Inputs* list).

Channel Expressions can be enabled/disabled individually, without removing them, by checking/un-checking the associated checkbox.

### **Applying Changes**

Expression changes can be applied to outputs while the *Setup Channel Expressions* window is still open by clicking on the *Apply* button. At this time, all channel expressions will be checked for errors and then applied. You can also check the currently displayed expression by clicking on the *Check* button in the *Expressions* section.

## **Projects**

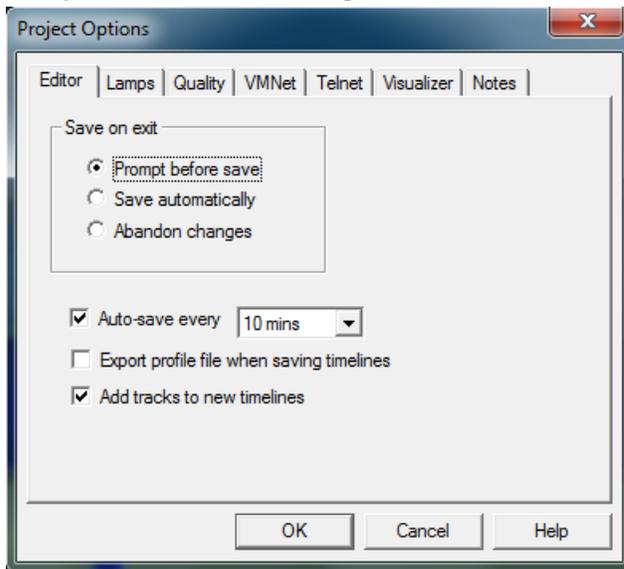
VenueMagic organizes all of your [fixtures](#), [groups](#), [audio files](#), [timelines](#), [playlists](#), [cue button](#) settings, [Fixture Preview](#) settings, [VCS](#) settings, [channel routing](#) settings and a number of other settings into **projects**. Think of a project as being the basis for your “show” with each different show being stored in a different project.

When VenueMagic runs for the first time, it automatically creates a project for you and gives it the name “Project $n$ ” where  $n$  is the next available project number. From then on, VenueMagic will always load the project you were working on when you last exited the program.

### **Project Options**

These options apply specifically to the currently loaded project.

## Project Editor Settings



### Save on exit

Specifies how VenueMagic will deal with unsaved modified files when the application is shut down. By default, the **Prompt before save** option is selected, which will prompt the user to save unsaved files before shutting down.

Select **Save automatically**, and changes will be saved on exit with no user interaction.

With **Abandon changes** selected, any unsaved changes will be abandoned when the application shuts down.

### Auto-save every...

Check this box to activate the auto-save feature, then select between 1, 5, 10, 30 and 60 minutes.

Auto save only occurs at the designated interval if no timelines are running.

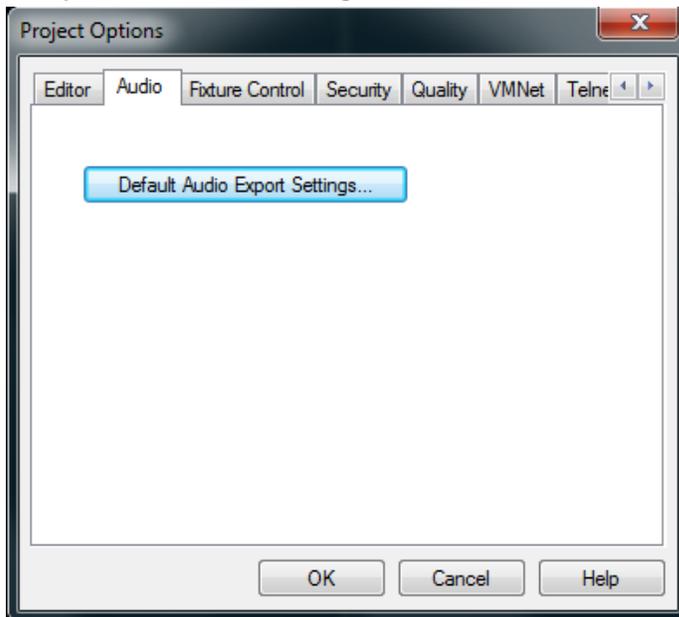
### Export profile file when saving timelines

Check this box to automatically generate a [profile file](#) each time a timeline is saved. The exported file will have the same path and name as the original, but with a .vcp extension.

### Add tracks to new timelines

Check this box if you would like an [audio](#) and [control](#) track automatically added to a new timeline when created. If unchecked, newly created timelines will be empty.

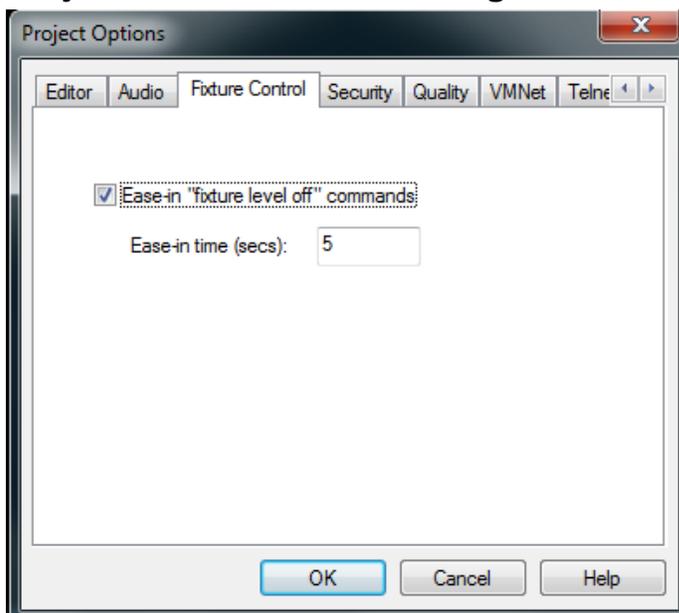
## Project Audio Settings



### **Default Audio Export Settings**

Certain Project, Timeline and Playlist export plug-ins that export audio require default settings for audio export (see [Exporting Projects, Timelines and Playlists](#)). Click in the **Default Audio Export Settings** button to bring up the [Setup Audio Export Window](#) where these default settings can be set. Note: some audio export settings will not be available and are grayed-out.

## Project Fixture Control Settings



### **Ease-in Settings**

The project ease-in setting sets how many seconds it will take to execute a Fixture level-off function. Rather than sending all channels immediately to zero (or rest position – see [Calibrate Lamps](#)), you can check the *Ease-in "fixture level off" commands* box and set the Ease-in time



The *VenueMagic Runtime* window provides only a few VenueMagic functions. The *Cue list* shows everything the VenueMagic [Cue List](#) shows. Click **Restart** to trigger all *Cue Buttons* with the *Auto play* box checked in the [Cue Buttons Properties General Tab](#). These Cue Buttons will also be triggered when VenueMagic is executed in this mode.

Click **Stop All** to stop playback of all timelines in the Cue list.

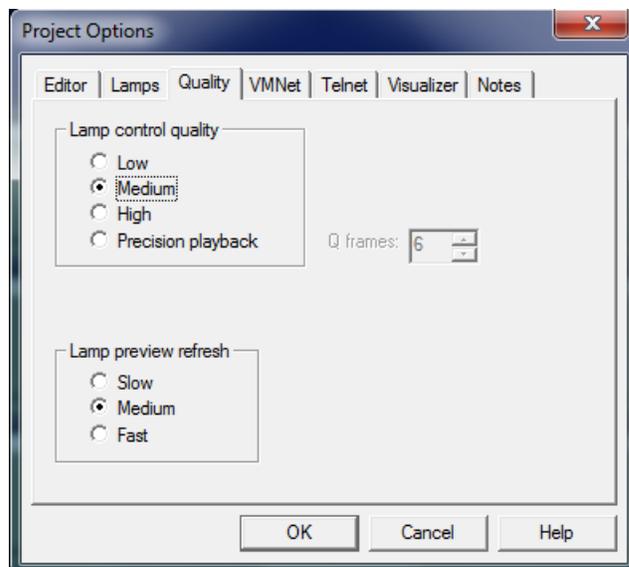
Click **Restore Editor** to restore VenueMagic to the normal non-runtime mode. The previously entered password must be provided upon request.

Click **About VenueMagic** to bring up the *About VenueMagic* window.

Click **Exit** to exit VenueMagic.

## Project Quality Settings

(Only Available for VenueMagic DMX+AV and above)



### Lamp control quality

This setting gives you some control over the VenueMagic update cycles based on the needs of your application. **High** update rates are more precise but limit the number of channels and the level of timeline complexity that can be controlled accurately at that rate. **Low** settings will handle more channels and greater complexity, but at the expense of lower accuracy. The **Medium** setting is a compromise between the two.

The best way to determine a proper setting is to pick the one you desire, and then observe the Cycle Load gauge at the bottom right of the application window. If it starts to drift into the red zone while your timelines are running, then you should probably select a lower quality.

### Precision Playback (SC+ and above only)

Precision playback mode is used when a high level of accuracy is required, though it does have certain limitations. Enabling precision playback mode does the following:

- Lamp control is output to hardware at an average of 30 fps with a variance of at most +/- 3ms per frame.
- Lamp control data is taken from each timeline at intervals of precisely 33.333 ms intervals.
- Output data is pre-queued to help guarantee accuracy and consistency of control.



The *Q-frames* setting lets you adjust how many frames are queued in the precision playback mode.

Precision playback should only be used in certain situations. For additional details, see [Using Precision Playback Mode](#).

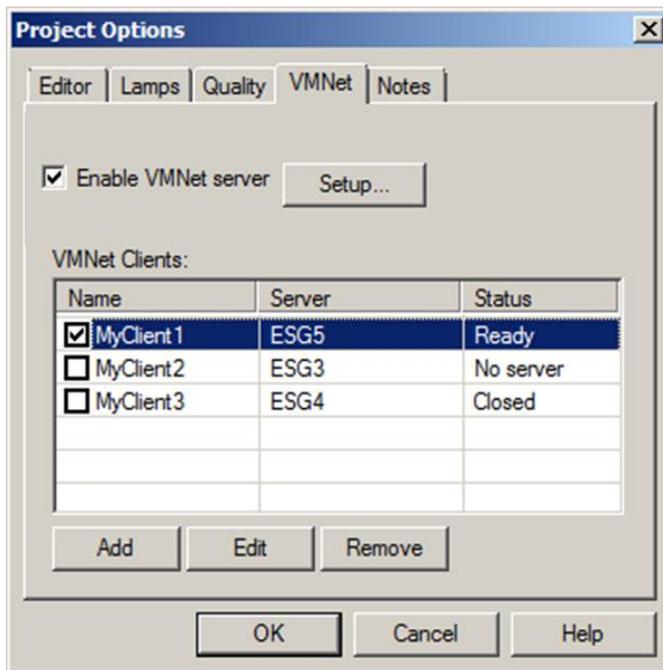
### Fixture Preview quality

Similar to the Lamp control quality, this lets you set the accuracy of the [Fixture Previews](#). If too many lamps in the preview screens are updating at a fast rate, it could impact the overall performance of VenueMagic.

Note: For *Fixture Previews* to function while in precision mode.

## Project VMNet Settings

*(Only Available for VenueMagic SC+ and above. Some features available in DMX+AV)*



### Enable VMNet server

Check this box to enable the [VMNet Server](#). Click *Setup* to open the VMNet Server Settings window.

### VMNet Clients

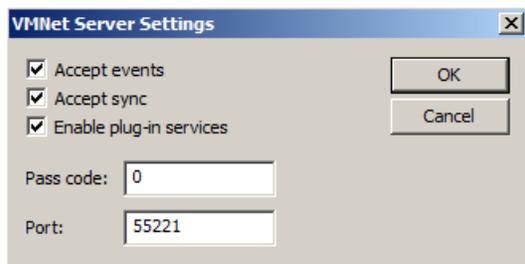
This is a list of VMNet clients that have been created for the project. To create a new [VM Client](#), click the *Add* button.

- Add** Click this button to add a new VMNet Client. This will open the VMNet Client Settings window.
- Edit** Opens the VMNet Client Settings window for the currently selected client.
- Remove** Click to remove selected clients from the VMNet Clients list.

For more information on VMNet servers and clients, see [VMNet](#).

### VMNet Server Settings

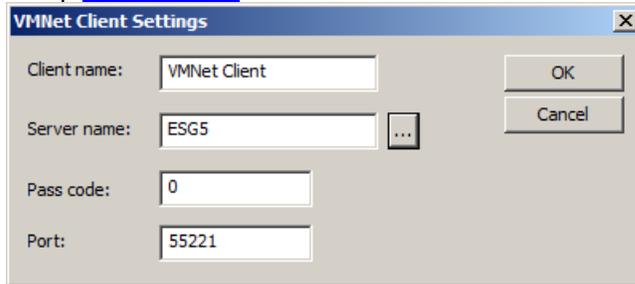
This window sets up the [VMNet server](#).



- Accept events** Check this box to enable the VMNet Server to process remote event execution messages sent by [VMNet clients](#).
- Accept sync** Check this box to enable the VMNet Server to process time code messages sent by a [VMNet Time Code Source](#).
- Enable plugin-services** Check this box so the VMNet server will process messages from a [VenueMagic plug-in](#) running on another application.
- Pass code** Enter in a VMNet Pass code. Can be a number from 0 to 2147483648. (See [VMNet Pass Codes](#)).
- Port** IP port address of the server. This is an advanced setting and, in nearly every case, should be left at its default value. The only time it should be changed is if there is a conflict with another application using the same port, which is unlikely. Consult your network administrator if this is a problem.

## VMNet Client Settings

Setup [VMNet Client](#).



VMNet Client Settings

Client name: VMNet Client

Server name: ESG5

Pass code: 0

Port: 55221

OK

Cancel

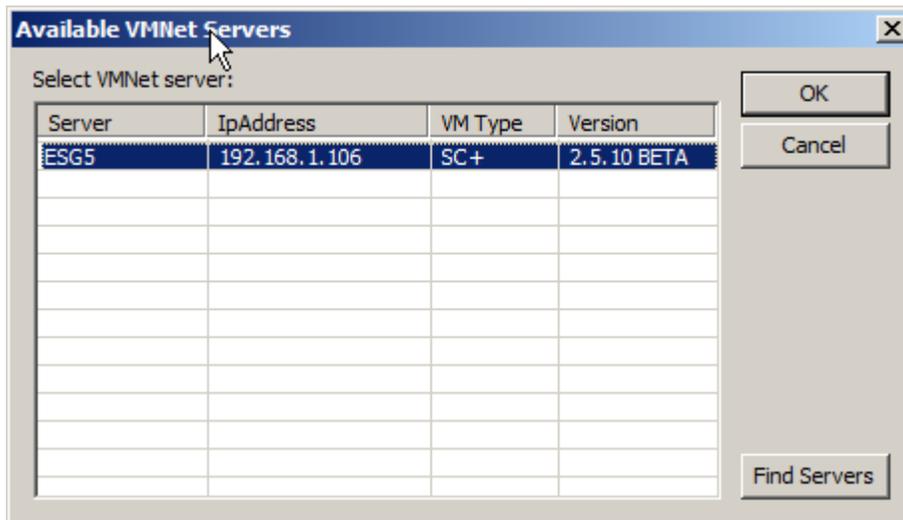
**Client name** Name used by VenueMagic features to identify client.

**Server name** The name or IP address of a VMNet server. Click the ... button to bring up the Available VMNet Servers window.

**Pass code** Enter the [pass code](#) of the selected server.

**Port** Enter the IP port address used by the selected server (see Port field description in [VMNet Server Settings](#) window).

## Available VMNet Servers



Available VMNet Servers

Select VMNet server:

Server	IpAddress	VM Type	Version
ESG5	192.168.1.106	SC+	2.5.10 BETA

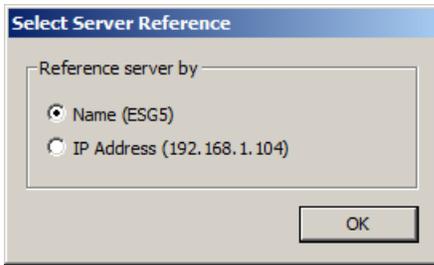
OK

Cancel

Find Servers

Shows a list of all VMNet servers currently detected on the network. Select the desired server and click *OK*. Click *Find Servers* to refresh the list. In some cases, it may be necessary to click *Find Servers* a couple of times to get a complete list.

After *OK* is clicked, the *Select Server Reference* window appears.



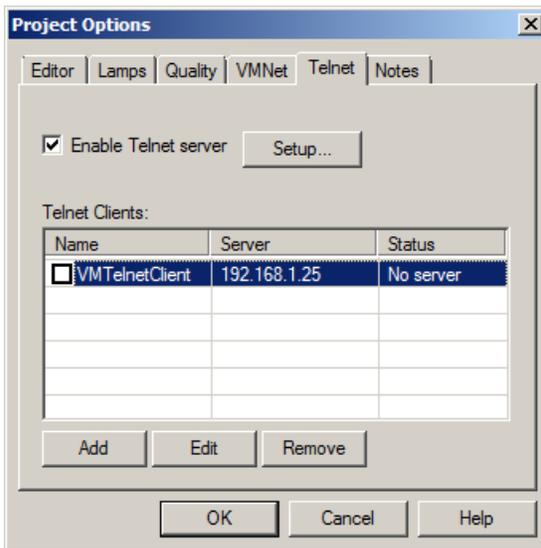
Select whether to use the VMNet server name or IP address to reference the server. If you select *Name*, then the computer name of the server will be used. The advantage to this is that you can let VenueMagic figure out which IP address is associated with the server. The disadvantage is that it is slower and a lot of VMNet activity with that server will impact the performance of VenueMagic.

Selecting *IP Address* will result in faster, more efficient communications with the server (hence little or no performance hit). However, if your network router chooses to reassign your VMNet server's IP address, you will have to manually select the new IP address.

## Project Telnet Settings

*(Only Available for VenueMagic SC+ and above.)*

Configures Telnet server and client settings for project.



**Enable Telnet server** Check this box to enable the [VM Telnet server](#). Click *Setup* to open the Telnet Server Setup window.

**Telnet Clients** This is a list of Telnet clients that have been created for the project, the server name or IP address and the connection status. Check/uncheck the box next to client *Name* to open/close the client's connection to the server.

The Status field can be one of the following:  
**Closed** – connection is closed  
**Waiting** – waiting for the server to respond and

negotiate the connection.

**Connected** – a successful telnet connection has been established.

**Cnx Error** – Results when an internet error occurs. Can also result when client does not understand server's responses (see *Expected server responses* section of the [Telnet Client Setup](#) window).

**Invalid login** – Server reported that login and or password were invalid.

**Uncertain** – Client could not determine if login was a success based on the response of the server (see *Expected server responses* section of the [Telnet Client Setup](#) window).

**No server** – A telnet server was not found at the specified address.

To create a new client, click the *Add* button.

<b>Add</b>	Click this button to add a new Telnet client. This will open the Telnet Client Settings window.
<b>Edit</b>	Opens the Telnet Client Settings window for the currently selected client.
<b>Remove</b>	Click to remove selected clients from the VMNet Clients list.
<b>Enable Telnet</b>	Name used by VenueMagic features to identify client.

## Telnet Server Setup

Sets up the [VMNet Telnet](#) server.

The screenshot shows a dialog box titled "Telnet Server Setup". It has a close button (X) in the top right corner. The dialog contains the following elements:

- Require login:** This section includes two text boxes: "User name:" containing "user" and "Password:" containing "password".
- Quiet mode**
- Echo characters**
- Prompt text:** VMTelnet>
- Error prefix:** ERROR:
- EOL string:** [CR][LF]
- Buttons: OK and Cancel

<b>Require login</b>	Check this box if the server should require a login. Then enter the user name and password the server will require.
<b>Quiet mode</b>	Check this box to prevent the server from sending back any characters to the client.
<b>Echo characters</b>	When checked, the server echoes back every

character it receives from the Telnet client.

**Prompt text**

Prompt text Telnet server shows after a successful login to indicate it is waiting for a command from the client.

**Error prefix**

The text that will precede any error messages returned by the Telnet server.

**EOL string**

Appended to the end of every line of text sent by the server.

**Telnet Client Setup**

Sets up a Telnet client.

The screenshot shows the 'Telnet Client Settings' dialog box. It includes the following fields and options:

- Client name:** VMTelnetClient
- Server address:** 192.168.1.25
- Use login:**
- User name:** admin
- Password:** \*\*\*\*\*
- Expected server responses:**
  - User name prompt text:** Login:
  - Password prompt text:** Password:
  - Login success text:** \$
  - Login failed text:** Login incorrect

**Client name**

An arbitrary name identifying the telnet client.

**Server address**

The computer name or IP address of the telnet server the client will connect to.

**Use login**

By default, this box is checked. Uncheck it if the telnet server this client will connect to does not require any type of login.

**Username  
Password**

Enter the username and password the telnet server requires.

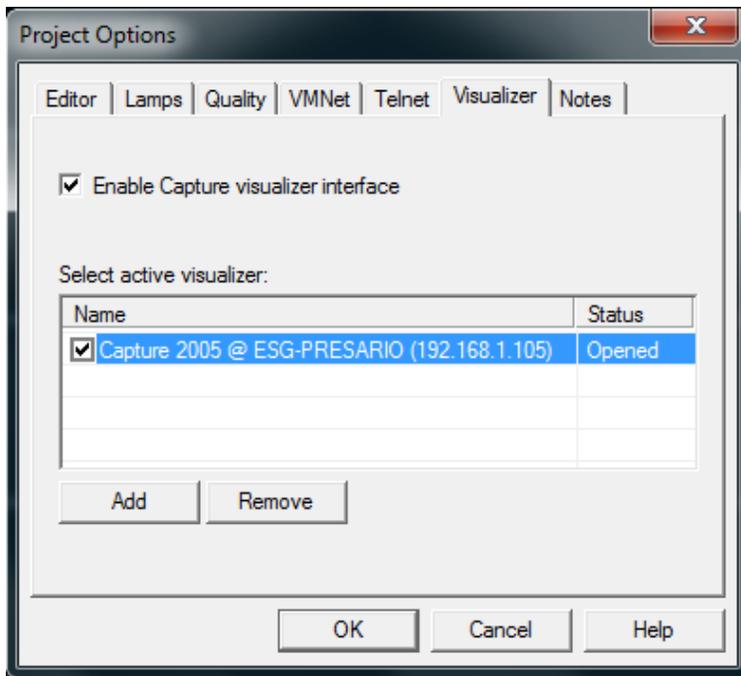
The *Expected server responses* section is where you tell the VenueMagic telnet client how to recognize prompts received from the telnet server. The default settings are sufficient in most cases but should be modified as required.

- User name prompt text** This is the text the client should expect from the server to indicate that the server is requesting a user name be entered. Exact text is expected (case is ignored).
- Password prompt text** Text expected from the server to indicate a password request. Exact text is expected (case is ignored).
- Login success text** All or part of the prompt indicating that login was successful.
- Login failed text** Text indicating that login failed. Exact text is expected (case is ignored).

## Project Visualizer Settings

(Only Available for VenueMagic Classic and above.)

Configures interface to Capture Polar™ Visualizer.



VenueMagic supports interfacing to the *Capture Polar* 3D Visualizer versions 2.8.11 and above. The Capture Polar visualizer is not included with VenueMagic and must be purchased separately (<http://www.capturesweden.com>). Check *Enable Capture visualizer interface* to enable this feature.

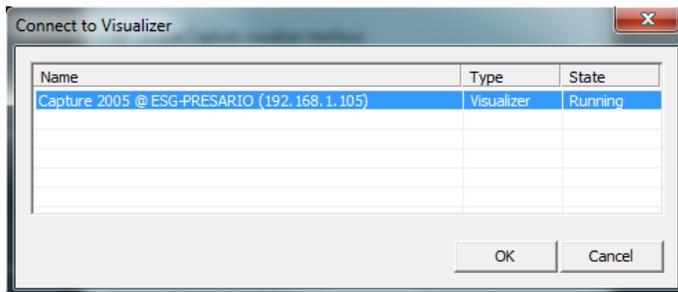
The interface is Ethernet-based, so you can run Capture Polar on the same computer or on another computer. Since both Capture and VenueMagic require a lot of processor power, it is recommended that you run them on separate computers unless you have a lot of memory and processing power. Computers running separately need to be connected to the same local area network.

The *Select active visualizer*: list shows all of the instances of Capture Polar you have registered with your VenueMagic [Project](#) and their current status. The list columns are:

<b>Name</b>	The name of the registered instance of Capture.
<b>Status</b>	The current status of the instance. Can be one of the following:  <b>Closed</b> – This instance of Capture is currently not running.  <b>Opening</b> – VenueMagic has connected with Capture and is sharing information.  <b>Opened</b> – Connection has been established and Capture is ready for use.  <b>Error</b> – A communications error has occurred. Close down Capture and VenueMagic and try again.

If no instances have been registered, this list will be empty.

To register an instance, click *Add* to bring up the *Connect to Visualizer* window.



This list shows every instance of Capture Polar currently running on the network or on the same computer, along with the *Type* and *State* information reported back by capture. Select the instances you wish to register and click *OK*.

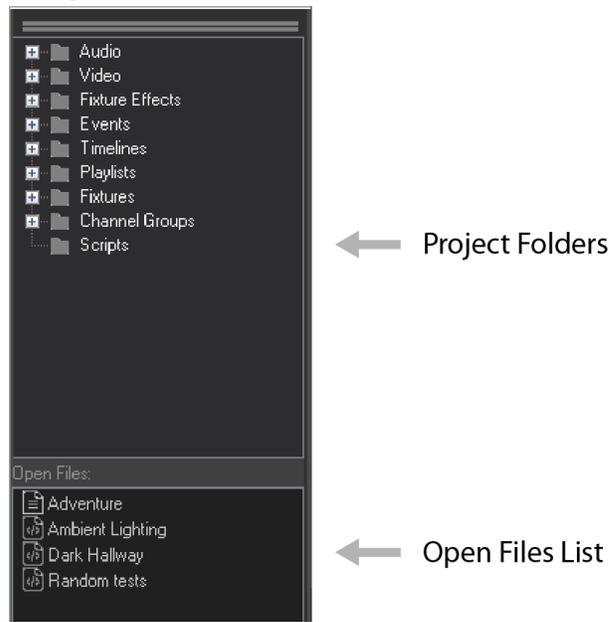
Once an instance of Capture has been registered, it will remain on the *Select active visualizer* list even when it is not running. Registering Capture instances in this fashion is necessary to enable VenueMagic to keep track of Capture project information within the VenueMagic project file.

Although you can have multiple registered instances, VenueMagic will control only one at a time. In the *Select active visualizer* list, check the instance you would like VenueMagic to control.

Click *Remove* in the *Visualizer Settings* window to remove an instance from the list.

For information on mapping VenueMagic fixtures to Capture fixtures, see the [Add Fixtures](#) section.

## Project Window



### Project Folders

- |                        |  |
|------------------------|--|
| <b>Audio</b>           | Contains all audio files that have been imported into the project. To import audio files, right-click on the folder and select <i>Import Audio File</i> to import one or more individual files in a single directory or <i>Import Audio Library</i> to search an entire folder and its subfolders for audio files and import them. <i>Import Audio Library</i> also retains the folder structure the files are found in. Only wave (.wav) files, MP3 and Windows Media (.wma) files are supported. |
| <b>Video</b>           | Contains all video files that have been imported into the project. To import video files, right-click on the folder and select <i>Import Video File</i> to import one or more individual files in a single directory. Most video formats are accepted.   |
| <b>Fixture Effects</b> | Provides easy access to all of VenueMagic's built-in fixture effects (see: <a href="#">Fixture Effects</a> ).  |
| <b>Events</b>          | Provides easy access to all of VenueMagic's built-in events (see: <a href="#">Event Tracks</a> ).  |
| <b>Timelines</b>       | Contains all timelines that have been added to the project. A new timeline is automatically added to this folder when it is saved for the first time. (See: <a href="#">Timelines</a> , <a href="#">Importing Timelines and Playlists from another Project</a> ).  |
| <b>Playlists</b>       | Contains all playlists that have been added to the project.  |

Functions similarly to *Timelines* folder. (See: [Playlists](#)).

<b>Fixtures</b>	Contains all of the fixtures that have been added to the project. To add fixtures to the project, double-click on this folder to bring up the <a href="#">Add Fixtures</a> window. You may also double click on a fixture or channel within the folder to edit its settings. (See: <a href="#">Fixtures</a> ).
<b>Channel Groups</b>	Contains all of the channel groups that have been added to the project. To add groups to the project, double-click on this folder to bring up the <a href="#">Group Builder</a> window. You may also double click on a group within the folder to edit its settings.
<b>Scripts</b>	Scripts are essentially plug-ins to enhance the capabilities of VenueMagic. Scripts are available on the VenueMagic website at <a href="http://www.venuemagic.com">www.venuemagic.com</a> . Also see <a href="#">Scripts</a> .

### ***Adding, Deleting & Renaming Subfolders***

To improve the organization of you project, you can add your own subfolders to the Audio, Timelines and Playlists folders. Simply right-click on the desired folder or subfolder and select *Add Folder*. Similarly, you may rename a subfolder or delete it (along with all of its subfolders). Items and subfolders in the above-mentioned folders may also be dragged into other subfolders.

### ***Renaming Timelines***

You can rename a timeline in the project window by right-clicking on the *Timeline* and clicking *Rename*. This will also rename the timeline file.

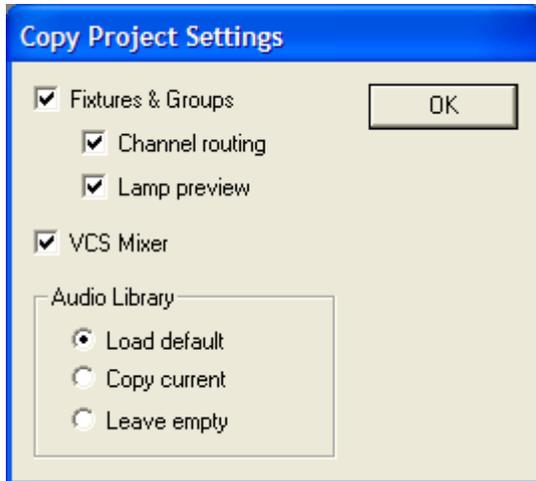
## **Open Files List**

This pane lists all currently opened project files. Right-click on a file to bring up a menu with the following selections:

<b>Show File</b>	Brings the file to the front.
<b>Close File</b>	Closes the file.
<b>Reload File</b>	Timelines and playlists may make reference to other timelines. If changes are made to a timeline currently referenced by a currently open timeline or playlist, it may be necessary to reload that timeline or playlist.
<b>Add to Project</b>	If the timeline or playlist is not part of the current project, select this to add it. This is another way of importing files into the project.

## ***Copy Project Settings***

When a new project is created, you are given the option of copying over certain settings of the last opened project to the new project.



<b>Fixtures &amp; Groups</b>	Copy all <a href="#">fixtures</a> and <a href="#">groups</a> into the new project.
<b>Channel routing</b>	Copy all programmed <a href="#">channel routes</a> . Only permitted if <i>Fixtures &amp; Groups</i> is checked.
<b>Fixture Preview</b>	Copy all <a href="#">Fixture Preview</a> settings. Only permitted if <i>Fixtures &amp; Groups</i> is checked.
<b>VCS Mixer</b>	Copy all settings for the <a href="#">Virtual Control Surface</a> .
<b>Audio Library</b>	Select how audio library should be copied over. <ul style="list-style-type: none"> <li>• <b>Load default:</b> Copy library from original installation into new project.</li> <li>• <b>Copy current:</b> Copy library from current project into new project.</li> <li>• <b>Leave empty:</b> Do not copy any library into the new project.</li> </ul>

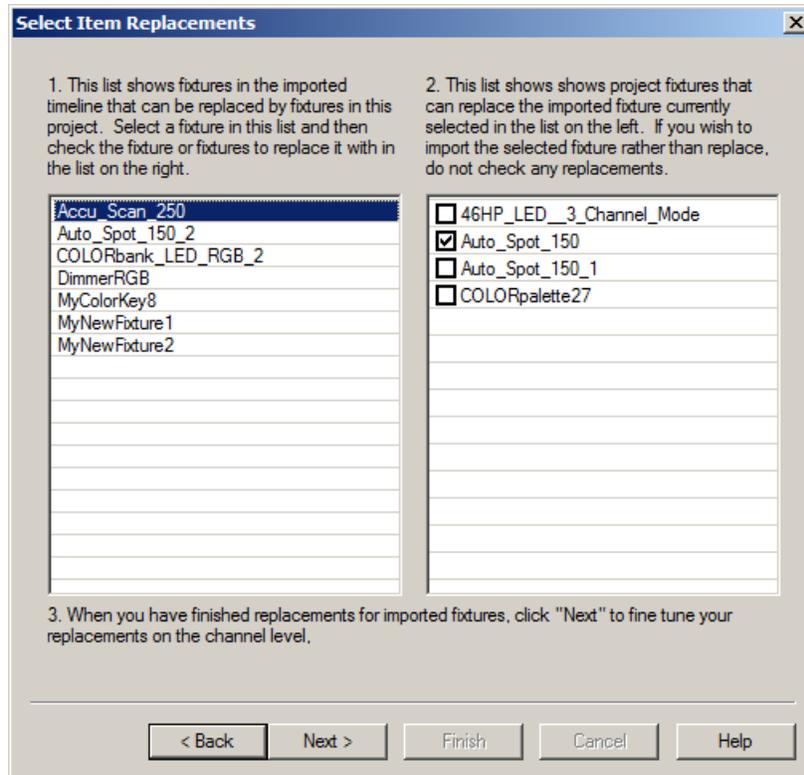
Note: Only links to audio files are copied. The files themselves are not copied.

## ***Importing VenueMagic 2.1 Timelines and Playlists from another Project***

Opening a timeline created from a project other than the one currently loaded can pose certain complications. The timeline may contain fixtures not included in the project or, even if the project does contain those fixtures (or perhaps similar ones), how should substitutions be made? Fortunately, VenueMagic has a solution for this, though it does require a little interaction from the user.

Start by opening a “foreign” timeline into your project by selecting File→Open from the main menu, and then selecting the timeline in the file list. VenueMagic will first check to see if all of the fixtures referenced in the timeline are included in main fixture library or the [user fixture library](#). If some are not, VenueMagic will add them to the appropriate library and alert the user with the following window:

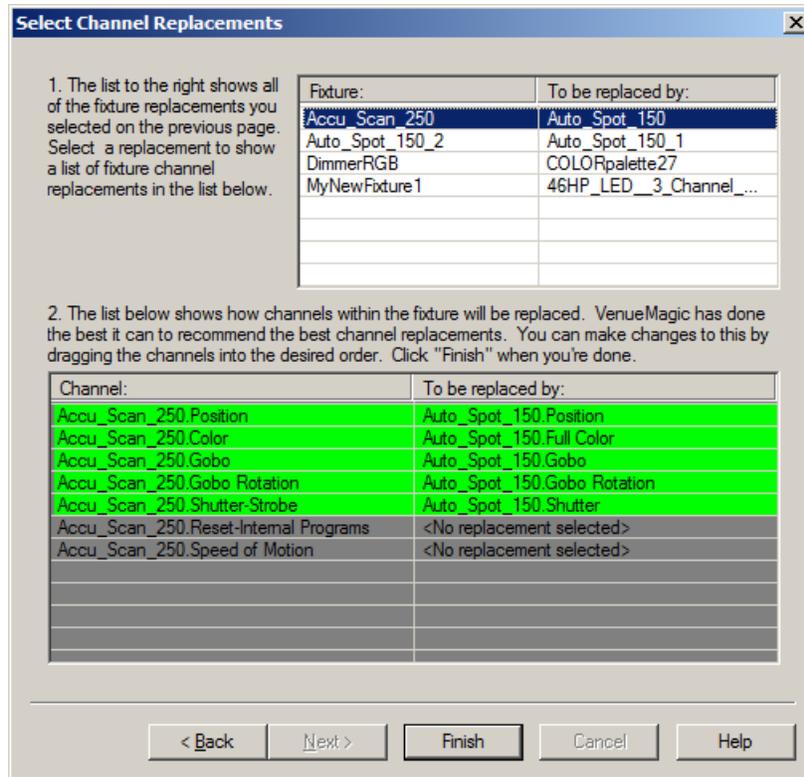




List #1 on the left shows all of the new fixtures in the foreign timeline. At this point, nothing has been added to the project yet. List #2 on the right shows all of the fixtures currently included in your project. These fixtures will have been previously added by the user using the [Add Fixtures](#) window.

Select the first fixture in List #1, then, in List #2, check the fixture you would like to replace with the selected fixture. Then select the next fixture and check its replacement, and so on. Any fixtures in List #1 that have not been assigned a replacement in List #2 will be added to your project.

When you have finished selecting replacements, click *Next*.

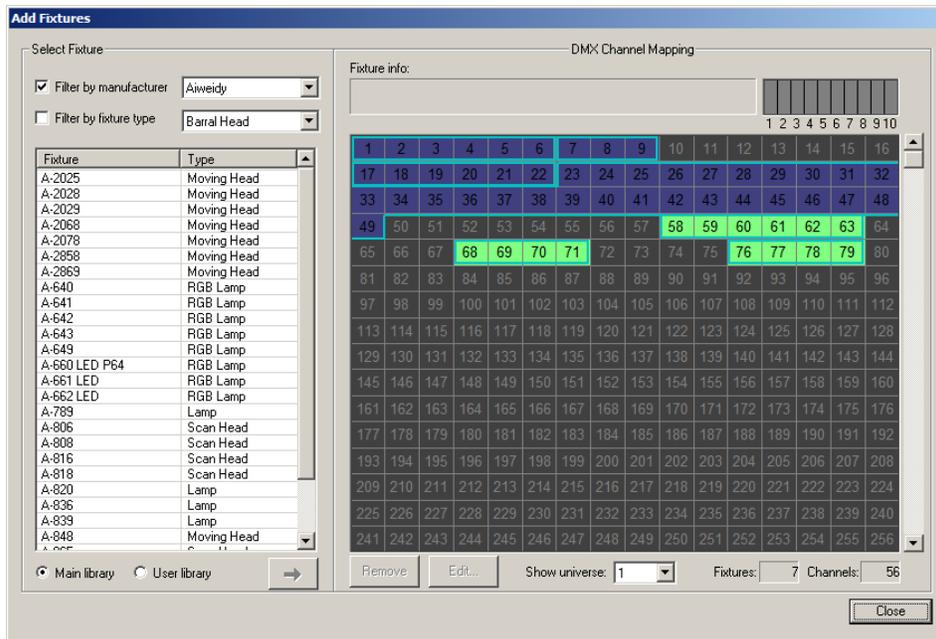


In addition to selecting which fixture will replace another, you must also make sure that the individual channels in the fixture are replaced properly. If you are replace a fixture with an identical fixture this task is easy. However, if the two fixtures are not the same, VenueMagic may need some additional help.

In List #1, you will see a summary of all of the fixture replacements that were assigned in the previous screen. Select one of them, and List #2 will be populated with VenueMagic's best guest as to how the individual channels should be replaced. In most cases, VenueMagic will do a pretty good job. However, if changes need to be made, you can click and drag channels on the right side of this list to line them up with different channels on the left. This is, of course, subject to certain rules. For more details on how to modify channel replacements, see [Selecting Track Channel Replacements](#), which functions similarly.

After you have verified (and perhaps corrected) channel replacements for channels, click *Finish*. VenueMagic will then request that you save the foreign timeline under a different name so that the timeline under the old name will belong to its original project. If you do not wish to change the name, just save it with the same name in *Save As* file window.

Now, if you look at the [Add Fixtures](#) window, you will notice that the new added fixtures have been assigned addresses and are displayed in a different color. They will remain in this color until they are moved to a different address.



Now, let's review what VenueMagic did while importing the foreign timeline into your project:

1. Fixtures used by the timeline were added to your fixture libraries if they didn't already exist.
2. You selected fixtures in the current project to replace fixture references in the foreign timeline.
3. VenueMagic suggested channel replacements for each fixture replacement which you verified or modified.
4. VenueMagic modified the foreign timeline with the fixture and channel replacements.
5. Fixtures that were not assigned a replacement were added to the project.

## ***Importing VenueMagic 2.0 Timelines and Playlists from another Project***

Timelines created in VenueMagic 2.0 cannot be imported with fixture references because they do not include the necessary information in them. When loading a VenueMagic 2.0 timeline from another project, the following warning is shown:

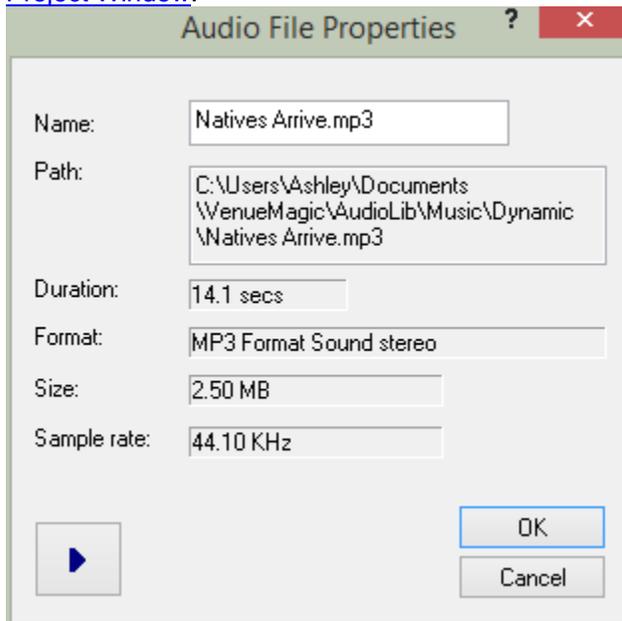


VenueMagic will load the timelines, but all [control track](#) fixtures will be removed. It is then the responsibility of the user to add fixtures to the timeline control tracks. It is important to change the name of the timeline (*File: Save Project as*) otherwise you will get the same message when the previous owner attempts to load the timeline.

As fixtures are manually re-added to the tracks, VenueMagic will do the best it can to intelligently reassign fixture channels settings for any [fixture effects](#) the track may contain. It may be a good idea to review all of the fixture effect settings after a fixture has been added to a control track just to make sure all the settings were reassigned properly.

## Audio File Properties

This dialog window is displayed when you double-click on an audio file in the Audio Folder of the [Project Window](#).



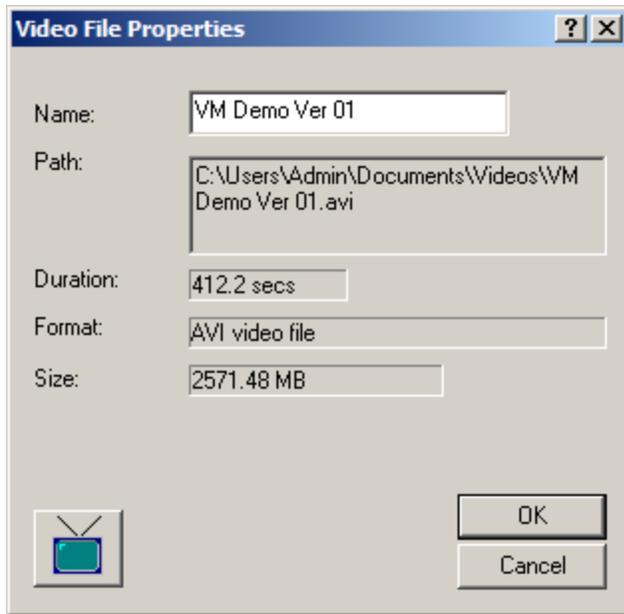
**Name** Enter into this field what should be displayed for the audio file in the Audio Folder of the Project Window. This will not change the name of the file itself.

The other fields are non-editable and are self-explanatory. Click the  button to play the file.

## Video File Properties

*(Only Available for VenueMagic DMX+AV and above)*

This dialog window is displayed when you double-click on a video file in the Video Folder of the [Project Window](#).



**Name** Enter into this field what should be displayed for the video file in the Video Folder of the Project Window. This will not change the name of the file itself.



The other fields are non-editable and are self-explanatory. Click the  button to bring up a special Video Playback window with controls for previewing the video.

## Using Precision Playback Mode

VenueMagic [high-quality](#) playback mode provides a level of playback precision and accuracy that is more than adequate for most lighting, motion and prop control applications, where the human eye is the final judge of playback timing. However, there are some applications where a much higher level of precision is required. For example, certain animatronics applications may depend on precise, consistent control of pneumatic valves or commanded servo positions in order to function properly. In these instances, *Precision playback* mode should be used.

Enable precision playback in the [Quality](#) tab of Project Options window. Once enabled the following playback enhancements are applied:

- Lamp control is output to hardware at an average of 30 fps with a variance of at most +/- 3ms per frame.
- Lamp control data is taken from each timeline at intervals of precisely 33.333 ms intervals.
- Output data is pre-queued to help guarantee accuracy and consistency of control.

### Selecting a Proper Q-frames Value

Much of what precision playback mode does is accomplished by pre-queuing hardware output. By default, the size of the queue is 6 frames. This can be adjusted in the [Quality](#) tab of Project Options window. The larger the queue is, the less the chance for inconsistent playback. However, larger queues can cause other problems so a balance must be determined, usually by trial and error. Problems with larger queues includes:

- *Sluggish response in channel routing.* For example, if a slider is setup to control a lamp level through [channel routing](#), a queue length of 30 frames will cause a one second delay between moving a slider and seeing the affect of the move on the actual lamp.

- *Delay in timeline start time.* When a timeline is started, there will be a delay while the queue is filling-up with data from the timeline. A queue length of 30 frames will cause a one second delay between the command to start a timeline (by [cue button](#) or any other method) and the actual start.
- *Placement of Run Timeline Events.* [Run Timeline Events](#) placed on a timeline are automatically adjusted internally during playback to compensate the delay induced by the precision playback mode queue size. For instance, if you have placed a *Run Timeline Event* at time=10 seconds on a timeline, and the queue size has been set to 30 frames, VenueMagic will automatically adjust the event's actual start time back a second (to time=9 seconds) to compensate for the queue delay. That way, *Run Timeline Events* will always appear to trigger at the expected time, regardless of the queue size.

However, this will cause problems if you wish to place the event at a time that is less than the queue's delay time, such as at time=0.5 seconds on the above example. Any *Run Timeline Events* placed at such a time will be disabled at playback time.

### **Master Sync Timelines**

In precision playback mode, all running timelines are synched to the timebase of the current *Master sync timeline* as determined by the *Master sync timeline* setting in the [Synching](#) tab of the *Timeline Options* window. This applies to both [Master Sync Track](#) and [External Clock Synching](#) in that:

- A running timeline that is not the current Master Sync timeline will ignore its own Master Sync track and follow that of the current Master sync timeline.
- A running timeline that is not a Master Sync timeline will ignore its own external sync source (if there is one) and follow the external sync source of the current master timeline as if it were its own, *even if the first timeline does not have synching enabled.*

The first timeline to be run with the [Master sync timeline](#) option enabled becomes the *Master Sync timeline*. It will remain the Master sync timeline over all other timelines run afterwards until it ends (or is terminated), at which time, a new master sync timeline is automatically select from among other running timelines based on the longest running of the highest priority (*High*, is first choice, followed by *Medium* and then *Low*) timeline.

### **Issues Associated with Precision Playback Mode**

Below is a list of issues and behaviors that must be considered while using Precision playback mode:

- *Channel routing delays.* (Discussed above)
- *Timeline start delays.* (Discussed above)
- *Run Timeline Event placement.* (Discussed above)
- *Applies to all timelines in project.* When enabled, precision playback mode applies to all of the timelines in a project. You cannot select some timelines for precision playback mode and others for a different mode.
- *Disabled in record mode.* During [real-time recording](#) mode, precision playback mode is disabled and switched to [high-quality](#) mode.
- *Fixture Preview requires hardware to be connected.* While in precision playback mode, the [Fixture Preview](#) window only functions for fixtures that are currently controlling actual hardware. If you wish to see a preview without hardware attached, switch to one of the other [Lamp control quality](#) modes.
- *Switch modes at any time.* You can switch in and out of precision playback mode at any time (even during timeline playback) from the [Project Quality Settings](#) window.

### **When to Use Precision Playback Mode**

The precision playback mode is a powerful feature, though it has limitations and should only be used in certain applications where a high degree of accuracy is required to properly control digital, analog and DMX outputs. This might include:

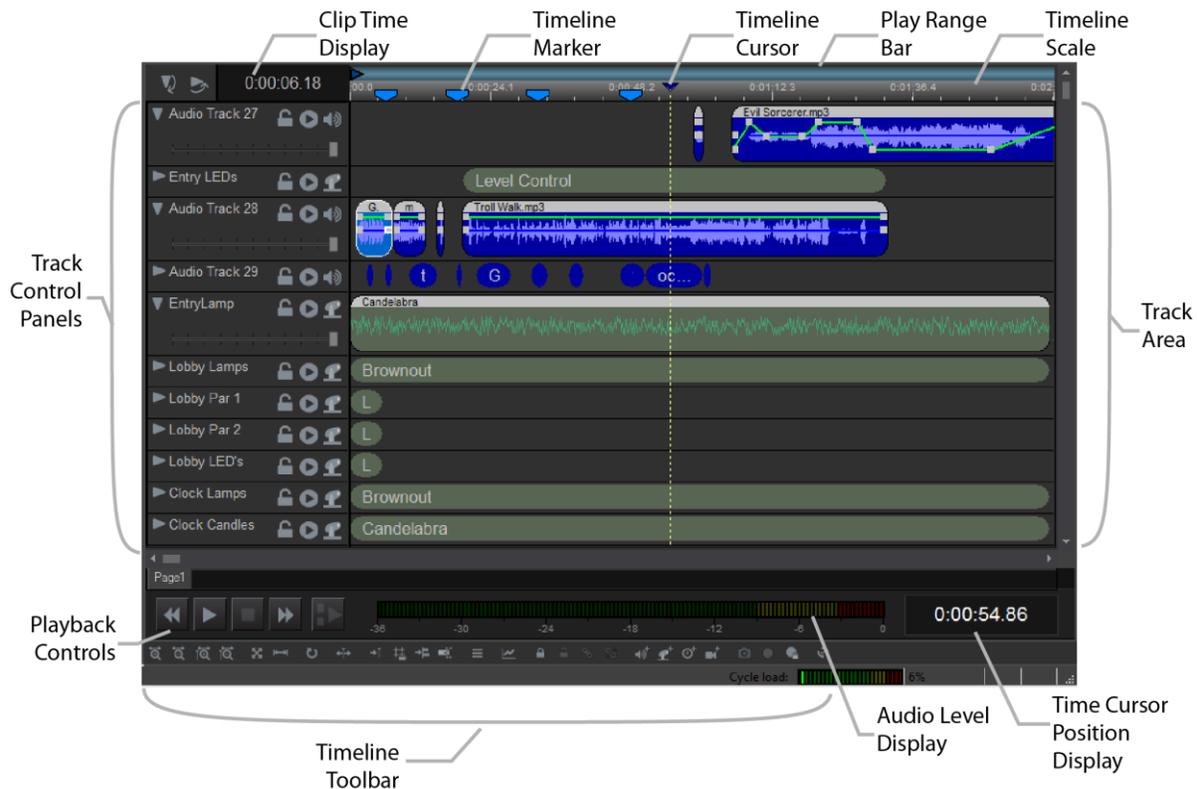
- Pneumatic valves where accurate, consistent duty cycles are required for a desired affect (keep in mind that even though accuracy is +/3 ms, you still only have 33.333 ms resolution).
- Motion control applications where small variations in timing can introduce “bumps” that result in a noticeable change in smoothness.
- Precision LED chasing where slight “glitches” in a sequence can be perceived by the human eye.

Precision playback mode is never required for typical stage usage of par cans (incandescent or LED) and/or moving heads. Using precision playback mode with [external syncing](#) is an advance feature that should be well understood before attempting.

## Timelines

Timelines are at the heart of VenueMagic operation. It is here that you produce your “show” by placing audio clips, fixture effect clips and event clips and organizing them into synchronized playback.

Anyone who has had experience with timeline-based video or audio editing software will find VenueMagic timelines simple and intuitive to use. In addition, your VenueMagic installation includes a number of tutorial videos to help you come up to speed quickly.

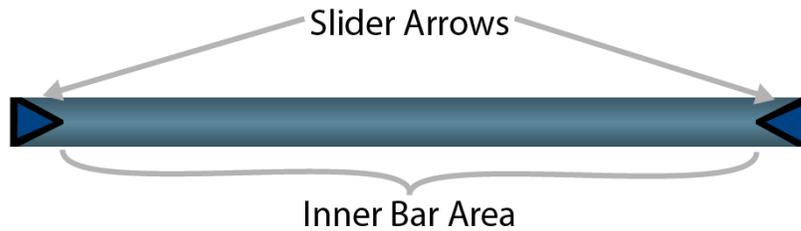


### Clip Time Display

Shows the length of a selected clip. If multiple clips are selected then it shows the time range covered by all selected clips. While dragging a clip or clips, the display changes color and shows the start time of clip or clips.

Change the time format in [Timeline Options](#).

## Play Range Bar



The play range bar defines the start and end playtimes for the timeline. If *auto adjust play range*  is turned on, the bar will automatically resize itself to include all clips in the timeline. Click and drag the sliders arrows to set it manually. Click and drag the inner bar area to move both end points together.

Any manual movement of the play range bar will turn off *auto adjust play range*.

## Timeline Scale

Shows the currently displayed time range. Use the horizontal scroll bar to scroll through time. To change the time range scale use the  or  toolbar buttons. You can also set the scale range in the [Timeline Options](#) window.

Change the time format in [Timeline Options](#).

## Timeline Markers

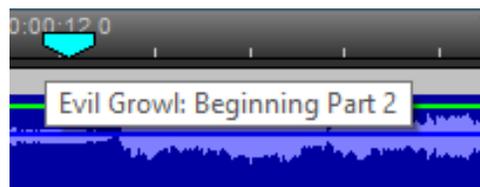
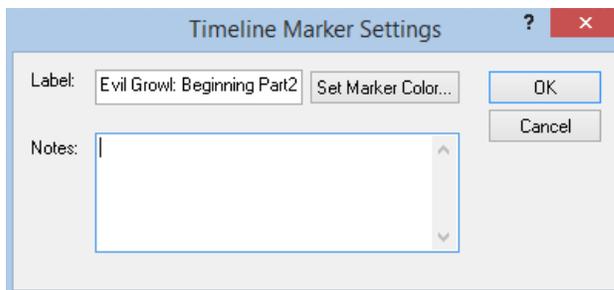
(Only Available for VenueMagic Classic and above)

Timeline markers can be placed on the [timeline scale](#) of a [timeline](#). There are two types of timeline markers, *general* and *teleprompter*. Teleprompter markers are for use with the VenueMagic Teleprompter window, and are discussed in the following sections:

[Teleprompter](#)  
[Timeline Teleprompter Markers](#)

The remainder of this section will be devoted exclusively to *general* timeline markers.

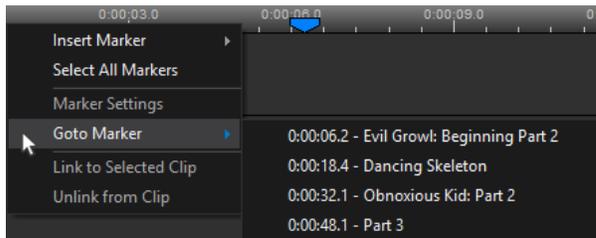
General timeline markers let you mark a location in the timeline that you can return to later. To insert a marker, right-click in the timeline scale and select *Insert Marker*→*General*.



Now insert a label and some option notes for the marker. You can also select a color for the marker by clicking on *Select Marker Color*. When you move the mouse cursor over the marker, it will display the label for about a second, followed by the label and the notes together.

You can also add markers at the current time cursor position by hitting Ctrl-M. If this is done during playback, markers are added without displaying the Timeline Marker Settings window.

To move to a timeline marker, right-click in the timeline scale and select *Goto Marker*



## Linking Markers to Timeline Clips

Both *general* and *teleprompter* timeline markers can be linked to an audio, video, lamp control or event clip on the timeline. When linked, the markers will always follow the clip when moved.

Follow these steps:

1. Select all markers you would like to link to a timeline clip.
2. Right-click on the timeline clip to link to and select *Link to Selected Markers*.

Similarly, you may first select a clip, then right-click on a marker and select *Link to Selected Clip*.

Unlink a single marker linked to a clip by right-clicking on the marker and selecting *Unlink from Clip*.

Unlink all markers linked to a clip by right-clicking on the clip and selecting *Unlink from All Markers*.

## Track Area

The Track Area contains any number of the five supported track types, which are:

[Audio Tracks](#)

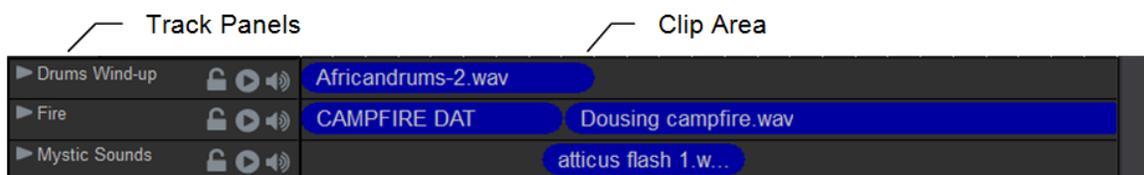
[Video Tracks](#) (one only—supported by DMX+AV edition and above).

[Control Tracks](#)

[Event Tracks](#)

[Group Tracks](#)

Tracks can be added to the timeline from the *Insert* menu of the main menu.

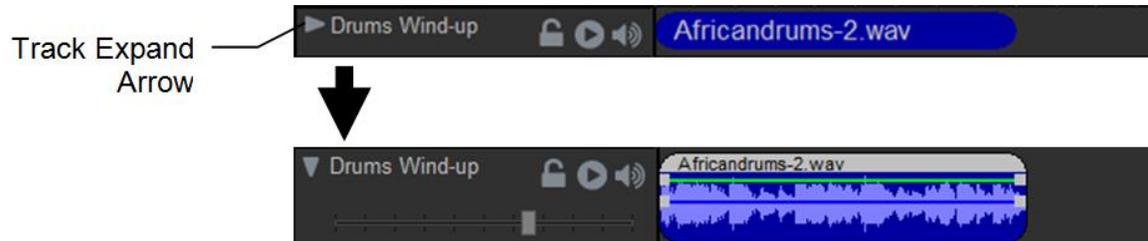


Each track has a *Clip Area*, where clips can be dragged over from the [Project Window](#) and a *Track Panel*, which includes controls specific to the track types. More information on the different

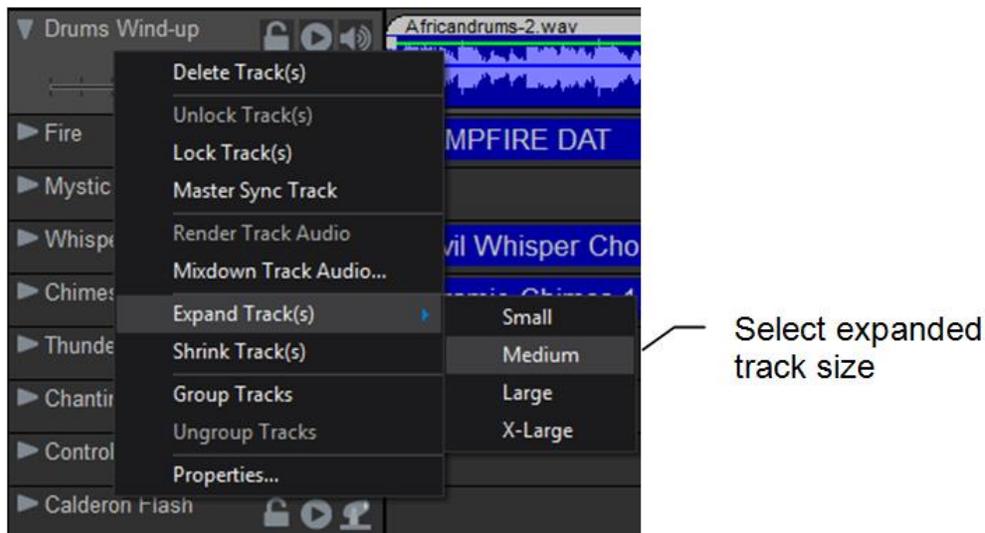
track types and their respective control panels can be found in the help section for each of the track types.

## Setting Track Display Size

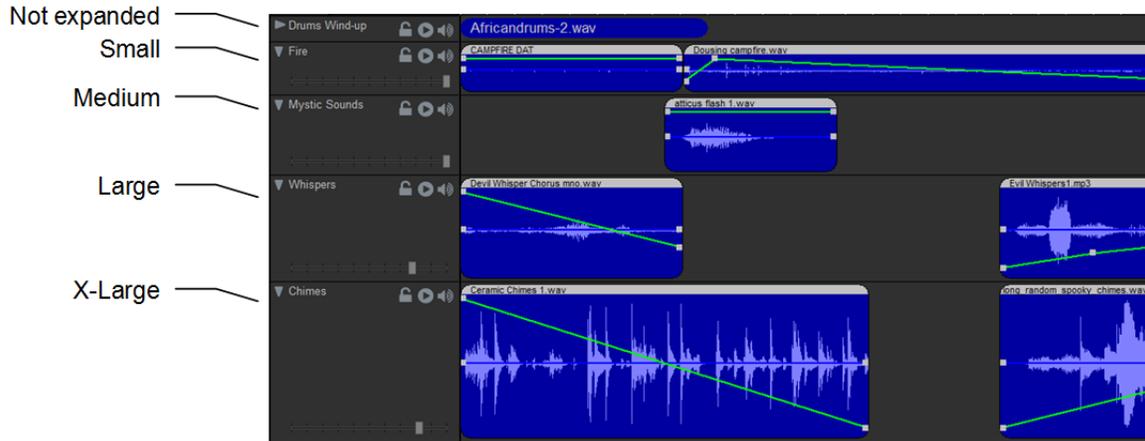
By default, the track height of all tracks in the [Track Area](#) of the Timeline is minimized in order to optimize the number of tracks visible on the page at once. To see more detail in the track clips as well as the Track Panel, click on the *Track Expand Arrow*.



Tracks can be expanded to one of four sizes by right-clicking on the desired tracks and selecting the desired size under the Expand Track(s) menu option.

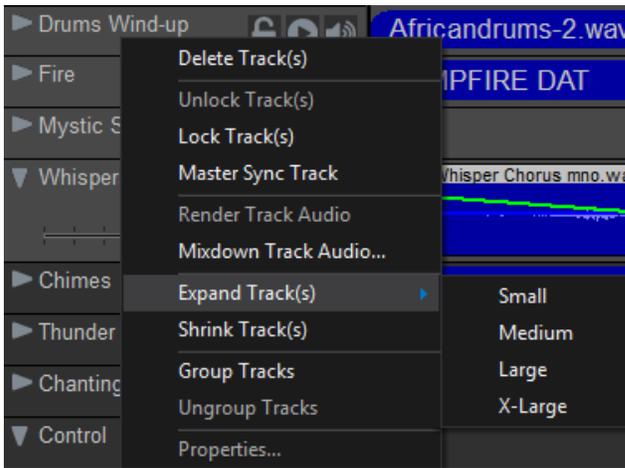


## Track Sizes

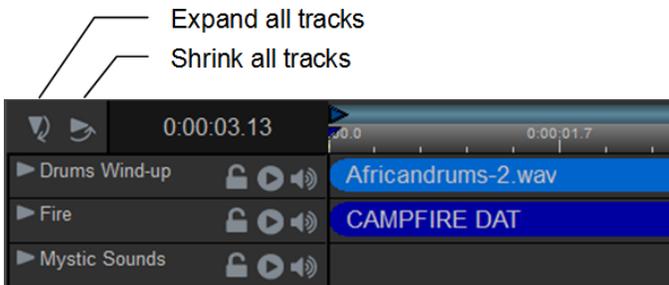


### Expanding/Shrinking Multiple Tracks

Expand or shrink multiple tracks at the same time by first selecting the desired tracks and then right-clicking on one of the highlighted tracks and selecting the *Expand Track(s)* or *Shrink Track(s)* menu options.



Expand or shrink all tracks at once by clicking on the Expand all tracks or Shrink all tracks buttons right next to the Clip Time Display.



## ***Time Cursor***

Marks the current playback position. Click the cursor handle  to drag the cursor across the timeline. There are several options for how the time cursor will behave during and after playback. They are set in the [Timeline Options](#) window.

## ***Time Cursor Position Display***

Displays the current position of the time cursor. Change the time format in [Timeline Options](#).

## ***Timeline Audio Level Display***

Graphically shows the audio levels of the timeline during playback.

## ***Timeline Toolbar***



Zoom in/out the timeline time scale. Expands from the timeline origin.



Zoom in/out the timeline time scale. Expands around the current time cursor position. You can also hold the Shift-key down and turn the mouse wheel to zoom in/out around the mouse cursor.



Adjust timeline zoom to include all clips and the play range.



Adjust timeline zoom to encompass the selected clips.



Loop playback (on/off).



Shift timeline to include the time cursor.



Split selected clips at the current time cursor position. Clip must be both selected and intersected by the time cursor. Works for Audio, Video and Fixture Effect clips.



Enable/disable snap to grid feature. Grid spacing is set in the [Timeline Options](#) window.



Enable/disable snap to clip edge feature. With this feature enabled, clips being dragged will gently snap to the start and end times of other clips on the timeline. This makes it much easier to line clips up precisely. This feature can be temporarily disabled by holding down the SHIFT key while dragging clips.



Enable/disable auto adjust play range function for [Play Range Bar](#).



Show [Timeline Options](#) window.



Show the [Envelope Editor](#) for selected clip.



Lock/unlock selected clip(s). This will prevent them from being moved on the timeline.



Link/unlink selected clips. Linked clips move together when dragged.



Add [audio track](#).



Add [control track](#).



Add [event track](#).



Snapshot channels at time cursor. (see [Snapshot Channels](#)).



Enables recording for all selected [Level Control](#) effects for which recording has been set up.



Locks record mode so that recording does not disable when playback stops.

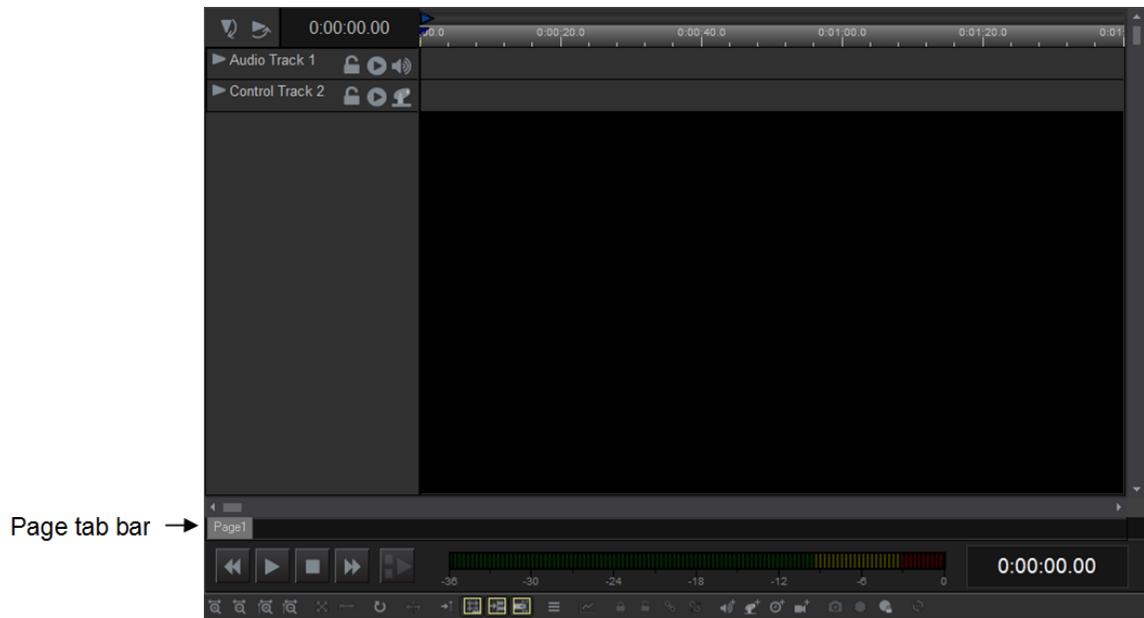


Enables external syncing if it has been setup for this timeline. (See [Timeline Syncing Options](#))

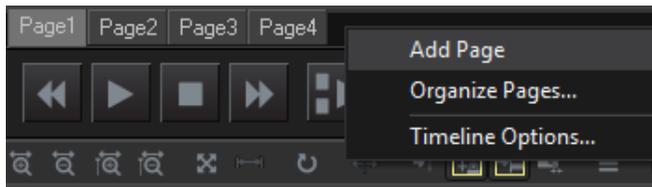
## ***Timeline Pages***

Some VenueMagic timelines can get pretty complicated, sometimes with hundreds of tracks. Having so many tracks can make it very cumbersome to navigate around your timeline. To make this easier, VenueMagic provides the user with *Timeline Pages*.

When a new timeline is added to the project, it defaults to a single page. This is reflected in the *Page Tab Bar*, which shows all of the pages currently available to the timeline.



Additional pages can be added from the main menu by selecting *Timeline*→*Add Page*. This can also be accomplished by right-clicking in the *Page tab bar* and selecting *Add Page*.



Select the current page by clicking on the associated tab in the *Page tab bar*. As timeline tracks are added to the timeline they will be placed on the currently selected page.

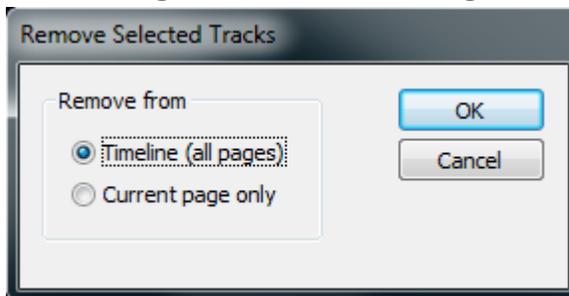
Remove a page by right clicking on the associated page tab, then selecting *Remove Page Tab* from the pop-up menu.

For information about removing tracks from a page, see [Removing Tracks from a Page](#).

### ***Timeline Page Organizer***

A more comprehensive way of managing tracks in timeline pages is the [Organize Timeline Pages](#) window. Open this window from the main menu by selecting *Timeline*→*Organize Pages...*

## **Removing Tracks from a Page**

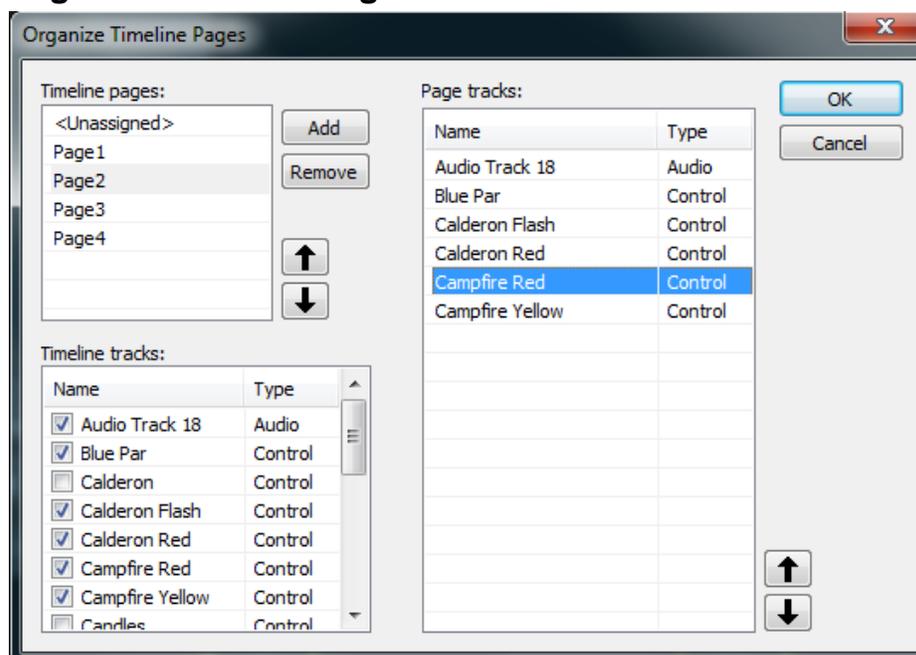


If a track is assigned to one or more pages, then a decision has to be made when that track is removed from a page. Select one of the following options.

<b>Timeline (all pages)</b>	Track is deleted altogether from timeline.
<b>Current page only</b>	Track is removed from currently selected page but not deleted from the timeline. If it is assigned to other pages, those assignments are not affected.

Note: Removing Group Tracks from a page is handled differently from the other track types. See [Group Tracks and Timeline Pages](#) for more details.

## Organize Timeline Pages



The *Organize Timeline Pages* window is used to assign existing timeline tracks to pages. It is divided into these sections:

### **Timeline pages:**

This list shows all timeline pages. Click on the *Add* button to add another page to the timeline. Remove selected pages by clicking *Remove*. Removing pages does not remove timelines assigned to the page. Rename a page by clicking on the page in the list twice, slowly (not a double-click) then enter the new name.

Use the   buttons to change the order of the selected page.

### **Timeline tracks:**

This lists all timeline tracks. Selecting a page in the *Timeline pages* list sets the checkboxes in the *Timeline tracks* list to reflect the timelines currently assigned to that page. Check/uncheck the box to assign/un-assign the associated track to the selected page. Individual tracks may be assigned to multiple pages.

### **Page tracks:**

Shows tracks assigned to currently selected page as checked in the *Timeline tracks* list. If *<Unassigned>* is selected in the Timeline pages list, then this list shows all timelines that have not been assigned to any page.

Use the   buttons to change the order of the selected track within the currently selected page.

## **Playback Controls**



Play timeline starting at [time cursor](#) position.  
*Hot key:* SPACEBAR (while not in playback).



Stop playback.  
*Hot key:* SPACEBAR (during playback).



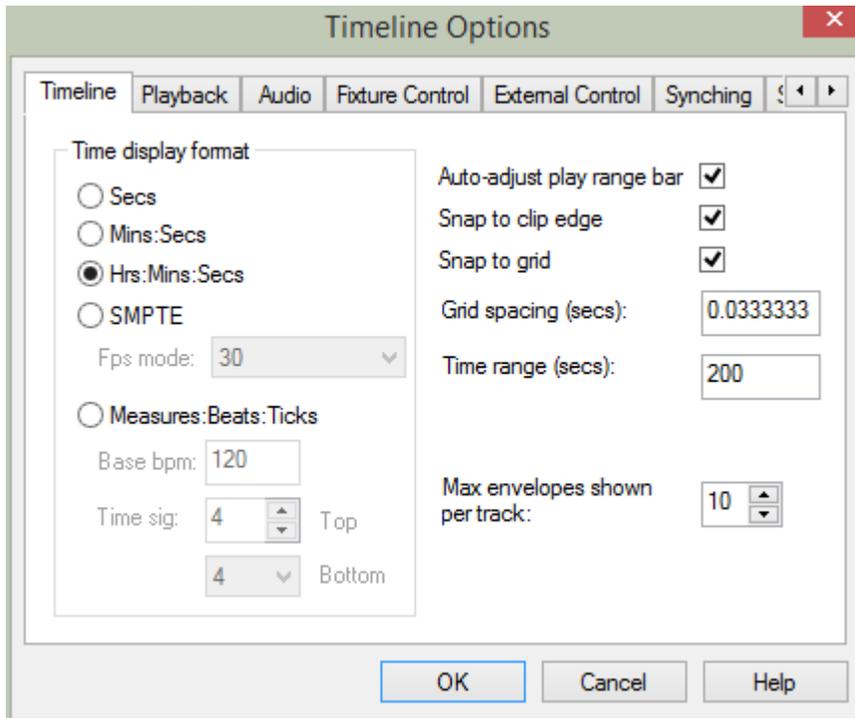
*During playback:* Fast reverse slewing.  
*Not in playback:* Move to start of play range.  
*Hot key:* HOME (while not in playback only).



*During playback:* Fast forward slewing.  
*Not in playback:* Move to end of play range.  
*Hot key:* END (while not in playback only).

During playback, neither clips nor tracks can be moved or edited. Also, some of the toolbar buttons will be disabled. (See also: [Timeline External Control Options](#)).

## Timeline Options



### Timeline display format

Select the time format for the [timeline scale](#), [time cursor position display](#) and the [clip time display](#). Select from the following:

- **Secs**: Show time in seconds and 1/100<sup>th</sup> seconds.
- **Mins:Secs**: Show time in *minutes:seconds* format.
- **Hrs:Mins:Secs**: Show time in *hours:minutes:seconds* format.
- **SMPTE**: Show time in standard SMPTE format. Select an fps mode of 24, 25, or 30 frames per second.
- **Measures:Beats:Ticks**: Show time as *measure:beat:ticks*. You can also select a base BPM and time signature.

### Time range

Enter the number of seconds to be displayed in the timeline.

### Tracks per page

Enter the number of tracks to display on a page.

### Max envelopes shown per track

Sets the maximum number of envelopes that can be displayed in a single track. If a track contains many channels (> 50) the screen refresh begins to slow down notably. This setting is to reduce clutter on the screen and to speed up screen refresh. This number will affect the number of envelopes that can be checked in the [Control Track Envelope Properties](#) dialog window.

### Auto-adjust play range bar

Enable/disable auto adjust play range function for [Play Range Bar](#)

### Snap to clip edge

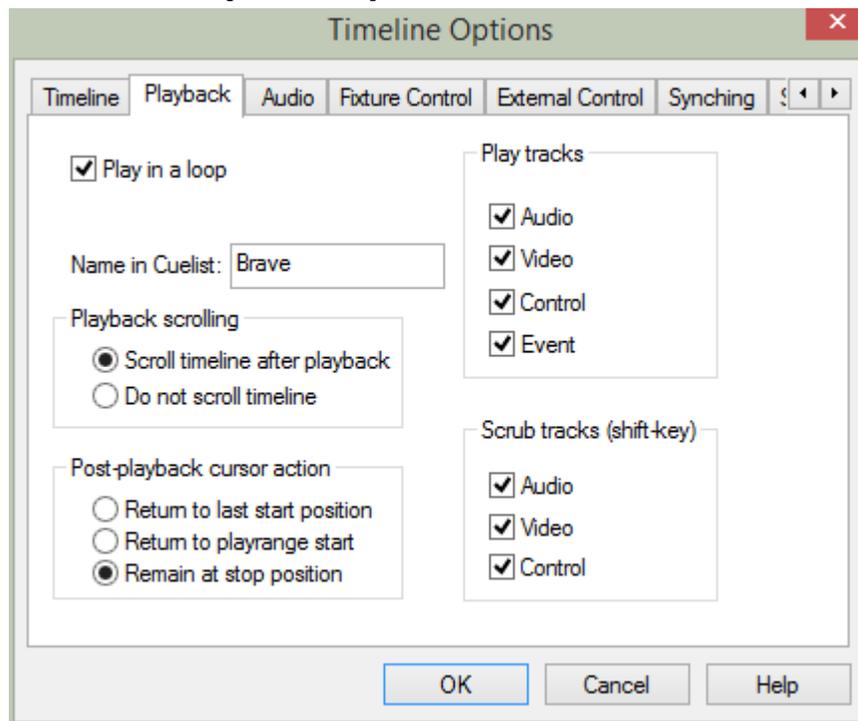
With this feature enabled, clips being dragged will gently snap to the start and end times of other clips on the timeline. This makes it much

easier to line clips up precisely.

**Snap to grid** Enable/disable snap to grid feature.

**Grid spacing** Enter the desire grid spacing. If the time display format is SMPTE, this field shows frames. Otherwise it shows seconds.

## Timeline Playback Options



**Play in a loop** Play timeline in a loop.

**Name in Cue list** This is what will be displayed in the *Cue* column when the timeline is run in the [Cue List](#).

**Play Tracks** Check which track types you wish to be active during playback. Normally these should all be enabled, but it is occasionally desired to disable all tracks of a particular type at once.

**Scrub Tracks** Check which track types for which timeline scrubbing is enabled. Scrub a timeline by moving the timeline cursor while holding the SHIFT key down.

**Playback scrolling** Select how the timeline will scroll during playback:

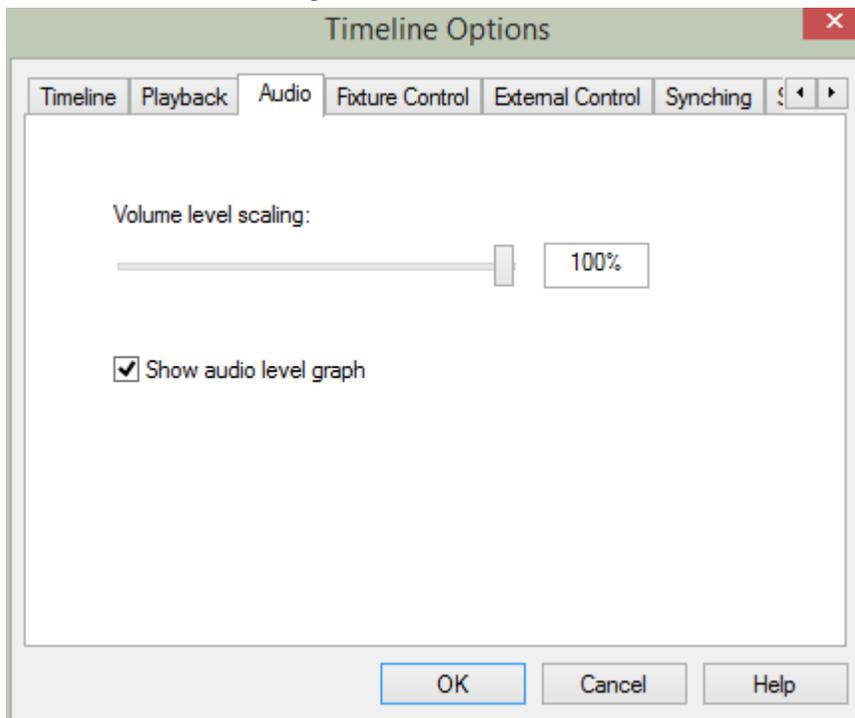
- *Scroll timeline after playback.* Timeline remains fixed and time cursor moves left to right during playback. When playback stops, timeline is shifted to include where the time cursor stopped.
- *Do not scroll timeline.* Timeline remains fixed and time cursor moves left to right during playback. When playback stops, timeline does not shift.

**Post-playback  
cursor action**

Select time cursor behavior following playback:

- *Return to last start position:* Time cursor returns to the position it was at when playback was last started.
- *Return to playrange start:* Returns the cursor to the beginning of the play range.
- *Remain at stop position:* Time cursor remains at stopping point after playback.

**Timeline Audio Options**



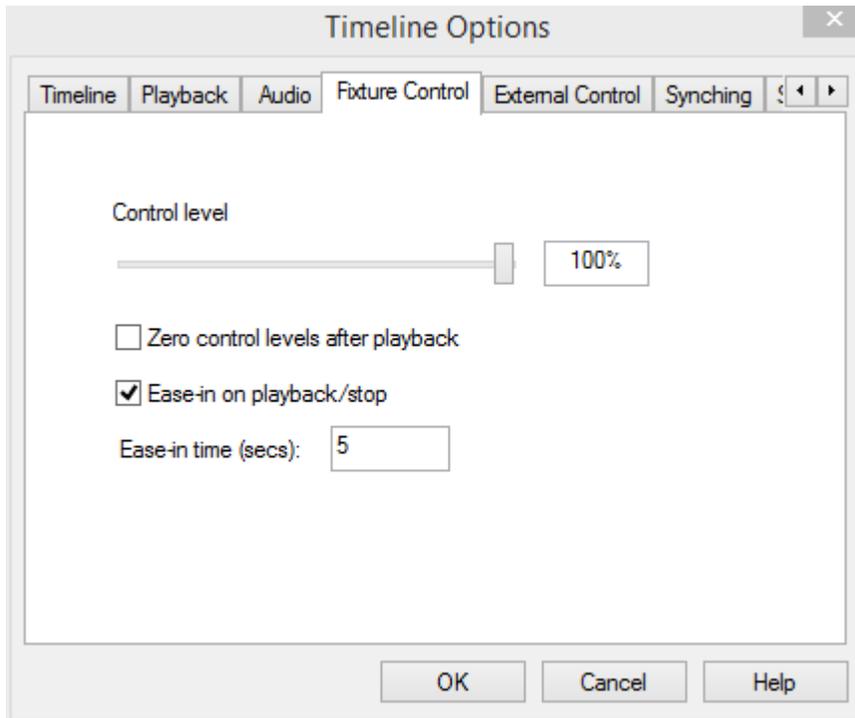
**Volume level  
scaling**

Move the slider to set the main volume level for the timeline (0% - 100%).

**Show audio level  
graph**

When checked, the audio level bar graph at the bottom of the timeline is shown. Uncheck to hide it. Hiding it can improve timeline execution speed and performance.

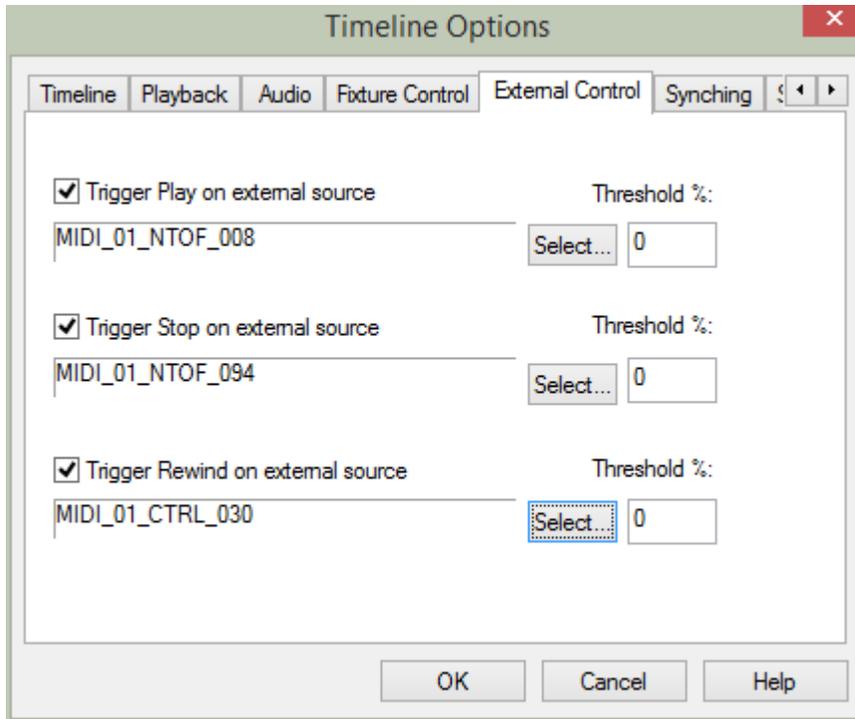
## Timeline Fixture Control



- Lamp level scaling** Set the lamp brightness level scaling for the timeline (0% - 100%).
- Turn off lamps after playback** When checked, all timeline lamps are set to level zero at the end of playback. Unchecked, lamps remain at last level when playback ends. Note: only Dimmer and RGB channels are affected by this feature. All other channel types will remain unchanged (see [Fixture Channel Types](#)).
- Ease-in on playback/stop** Check this option to force an “ease-in” period when a playlist is run or stopped. Rather than causing channels levels to jump immediately to the start level of the timeline, it will gradually blend from its current levels to the start levels over a specified period.  
(Available in VenueMagic SC+ and above only)
- Ease-in time (secs)** Specify the ease-in period in seconds.  
(Available in VenueMagic SC+ and above only)

## Timeline External Control Options

This dialog window lets you configure a timeline’s [playback controls](#) to be controlled externally (i.e. MIDI device or [VCS](#)).



**Trigger Play on external source**

Check this box to enable external control of the timeline's *Play* button. Click on the adjacent *Select...* button and choose an input source in the [Select External Control](#) window. Since external controls input percentage values, enter into the *Threshold* field the level the external input will have to send in order to trigger the button. See [Understanding Threshold Values](#).

**Trigger Stop on external source**

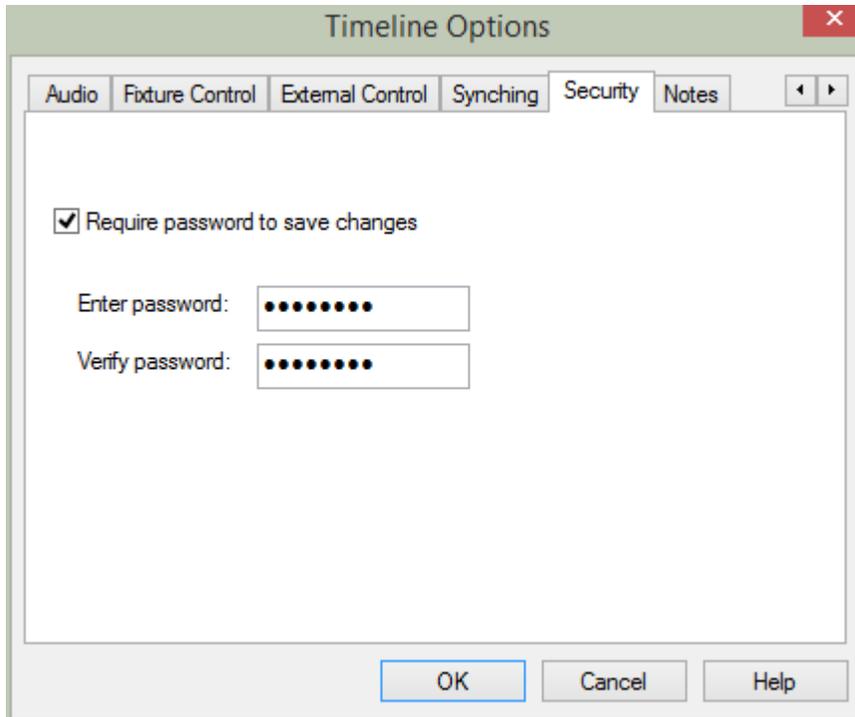
Identical in operation to the *Trigger Play on external source* feature.

**Trigger Rewind on external source**

Identical in operation to the *Trigger Play on external source* feature. Rewind will only trigger when the timeline is not in playback mode and will move the time cursor to the beginning of the timeline.

***Timeline Security Options***

*(Only Available for VenueMagic Classic and above)*



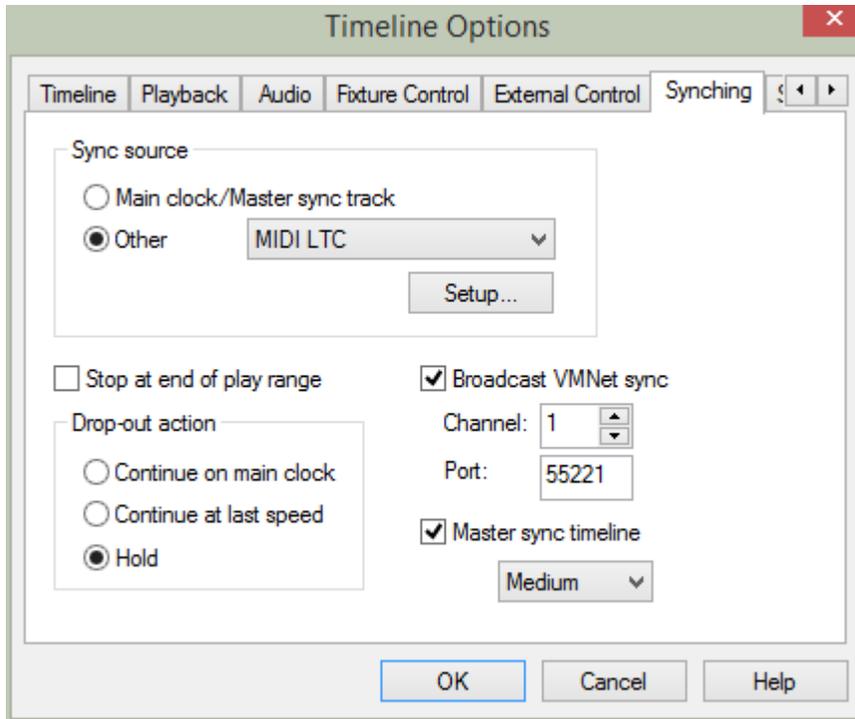
You can require that a password be used if someone desires to alter and then save this file. Check the *Require password to save changes* box to require a password, then enter and re-enter the password in the fields below.

If anyone attempts to save this timeline, or to select the *Security* tab in the *Timeline Options*, a window will appear requiring the user to enter a password to save the file or enable the *Security* tab.

### ***Timeline Synching Options***

*(Only Available for VenueMagic DMX+AV and above. Specified features available only in VenueMagic SC+ and above)*

This window sets up VenueMagic to sync to various external sync sources. For more information see [Synching VenueMagic Timelines to an External Clock Source](#).



### Sync Source

Select the source of VenueMagic synching.

- **Main clock/Master sync track:** Select this option to instruct VenueMagic to sync to its main clock or to the master sync track if one is selected. (see [Master Sync Audio Track](#) ).
- **Other:** Select from the list of available sync source types and click *Setup...* to open the setup window for the selected type (see Synching VenueMagic Timelines to an External Clock Source).

### Stop at end of play range

Check this box if you would like the timeline to stop at the end of the play range. If left unchecked, timeline will wait for sync source to return the time to within the play range and run the timeline starting at that time.

### Drop-out action

Select how VenueMagic should handle timeline playback If a sync source were to drop out while the timeline is playing:

- **Continue on main clock:** Timeline continues to playback in real-time based on the main timeline clock.
- **Continue at last speed:** Timeline will continue to play back, but at the last speed before the drop-out.
- **Hold:** Playback holds and waits for the source time to continue or to jump to another time.

### Broadcast VMNet sync

Check this box and this timeline will broadcast [VMNet time code](#) over the channel designated in the *Channel* field. Any running timeline setup to use VMNet sync on this channel will be controlled by this timeline.

The Port field should contain the *IP port number* used by the VMNet server on the computer running the timeline to be synched (see [VMNet Server](#) and [VMNet Server Settings](#)).

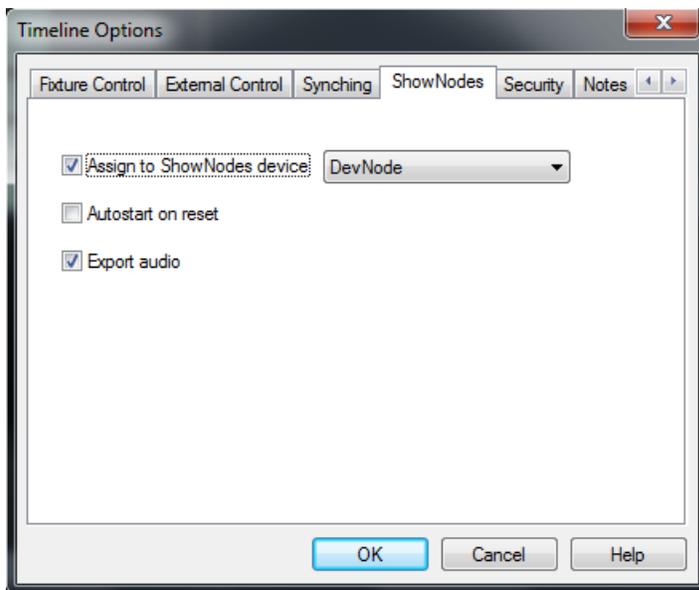
### Master sync timeline

Check this box if this timeline is to be considered a “master sync” timeline for the purposes of [precision playback mode](#) and has meaning only when that mode is active. Select a priority of *Low*, *Medium* or *High* in the associated selector box.

## Timeline ShowNodes Settings

(VenueMagic SC+ and above only)

This tab sets up the timeline for use with [ShowNodes](#). The *ShowNodes* tab is only visible when the ShowNodes device is checked in the [Supported Devices Setup](#) tab of the [Device Setup](#) window.



Check the **Assign to ShowNodes device** box to assign this timeline to a ShowNodes show controller node. Select the node to assign it to in the adjacent drop list. This timeline will be exported and uploaded to the specified node at the next [Build & Upload](#). The drop list will only list nodes that are capable of playing timelines, namely, show controller nodes.

Check **Autostart on reset** if you want the node to start playing this timeline automatically when the node is reset. If you don't do this, you will need to start the timeline using an event in the [Event Table](#).

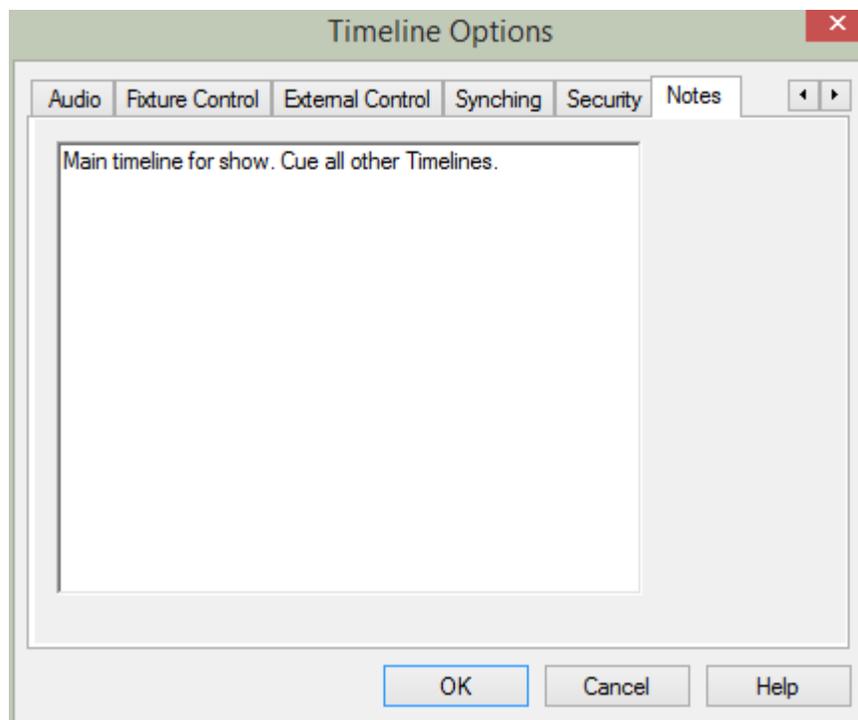
If this timeline has audio tracks that contain audio clips that you wish to play with the timeline on the node, check the **Export audio** box. At [Build & Upload](#) time, the audio in the timeline will be mixed-down to a single track that is exported to the node with the timeline.

A timeline that has been assigned to a ShowNodes node can still play in the VenueMagic editor and in the [cue list](#). However VenueMagic is aware of the assignment so the following “convenient” features will behave differently:

1. If you drag a timeline that has been assigned to a node from *Timeline* folder of the [Project Window](#) to a cue button, it attaches the button to a [Run Timeline event](#) rather than setting it up to run the timeline directly. Also, the Run Timeline event is automatically setup to target the node. When you press the button, it will run in the node rather than in VenueMagic.
2. Dragging a timeline from the *Project Window* into the event track of a timeline still creates a Run Timeline event for the timeline as expected, but the event will be set to target the node rather than VenueMagic.

## Timeline Notes

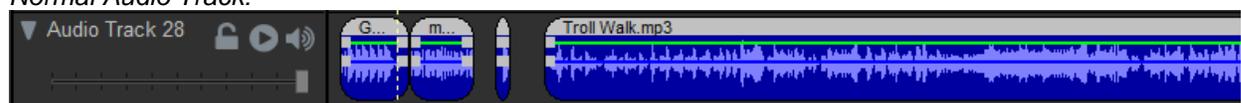
This window lets you add notes about your timeline.



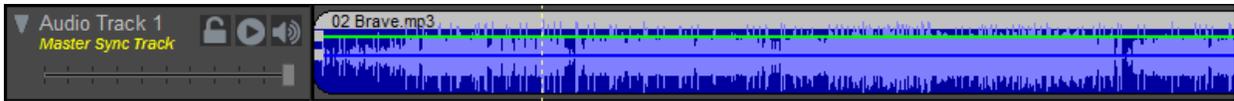
## Audio Tracks

Audio tracks contain audio clips that have been dragged over from the [Project Window](#). An audio track can either be a normal audio track or a [master sync](#) audio track. VenueMagic Classic and DMX+AV will allow as many audio tracks as you like. VenueMagic Express limits you to one audio track.

*Normal Audio Track:*



*Master Sync Audio Track*



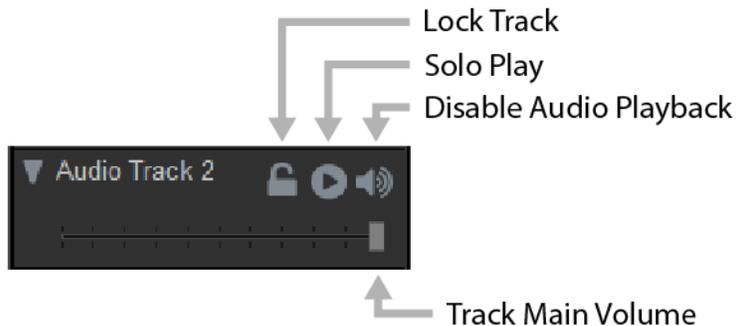
## Master Sync Audio Track

A master sync audio track is identical in every way to a normal audio track with one exception: During playback, the main timeline clock will synchronize itself to any audio file that may be playing on the track. This will ensure all fixture effects, events, etc... will remain in synched the audio on the master sync track. Only one at a track can be a master sync track. Enable this function for any audio track in the [Audio Track General Properties](#) window.

A master sync track is identified by a different background color and the phrase "Master Sync Track" located in the track panel under the track name.

## Audio Track Panel

The Audio Track panel affects playback and editing of the audio track.



### Pin track to page

Click this icon to pin this track to its current location on the page. As you scroll the tracks up and down, this track will remain fixed.

### Disable audio playback

Click this icon to mute the audio played by this track.

### Solo play

When enabled, only this audio track will be active during playback. No other audio track will play.

### Lock track

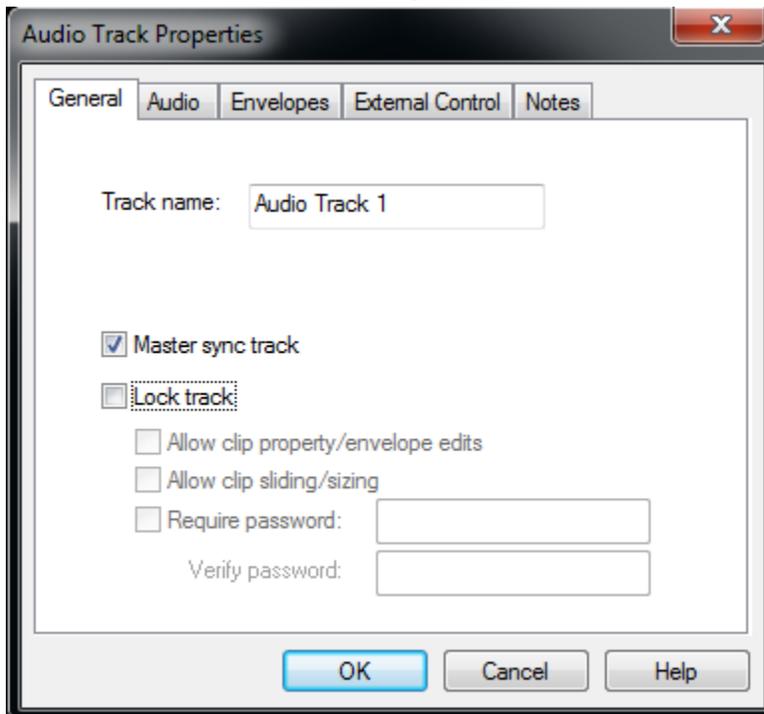
Lock track to changes.

### Track main volume

Adjust the volume of audio played on this track.

Double-click on Audio Track Panel title to bring up the Audio Track Properties window.

## Audio Track General Properties



### Track name

Enter the track name to be displayed in the track panel.

### Master sync track

Check this box to make the audio track a [master sync](#) audio track.

### Lock track

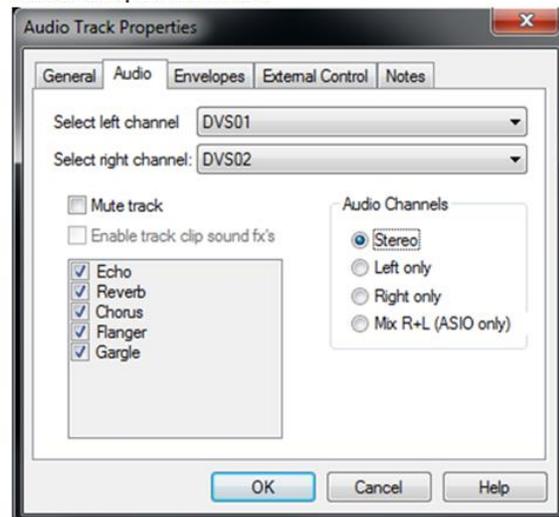
Check this box to lock out any changes to track. For information on the other track locking options, see [Track Lock Functions](#).

## Audio Track Audio Properties

WDM Output Selected



ASIO Output Selected



### Select audio output

*Available in DMX+AV and above only.*

Select an audio output device from a list of those currently installed on your computer. All audio clips playing in this track will output its sound to the selected device. This setting defaults to the audio output device selected in the *Audio* tab of the [Setup Devices](#) window.

If an ASIO device is selected from this list, the name of the field changes to **Select left channel** and the selected channel is designated as the left channel output for audio playback on this track. A second list appears below this list and is named **Select right channel**. When opened, this second list shows only ASIO channels from which you can select the right channel output. This approach is necessary because ASIO allows you to select left and right channels separately whereas WDM only allows you to select a stereo pair.

### Mute track

Mutes track during playback. Functions identically to the mute button on the track panel.

### Enable track clip sound fx's

Enables sound effects for clips on track. The list below allows the enabling/disabling of individual sound effects for the track. By default, all of these are checked. These sound effects settings are not available for ASIO outputs.

### Audio Channels

By default, audio tracks playback stereo (2-channel) or mono (1-channel) clips out both stereo channels of the audio output device selected in the *Select audio output* list. However, it may be desired at times to assign a track to output only to the left or right channel of the device. Select one of the following:

**Stereo:** Output both channels of all clips (or 1 channel for mono) to both channels of the selected output device.

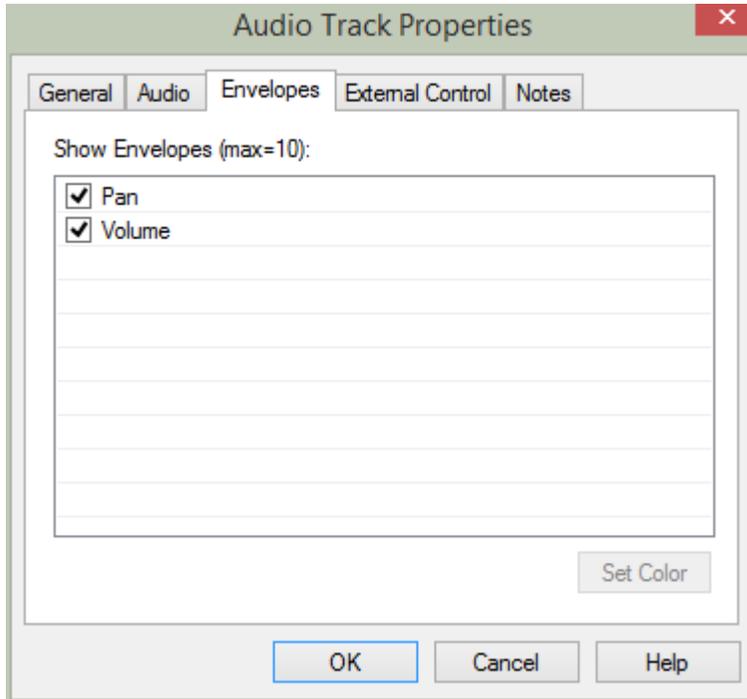
**Left Only:** Output only the left channel of the clip to the left channel of the selected audio device. The right channel is silent.

**Right Only:** Output only the right channel of the clip to the right channel

of the selected audio device. The left channel is silent.

**Mix R+L (ASIO only):** Mix left and right channels together and output to a single ASIO channel.

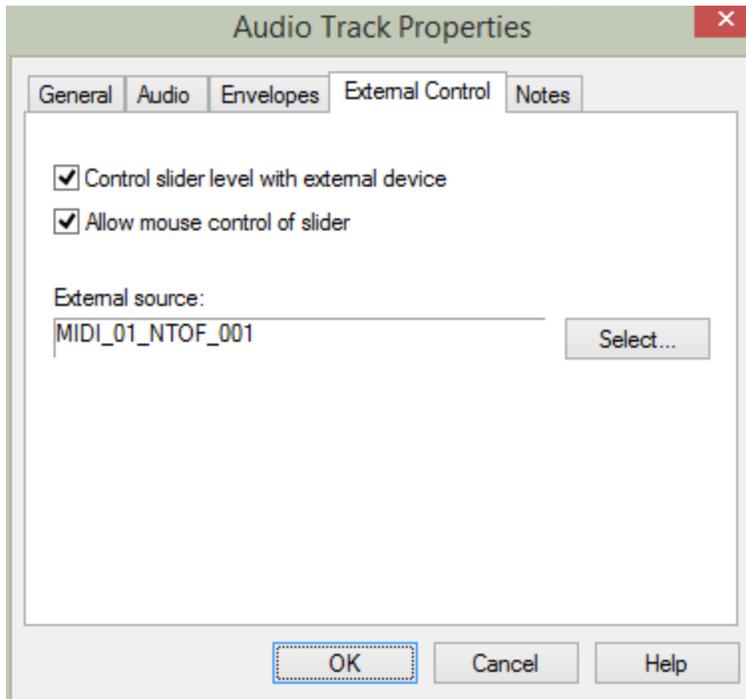
## Audio Track Envelope Properties



Select which envelopes in the track are to be shown in the track. If the number selected exceeds the maximum specified in the [Timeline Options](#) window, other envelopes will be deselected, starting with the least recently selected envelope.

Click the Set Color button to set the color that the envelope will be displayed in the timeline and the [Envelope Editor](#) window.

## Audio Track External Control Properties



### **Control slider level with external device**

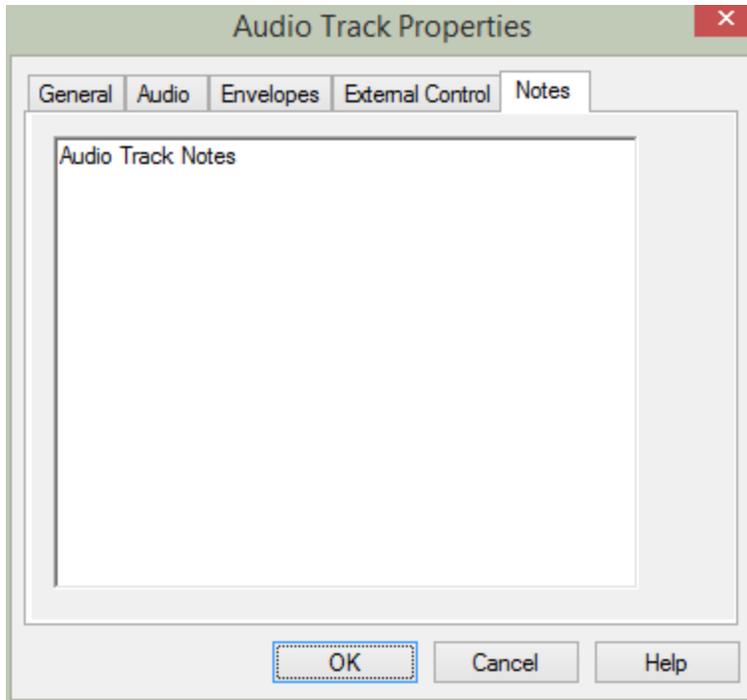
Enables the track panel's main volume slider to be controlled by an external source. Click the *Select...* button and choose an input source in the [Select External Control](#) window.

### **Allow mouse control of slider**

When the main volume slider is being controlled by an external source, it may not make sense to allow the mouse to control it at the same time. Uncheck this box to lock-out the mouse from controlling the slider.

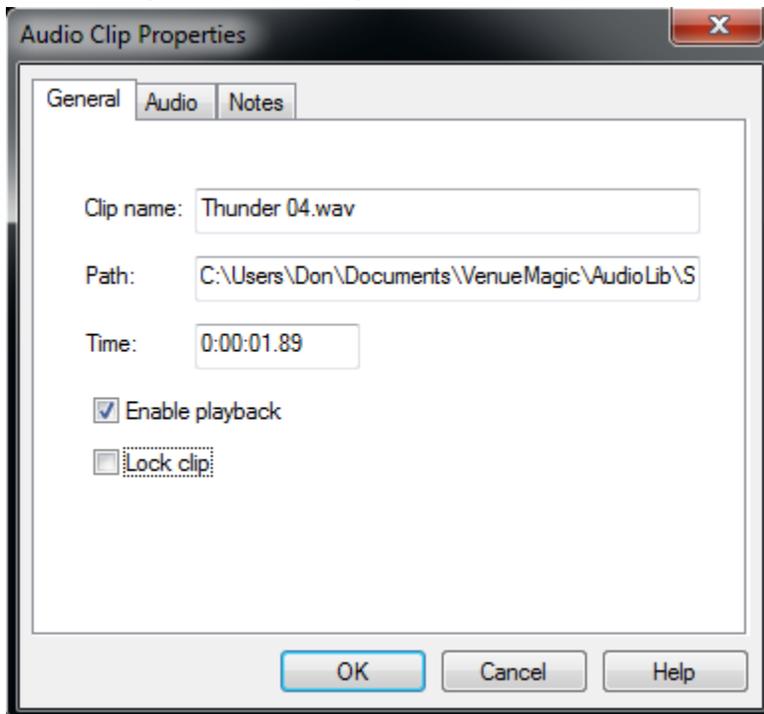
## **Audio Track Notes**

This window lets you enter notes about the audio track.



## Audio Clip Properties

### Audio Clip General Properties

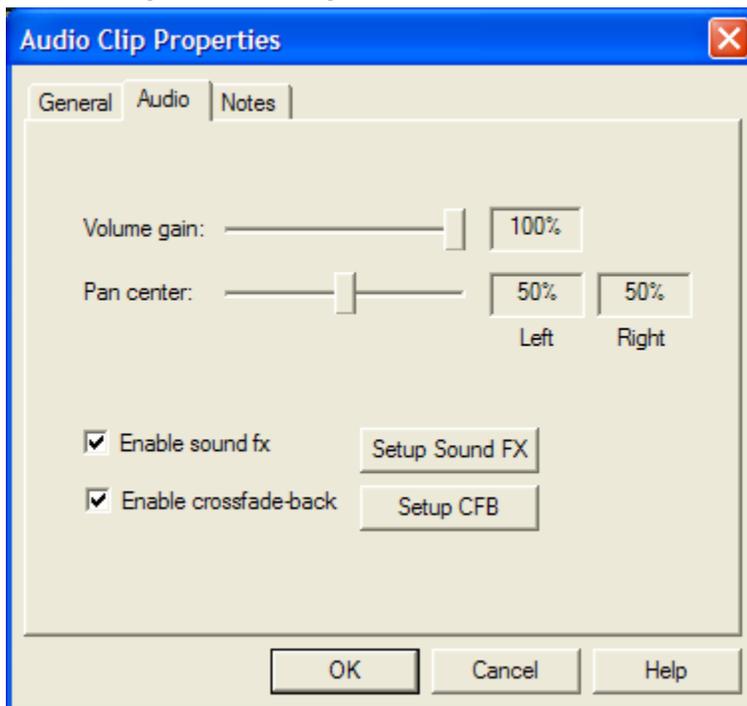


**Clip name** Enter the name that will appear on the clip in the timeline window. By default, this is the name of the audio file associated with the clip.

**Path** Shows the complete path of the audio file (not editable).

- Time** This field lets you explicitly set the time location of the clip on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Enable playback** Check this box to enable playback of the clip. Uncheck it to mute the clip during playback. It is checked by default.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

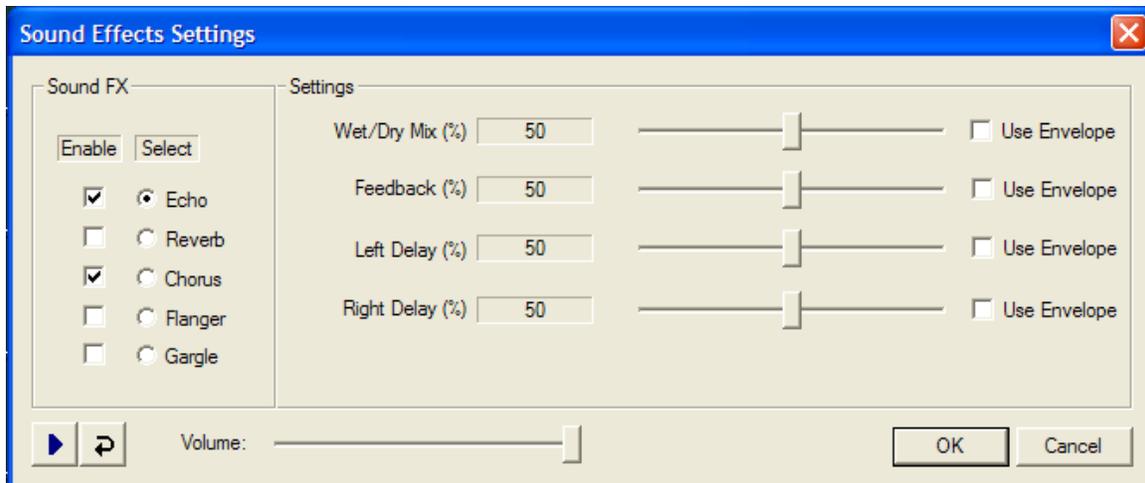
## Audio Clip Audio Properties



- Volume Gain** Adjusts the overall volume level of the clip during playback. Use this to scale the effect of the volume envelope.
- Pan Center** Shifts the stereo pan center of the clip during playback.
- Enable sound fx** Check this box to enable sound effects processing for the clip. Then click the *Setup Sound FX* button to configure effects. (see [Audio Clip Sound Effects](#)).
- Enable crossfade-back** Check this box to enable cross fade-back for the clip. Then click the *Setup CFB* button to configure cross fade-back. (see [Cross Fade-back](#)).

## Audio Clip Sound Effects

VenueMagic provides five DirectX audio effects. Each audio effect has parameters that can be configured by effect sliders or by using envelopes during playback.



The Sound Effects Settings dialog is divided into two panes: *Sound FX* and *Settings*. In the *Sound FX* pane *Enable* column, check the corresponding box for the desired sound effects to turn them on. In the *Select* column, select the effects you would like to adjust. The settings for that effect will appear in the *Settings* pane.

Checking Use Envelope for any setting will enable [envelope](#) control of the setting.

In the *Settings* pane, drag the slider of the desired effect parameter to change it. Each parameter is a percentage value (0-100). The best way to learn these parameters is to experiment. Click

 to play the sound file once, or  to play it in a continuous loop. During playback you can vary parameters but you cannot enable/disable effects.

## ***Cross Fade-back***

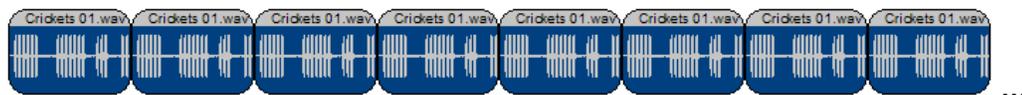
*(Only Available for VenueMagic Classic and above)*

### **Cross Fade-back Overview**

Use Cross-Fade-back to extend the length of certain sound clips.

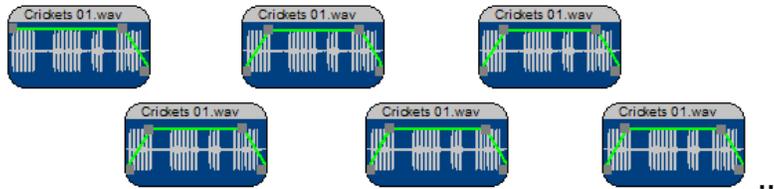
For example: Suppose your show needed 10 minutes of background night noises (crickets, etc...). Unfortunately, your favorite night noise sound clip is only 20 seconds long. A couple solutions to your problem come to mind:

1. Make 30 copies of the sound clip and line them up on your track like this:



Unfortunately, your crickets will “hiccup” every 10 seconds, which is very distracting.

2. You could stagger the clips across two tracks and cross-fade between the clips using [envelopes](#) like this:

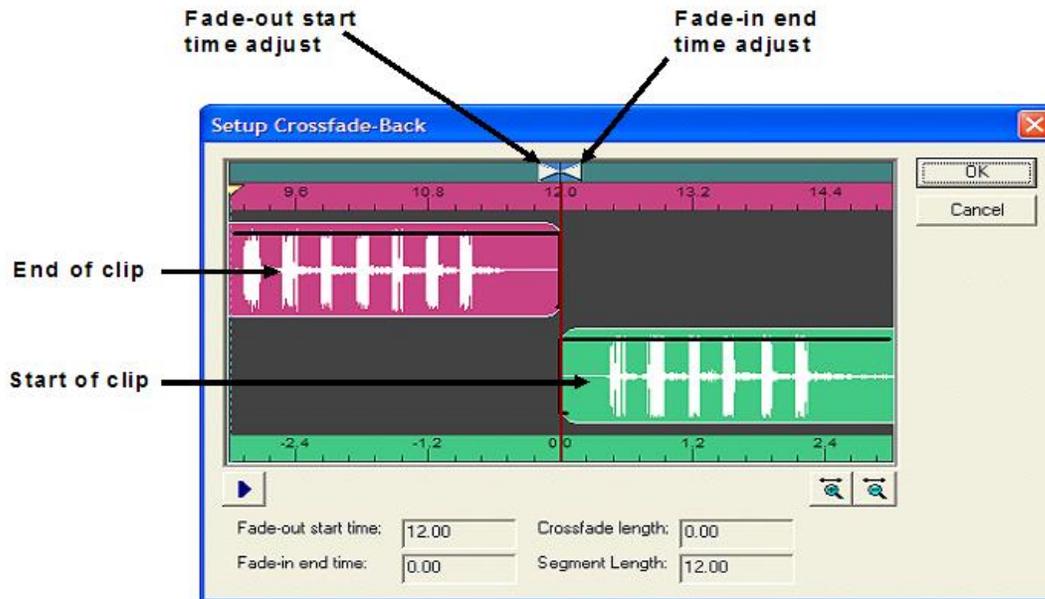


Clearly this method takes a lot of time and is cumbersome.

Cross fade-back offers a far better solution. With cross fade-back, the sound clip actually cross-fades back onto itself, providing smooth transitions. It can also be setup in seconds.

### Cross Fade-back Setup

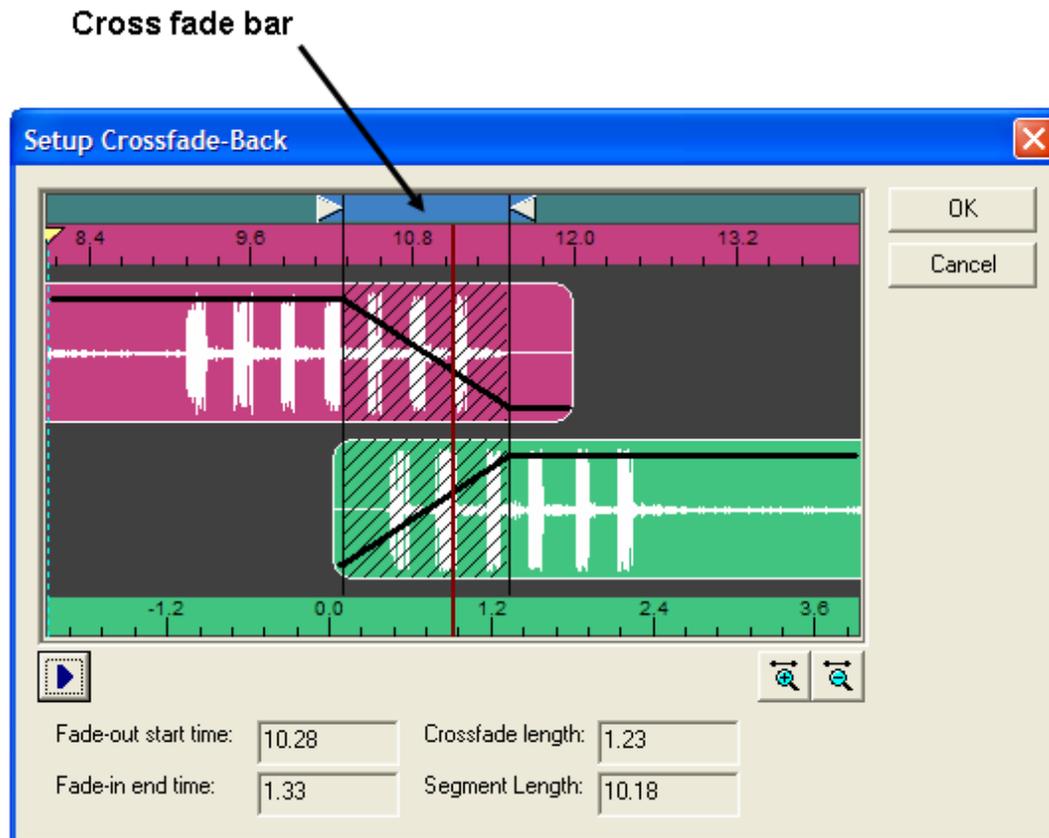
Double click on your clip on the timeline to bring up the [audio clip properties](#) dialog box and select the **Audio** tab. Check the **Enable cross fade-back** box, then click on **Setup CFB**. This will bring up the **Setup Cross Fade-back** dialog box.



Notice that two clips are displayed: one on the top, one on the bottom. These actually represent the beginning and end of the same clip. The two timescales show time relative to their respective clips.

Click on and slide one of the clips towards the other. Notice how they both move together. This is how we overlap the clips.

Next, click and slide the **Fade-out start time adjust** arrow. You will see the number **Fade-out start time field** change. This tells cross fade-back function where to start fading-out before the end of the clip. Likewise, you can adjust the **Fade-in end time adjust** arrow to setup where the fade-in to the clips beginning will end.

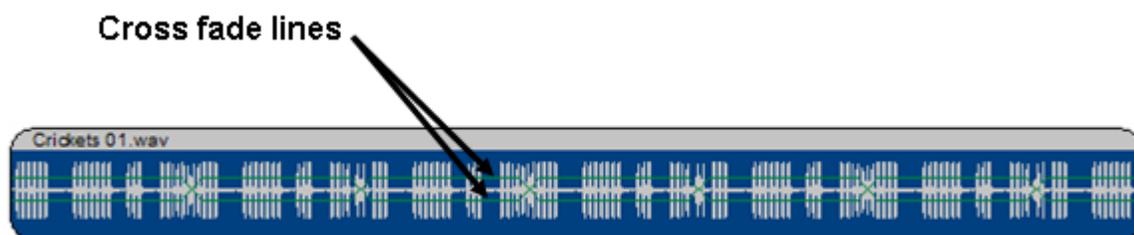


As you slide the time adjust arrows, you will also see the number in the **Cross fade length** field change. This is the actual period of time (in seconds) that the cross fade-back will occur over. Once you are happy with the cross fade length, you move the start and end times together by clicking and sliding the **Cross fade bar**.

Test the cross fade-back by clicking on the play  button. You can also change the scale of the display area using the  and  buttons.

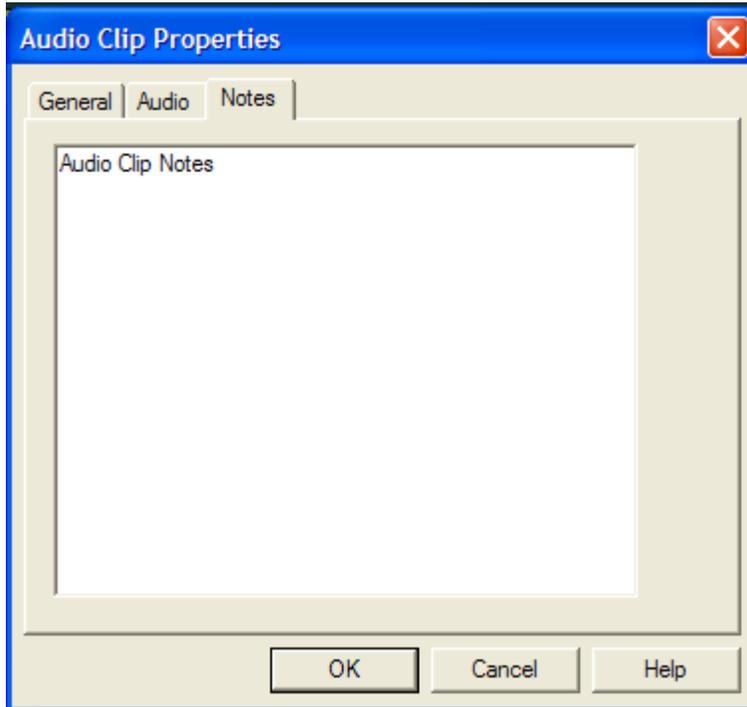
Setting up cross fade-back may seem a little tricky at first. Play with it a little and you will get good at it in no time.

Now close the **Setup Cross Fade-back** and the [audio clip properties](#) dialog box. Then resize the length of you clip. Notice how you can make it any length now. You will also see that cross fade lines have been added to show where cross fade-back will take place.



## Audio Clip Notes

Enter notes about the audio clip.



## Exporting Audio Clip Profiles

*(VenueMagic SC+ and above only)*

VenueMagic will let you extract a rough audio envelope to a profile file that can later be loaded into a [Level Control](#) fixture effect. The overall effect is similar to the [Audio Link](#) fixture effect, but you have the added flexibility of being able to edit the audio profile in the [Envelope Editor](#) (see also [Exporting Channel Data Profiles](#)).

To export a profile, right-click on an audio clip in an audio track and select *Export Audio Profile*. This will bring up a file browser in which you can enter a filename for the exported profile.

## Video Tracks

*(Only Available for VenueMagic DMX+AV and above)*

Video tracks contain video clips that have been dragged over from the [Project Window](#). VenueMagic provides a single video track that can contain as many video clips as desired. A video track can either be a normal video track or a [master sync](#) video track.

*Normal Video Track:*



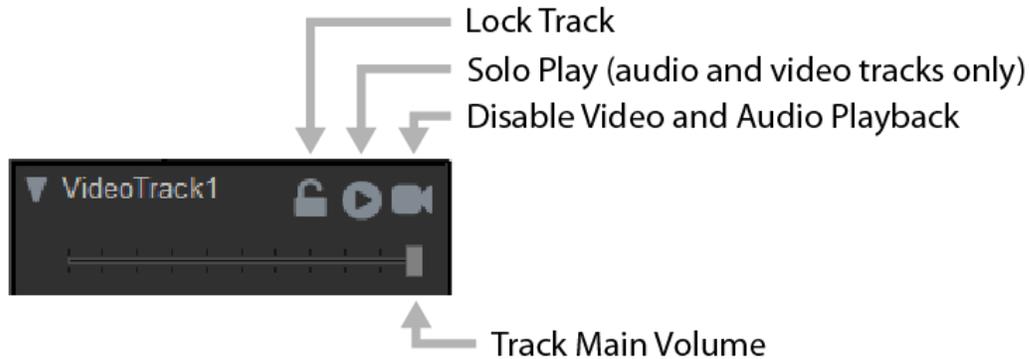
*Master Sync Video Track*



## Video Track Panel

*(Only Available for VenueMagic Classic and above)*

The Video Track panel affects playback and editing of the audio track.



### **Pin track to page**

Click this icon to pin this track to its current location on the page. As you scroll the tracks up and down, this track will remain fixed.

### **Disable video and audio playback**

Click this icon to disable playback of audio and video playback on this track.

### **Solo play**

When enabled, only this video track will be active during playback. No other audio or video track will play.

### **Lock track**

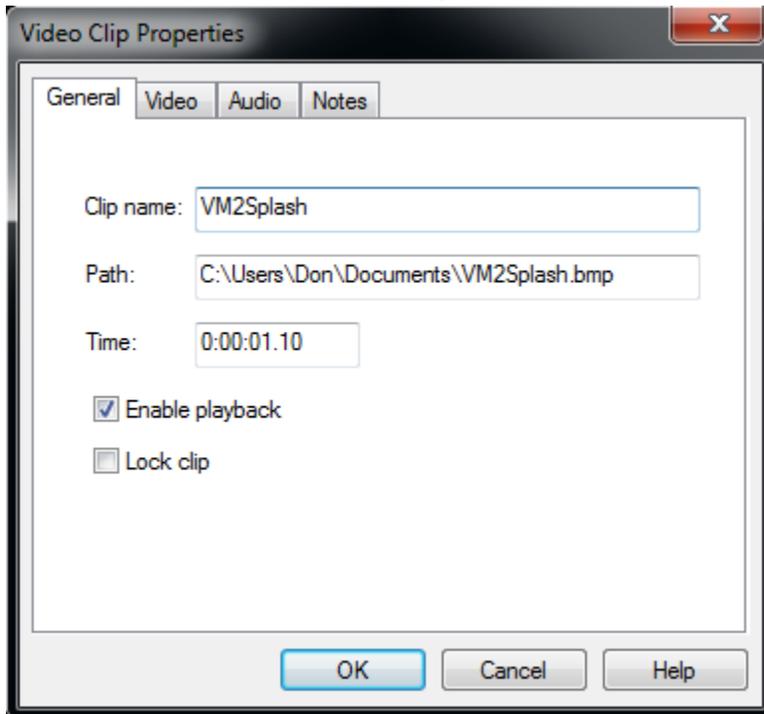
Lock track to changes.

### **Track main volume**

Adjust the volume of videos played on this track.

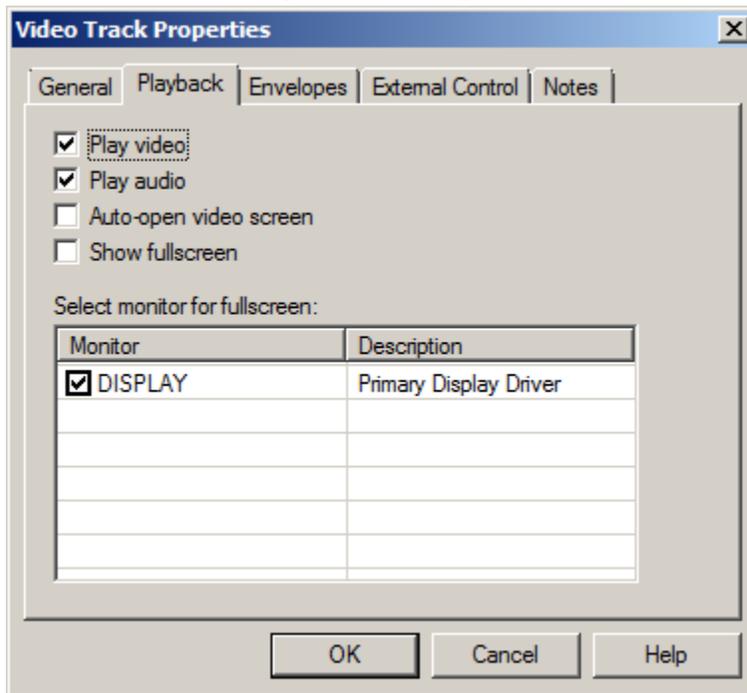
Double-click on the  icon or the video track name to bring up the Video Track Properties window.

## Video Track General Properties



- Track name** Enter the track name to be displayed in the track panel.
- Time** This field lets you explicitly set the time location of the clip on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Master sync track** Check this box to make the video track a *master sync* video track (see [Master Sync Audio Track](#)).
- Lock track** Check this box to lock out any changes to track. For information on the other track locking options, see [Track Lock Functions](#).

## Video Track Playback Properties



- Play video** Check this box to enable playback of videos in the [Video Playback](#) window.
- Play audio** Enables playback of audio portion of video clips.
- Auto-open video screen** When checked, the Video Playback window automatically opens up when the timeline is played.
- Show full screen** Check this box to force all video track clips to playback in full-screen mode.
- Select monitor for full screen** This list shows all monitors your computer makes available for display. Check the monitor you wish the clips playing in this track to be displayed on. If a selected monitor is unavailable during playback, the video will default to playback on the primary monitor.

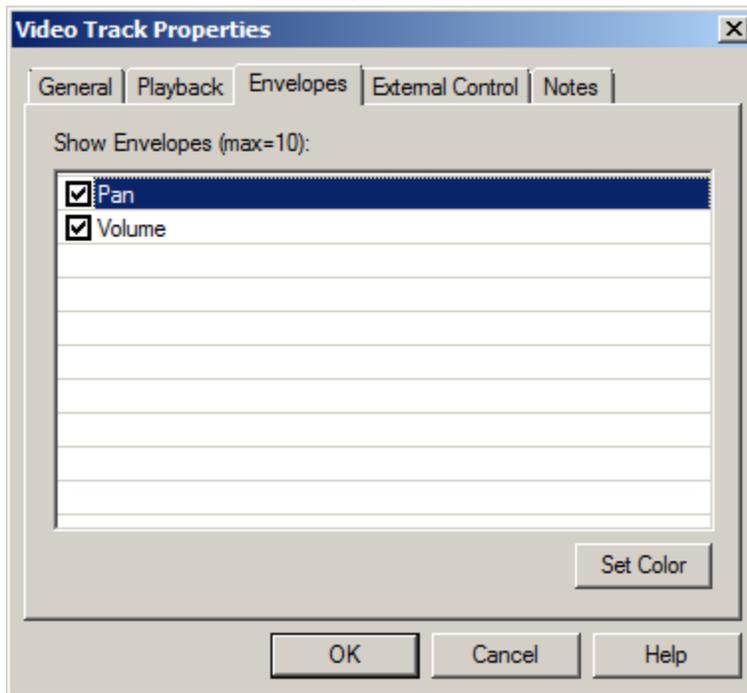
### Playing Video on a Second Monitor

VenueMagic will play full screen video on a second monitor. To do this, follow these steps:

1. Make sure the second monitor is hooked-up and working properly as part of your desktop.
2. Check *Auto-open video screen* and *Show full screen* above.
3. Select the secondary monitor in the *Select monitor for full screen* list.

When the timeline is run, VenueMagic will take over the secondary monitor and display videos in the video track.

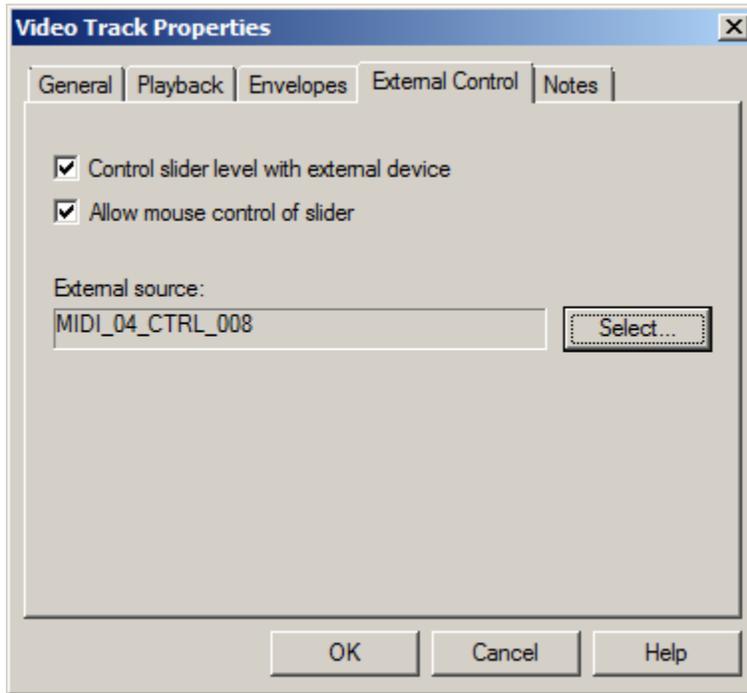
## Video Track Envelope Properties



Select which envelopes are to be shown in the track. If the number selected exceeds the maximum specified in the [Timeline Options](#) window, other envelopes will be deselected, starting with the least recently selected envelope.

Click the Set Color button to set the color that the envelope will be displayed in the timeline and the [Envelope Editor](#) window.

## Video Track External Control Properties



### **Control slider level with external device**

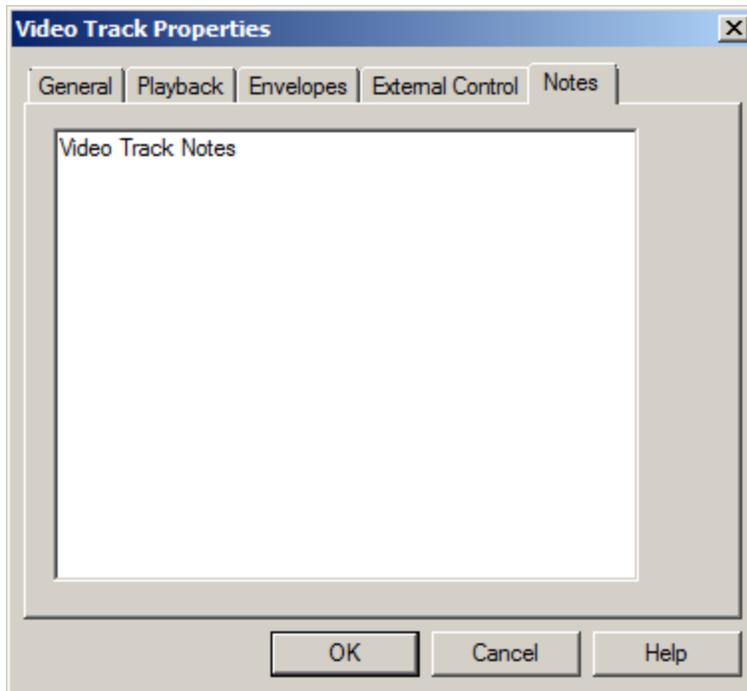
Enables the track panel's main volume slider to be controlled by an external source. Click the *Select...* button and choose an input source in the [Select External Control](#) window.

### **Allow mouse control of slider**

When the main volume slider is being controlled by an external source, it may not make sense to allow the mouse to control it at the same time. Uncheck this box to lock-out the mouse from controlling the slider.

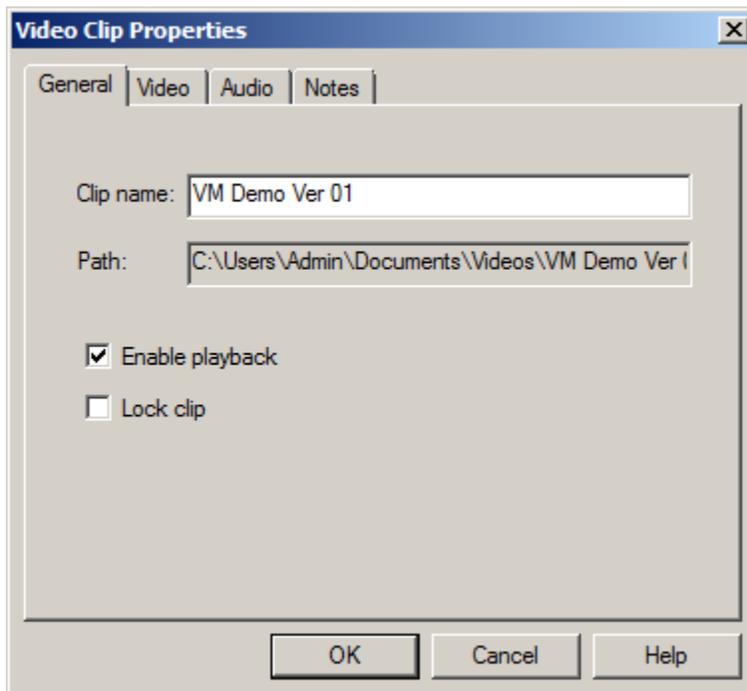
## Video Track Notes

This window lets you enter notes about the video track.



## Video Clip Properties

### Video Clip General Properties



#### Clip name

Enter the name that will appear on the clip in the timeline window. By

default, this is the name of the video file associated with the clip.

**Path**

Shows the complete path of the video file (not editable).

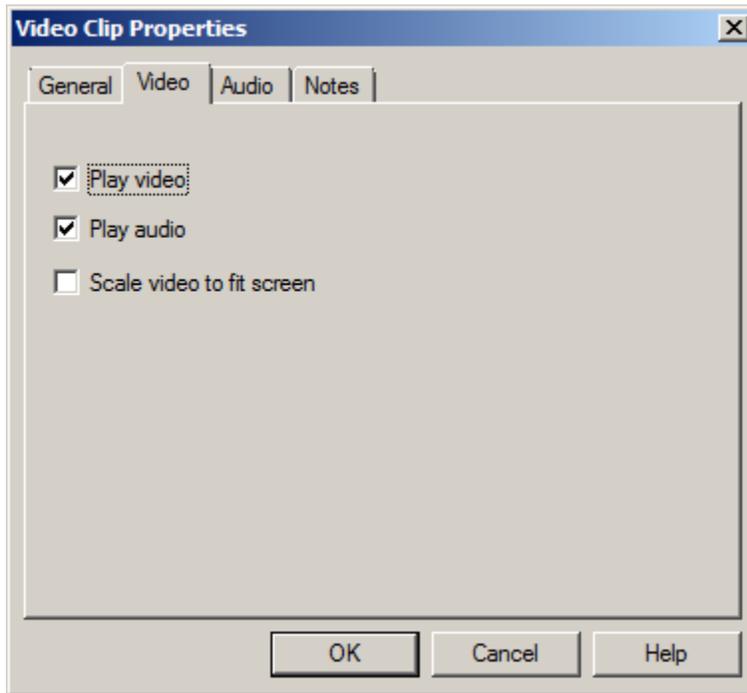
**Enable playback**

Check this box to enable playback of the clip. Uncheck it to disable video and audio playback of the clip. It is checked by default.

**Lock clip**

Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Video Clip Video Properties



**Play video**

Check this box to enable playback of the clip in the [Video Playback](#) window.

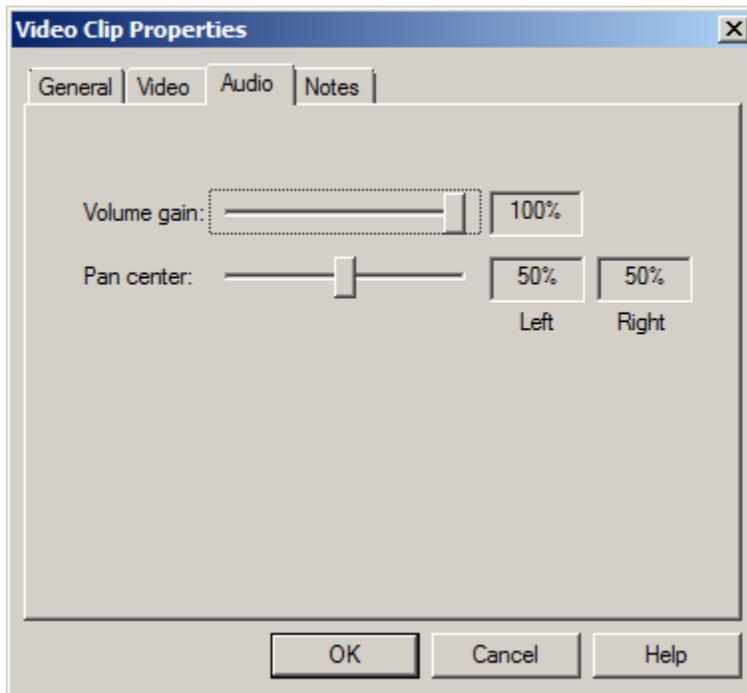
**Play audio**

Enables playback of audio portion of video clip.

**Scale video to fit screen**

If checked, the video clip will fill the entire Video Playback window even if it has to be stretched in the horizontal or vertical direction. When unchecked, the video image maintains the proper aspect ratio. In this mode, it is possible for the video to play in a "letterbox" format, with black bars on the top and bottom of the window.

## Video Clip Audio Properties



### Volume Gain

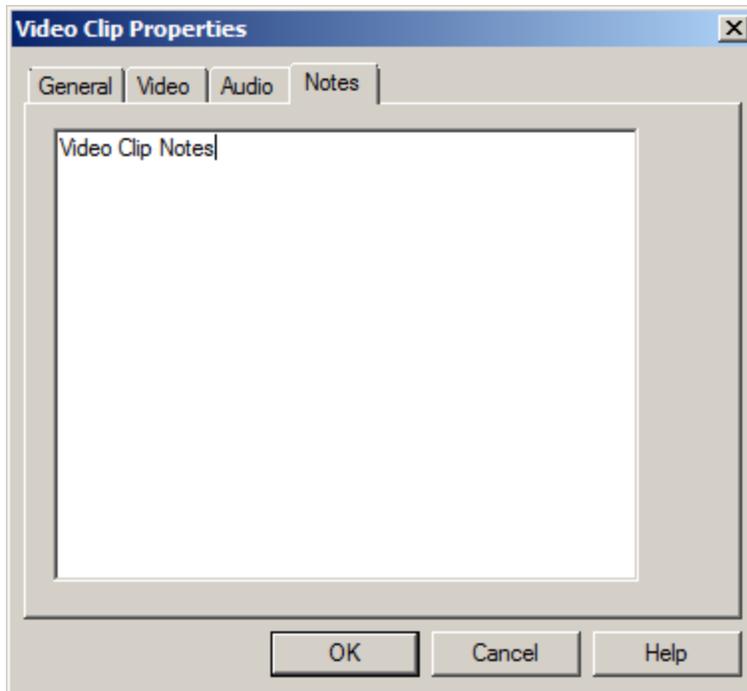
Adjusts the overall volume level of the clip during playback. Use this to scale the effect of the volume envelope.

### Pan Center

Shifts the stereo pan center of the clip during playback.

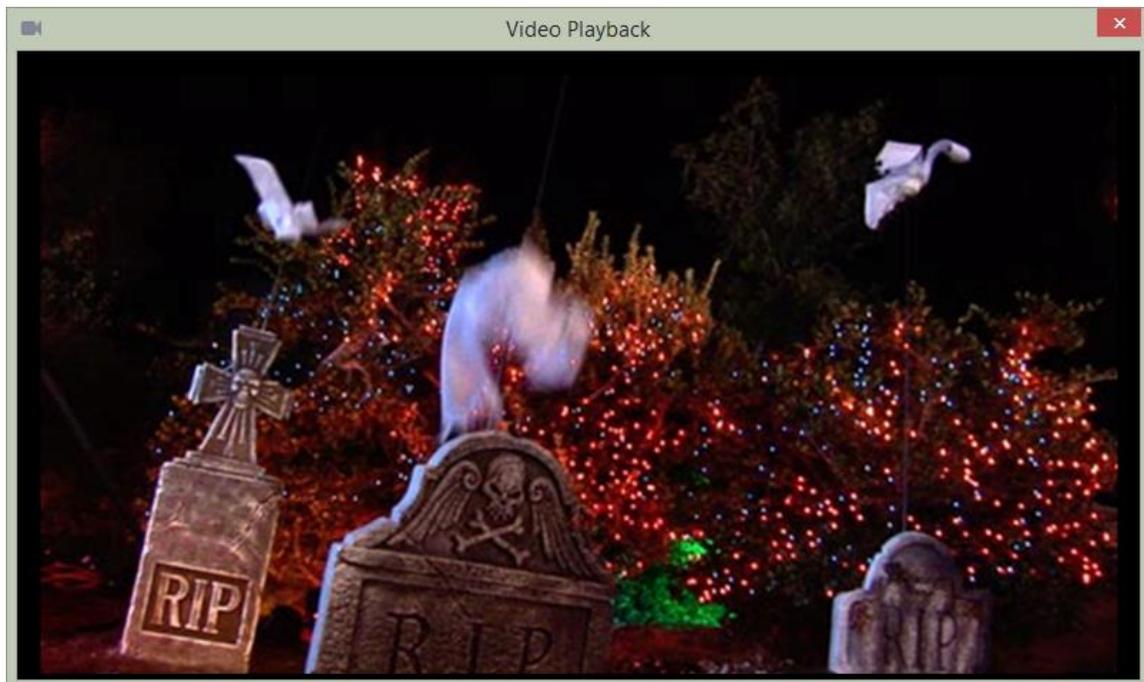
## Video Clip Notes Properties

Enter notes for the video clip.



## Video Playback Window

The *Video Playback* window facilitates the playback of videos. Show the window by selecting *View*→*Video Playback Window* in the main menu.



Size the window by clicking and dragging the windows edges. Make it full screen in the current monitor by right-clicking in the video area and selecting *Full screen*. Do the same to restore it to

normal size. This window can also be opened and made full screen automatically through settings in the [Video Track Playback Properties](#) window.

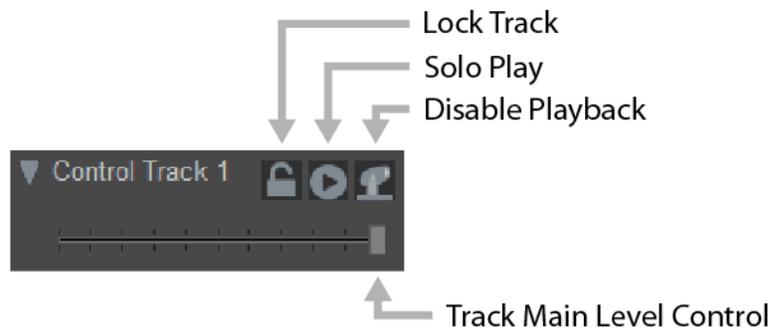
## Control Tracks

Control tracks contain fixture effects dragged over from the Fixture Effects folder of the [Project Window](#).



## Control Track Panel

The figure below shows the function of each item in the control track panel.



### Pin track to page

Click this icon to pin this track to its current location on the page. As you scroll the tracks up and down, this track will remain fixed.

### Disable lamp playback

Click this icon to disable playback of fixture effects on this track.

### Solo play

When enabled, only this control track will be active during playback. No other control track will play.

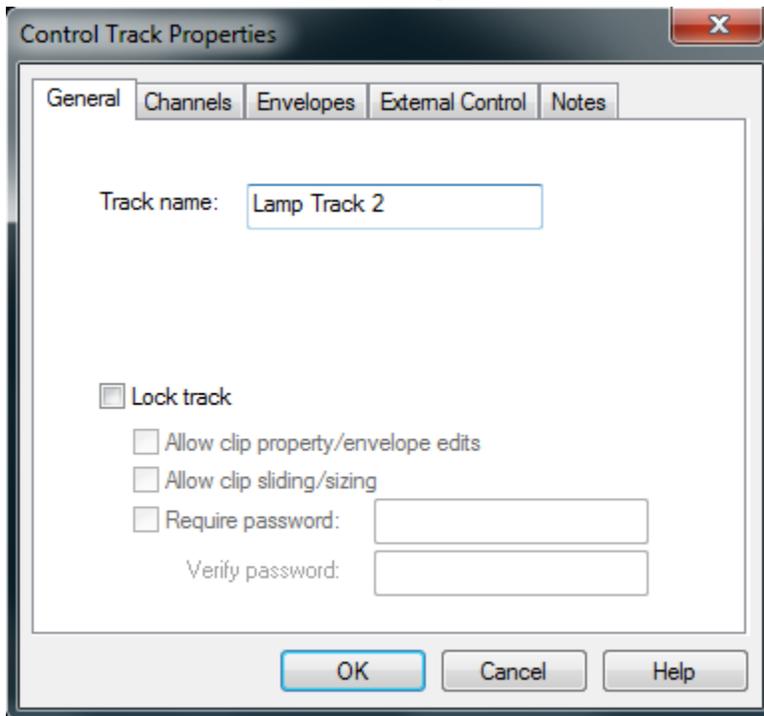
### Lock track

Lock track to changes.

### Track main lamp level slider

Adjust the overall level of fixture effects on this track.

## Control Track General Properties

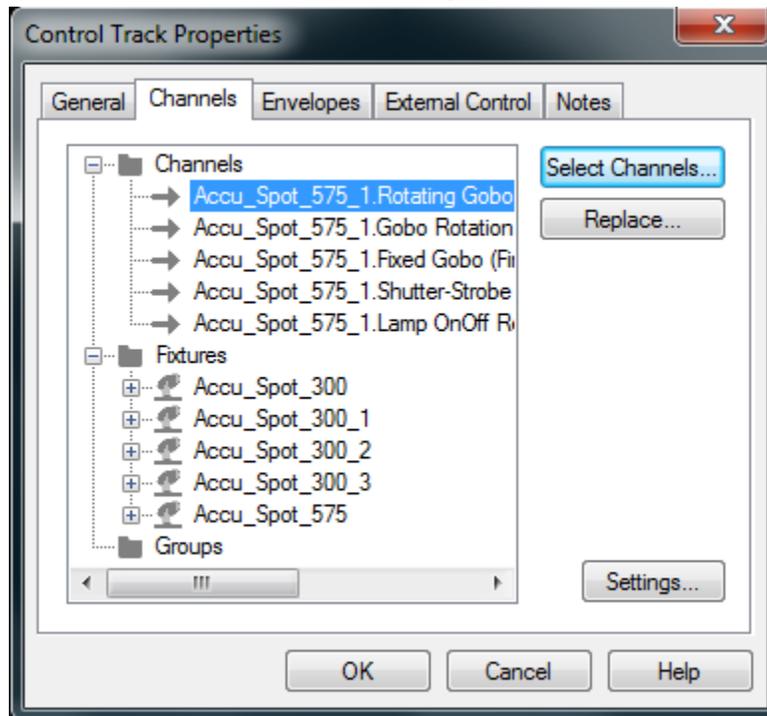


The screenshot shows a dialog box titled "Control Track Properties" with a close button (X) in the top right corner. The dialog has five tabs: "General", "Channels", "Envelopes", "External Control", and "Notes". The "General" tab is selected. Inside the dialog, there is a text field labeled "Track name:" containing the text "Lamp Track 2". Below this, there is a section titled "Lock track" with a checked checkbox. Underneath, there are three sub-options, each with an unchecked checkbox: "Allow clip property/envelope edits", "Allow clip sliding/sizing", and "Require password:". The "Require password:" option has an empty text input field next to it. Below the "Require password:" field is a "Verify password:" label with another empty text input field. At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help".

**Track Name** Enter the track name to be displayed in the track panel.

**Lock track** Check box to lock-out track to changes. For information on the other track locking options, see [Track Lock Functions](#).

## Control Track Channel Properties



The channel tree shows which channels are currently linked to the control track. It includes three folders:

- **Channels:** Contains channels that were added to the track independent of their fixtures. Also referred to as “orphaned” channels.
- **Fixtures:** Contains [fixtures](#) linked to the control track.
- **Groups:** Contains [groups](#) linked to the control track.

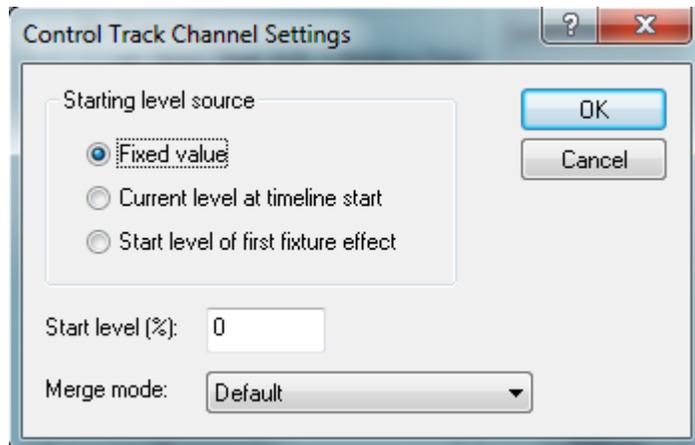
A single channel, fixture or group can be added to as many tracks as you like. However, it can be added to a specific track only once. Furthermore, groups in the Group folder cannot contain fixtures also found in the Fixture folder, nor can the Fixture folder contain channels already in the Channels folder. Put simply: *There can be no duplicate channels within the same track.* Fortunately, VenueMagic keeps track of all that for you so you don't have to worry about it. VenueMagic prevents you from breaking the rules.

To select/remove channels, fixtures and groups to be included in the track, click on the *Select Channels...* button to bring up the [Select Channels](#) window.

Click the Settings... button to show the [Control Track Channel Settings](#) window.

You can also add channels, fixtures and groups to a control track by dragging them over from the *Fixtures* and *Channel Groups* folders in the [Project Window](#).

## Control Track Channel Settings



### Starting level source

Specifies the initial level of a channel in the track when the timeline starts playback from the beginning.

- **Fixed value:** Channel starts with the level specified in the Start level (%) field.
- **Current level at timeline start:** Whatever level the lamp is currently at when the timeline begins playback is where it will start. This is useful when you want one timeline to continue where another left off.
- **Start level of first fixture effect:** Allows you to set the initial lamp level for the channel in the track using a [Level Control](#) fixture effect.



Initial level for this channel is set by sliding envelope handle.

### Start level (%)

Set the starting level for the channel within the track. Available only when *Fixed value* option is selected.

### Merge mode

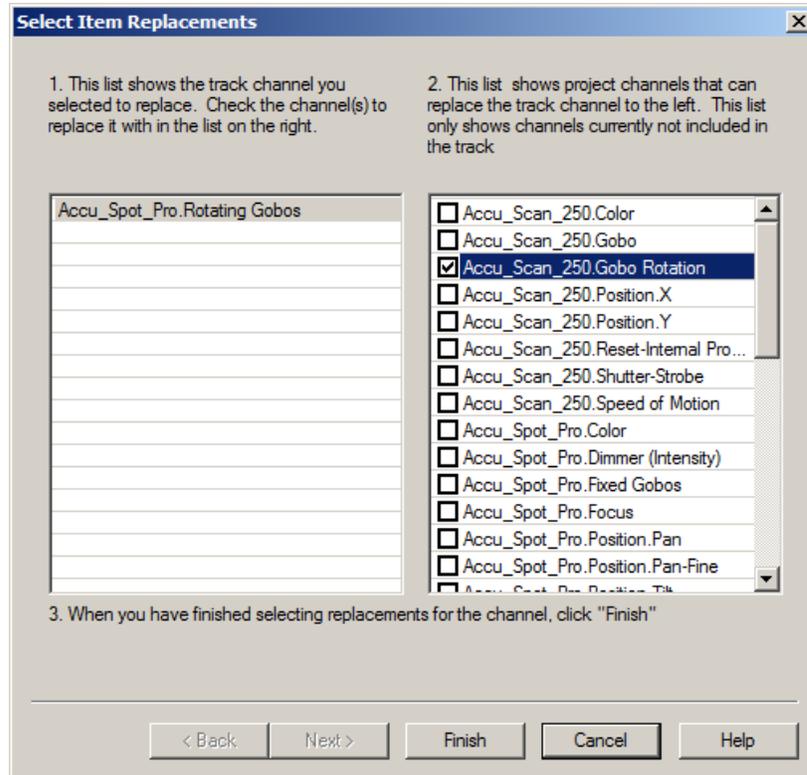
The merge mode setting lets you select how the channel will be affected by *this* track only (see [Fixture Channel Merge Modes](#)). For instance, if *Scale* is selected, then lamp level commands for this channel coming from this track will be merged as *Scale*, rather than the channel default. When set to *Default*, the default channel merge mode is used. (see [Edit Fixture Settings](#)).

## Replacing Control Track Channels & Fixtures

*(Only Available for VenueMagic Classic and above)*

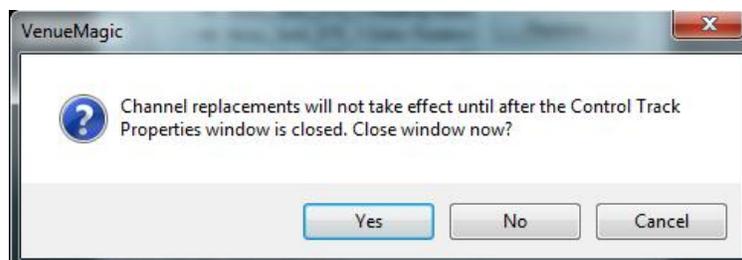
VenueMagic will let you replace a channel or fixture that has been added to a track with a fixture or channel that is not part of the track. Select the fixture or channel that you would like to replace and click the *Replace* button. This will bring up the *Select Item Replacement* wizard.

### Replacing Track Channels



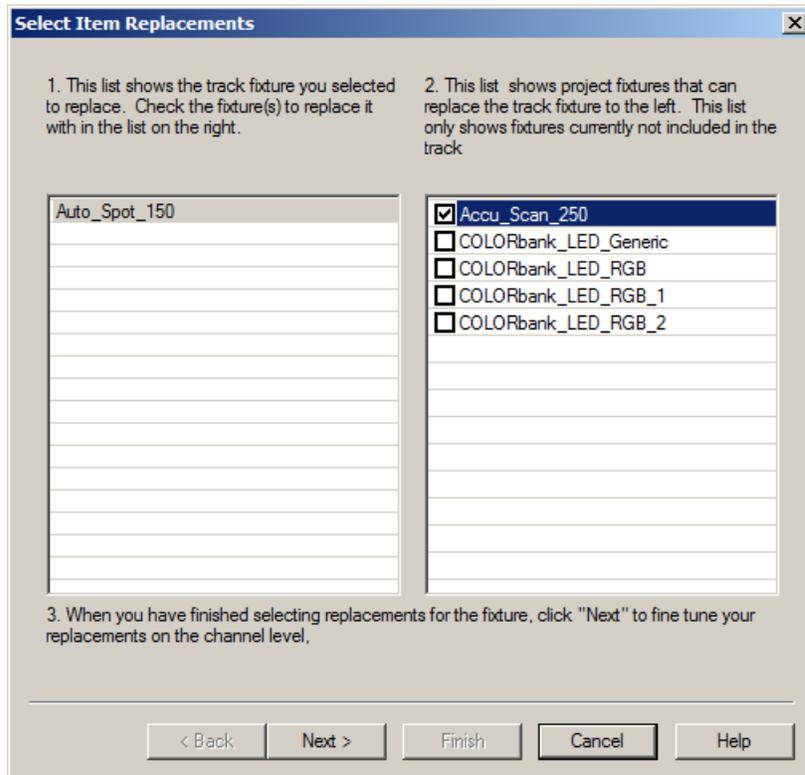
If a *channel* was selected to be replaced, then the *Select Item Replacement* wizard will appear as above. In the list on the left is the channel you selected to replace. On the right is a list of all the channels that are currently not included of the track. Simply check the channel in the list on the right that will replace the selected channel and click *Finish*.

You will immediately see the message:



Click *Yes* to close the *Control Track Channel Properties* window and activate the replacement. Or click *No* to activate the changes later when you close the window. The important thing to remember is that the changes will not be reflected in the *Control Track Channel Properties* window until after it has been closed. It is always recommended that you click *Yes* to this message.

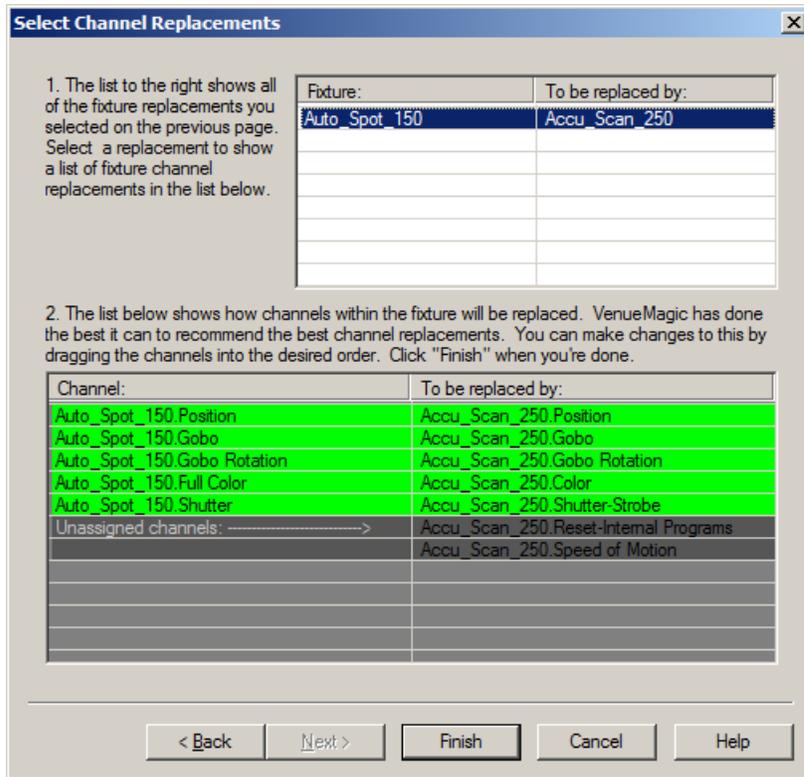
## Replacing Track Fixtures



If a track *fixture* was selected to be replaced, then the *Select Item Replacement* wizard appears as above with the selected fixture on the left, and a list of available fixtures not currently attached to this track on the right. Check the fixture in the list on the right that you wish to replace your selected fixture with and click *Next*. VenueMagic will also allow you to select multiple fixtures to replace a single fixture, effectively splitting the fixture up.

After clicking next, the *Selecting Channel Replacements* window comes up.

## Selecting Track Channel Replacements



The *Select Channel Replacements* window shows two lists. List 1 (on the top) shows the selected fixture on the left side and the fixture chosen to replace that fixture (in the Select Item Replacement window) on the right. If multiple fixtures had been chosen as replacements, then there would be a list item for every replacement.

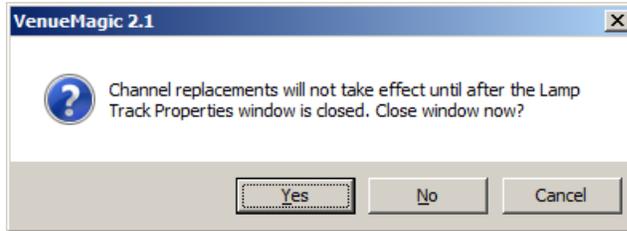
Click on the replacement item in List 1, and you will notice that List 2 (on the bottom) is filled with suggested channel replacements across the two fixtures. If you don't like VenueMagic's suggestions, you can select and drag items on the right side to line them up with the desired replacements on the right. Unused channels on the right are placed below the assigned channels in the section labeled *Unassigned channels*.

VenueMagic color codes the items in the list as follows:

Green	Mapping is across identical channel types. For example, a channel of type <i>dimmer</i> is mapped to another channel of type <i>dimmer</i> .
Yellow	The mapping is across different, but technically compatible channels. An example of this would be mapping a dimmer channel to a gobo wheel channel.
Red	Mapping is illegal. This occurs when you attempt to map a compound channel (such as RGB) to a channel that is not same type (such as position).

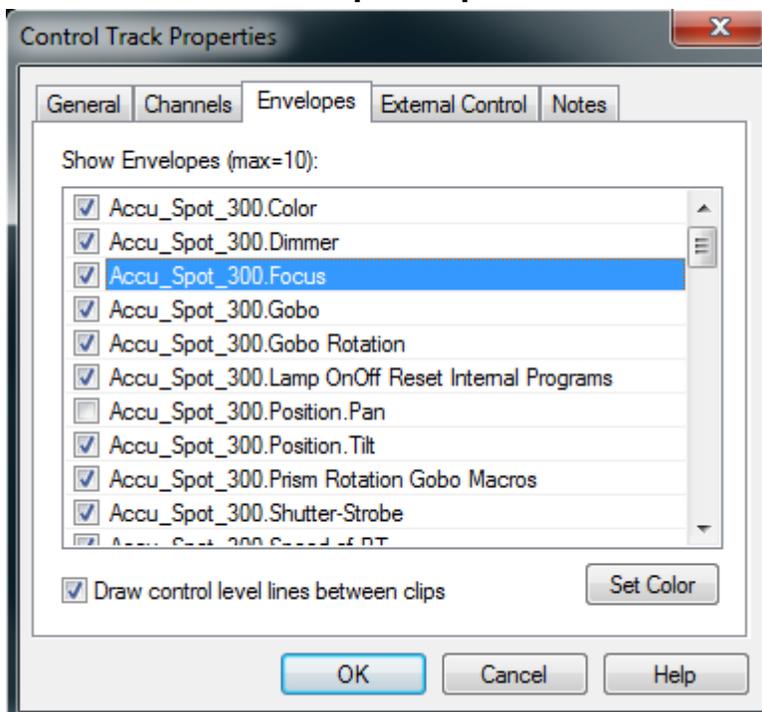
When you have finished arranging channel replacements to you liking, click *Finish*.

You will see the message:



Click *Yes* to close the *Control Track Channel Properties* window and activate the replacement. Or click *No* to activate the changes later when you close the window. The important thing to remember is that the changes will not be reflected in the *Control Track Channel Properties* window until after it has been closed. It is always recommended that you click *Yes* to this message.

## Control Track Envelope Properties

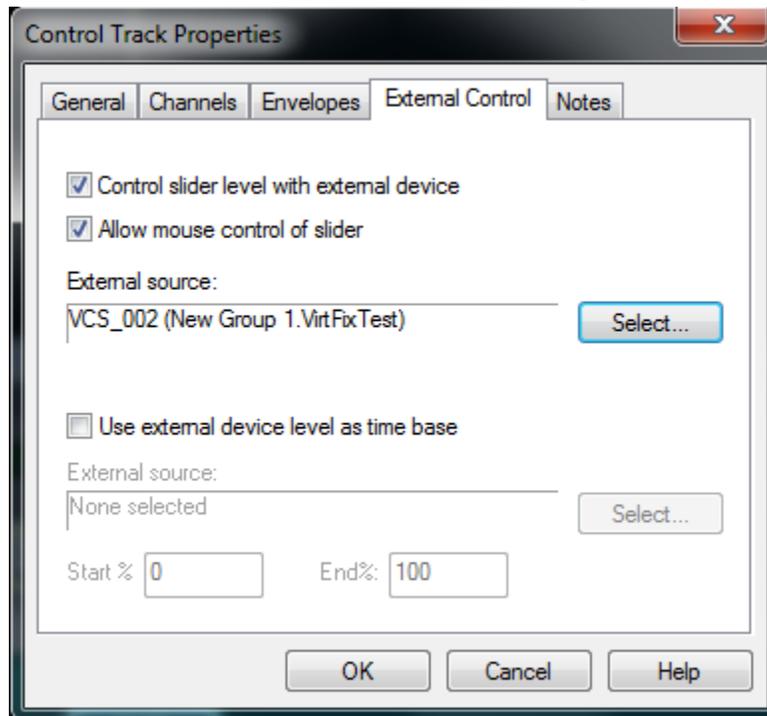


Select which envelopes in the track are to be shown in the track. If the number selected exceeds the maximum specified in the [Timeline Options](#) window, other envelopes will be deselected, starting with the most recently selected envelope.

If you don't want lamp level lines to be drawn between clips, uncheck the *Draw lamp levels between clips* box.

Click the *Set Color* button to set the color that the envelope will be displayed in the timeline and the [Envelope Editor](#) window.

## Control Track External Control Properties



### **Control slider level with external device**

Enables the track panel's main lamp level control slider to be controlled by an external source. Click the *Select...* button and choose an input source in the [Select External Control](#) window.

### **Allow mouse control of slider**

When the main lamp level slider is being controlled by an external source, it may not make sense to allow the mouse to control it at the same time. Uncheck this box to lock-out the mouse from controlling the slider.

### **Use external device level as time base**

When checked, the time base for this track is provided by an external input as described below.

## ***Using an External Input as a Time Base***

(VenueMagic SC+ and above only)

With the ***Use external device level as time base*** box checked, the time base for this control track is based on the current value of an external control source rather than actual time. This makes it possible to slew back and forth in time through this track with an external control such as a slider, for instance. The output channels associated with this track are set to the proper values corresponding to the time provided by the slider (or any external control source).

This handy function allows you to perform complex control of a number of different channels and attach it to a single input source. A good example of using this capability would be an animatronics character where movements of multiple motors is required to achieve the desired expression, such as a smile. Build into this track the complete movement of all motors from no-smile to smile and then connect it to a slider so that moving the slider back and forth controls the character's smile.

The additional fields for this function are described below:

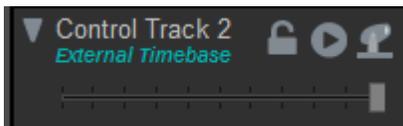
Use external device level as time base

External source:

Start %  End%:

Click the Select button and then choose an external control source from the [Select External Control](#) window. Then specify the Start % and End % of the external control that would correspond to the beginning and the end, of the tracks play time, respectively. The default values of 0% and 100% give you the full range of the external control to set the time in the track.

If a track has the **Use external device level as time base** box checked, the associated Track Control Panel will so indicate.

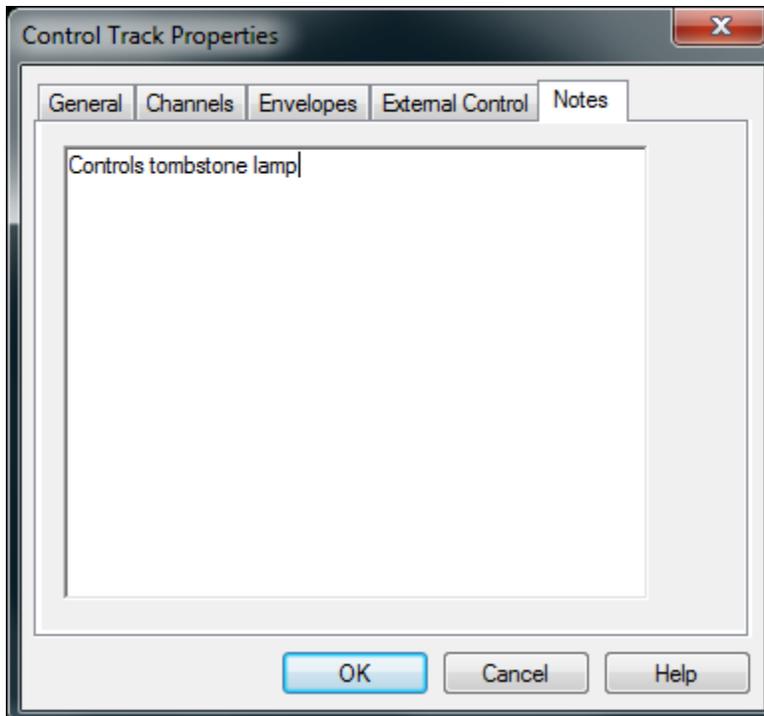


Once an *External Timebase* track has been setup, it is always active—meaning as the attached external control value changes all track channels are affected—whenever the timeline is open in the [timeline editor](#) (whether running or not) or if it is in the [Cue List](#).

A timeline with some (but not all) of its control tracks setup as *External Timebase* tracks can be run in the *Cue List* as a normal timeline. However, none of the *External Timebase* tracks will play, except as controlled by the external control. A timeline where all control tracks are *External Timebase* tracks can be added into the *Cue List*, but it will not run as a normal timeline. Its presence in the *Cue List* will allow its time base to be controlled by the specified external control. The *Status* column for such a timeline will read “Ext.time” and no time information will be provided. The timeline will remain in the *Cue List* until it is explicitly stopped.

## Control Track Notes

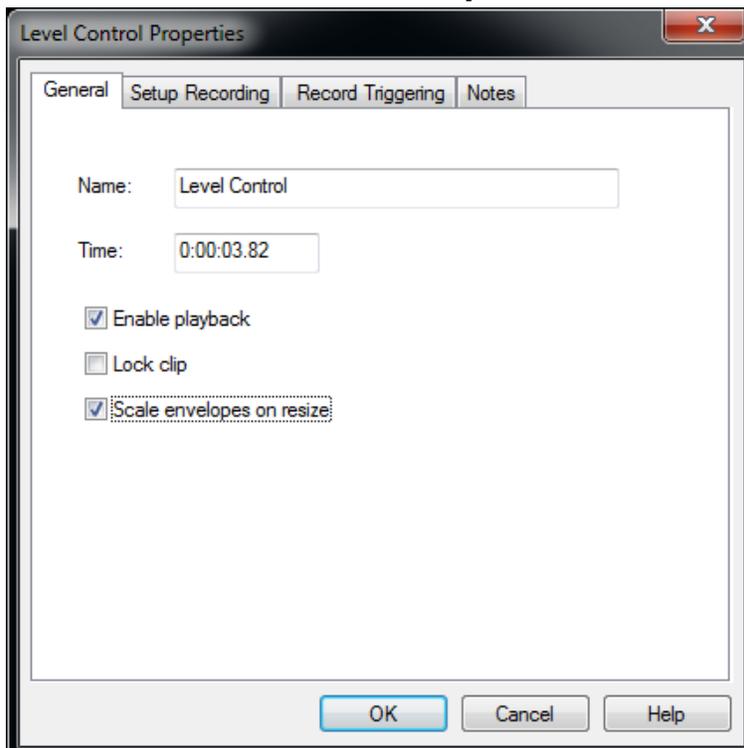
Enter notes about the control track.



## Level Control

A Level Control fixture effect gives you full control of channel levels in a track by utilizing the [Envelope Editor](#) to edit channel level profiles.

## Level Control General Properties

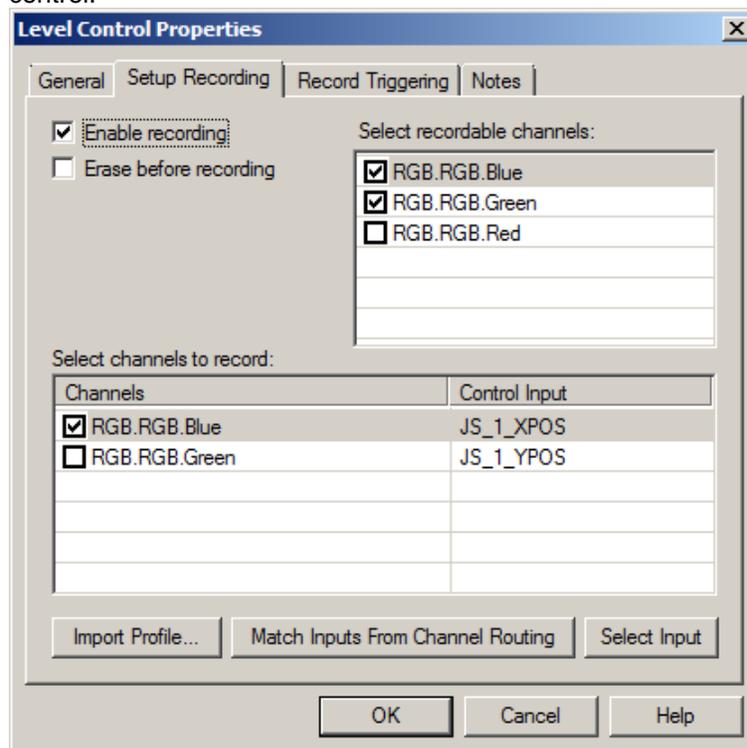


- Name** Enter the name that will appear on the clip in the timeline window. By default, this will always be “Level Control.”
- Time** This field lets you explicitly set the time location of the clip on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Enable playback** Check this box to enable playback of the clip. Uncheck it to disable lamp control by this clip during timeline playback. It is checked by default.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.
- Scale envelopes on resize** Check this box and envelope handles will be scaled horizontally when the Level Control clip is resized. Note: scaled Level Control clips can only be scaled from the right edge, not from the left.

## Level Control Setup Recording Properties

(Only Available for VenueMagic DMX+AV and above)

This window allows you to setup channels for real-time recording of DMX, MIDI and Joystick control.



By default, all of the channels associated with a Level Control fixture effect are controlled by envelopes that are designed by the user in the timeline or in the [Envelope Editor](#). Setting up selected channels to be “recordable” will enable you perform real-time recording of those levels during timeline playback.

### Selecting Channels to Record

The *Select recordable channels* list shows all the output channels available to this Level Control effect. Check the box on those that you wish to record. Checked items will appear in the *Select channels to record list*. In this list, check those channels you wish to record during timeline playback. Unchecked channels will not be recorded. They will playback their pre-recorded data (if any) when the timeline is run.

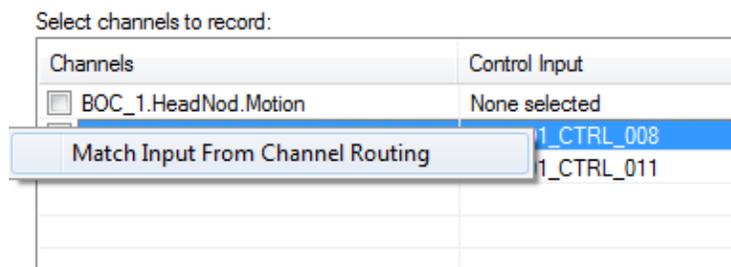
### Selecting Inputs to Control Recorded Channels

Perhaps a little clarification is needed at this point. The channels you have selected for recording are actually *output* channels, not *input* channels. In the end, what we really need to record are the *input* channels that are *controlling* the *output* channels. In order to do this, we must specify which external input channel is controlling a “recordable” output channel while it is being recorded. Select an output channel in the *Select channels to record list* and click on the *Select Input* button. This brings up the [Select External Control](#) window from which you can select an input channel to control the selected output channel. While the timeline is recording, this will function similarly to the [Channel Router](#) in that each output channel will be controlled directly by the associated input channel.

### Copying Inputs from Channel Routing

If you have already setup the Channel Router and would like to use the same inputs for recording, click on *Match Inputs From Channel Routing*. This will reassign all of the recording channels to match the inputs currently set up in the channel router and in the *Routing Group* currently selected in the main screen toolbar (see [Channel Routing Groups](#)). If a record channel is not referenced in the Channel Router, it is left alone. Note: in Channel Routing, multiple inputs can affect a single output channel. Recording does not allow this. If multiple inputs are found for the record channel, you will be prompted to select the desired one from a list.

The *Copy Inputs from Channel Routing* button performs an input copy for *all* the channels in the *Select channels to record* list. To copy inputs from channel routing to one or more individual channels only, first select the desired channels, then right-click on one of those selected and click *Match Input From Channel Routing*.



### Importing Profiles into Level Control Channels

Import previously exported [profiles](#) into channels by selecting the channels to be imported to from the *Select channels to record* list, and then clicking *Import Profile*. Select the profile file and click OK to bring up the [Load Profile Channels](#) window which will have populated the *record channel* list with the channels selected in the *Select channels to record* list.

### Recording Channels

Check the *Enable recording* box to enable recording for this clip. When you close the Level Control Properties window, you will find that the Level Control clip title bar has changed color to red and the clip title now includes “(Record ENABLED)”.



You can also enable recording by right clicking on the clip and selecting *Record Channels*. Or you can click on the  button in the [timeline toolbar](#). This will enable recording for all selected Level Control Clips so long as recording has been setup for each of them.

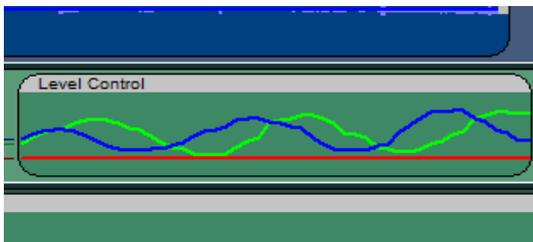
When you run the timeline, the title text changes to include "(Record WAITING)".



As soon as recording is triggered (see [Level Control Record Triggering Properties](#)), the clip's appearance changes to:



Now run the timeline. Recording of the selected channels will begin when the timeline time cursor reaches the clip. When timeline playback stops, the new recorded data appears in the clip.

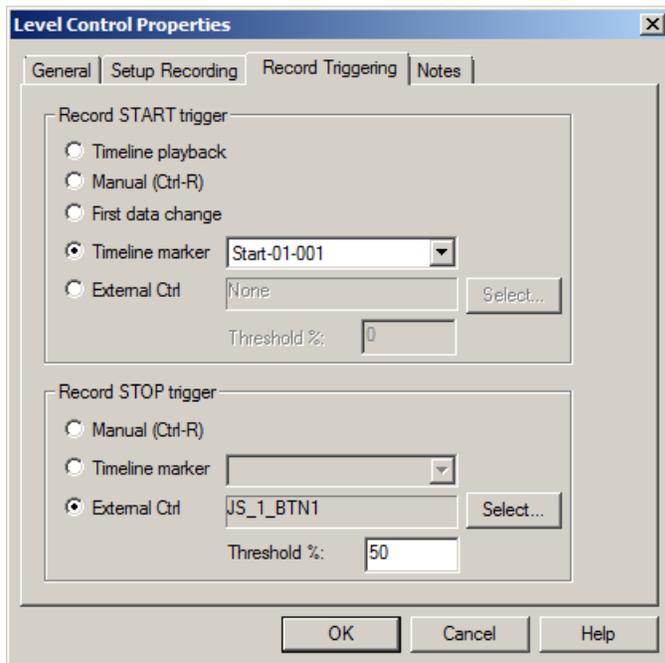


### **Record Lock**

When the timeline stops after a recording, the clip is automatically taken out of record mode. This is done to prevent accidentally recording over data. If you want clips to remain in record mode after the timeline stops, can click on the record lock button  in the [timeline toolbar](#).

For more information on real-time recording, see [Real-time Recording and Editing of Channels](#).

## Level Control Record Triggering Properties



### Selecting a Record Trigger

Various options are available for triggering the start and stop of recording during playback.

#### Start Recording Triggers

*Timeline playback* Recording begins immediately when the timeline is run.

*Manual (Ctrl-R)* Recording is toggled on/off (while timeline is running) using the Ctrl-R key combination. This function is available in all modes.

*First data change (auto punch-in)* Recording begins when the first input data is received. In other words, if you are controlling channels with several sliders, moving one of the sliders will start recording for the whole clip.

*Timeline marker* Recording begins at the selected timeline marker. If you start playback after the specified marker, recording starts immediately. (see [Timeline Marker](#))

*External Ctrl* Select an external control to trigger the start of recording. (see [Selecting External Input Devices](#)).

#### Stop Recording Triggers

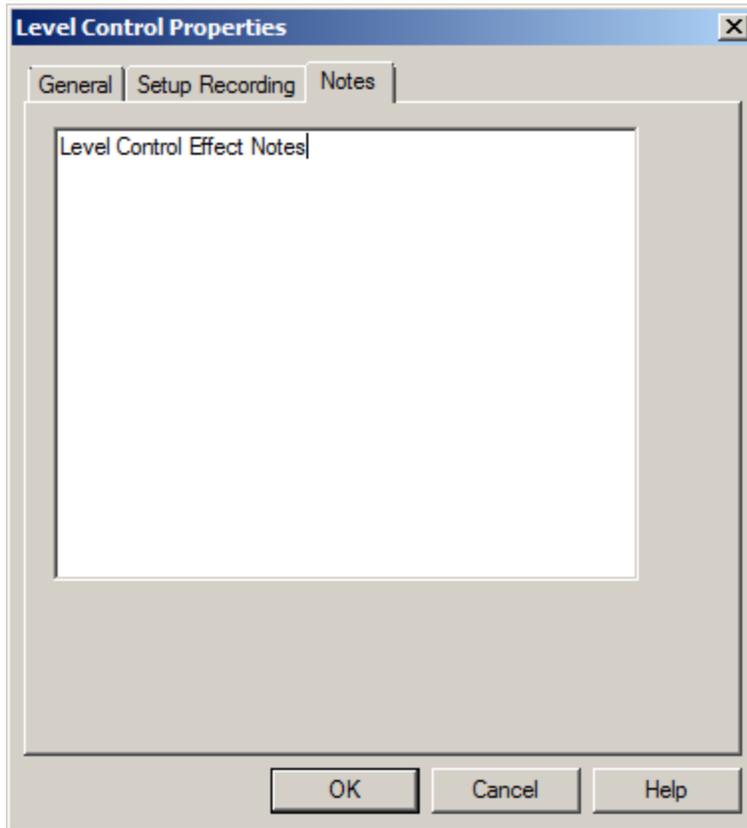
*Manual (Ctrl-R)* Recording is toggled on/off (while timeline is running) using the Ctrl-R key combination. This function is available in all modes.

*Timeline marker* Recording stops at the selected timeline marker. (see [Timeline Marker](#))

*External Ctrl* Select an external control to trigger record stop. (see [Selecting External Input Devices](#)).

## Level Control Notes Properties

Enter notes about the level control effect.



## Snapshot Channels

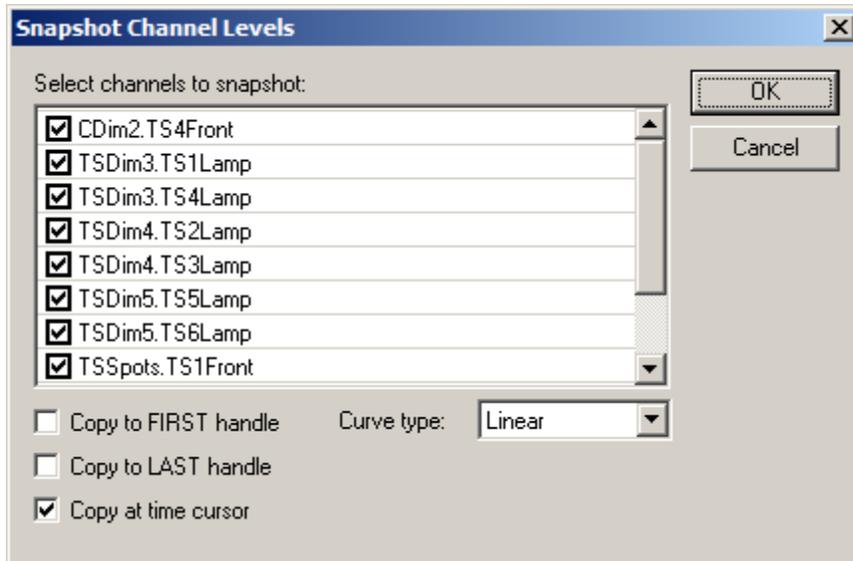
*(Only Available for VenueMagic Classic and above)*

You can “snapshot” the **current output level** of all channels controlled by a Level Control fixture effect by right-clicking on the Level Control effect and selecting *Snapshot channels*. Or you can click on the  icon in the [timeline toolbar](#). This function is available in both the [timeline](#) editor and the [envelope editor](#).

This function is especially useful when you wish to set all of the lamp levels, head positions, etc... manually (you must setup [channel routing](#) to do this) and then capture the position for use in a timeline.

## Matching Recorded Endpoints

In timelines where a move has been recorded to channels in a Level Control clip, it is often desirable to precede the clip with a non-recorded Level Control that will blend the previous channel values into the start of the recorded levels. Manually adjusting the end points of the non-recorded clip to the starting levels of the recorded clip can be tedious. Fortunately, this can be done automatically by right-clicking on the non-recorded clip and selecting *Match Endpoints with Next Clip*.



The Snapshot Channel Levels box will list all the channels controlled by the Level Control. Check those channels you wish to snapshot.

Check the *Copy to FIRST handle* box if you wish to copy the captured channel values to the first handle in the Level Control's envelope that corresponds to each channel. This option is available only to the first Level Control effect on the track. In addition to this, only channels with the [starting source level](#) set to *Start level of first fixture effect* will be copied. Uncheck this box if you do not want to copy any channel values to the first handles.

Check the *Copy to LAST handle* box if you wish to copy the captured channel values to the last handle in the Level Control's envelope that corresponds to each channel. This option is always available and will copy all channels controlled by the Level Control effect.

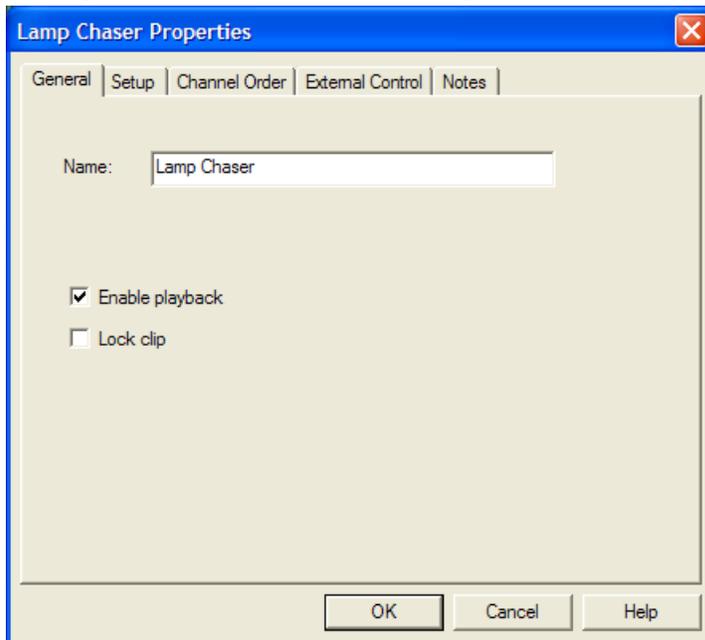
Check the *Copy at time cursor* box if you wish to insert new handles with the captured channel values at the current *time cursor* position. This option only available if the timeline time cursor is inside the Level Control effect.

The Curve type box lets you select the curve type that will be associated with the captured points. Select from *Step*, *Linear*, and *Spline* (see [Envelope Editor](#)).

## Lamp Chaser

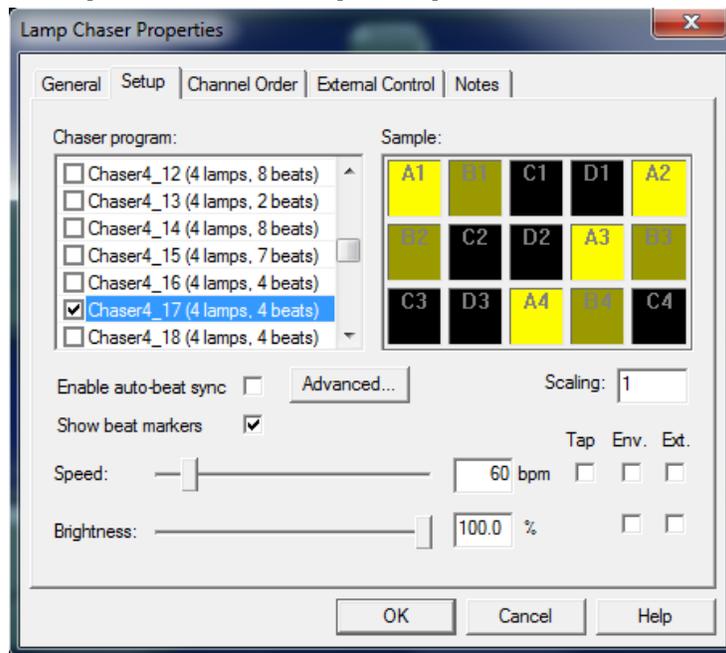
Lamp chasers are very powerful and exciting feature of VenueMagic. VenueMagic lets you select from a library of over 100 chaser sequences, or you can create your own with VenueMagic's easy-to-learn (can you spare 1-2 minutes?) chaser sequence development language in the [Lamp Chaser Library](#).

## Lamp Chaser General Properties



- Name** Enter the name that will appear on the clip in the timeline window. By default, this will always be "Lamp Chaser."
- Enable playback** Check this box to enable playback of the chaser. Uncheck it to disable lamp control by this chaser during timeline playback. It is checked by default.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Lamp Chaser Setup Properties



### Chaser program

Select a chaser sequence program from VenueMagic's library of over 100 sequences. In parentheses to the right of the chaser program name is additional information about the sequence:

- **N lamps:** where *N* is the number of lamps the sequence was designed to accommodate. If you have more lamps than specified, the sequence will repeat every *N* lamps.
- **N beats:** where *N* is the number of beats in this sequence. In other words, the sequence will repeat every *N* beats.

### Sample

An animated sample of the currently selected chaser sequence. The cell names consist of letter-number combinations that specify:

- **Letter A, B, C, etc...:** lamp/beat within the sequence.
- **Number 1, 2, 3, etc...:** iteration of sequence within the track channels.

### Enable auto-beat sync

*(Only Available for VenueMagic Classic and above)*

Enable the auto-beat sync feature for this lamp chaser. Checking this box is the first step to automatically synchronizing a lamp chaser to the beat of an audio file (see [Lamp Chaser Auto Beat Synchronization](#)).

### Advanced... button

Opens the [Advanced Auto-Sync Settings](#) dialog window.

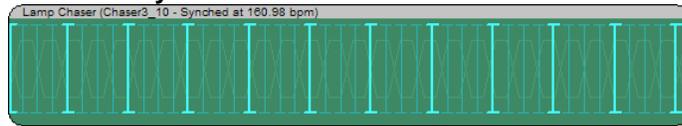
### Scaling

This time scaling factor valued is multiplied with the programmed chaser speed. The default of 1 does not change the speed. Setting it to 2 doubles the speed while 0.5 will cut it in half. The scaled speed is only effective during playback and will not affect the speed in the Sample window. This setting is most useful when used in conjunction with the [Beat Tapper](#) function to affect how the chaser responds to the current tapper speed.

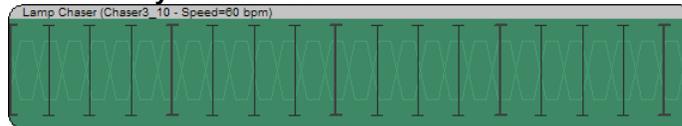
## Show beat markers

Displays chaser sequence beat markers on the lamp chaser clip in the timeline. Even when enabled, beat markers will not show if the timeline display time range is too large.

- **Auto-beat sync enabled:**



- **Auto-beat sync disabled:**



## Speed

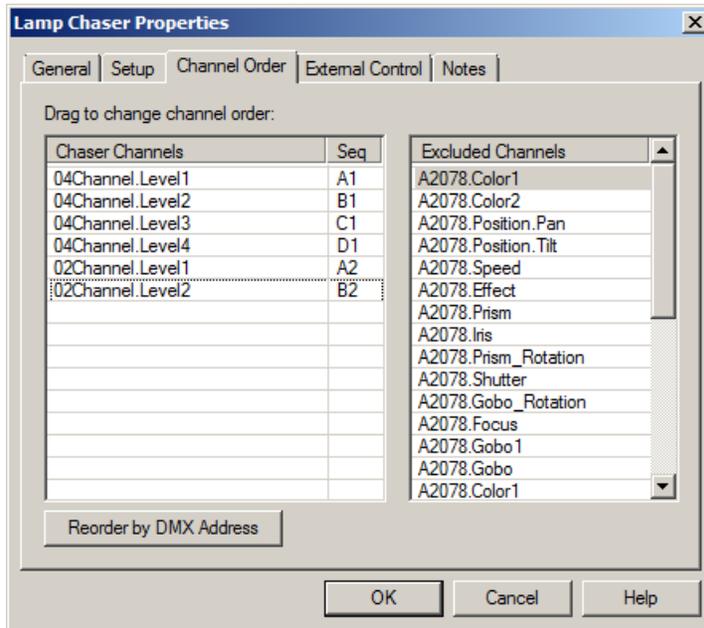
Move the slider to set the chaser speed in beats per minute. You can also enter a BPM value manually in the adjacent field. Active only when Auto-beat sync is not checked.

- **Tap:** Check this box and the chaser will follow the beat tapped-into the [Beat Tapper](#). All other speed settings are ignored.
- **Env.:** Checking this box will enable [envelope](#) control of the chaser speed. The envelope value (0-100%) will vary the chaser speed between 0 BPM and the value set in the speed field.
- **Ext.:** Check to enable external control of the speed. Behaves similarly to envelope control. Once enabled, external control must be setup in the [Lamp Chaser External Control Properties](#) window.

## Brightness:

Functions similarly to the *Speed* setting, except brightness control is active regardless of whether Auto-beat sync is checked or not.

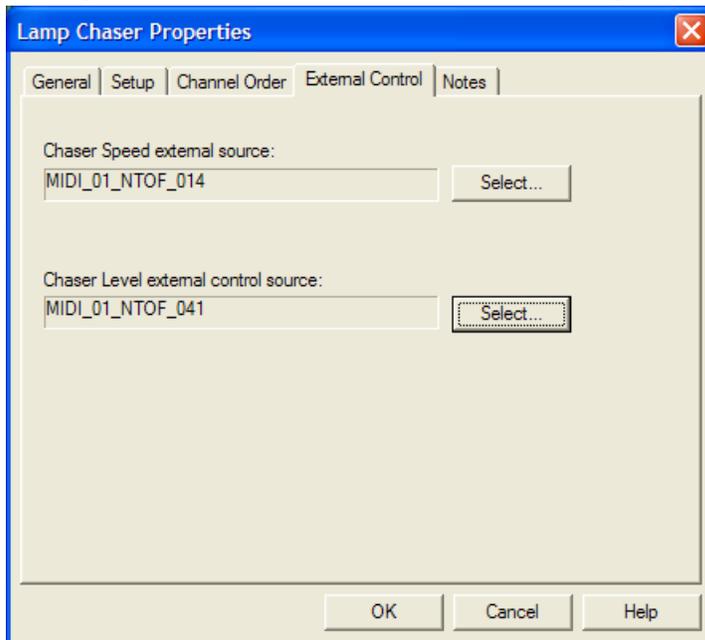
## Lamp Chaser Channel Order Properties



If your chaser lamps are flashing out of order, you can reorder them by dragging them around the *Chaser Channel* list. For explanation of the codes in the Sequence (Seq) column, see [Lamp Chaser Setup Properties](#). If you don't want a channel included in the chaser sequence, drag it into the *Excluded Channels* list. When a lamp chaser is first added to a control track (or when more channels are added to the track) the chaser will automatically exclude all channels except dimmer and RGB type channels (see [Fixture Channel Types](#)). If you actually wish to include these channel types, you will need to drag them back into the *Chaser Channel* list yourself.

Click the Reorder by DMX Address button to reorder the channels in the lamp chaser by DMX address. This is useful if you have rearranged fixtures in the [Add Fixtures](#) window and would like to quickly rearrange the chaser's channel order. It is also useful if you need a quick way to reset channel ordering to the default.

## Lamp Chaser External Control Properties



### **Chaser Speed external source:**

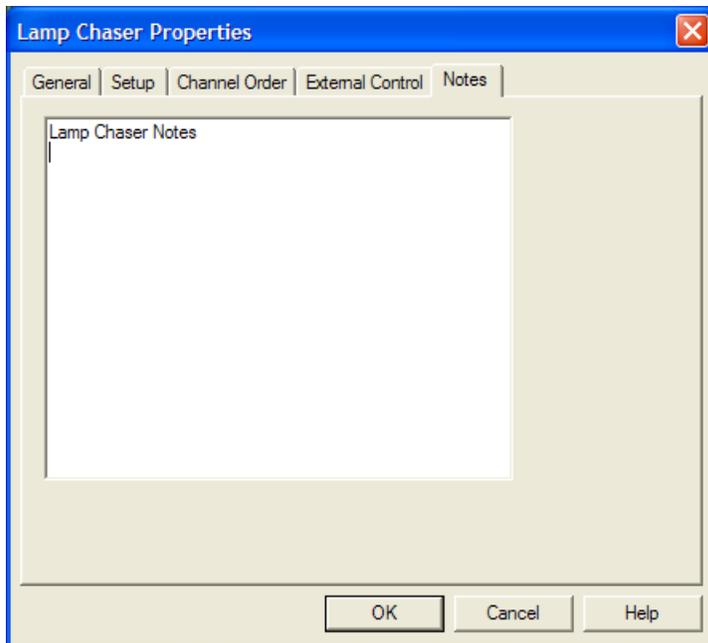
External control of lamp chaser Speed function. Click Select... button to open [Select External Control](#) dialog window. External control will scale the chaser speed between 0 bpm and the speed set in the [Lamp Chaser Setup Properties](#) window. External control of the speed must be also enabled in the same window.

### **Chaser Level external source:**

Selects external control of chaser lamp level. Functions similarly to *Chaser Speed external source* above.

## Lamp Chaser Notes

Enter notes about the lamp chaser.

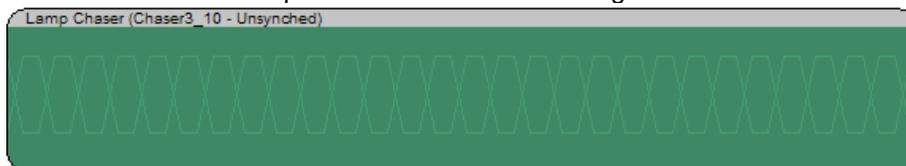


## Lamp Chaser Auto Beat Synchronization

(Only Available for VenueMagic DMX+AV and above)

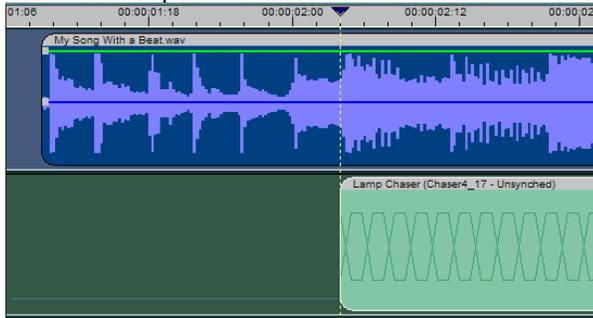
A powerful feature of lamp chasers is the ability to automatically synchronize to the beat of music in an audio file. This can be done by following these steps:

1. Select an audio file from the Audio folder in the [Project Window](#) and drag it into an [audio track](#) on the timeline. It is important that the music you select has a clearly distinguishable beat.
2. Drag the [Lamp Chaser](#) from the Fixture Effects folder in the Project Window into a [control track](#).
3. Double-click on the lamp chaser clip on the timeline to bring up the *Lamp Chaser Properties* window and select the [Setup](#) tab.
4. Select a desired chaser program and then check the *Enable auto-beat sync* box. Now click OK. The chaser clip should now look something like this:



Note the word "Unsynced" in the chaser clip title bar. This tells you that auto-beat sync is enabled, but the chaser hasn't been synched yet.

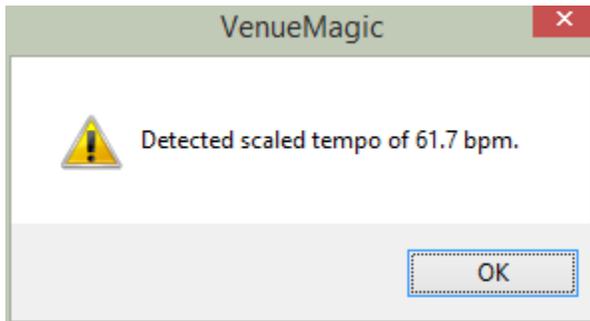
5. In the timeline, identify the start of the beat in the audio file and line-up the beginning of the chaser clip to that beat as shown below:



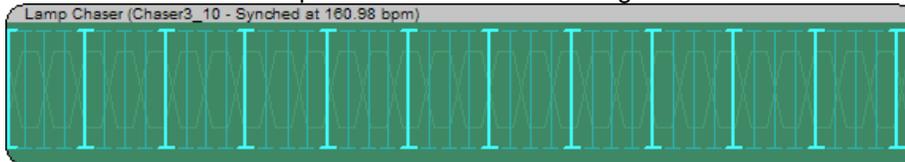
This tells the beat detector which beat you want to sync to.

(Note: you may need to expand the timeline to get a closer view using the  buttons on the timeline toolbar.)

6. Now, select both the chaser clip and the audio clip (click on one to select it, then click on the other while holding down the CTRL key to select both).
7. Right-click on the chaser clip and select Sync Chaser BMP. This will bring up the [Sync Chaser Beat](#) dialog window. For now, just click OK. After a few seconds, you should see a message that looks like this:



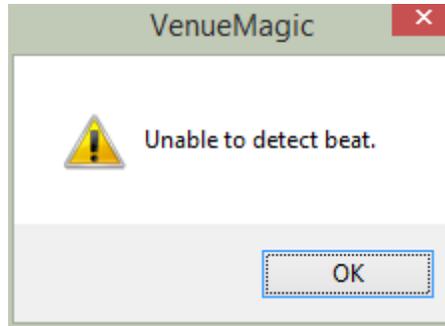
Click OK. Your chaser clip should now look something like this:



You are now synced-up and ready to go!

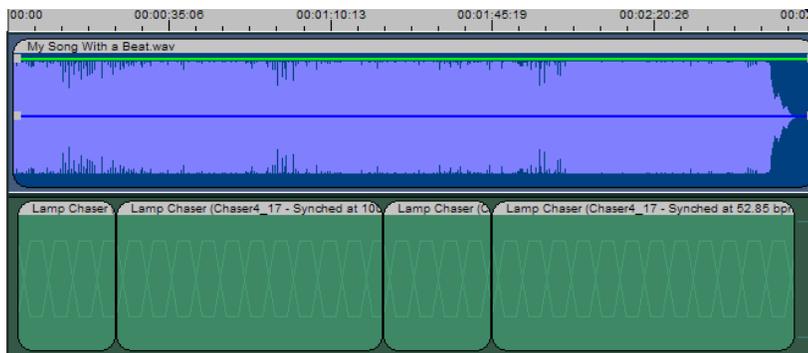
## **Auto Syncing Problems**

VenueMagic will do the best it can to detect the beat of the selected music and sync to it. If the music does not have a clearly distinguishable beat or if the beat is erratic or changing, VenueMagic may not get it exactly right. It may not be able to find the beat at all. In that case you will see this message:



If VenueMagic has trouble finding the beat, you may try some or all of the following:

1. Try breaking the music into sections by inserting a different chaser clip for each section. This is especially useful for songs that change tempo a lot.



The beat detection function searches for the most prominent beat across the length of the music corresponding to the chaser clip and applies it to the whole chaser clip. It will not detect and sync to tempo changes along the same chaser clip.

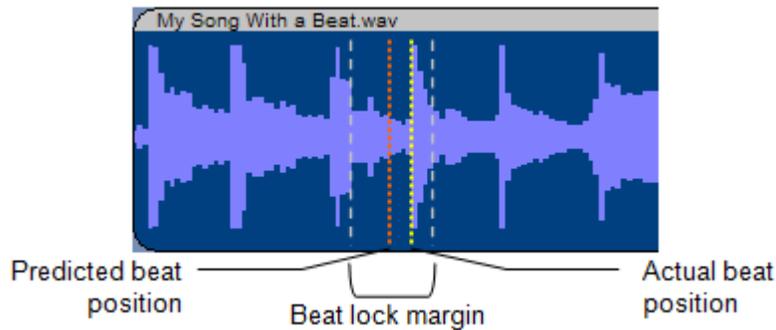
2. Change the *Minimum BPM* in the [Advanced Auto-Sync Settings](#) dialog window. This value tells VenueMagic where to look for the most prominent beat. This value defaults to 45 bpm.

Many songs will apply a strong beat at the beginning of a rhythmic pattern which could confuse beat detection and give you a very low BPM (10-20 or even lower) if this limit is set too low. However, in some cases this may be the only beat VenueMagic is able to lock on to. Try lowering the number in degrees and testing the results. You can then speed up the tempo by setting the *Multiply by scaling* value in the [Sync Chaser Beat](#) window.

3. In very rare occasions VenueMagic may be able to extract a beat from rhythmic patterns that occur above the actual beat of the song. Change the Maximum BPM in the [Advanced Auto-Sync Settings](#) to a higher value and see what happens. You can then slow down the beat by setting the *Divide by scaling* value in the [Sync Chaser Beat](#) window.
4. Sometimes, VenueMagic can identify the tempo (BPM) of the song but can't quite lock on to the precise beat. Try varying the *Beat lock margin* value in the [Advanced Auto-Sync Settings](#) window by small amounts and see if it helps.

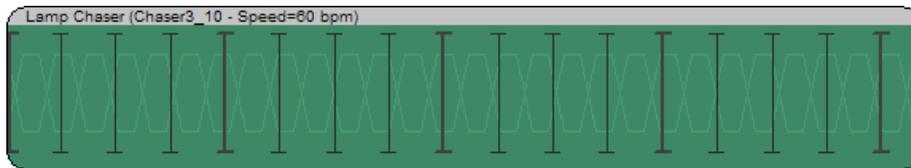
The beat detection functions works in two steps: First, it identifies a tempo based on the most prominent beat. Then it tries to lock on to the strongest audio "pulse" in the vicinity

of where it predicts the actual beat should be. This helps adjust for minor (usually imperceptible) tempo variations within the music. The *Beat lock margin* tells VenueMagic how far to stray from the predicted beat position to find the actual beat.



5. Some songs may confuse the beat lock function even though the BPM calculation is fairly accurate. You can disable this feature by un-checking the Auto-beat lock box in the [Advanced Auto-Sync Settings](#) window. Keep in mind that this may cause the chaser beat to drift out of sync with the music over time. Use multiple chaser clips to periodically “re-sync” the chaser beat by manual adjustment of each chaser clip position.
6. When all else fails, you may need to sync to the beat the old-fashioned way. Uncheck the *Enable auto-beat sync* box in the [Lamp Chaser Setup Properties](#) window. Then, through trial and error, adjust the chaser speed manually until you have a close match. Again, it may be necessary to use multiple chaser clips so that you can re-sync periodically.

With auto-beat sync disabled, your chaser clip will look something like this:



## **Sync Chaser Beat**

This dialog comes up when the Sync Chaser BMP... pop-up menu option is selected from the timeline (see [Lamp Chaser Auto Beat Synchronization](#)). After setting the desired parameter(s), click OK to begin beat detection.



**Audio file:** Shows the path of the audio file chaser will be synced to.

**Start time:** The start time of the lamp chaser clip with respect to the beginning of the audio clip. This field is not editable.

**Length:** The length of the chaser clip. This field is not editable.

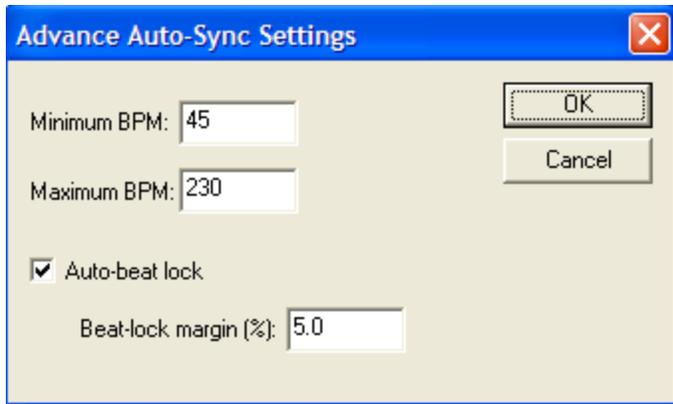
**Scaling** After the tempo of the audio file is detected, it can be scaled to make the chaser beat faster or slower. Select from the following:

- **No scaling:** Do not perform any scaling of the detected tempo.
- **Multiply by:** Multiply detected tempo by the specified amount to make the beat faster.
- **Divide by:** Divide detected tempo by the specified amount to make the beat slower.

Note: Scaling the chaser beat will have no effect on the actual tempo of the music.

### ***Advanced Auto-Sync Settings***

This dialog window is opened by the Advanced... button in the [Lamp Chaser Setup Properties](#) window. For more explanation of the settings in this window, see [Auto-Syncing Problems](#).

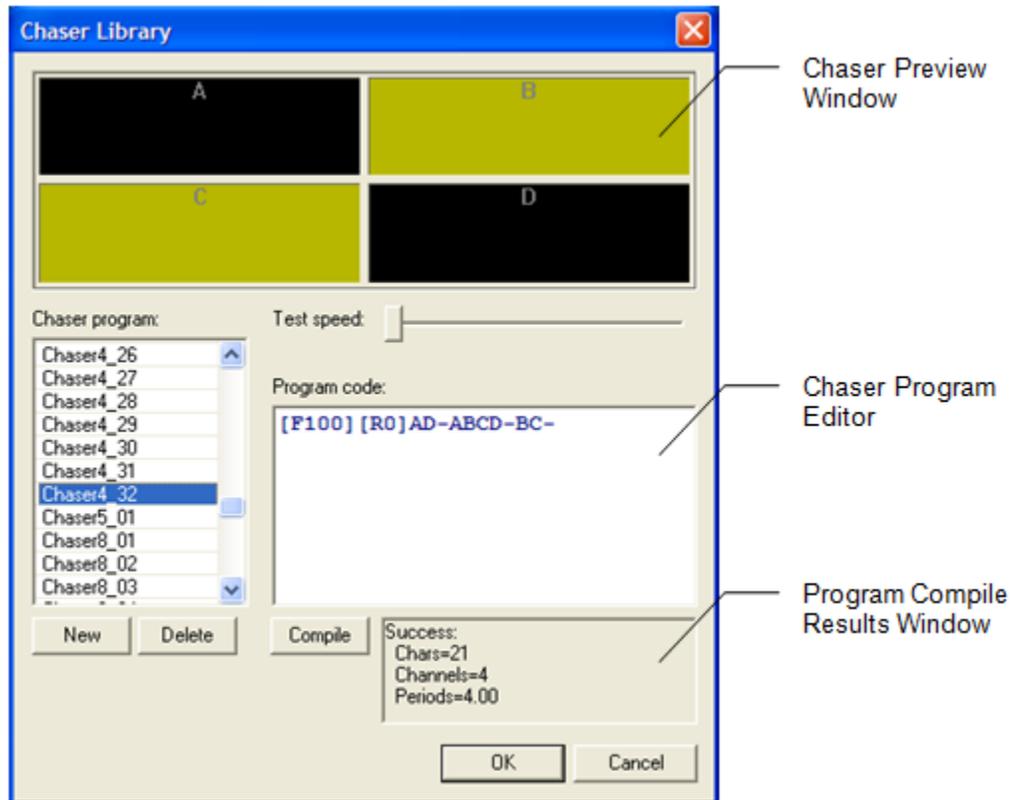


- Minimum BPM:** Specifies the lowest tempo in beats per minute that VenueMagic will consider while attempting to detect the tempo and beat of a music file.
- Maximum BPM:** Specifies the highest tempo in beats per minute that VenueMagic will consider while attempting to detect the tempo and beat of a music file.
- Auto-beat lock** Checked by default. Uncheck this box to disable the auto beat-lock feature of the VenueMagic beat sync function.
- Beat-lock margin:** How far the beat-lock function will stray from the predicted beat position to attempt to locate the actual beat. Value is a percentage of the calculated beat length.

## Lamp Chaser Library

*(Only Available for VenueMagic Classic and above)*

The Lamp Chaser Library provides a quick and easy way to create custom chaser programs. VenueMagic provides a simple, text-based chaser sequence design code that is both powerful and easy to learn.



The following steps summarize the process of creating a chaser program:

1. Click the *New* button under the *Chaser program* list to add a new chaser program to the list called “Lamp Chaser”. You will note that the new program is selected and in “edit mode” so that you can type in your own name for the chaser. If you wish to change the name later, select the program in the list by clicking on it, then click on it again to re-enter edit mode.
2. Click in the *Chaser Program Editor* and enter code for the chaser program.
3. Click on the *Compile* button to compile and plot the chaser program. If there are no errors, the Program Compile Results window will show “Success, followed by the number of characters in the code, how many channels are in the sequence, and how many periods (beats) are in the sequence. The Chaser Preview Window shows an example of what the chaser will look like.

### **Writing Chaser Program Code**

Writing chaser code is simple.

First, the letters of the alphabet (A, B, C, to Z) represent lamps. This will allow your programs to include up to 26 lamps. Letters cannot be skipped. In other words, if you wish to program a sequence using 4 lamps, you must use A, B, C & D.

### **Cycles and Periods**

A chaser program represents a repeating sequence called a **cycle**. A cycle is divided into segments called **periods**, which are represented by the dash (“-”) character. A chaser program is simply a collection of different lamp patterns for each period in a cycle.

So, a basic chaser that flashes four lamps in sequence, one after another, will look like this:

```
A-B-C-D
```

Suppose you wanted the lamps A and B to be on simultaneously, followed by C and B turned on simultaneously. Here’s the code that would accomplish this:

```
AB-CD
```

Pretty simple? Try to figure out this program:

```
A-AB-ABC-ABCD-BCD-CD-D-
```

### Quarter Periods

The forward slash (“/”) represents ¼ of a period. What do you think the program below will do? Try it. (note that spaces and carriage returns are ignored):

```
A/B/C/D/  
A//B//C//D//  
A///B///C///D///  
A-B-C-D
```

### Chaser Pulse Width

You will notice the even though we are using quarter periods, the lamps stay on for a whole period, making a confusing mess. The time a lamp remains on is called the *pulse width*. You can change the pulse width using the command:

```
[Wn]      (pulse width)
```

where *n* is a number between 0-100 specifying the pulse width as a percentage of a period. Let’s try our last program a little differently.

```
[W25] A/B/C/D/  
[W50] A//B//C//D//  
[W75] A///B///C///D///  
[W100] A-B-C-D
```

### Rise Time & Fall Time

Make the lamps dissolve on and off by changing the rise and fall time using the commands:

```
[Rn]      (rise time)  
[Fn]      (fall time)
```

where *n* is a number (0 – 100) specifying the rise/fall time as a percentage of the pulse width.

Example:

```
[W50] [R25] [F25] A-B-C-D
```

### Lamp Level

Scale the lamp level using the command:

```
[Ln]      (lamp level)
```

where  $n$  is a number (0 – 100) specifying the lamp level.

Example:

[W50] [R25] [F25] [L100]A- [L50]B- [L100]C- [L50]D

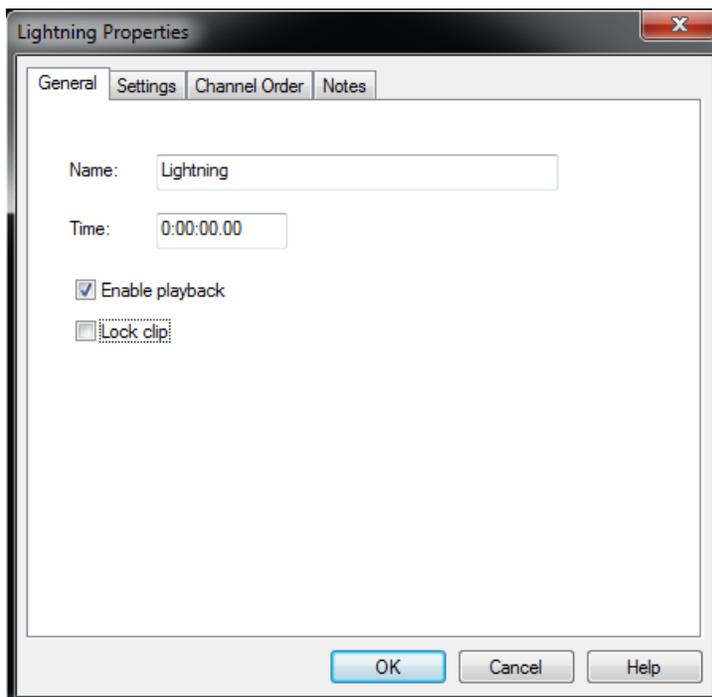
## Built-in Fixture Effects

In addition to [Level Control](#) and [Lamp Chaser](#) effects, VenueMagic provides an assortment of specialized built-in fixture effects designed to display specific effect patterns. Internally, these fixture effects are based on mathematical equations and are intended to simulate lighting “phenomena” such as lightning, candlelight, sunrise/sunset, explosions and a lot more. There are also effects designed to control moving light fixtures to draw circles, figure-8’s random patterns, etc...

VenueMagic’s *Built-in Fixture Effects* library is always growing, and you can download new libraries as they come from the VenueMagic website.

## Built-in Fixture Effect General Properties

The appearance of the built-in fixture effect’s *General Properties* dialog window will appear different for each different fixture effect. However, the setting fields remain constant. This window is for the Candelabra Effect, but the descriptions below apply to all fixture effects.



- |                        |  |
|------------------------|--|
| <b>Name</b>            | Enter the name that will appear on the clip in the timeline window.  |
| <b>Time</b>            | This field lets you explicitly set the time location of the clip on the timeline. The time format used by the field is the same specified in the <i>Time display format</i> of the <a href="#">Timeline Options window</a> . |
| <b>Enable playback</b> | Check this box to enable playback of the clip. Uncheck it to disable lamp  |

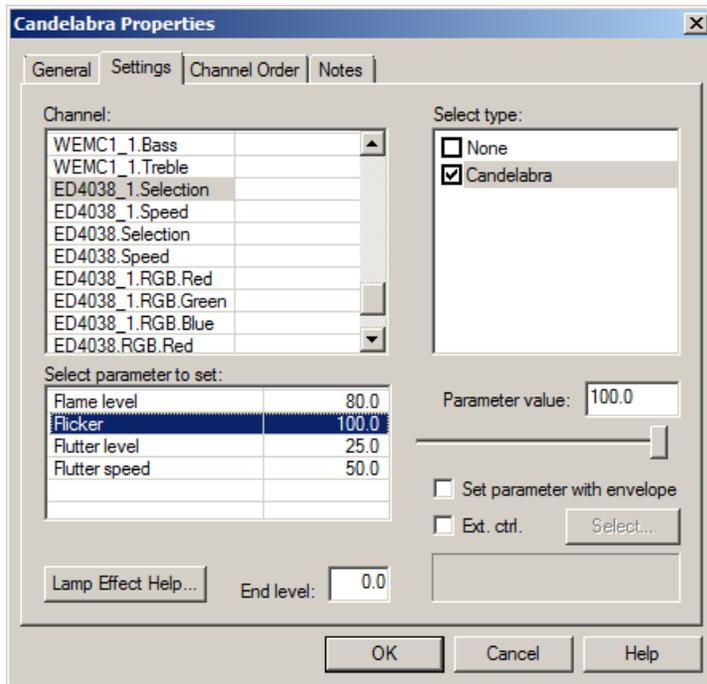
control by this clip during timeline playback. It is checked by default.

### Lock clip

Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Built-in Fixture Effect Settings Properties

The appearance of the Fixture Effect Settings Properties dialog window will appear different for each different fixture effect. This window is for the Candelabra Effect, but the descriptions below apply to all fixture effects.



### Channel:

This list contains all the channels currently linked to the track in which the Fixture Effect clip resides. They are listed in alphabetical order. Select the channel for which you would like to modify fixture effect settings. Selecting [Global Settings] at the top of the list will allow you to modify settings that will affect all the channels together.

### Select type:

Choose a fixture effect variation type for the selected channel.

Each VenueMagic fixture effect offers one or more variations of the effect that can be applied to a specific channel. For example, for effects that depend on lamp color (such as in the *Sunrise RGB* and *Sunset RGB* effects), a type will be provided for each colored lamp. Another example is when effects that require coordination between two motion axes (such as in the *Circle* effect). There is one variation type for the *Pan* axis and one for the *Tilt* axis (or X & Y axes for scanning lamp heads).

When a fixture effect is first added to a track, or when additional channels are added to the track thereafter, VenueMagic will do its best to automatically select the right type for the right channel based on the channel's type (see [Fixture Channel Types](#)). Afterwards, you can go

through the list and make any changes you feel are necessary.

If you want a channel to be unaffected by the fixture effect, select *None*.

**Select parameter to set:**

This list shows all the parameters associated with the selected variation type. Select the one you wish to modify.

**Parameter value:**

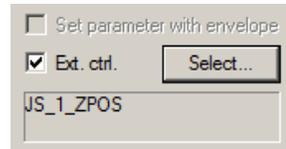
Change the value of the selected parameter by moving the slider, or by entering the value directly into the field.

**Set parameter with envelope:**

Most of the fixture effects will allow you control certain parameters using [envelopes](#). Check this box to enable envelope control of the selected parameter.

**Ext. ctrl.**

Lamp effect parameters can be also be controlled in real-time by an external input. To enable this, check this box then click **Select** to bring up the [Select External Control](#) window.



Checking this box also disables setting the parameter with an envelope.

**Ending lamp value:**

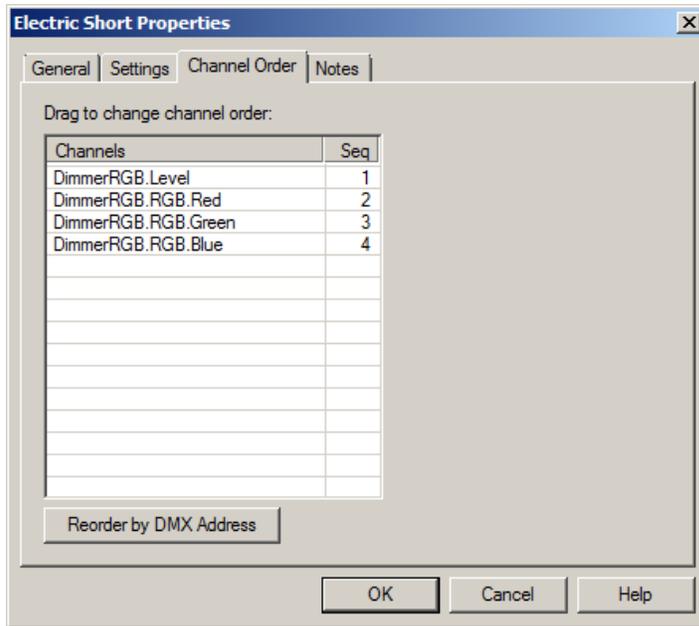
Some fixture effects use a random value generator to create its effect. This means that the final channel level at the end of the clip is unpredictable. Set this value (0-100) to force the final channel level to the desire value.

**Fixture Effect Help...**

Click this button to bring up a help window specific to this fixture effect.

## Built-in Fixture Effect Channel Order Properties

Some fixture effects use the channel sequence number to vary the effect (such as in the *Pan Wave* and *Tilt Wave* effects). This makes channel order important. Rearrange the channel order by dragging them in around in this window.

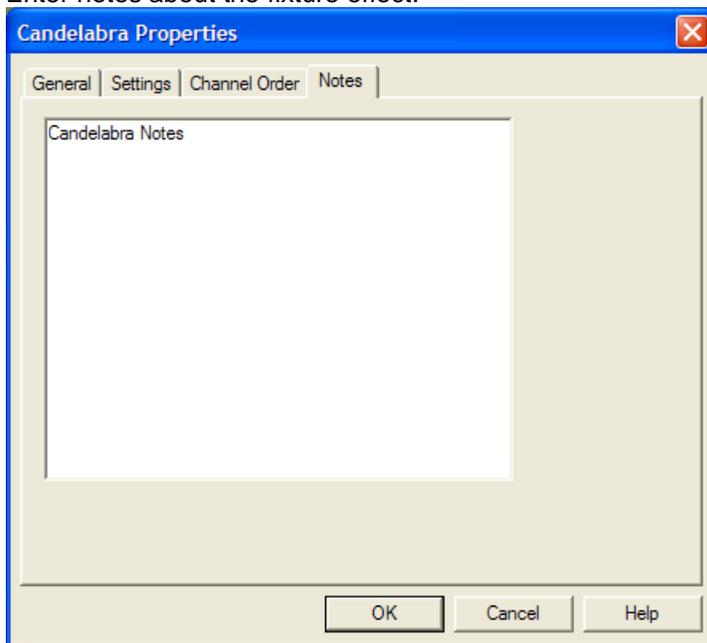


Note: the sequence number column (Seq) represents the sequence within the fixture effect. As you reorder channels, this column will not change.

Click the Reorder by DMX Address button to reorder the channels in the fixture effect by DMX address. This is useful if you have rearranged fixtures in the [Add Fixtures](#) window and would like to quickly rearrange the chaser's channel order. It is also useful if you need a quick way to reset channel ordering to the default.

## Built-in Fixture Effect Notes

Enter notes about the fixture effect.



## Event Tracks

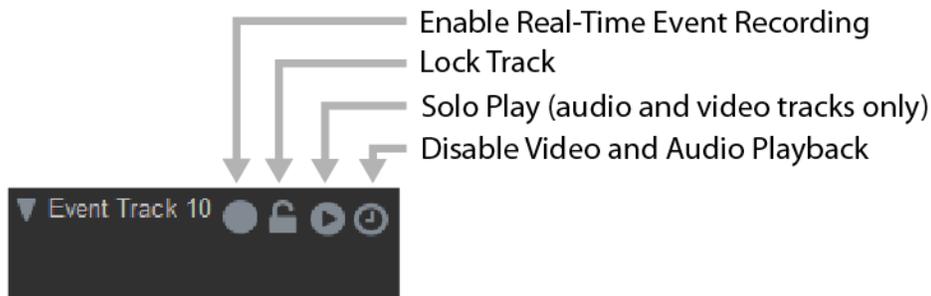
(Only Available for VenueMagic Classic and above)

Event tracks contain events that have been dragged over from the Events folder of the [Project Window](#).



## Event Track Panel

The figure below shows the function of each item in the event track panel.



### Pin track to page

Click this icon to pin this track to its current location on the page. As you scroll the tracks up and down, this track will remain fixed.

### Disable events

Click this icon to disable playback of events on this track.

### Solo play

When enabled, only this event track will be active during playback. No other event track will play.

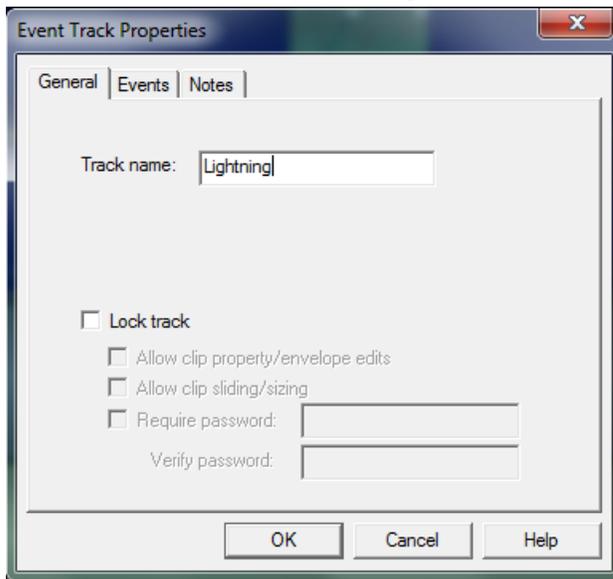
### Lock track

Lock track to changes.

### Enable real-time event recording

Enables real-time recording of events for this track. (See [Real-time Recording of Events](#)).

## Event Track General Properties



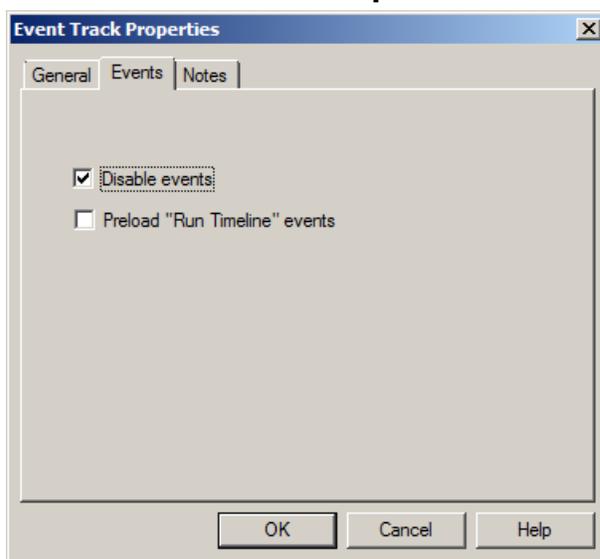
The screenshot shows the 'Event Track Properties' dialog box with the 'General' tab selected. The 'Track name' field contains the text 'Lightning'. Below this, there are several checkboxes: 'Lock track' (unchecked), 'Allow clip property/envelope edits' (unchecked), 'Allow clip sliding/sizing' (unchecked), and 'Require password' (unchecked). The 'Require password' checkbox is followed by two empty text input fields labeled 'Require password:' and 'Verify password:'. At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

**Track name** Enter the track name to be displayed in the track panel.

**Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).

**Lock track** Check this box to lock out any changes to track. For information on the other track locking options, see [Track Lock Functions](#)

## Event Track Event Properties



The screenshot shows the 'Event Track Properties' dialog box with the 'Events' tab selected. There are two checkboxes: 'Disable events' (checked) and 'Preload "Run Timeline" events' (unchecked). At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

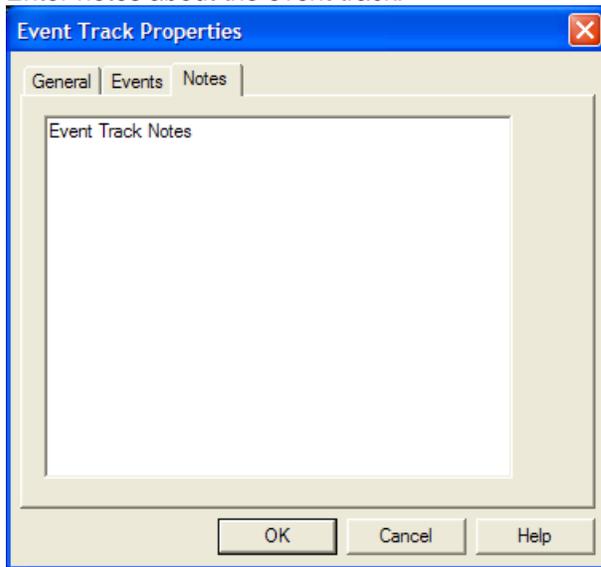
**Disable events** Check to disable events on this track.

**Preload "Run Timeline" events** Check this box if you would like VenueMagic to pre-load the timelines specified by all of the track's "Run Timeline" events at the beginning of

playback. This will ensure greater accuracy for the triggering of these timelines at their designated times. The trade-off is that if there are many “Run Timeline” events there may be a delay between running the parent timeline and the actual start of playback. If accuracy is not important, leave this box unchecked.

## Event Track Notes

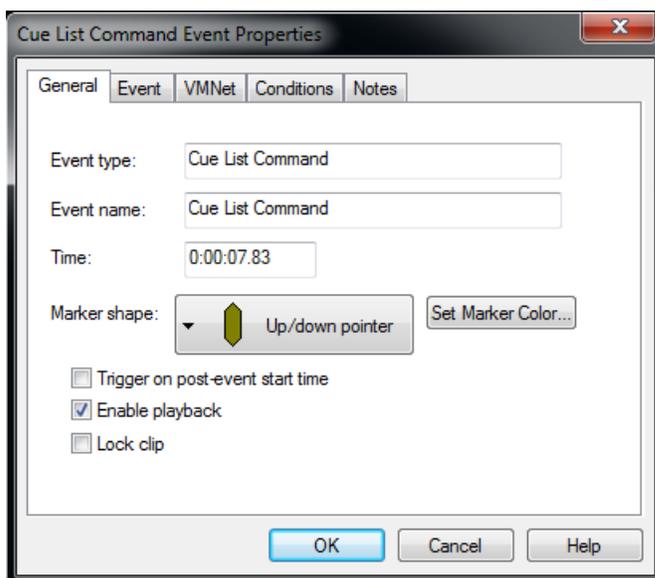
Enter notes about the event track.



## Cue List Command Event

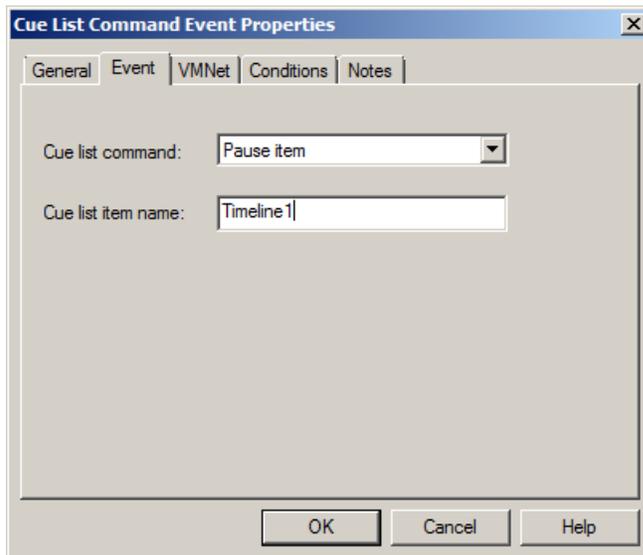
The *Cue List Command* event executes one of several commands that effect execution of a single item or all items of the [Cue List](#).

## Cue List Command Event General Properties



- Event type:** Describes the event type. In this case it is a *Cue List Command* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Cue List Command Event Properties



Select a [Cue List](#) command from the *Cue list command* selector box. Some of the commands are directed to all of the cue items currently running in the Cue List. Other commands affect a specific item in the list, so a name is required in the *Cue list item name* field. This name is the name that appears in the *Cue* column of the *Cue List* when a cue is running, and is set in the *Name in Cuelist* field in the [Timeline Playback Options](#) window for timelines, or the [Playlist Playback](#)

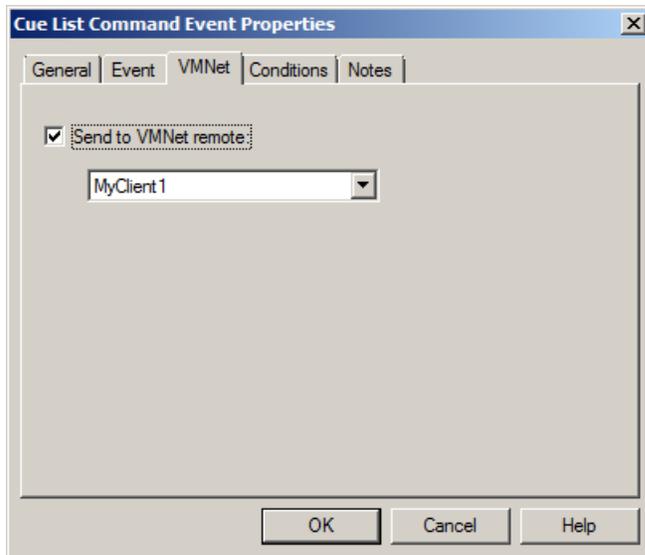
[Options](#) for playlists. For audio files, it will be the name of the file, with extension (for example, "MySong.wav").

The [Play Audio Event](#) and the [Run Timeline Event](#) allow you to change the name for audio files and timelines triggered by those events. [Cue Buttons](#) also allow this.

The following list shows the available commands and their descriptions:

<b>Stop item</b>	Stop playback of specified item and remove it from the cue list.
<b>Pause item</b>	Pause playback of specified item in the cue list
<b>Resume item</b>	Resume playback of a specified item that is currently paused.
<b>End loop</b>	If a specified item is playing in a loop, this event will prevent the item from looping after the current playback.
<b>Stop all</b>	Stop playback of all items and remove them from the cue list.
<b>Pause all</b>	Pause playback of all items in the cue list.
<b>Resume all</b>	Resume playback of all paused items in the cue list.
<b>End all loops</b>	Any items in the cue list that are playing in a loop will stop at the end of the current playback.
<b>Mute all</b>	Mute all sound.
<b>Unmute all</b>	Unmute all sound.
<b>Disable lamps</b>	Disable all lamp control.
<b>Enable lamps</b>	Enable all lamp control.

## Cue List Command Event VMNet Properties



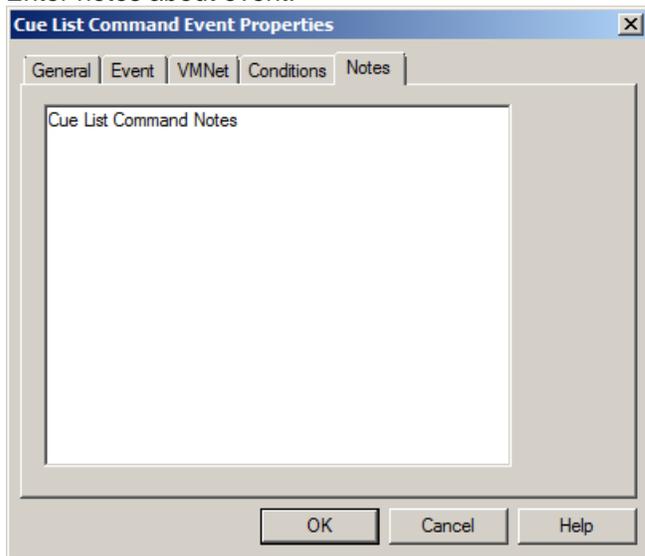
With *Send to VMNet remote* checked the Cue List Command event is routed to a VMNet server on the network by way of the selected client (see [VMNet](#), [Project VMNet Settings](#)).

## Cue List Command Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Cue List Command Event Notes

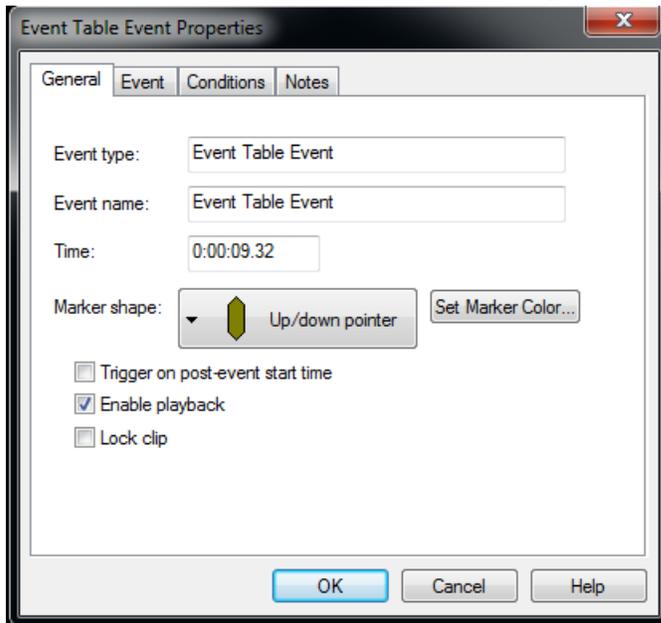
Enter notes about event.



## Event Table Event

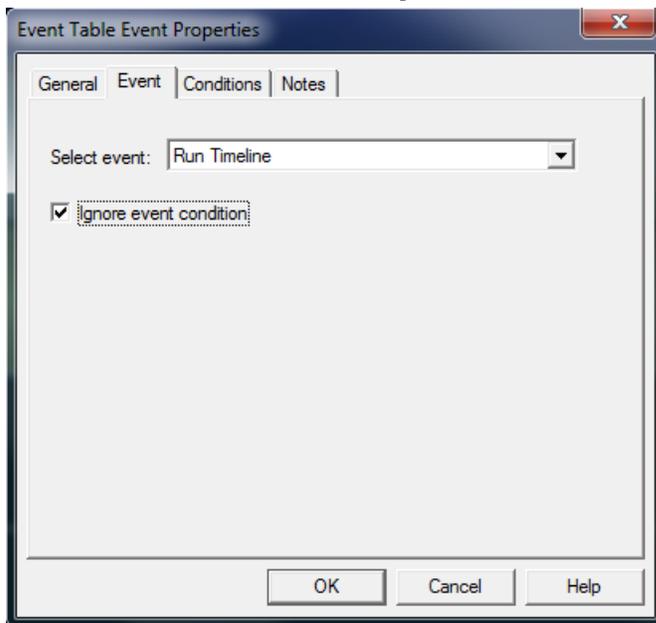
The *Event Table* event executes an event in the [Event Table](#). This allows you to reuse events that you have already created and added to the event table.

## Event Table Event General Properties



- Event type:** Describes the event type. In this case it is an *Event Table* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Event Table Event Properties



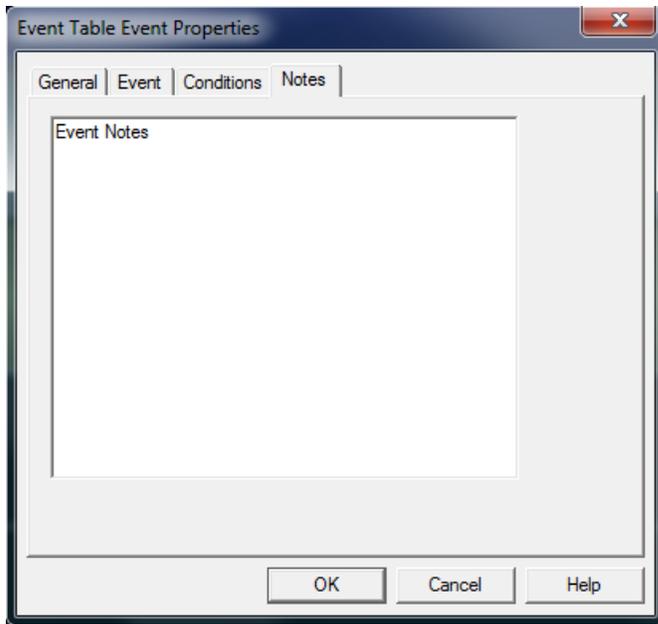
The *Select event* drop-down lists all of the events currently defined in the [Event Table](#). Select the event that you would like the Event Table Event to execute. Check the *Ignore event condition* box if you would like the conditions associated with the event in the event table to be ignored. Checking this box does not affect the conditions defined for the Event Table Event.

## Event Table Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Event Table Event Notes

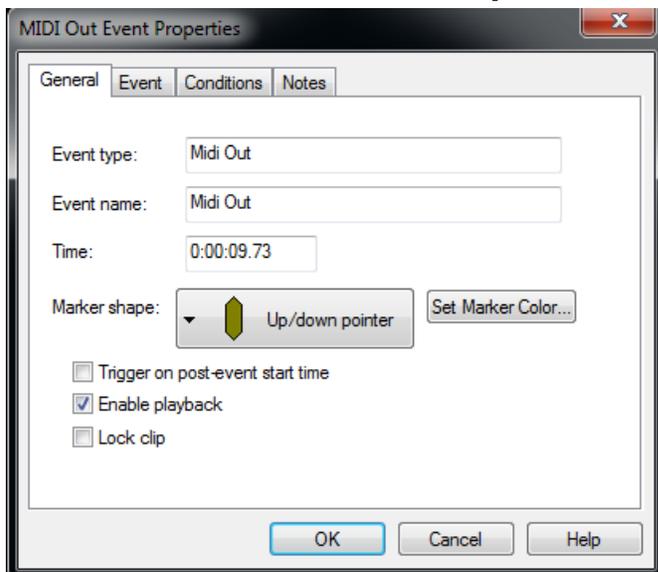
Enter notes about event.



## MIDI Out Event

A *MIDI Out* event will send a stream of MIDI commands out the default MIDI out port (see [MIDI Device Setup](#)).

## MIDI Out Event General Properties



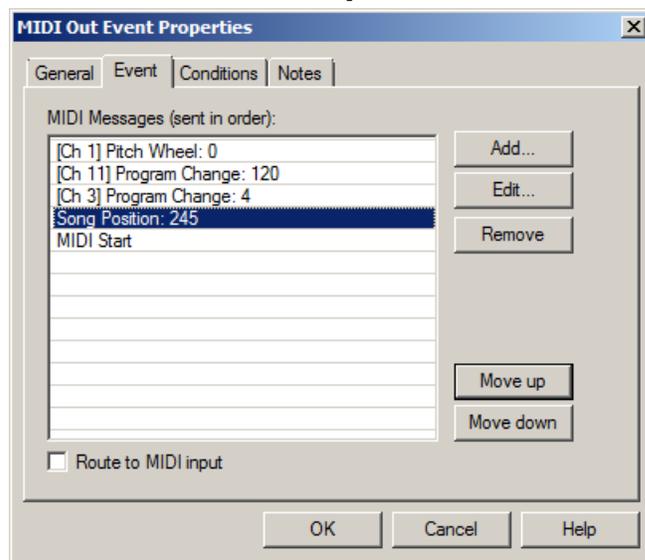
**Event type:** Describes the event type. In this case it is a *Midi Out* event.

**Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.

**Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).

- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

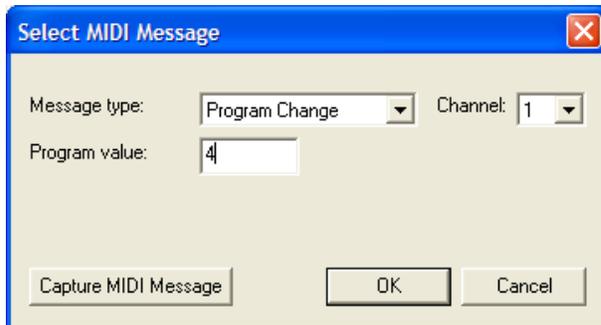
## MIDI Out Event Properties



- MIDI Messages** A list of MIDI messages that will be sent out, in order, when the event is triggered.
- Add...** Add a message to the list. Brings up the [Select MIDI Message](#) dialog window.
- Edit...** Brings up the [Select MIDI Message](#) dialog to modify the selected midi message.
- Remove** Remove selected message(s) from the list.
- Move up** Move selected message up in the list.
- Move down** Move selected message down in the list.

**Route to MIDI input** Sends the command to VenueMagic's MIDI input processor in addition to the MIDI output. This is useful if you are controlling a MIDI output with a VCS slider and you need the slider to know if an event has sent a message to the same MIDI control.

### ***MIDI Out Event Select Midi Message***



Select a MIDI message type in the Message type box. The rest of the dialog will modify itself by adding or removing fields to allow for appropriate data entry for the selected type.

Click Capture MIDI Message to bring up the [Capture MIDI Message](#) window.

### **Capture MIDI Message**

This window provides a real-time display of the most recent MIDI messages received over the default MIDI input device (see [MIDI Device Setup](#)).



Click OK to capture the currently displayed message and send it back to the Select MIDI Message window.

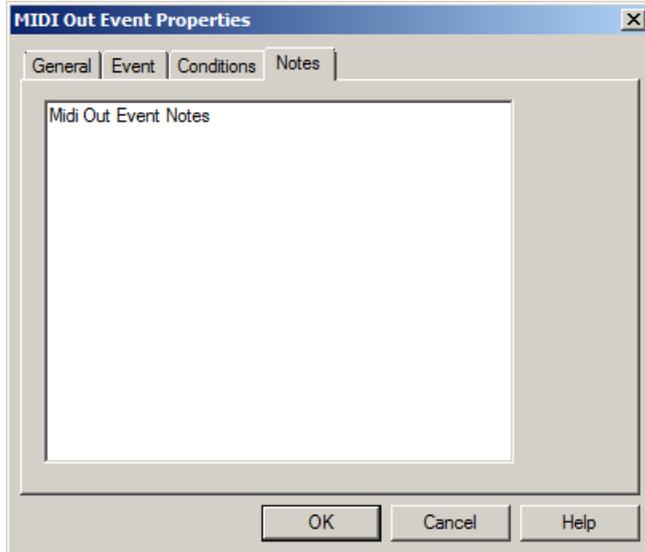
Click the Monitor Midi... button to bring up the [MIDI Monitor](#) window.

## MIDI Out Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## MIDI Out Event Notes

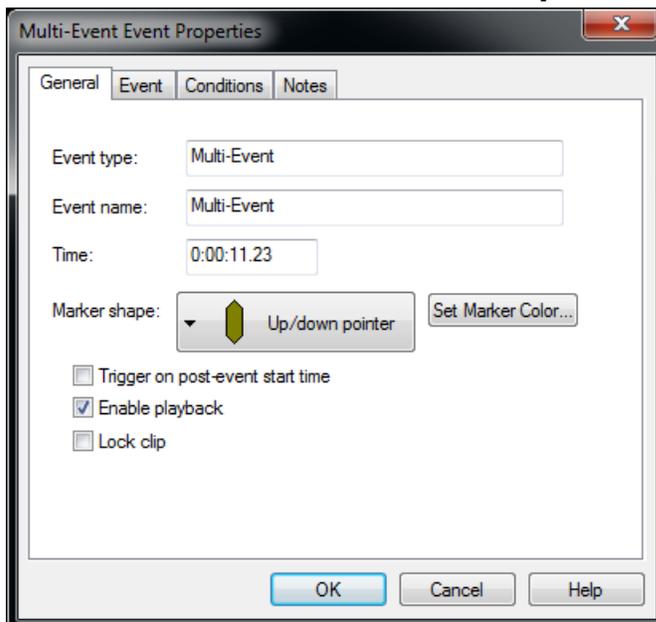
Enter notes about event.



## Multi-Event Event

The *Multi-Event* event executes multiple events at once.

## Multi-Event Event General Properties

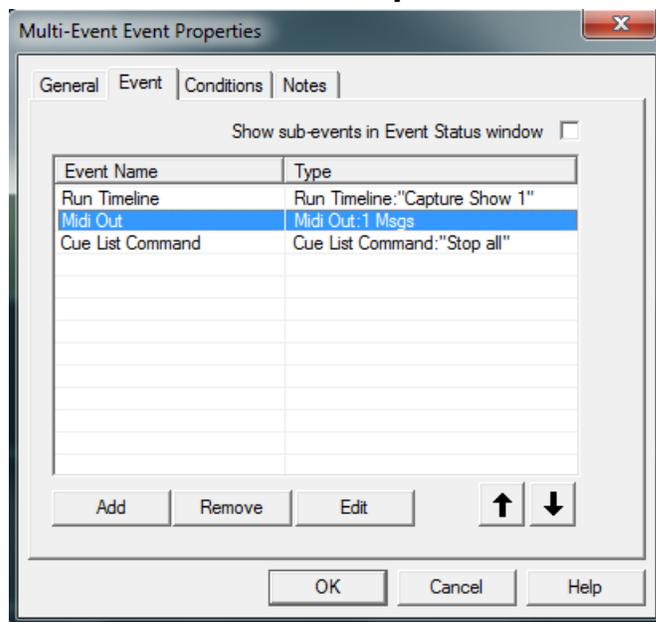


**Event type:** Describes the event type. In this case it is a *Multi-Event* event.

**Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.

- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Multi-Event Event Properties



### **Adding, Removing and Editing Events in the List**

Insert events into the event list by clicking Add, to bring up the [Select Event](#) window. Select the desired event, click OK, then setup the event. Events are added to the list show the name of the event in the *Event Name* column and a brief description of the event settings in the *Type* column.

You can change the name of an event by first selecting the event in the list, and then clicking the text in the *Event Name* column for the selected event. Now type in a new name for the event and press the *Enter* key.

Remove one or more events from the list by first selecting them and then clicking on *Remove*. Modify the settings of the selected event by clicking on *Edit*.

### **Re-ordering Events in the List**

The listed events are executed in the order they appear in the list. To change the position of an event in the list, select the event, then use the   buttons to move the selected event up and down in the list.

*Important note:* Events in the list should not have conditions that depend on other events in the list because the results will be unpredictable. For example, if the condition settings of *Run Timeline* event in the list depends on a variable being set by another event in the list, it may not function as expected. This is because the conditions for all events in the list are evaluated before any events in the list are executed.

### **Multi-Events in the Event Status Window**

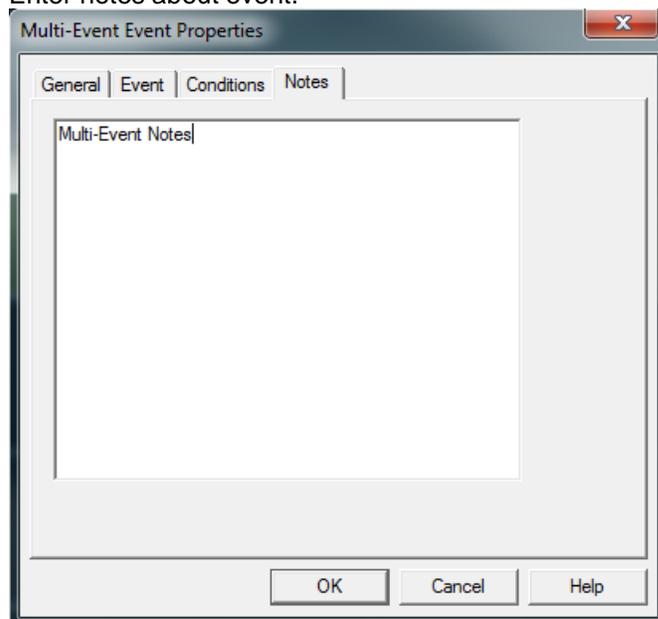
Normally, multi-events take up a single line in the [Event Status](#) window. If you would like all the events in a multi-event to appear in the window, check the *Show sub-events in Event Status window* box.

## **Multi-Event Event Conditions**

Setup event trigger conditions (see [Event Conditions](#)).

## **Multi-Event Event Notes**

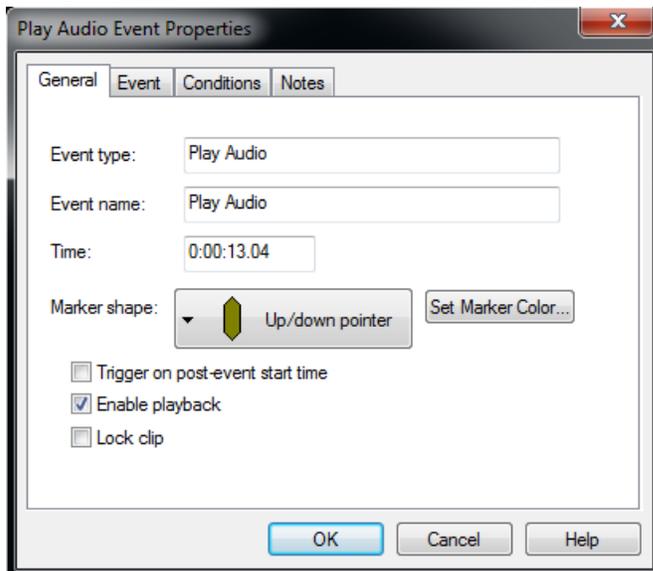
Enter notes about event.



## Play Audio Event

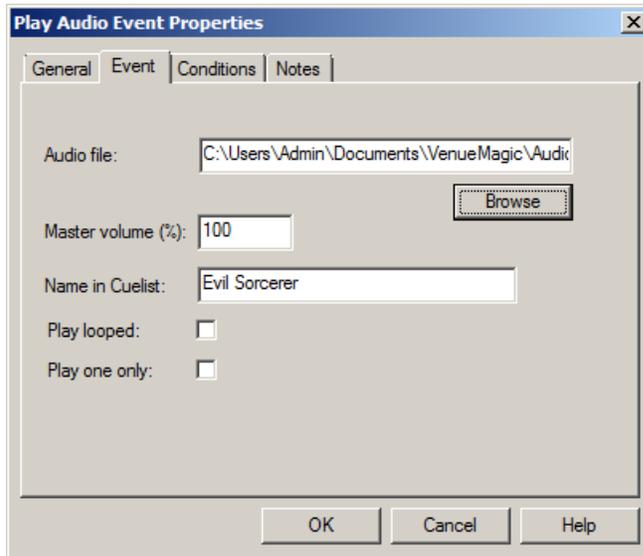
The *Play Audio* event will play a selected Wave (.wav), MP3 (.mp3), Windows Media (.wma) or MIDI (.mid) file by sending it to the [Cue List](#). The selected file does not have to be included in the Audio folder of the [Project Window](#).

## Play Audio Event General Properties



- Event type:** Describes the event type. In this case it is a *Play Audio* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Play Audio Event Properties



**Audio file:** The path of the file that will be played when the event is triggered. Click *Browse...* to bring up a file list. You can select any selected Wave (.wav), MP3 (.mp3), Windows Media (.wma) or MIDI (.mid) file. The selected file does not have to be included in the Audio folder of the [Project Window](#).

**Master volume:** Enter a value (0-100%) for the master volume applied to the file during playback.

**Name in Cuelist:** Enter the name that will appear in the *Cue* column of the [Cue List](#) while the audio file is being played.

**Play looped:** Check this box to play audio file in a loop.

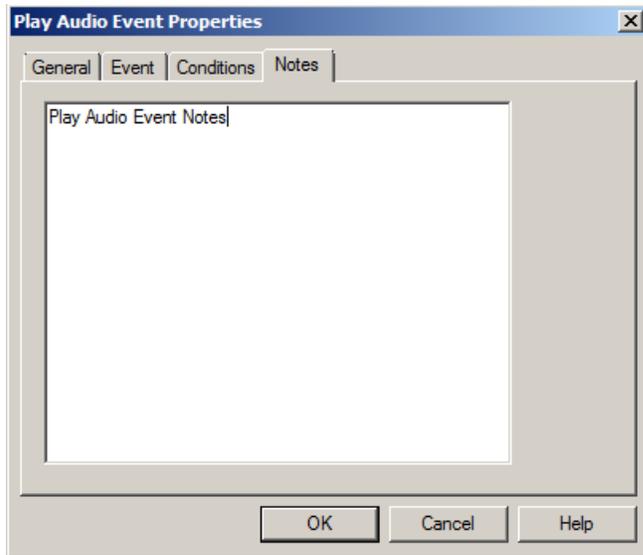
**Play one only:** If this box is checked, the event will not play the audio file if the same file is already playing in the Cue List.

## Play Audio Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Play Audio Event Notes

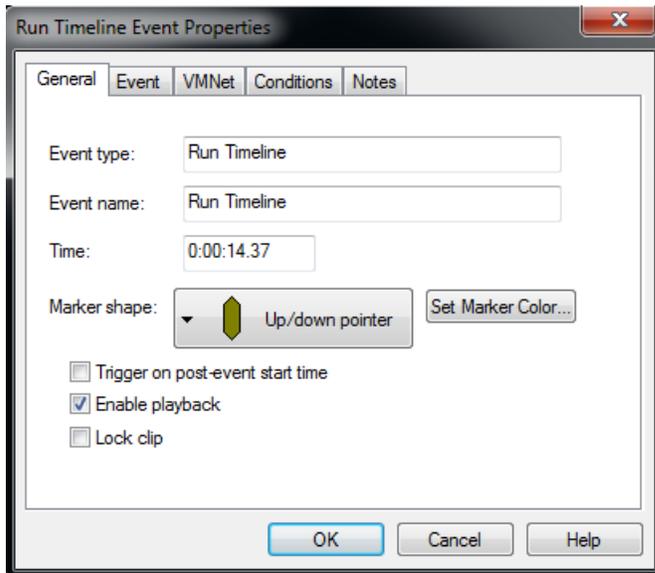
Enter notes about the event.



## Run Timeline Event

The *Run Timeline* event will execute any timeline that is part of the current project by placing it into the [Cue List](#).

## Run Timeline Event General Properties



- Event type:** Describes the event type. In this case it is a *Run Timeline* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not

resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.

**Set Marker Color... button**

Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.

**Trigger on post-event start time.**

When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.

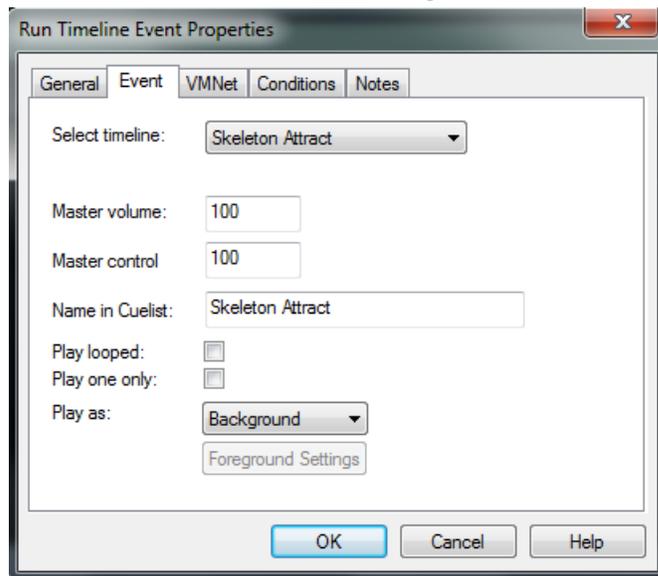
**Enable playback**

Uncheck this box to prevent the event from triggering during playback.

**Lock clip**

Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Run Timeline Event Properties



**Select timeline:**

Select a timeline to run when the event triggers. This box will only offer timelines that are found in the Timeline folder of the [Project Window](#). If this event is setup as a [VMNet remote event](#), a selection will not be offered. Rather, the user will have to enter in the name of the remote timeline manually.

**Master volume:**

Enter a value (0-100%) for the master volume applied to the timeline during playback.

**Master lamp level:**

Enter a value (0-100%) for the master lamp level applied to the timeline during playback.

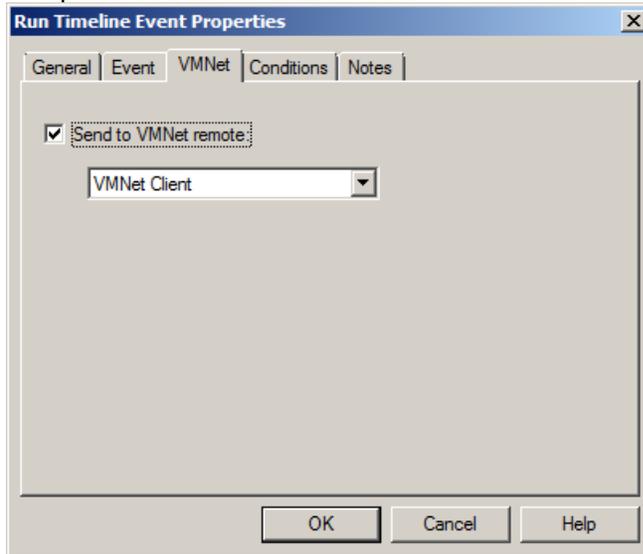
**Name in Cuelist:**

Enter the name that will appear in the *Cue* column of the [Cue List](#) while the timeline is being played.

- Play looped:** Check this box to play the timeline in a loop.
- Play one only:** If this box is checked, the event will not play the timeline if the same timeline is already playing in the Cue List.
- Play as:** (see [Cue Button General Properties](#))
- Foreground Settings** (see [Cue Button General Properties](#), [Foreground Playback Settings](#))
- Special note for ShowNodes users:* ShowNodes does not currently recognize settings in the *Foreground Playback Settings* window. Running a foreground cue will terminate any other cue of the same level. This is the equivalent of the **Terminate all Foreground timelines** option in those settings. Cross fading is also not implemented in ShowNodes.

## Run Timeline Event VMNet Properties

Setup VMNet remote event.



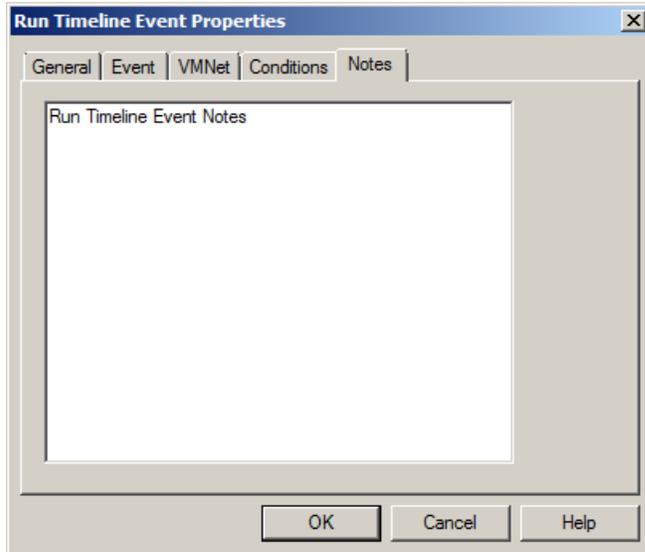
With *Send to VMNet remote* checked the Run Timeline event is routed to a VMNet server on the network by way of the selected client (see [VMNet](#), [Project VMNet Settings](#)), and will not be executed on the local computer.

## Run Timeline Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Run Timeline Event Notes

Enter notes about event.

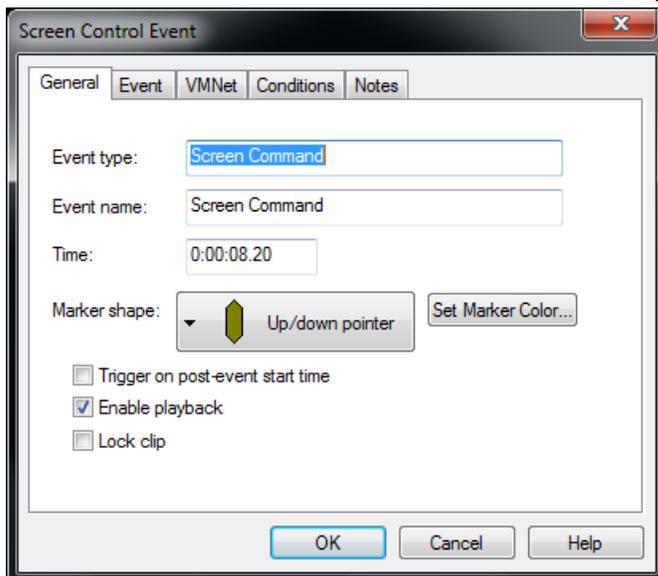


## Screen Command Event

(Requires purchase of VM Screens Plug-in at [www.venuemagic.com](http://www.venuemagic.com))

The *Script Command* event is used to open and close [VenueMagic Screens](http://www.venuemagic.com).

## Screen Command Event General Properties



**Event type:** Describes the event type. In this case it is a *Screen Command* event.

**Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.

**Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).

**Marker shape:** Select a desired shape for the event marker. Event markers are not

resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.

**Set Marker Color... button**

Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.

**Trigger on post-event start time.**

When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.

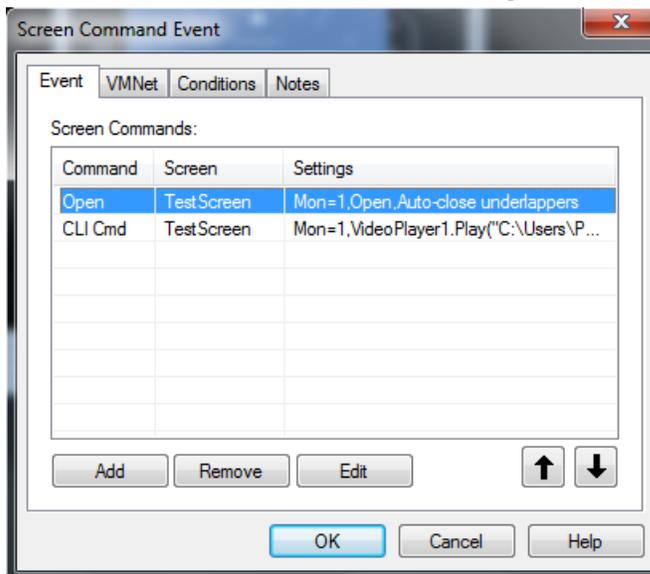
**Enable playback**

Uncheck this box to prevent the event from triggering during playback.

**Lock clip**

Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

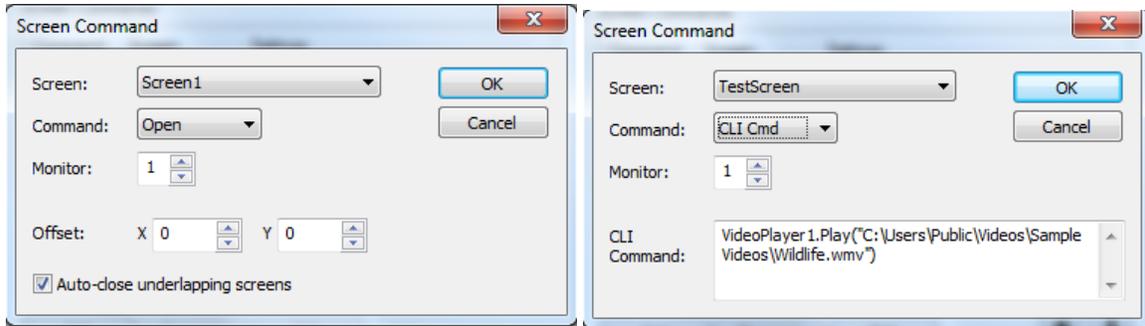
## Screen Command Event Properties



Click *Add* to add a screen command and open the [Screen Command](#) window. Click *Remove* to delete selected commands in the *Screen Commands* list. Click *edit* to open the *Screen Command* window to modify the currently selected command.

Use the   keys to move the selected command up or down in the list.

## Screen Command



**Screen:** This list shows all available screens. Select the screen you wish to open or close.

**Command** Select **Open** to open the specified screen in the specified [Monitor Window](#) (see Monitor setting below). If monitor is not already shown, it will be automatically opened as setup in the [Monitor Window Settings](#) window. Select **Close** to close the screen if it is currently open. This does not close the Monitor.

If you select **CLI Cmd**, a field will appear into which you can enter a screens command directed to the specified screen or to an object within the screen. (Command set will be included in a future release).

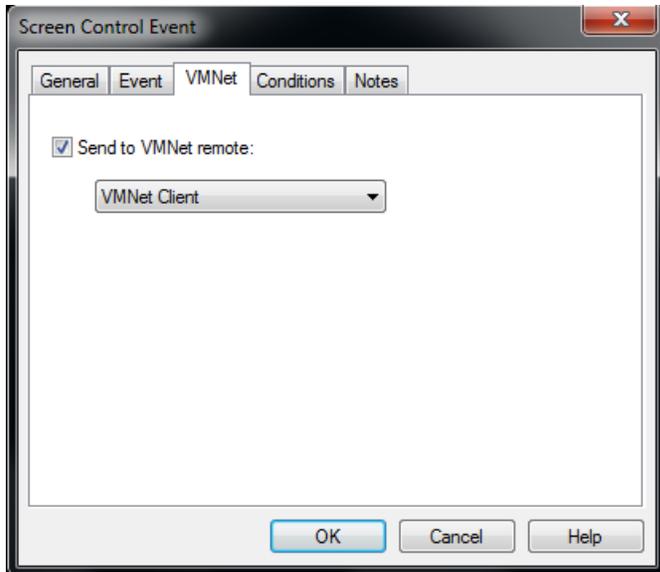
**Monitor** Select the Monitor Window (1-4) the specified screen will be shown in.

**Offset** Set the X and Y offset (in pixels) for the screen (see [Multiple Screens in a Monitor Window](#)).

**Auto-close underlapping screens** With this box checked, any existing screens shown in the specified monitor that overlap any part of the selected screen when opened will be closed. Uncheck this box if you desire a screen to be opened on top of another screen.

## Screen Command VMNet Properties

Setup VMNet remote event.

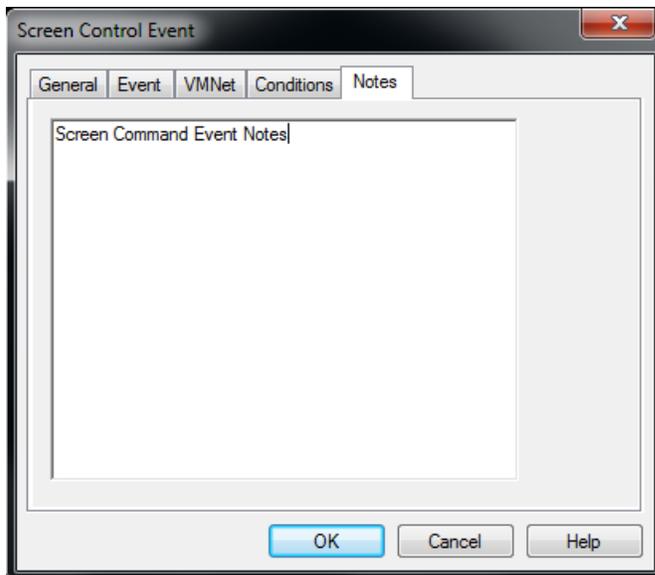


With *Send to VMNet remote* checked the Screen Command event is routed to a VMNet server on the network by way of the selected client (see [VMNet](#), [Project VMNet Settings](#)), and will not be executed on the local computer.

## Screen Command Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Screen Command Event Notes

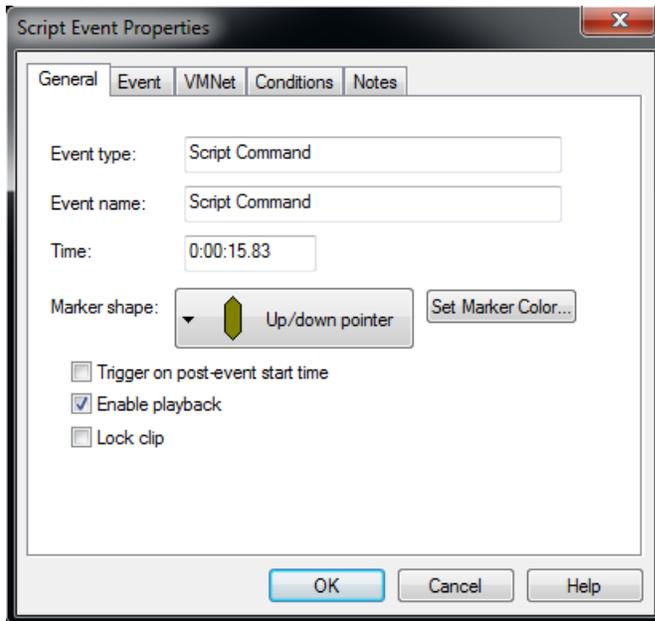


Enter notes about event.

## Script Command Event

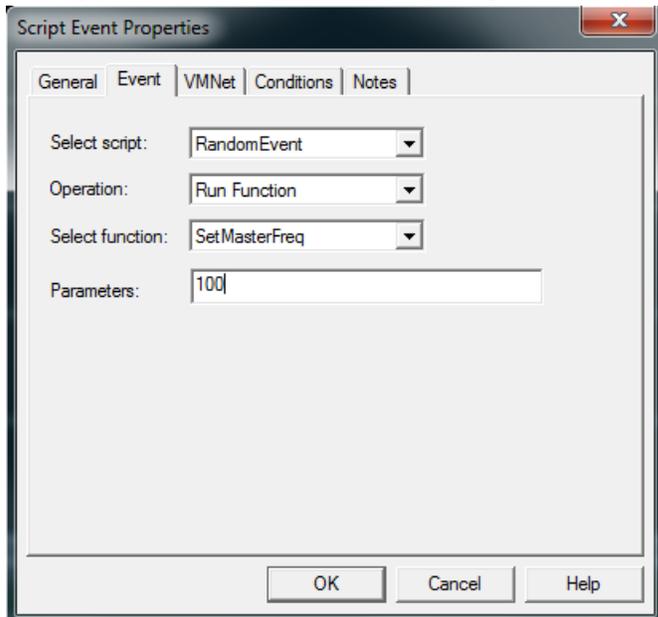
The *Script Command* event is used to execute or stop procedures inside VenueMagic [scripts](#).

## Script Command Event General Properties



- Event type:** Describes the event type. In this case it is a *Script Command* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Script Command Event Properties



**Select script:** Select a [script](#) from a list of scripts found in the Scripts folder of the [Project Window](#).

**Operation** Select a script operation:

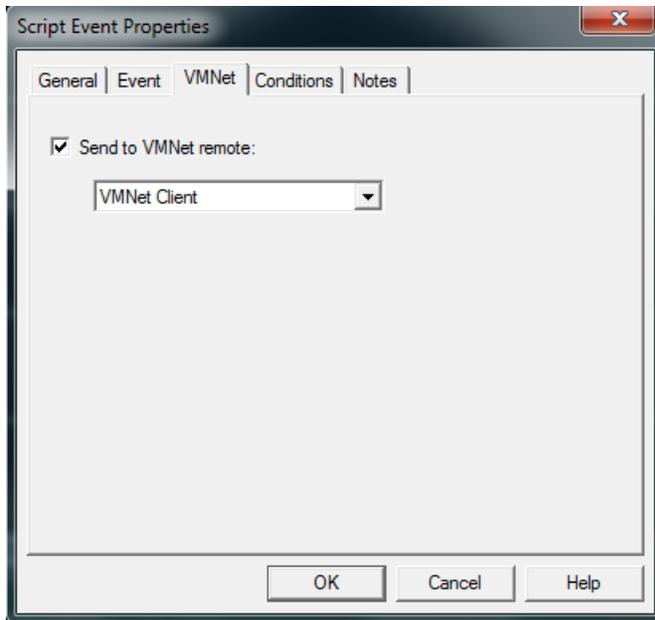
- **Run Function:** Executes the script function selected in the *Select function* field.
- **Stop Function:** Terminates execution of the script function selected in the *Select function* field.
- **Stop All Functions:** Stops all functions running in the script selected in the *Select script* field.

**Select function** Select from a list of functions provided by the selected script. Refer to the scripts [documentation](#) for a detailed description of each function in a script.

**Parameters** Some script functions may require one or more parameters. Each parameter is separated by a comma. String parameters are enclosed in quotes. Refer to the scripts [documentation](#) for definitions of the parameters associated with script functions.

## Script Command Event VMNet Properties

Setup VMNet remote event.



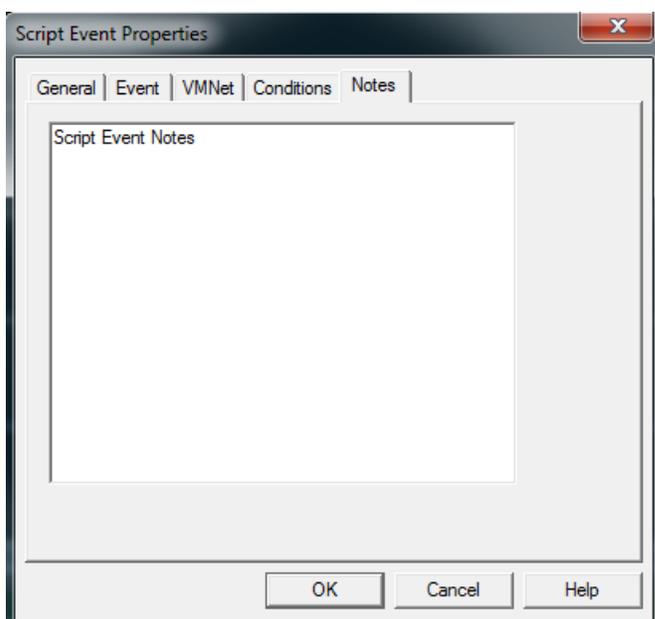
With *Send to VMNet remote* checked the Script Command event is routed to a VMNet server on the network by way of the selected client (see [VMNet](#), [Project VMNet Settings](#)), and will not be executed on the local computer.

## Script Command Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Script Command Event Notes

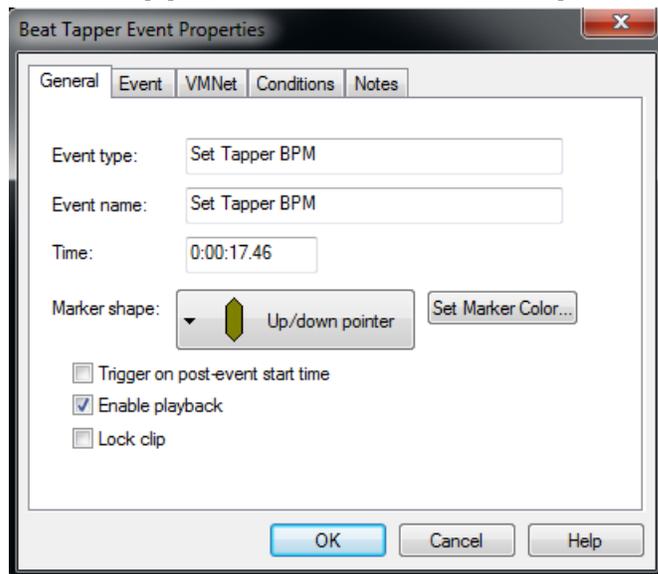
Enter notes about event.



## Set Tapper BPM Event

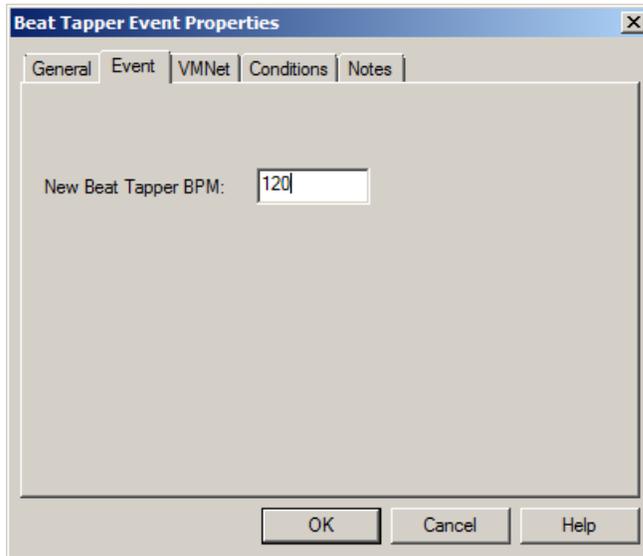
The *Set Tapper BPM* event will change the current beats-per-minute of the VenueMagic [beat tapper](#).

## Beat Tapper Event General Properties



- Event type:** Describes the event type. In this case it is a *Set Tapper BPM* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Beat Tapper Event Properties



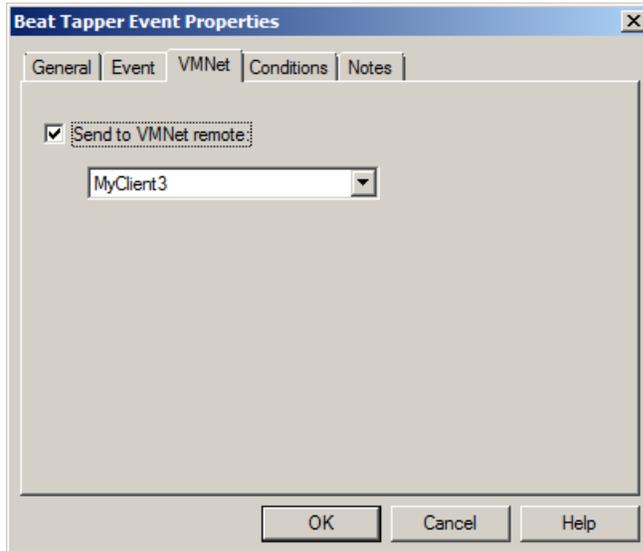
The screenshot shows a dialog box titled "Beat Tapper Event Properties" with a close button (X) in the top right corner. The "General" tab is selected, and the "Event" tab is also visible. The "New Beat Tapper BPM:" label is followed by a text input field containing the value "120". At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help".

### New Beat Tapper BPM

Enter a new beats-per-minute value for the beat tapper. When the event is triggered, the BPM output of the tapper will be set to this value. It will remain at this until the user manually taps the beat tapper or another *Beat Tapper Event* is triggered with a different value. (See [Beat Tapper Control](#).)

## Beat Tapper Event VMNet Properties

Set VMNet remote event.



The screenshot shows the same dialog box, but with the "VMNet" tab selected. The "Send to VMNet remote:" checkbox is checked. Below it is a dropdown menu with "MyClient3" selected. The "OK", "Cancel", and "Help" buttons are at the bottom.

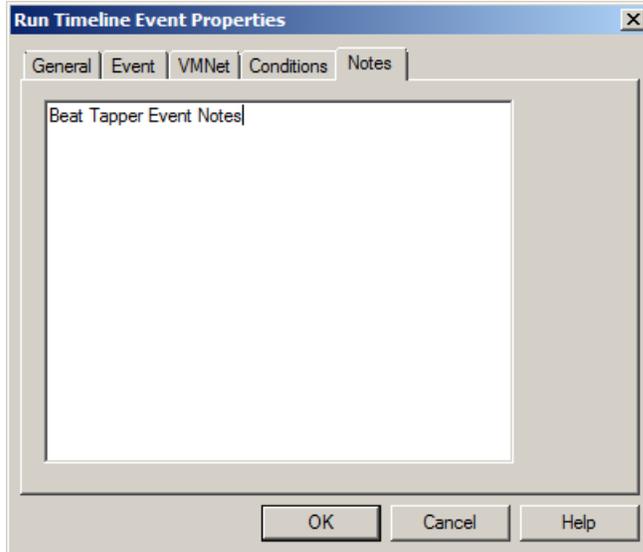
With *Send to VMNet remote* checked the Beat Tapper event is routed to a VMNet server on the network by way of the selected client (see [VMNet](#), [Project VMNet Settings](#)), and will not be executed on the local computer.

## Beat Tapper Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Beat Tapper Event Notes

Enter notes about event.

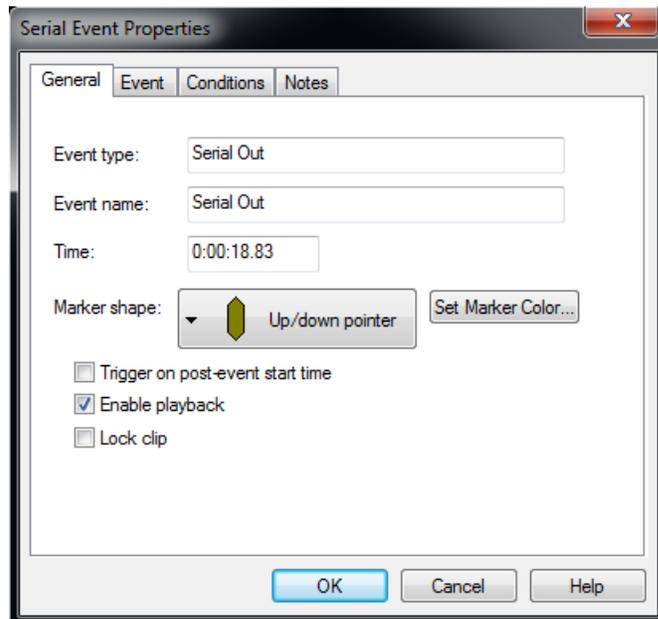


## Serial Port Output Event

(Only available for DMX+AV and above)

The *Serial Out* event is used to send commands over a serial port to an external hardware device such as a video controller/switcher, etc...

## Serial Event General Properties

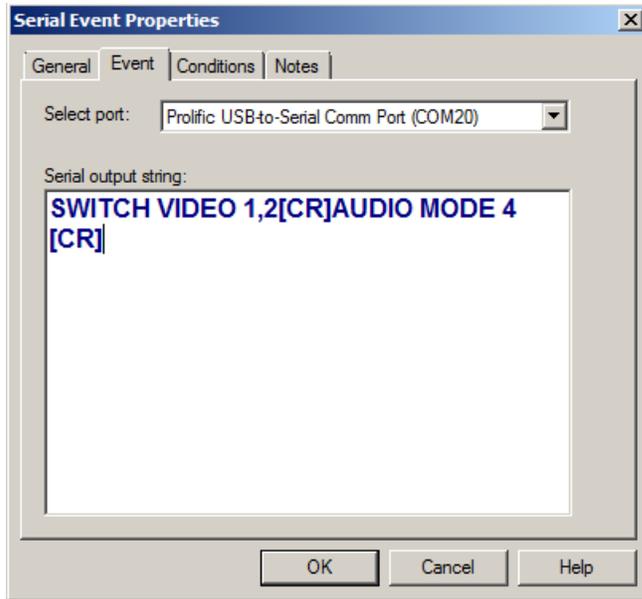


- Event type:** Describes the event type. In this case it is a *Serial* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.

## Lock clip

Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Serial Event Properties



### Select port

Select a serial port from the list of ports in the [Serial Port List Window](#).

### Serial output string

Enter a string that is to be output through the selected serial port when the event is triggered. Special control characters can be enclosed in square brackets (i.e. “[ ]”) either as numerical values, hexadecimal values preceded by the ‘\$’ character, or as ASCII mnemonics (see table below).

Examples:

PLAYSTART : string output  
[13] : special control character 13 (CR).  
[\$0d] : special hex character 0d (also CR)  
[CR] : ASCII mnemonic.

ASCII Mnemonics:

<i>Dec</i>	<i>Hex</i>	<i>Mnem</i>	<i>Dec</i>	<i>Hex</i>	<i>Mnem</i>
0	00	NUL	16	10	DLE
1	01	SOH	17	11	DC1
2	02	STX	18	12	DC2
3	03	ETX	19	13	DC3
4	04	EOT	20	14	DC3
5	05	ENQ	21	15	NAK
6	06	ACK	22	16	SYN
7	07	BEL	23	17	ETB
8	08	BS	24	18	CAN
9	09	TAB	24	19	EM
10	0a	LF	26	1a	SUB
11	0b	VT	27	1b	ESC
12	0c	FF	28	1c	FS

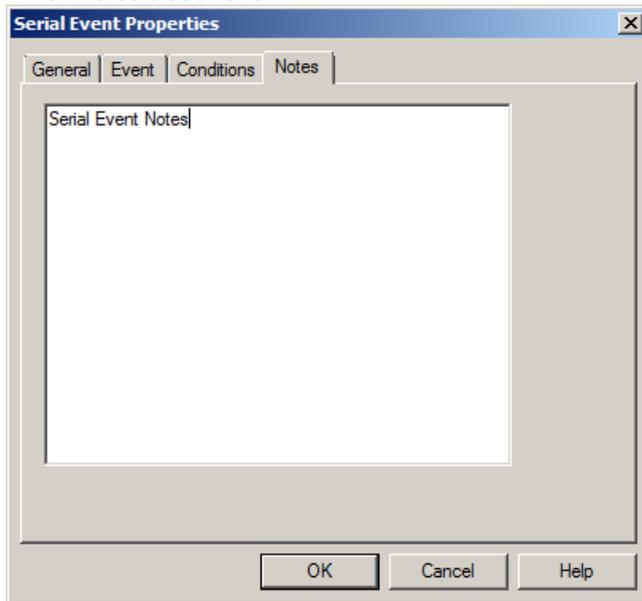
13	0d	CR	29	1d	GS
14	0e	SO	30	1e	RS
15	0f	SI	31	1f	US

## Serial Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Serial Event Notes

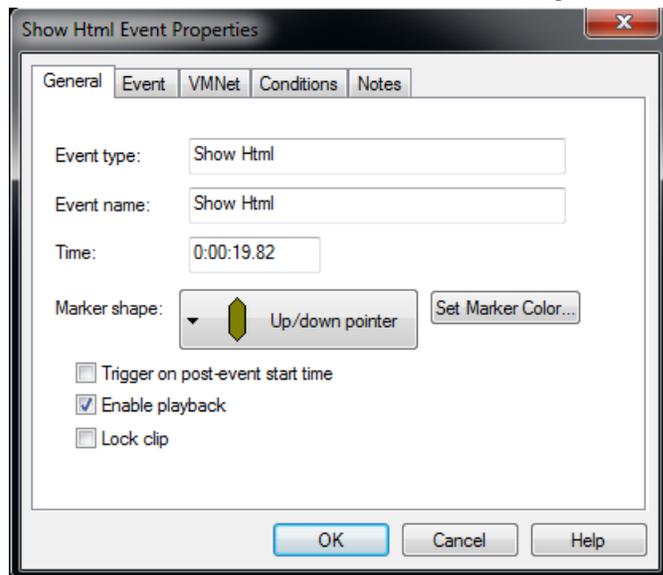
Enter notes about event.



## Show HTML Event

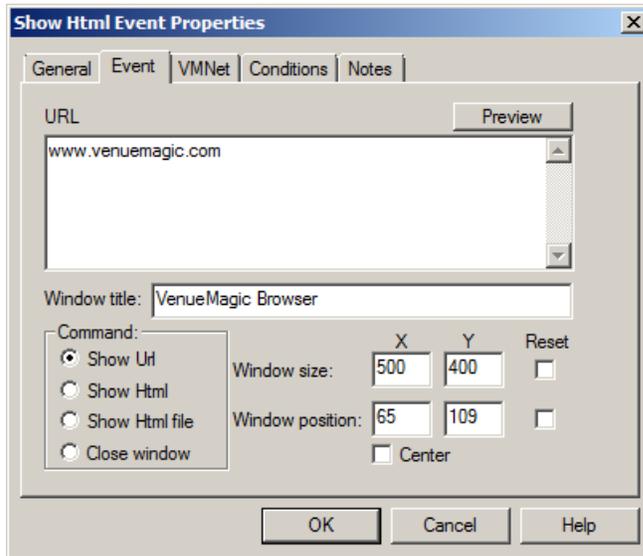
The *Show HTML Event* will open/close a window for displaying HTML from a URL, HTML file, or HTML text. Only one HTML window can be shown at a time.

## Show HTML Event General Properties



- Event type:** Describes the event type. In this case it is a *Show HTML* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Show HTML Event Properties



**URL** The name and purpose of the main field changes based on what you have selected in the Command options:

**Html**

**Html File**

**Show Url:** Enter in URL

**Show Html:** Enter in actual HTML code.

**Show Html File:** Click Browse button and select HTML file.

**Close window:** Field becomes disabled.

**Browse button** (Becomes visible when “Show HTML File” is selected) Open file window to select HTML file.

**Preview** Open the HTML window to preview the contents.

**Command:** Select the command that will be executed. The options are:

**Show Url:** Display HTML from a URL

**Show Html:** Display HTML entered into the HTML field.

**Show Html File:** Show and HTML file.

**Close window:** Close the HTML window.

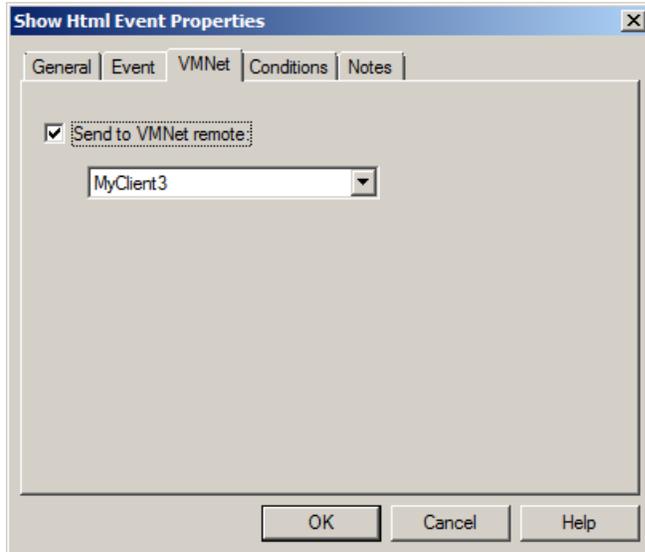
### Positioning the HTML Window

Click preview to open the HTML and display a preview of its contents. Once opened, you can move and resize the window as desired. The *Window size* and *Window position* fields will update as you move the window. You can also manually enter the pixel position and size. To force the window to center itself on the screen when it is shown, check the *Center* box.

If you wish an event to change the size and position for the window that was opened earlier by another Show HTML event, you must check the Reset box for size and position, respectively. If these boxes are left unchecked, the size and position of the window will only change when it is closed, then opened again.

## Show HTML Event VMNet Properties

Setup VMNet remote event.



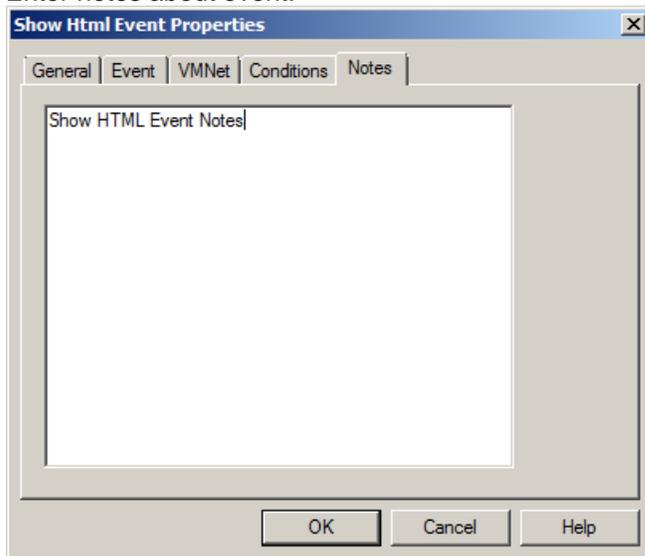
With *Send to VMNet remote* checked the *Show HTML* event is routed to a VMNet server on the network by way of the selected client (see [VMNet](#), [Project VMNet Settings](#)), and will not be executed on the local computer.

## Show HTML Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Show HTML Event Notes

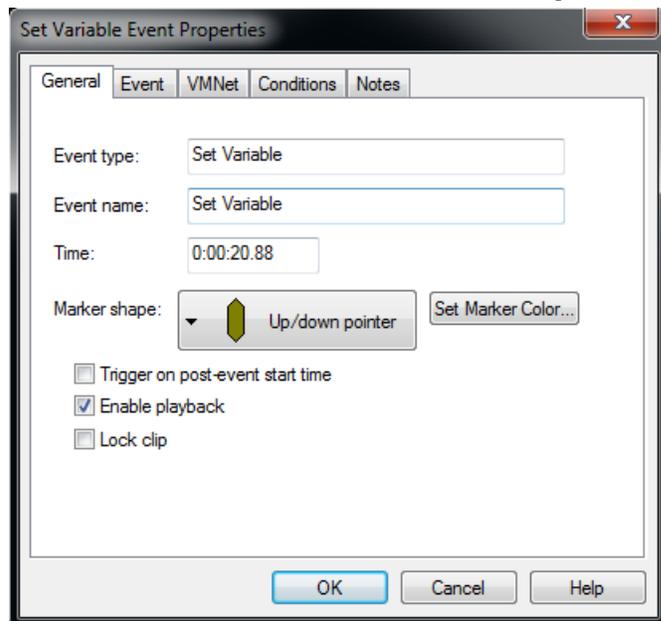
Enter notes about event.



## Set Variable Event

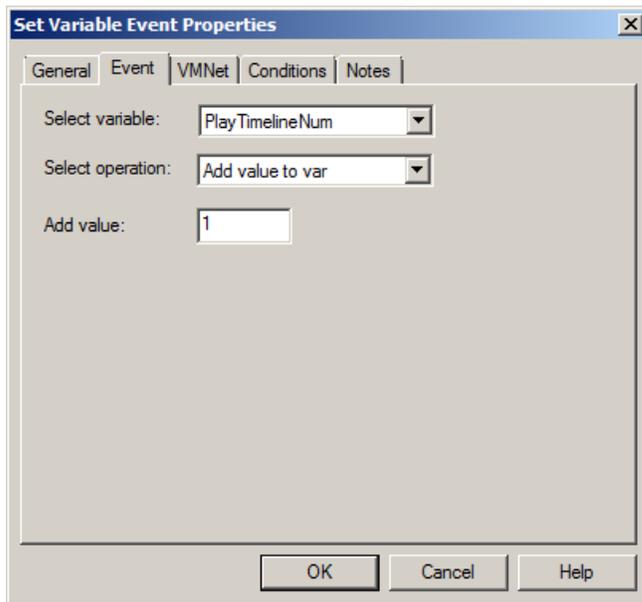
The Set Variable Event changes a value of a variable in the [Variable Table](#).

## Set Variable Event General Properties



- Event type:** Describes the event type. In this case it is a *Set Variable* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## Set Variable Event Properties



The screenshot shows a dialog box titled "Set Variable Event Properties" with a close button (X) in the top right corner. It has five tabs: "General", "Event", "VMNet", "Conditions", and "Notes". The "General" tab is active. Inside the dialog, there are three main sections: "Select variable:" with a dropdown menu showing "PlayTimelineNum"; "Select operation:" with a dropdown menu showing "Add value to var"; and "Add value:" with a text input field containing the number "1". At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

**Select variable:** Select a variable from the [Variable Table](#). If this event is setup as a [VMNet remote event](#), a selection will not be offered. Rather, the user will have to enter in the name of the remote variable manually.

**Select operation** Select an operation to perform on the variable. The operand field below this one changes based on the selection. Choose from the following:

**Set var to value** – sets the variable equal to the operand:



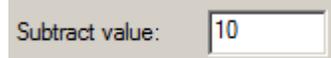
The screenshot shows a text input field labeled "Set to value:" containing the number "35".

**Add value to var** – adds the operand value to the variable.



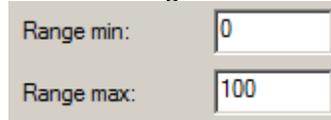
The screenshot shows a text input field labeled "Add value:" containing the number "1".

**Subtract value to var** – subtracts the operand value from the variable.



The screenshot shows a text input field labeled "Subtract value:" containing the number "10".

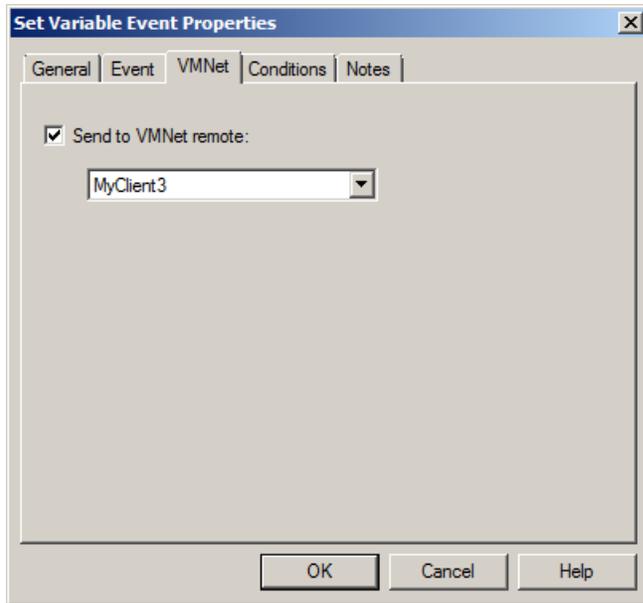
**Set var to random value** – assigns a random value to the variable between *Range min* and *Range max*.



The screenshot shows two text input fields. The top one is labeled "Range min:" and contains the number "0". The bottom one is labeled "Range max:" and contains the number "100".

## Set Variable Event VMNet Properties

Setup VMNet remote event.



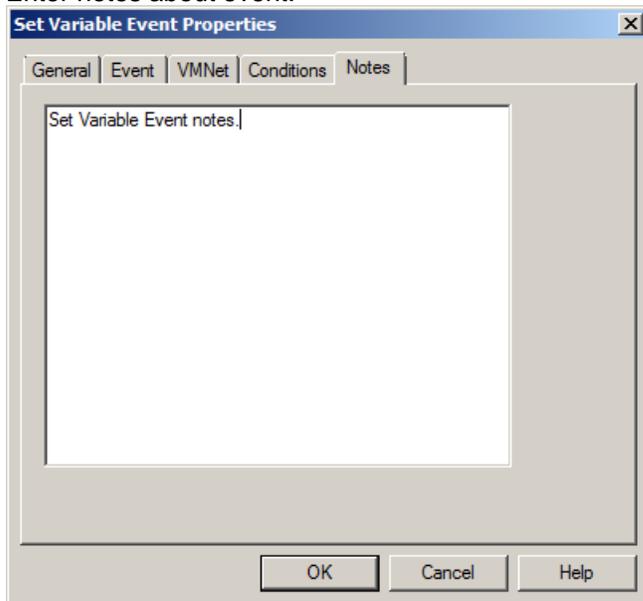
With *Send to VMNet remote* checked the *Set Variable* event is routed to a VMNet server on the network by way of the selected client (see [VMNet](#), [Project VMNet Settings](#)), and will not be executed on the local computer.

## Set Variable Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Set Variable Event Notes

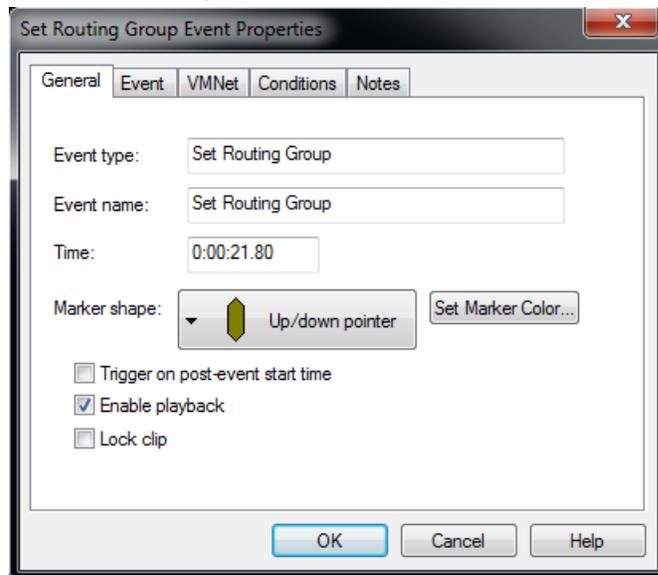
Enter notes about event.



## Set Routing Group Event

Changes the current [Channel Routing Group](#).

### Set Routing Group Event General Properties



**Event type:** Describes the event type. In this case it is a *Set Routing Group* event.

**Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.

**Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).

**Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.

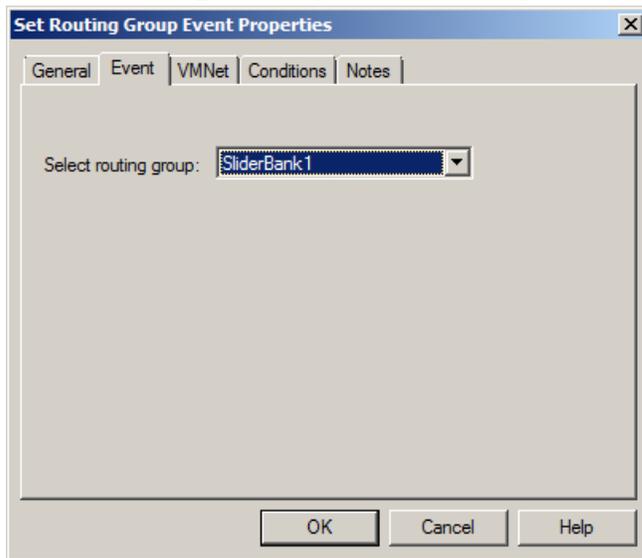
**Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.

**Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.

**Enable playback** Uncheck this box to prevent the event from triggering during playback.

**Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

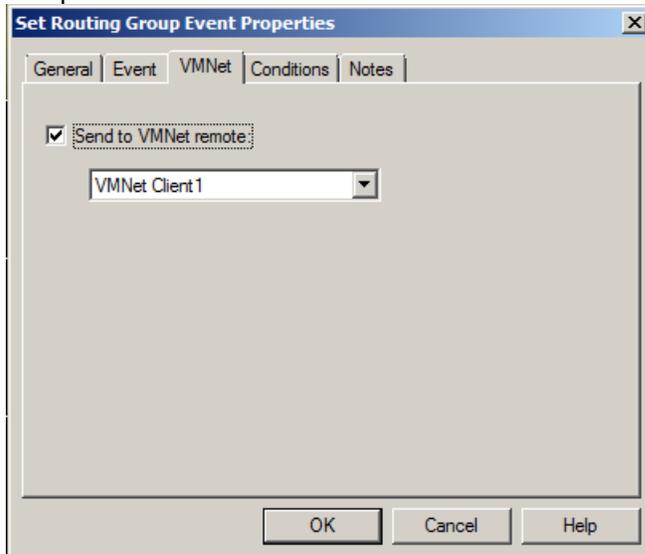
## Set Routing Group Event Properties



Select the [routing group](#) to be selected when this event is triggered. If this event is setup as a [VMNet remote event](#), a selection will not be offered. Rather, the user will have to enter in the name of the remote variable manually.

## Set Routing Group Event VMNet Properties

Setup VMNet remote event.



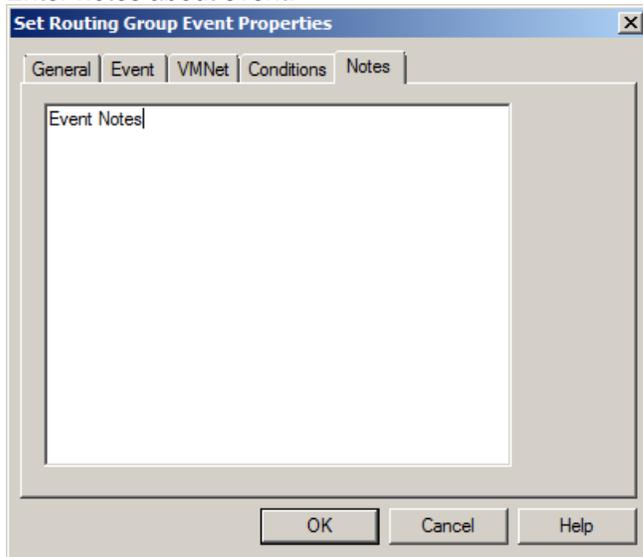
With *Send to VMNet remote* checked the *Set Routing Group* event is routed to a VMNet server on the network by way of the selected client (see [VMNet](#), [Project VMNet Settings](#)), and will not be executed on the local computer.

## Set Routing Group Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Set Routing Group Event Notes

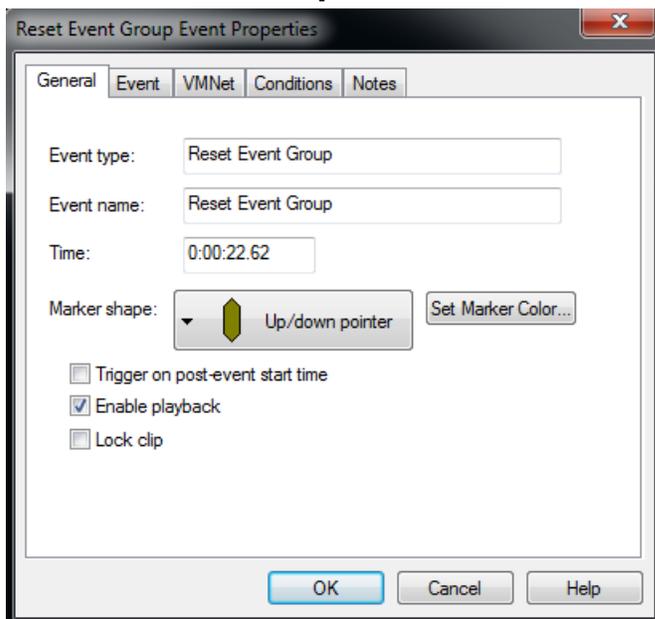
Enter notes about event.



## Reset Event Group Event

Resets all manual-mode event triggers of the specified group. (See [Event Trigger Settings](#)).

## Reset Event Group Event General Properties



**Event type:** Describes the event type. In this case it is a *Reset Event Group* event.

**Event name:** The name of the event as it will appear in the status bar and in tool tips

when the mouse cursor passes over the event.

**Time**

This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).

**Marker shape:**

Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.

**Set Marker Color... button**

Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.

**Trigger on post-event start time.**

When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.

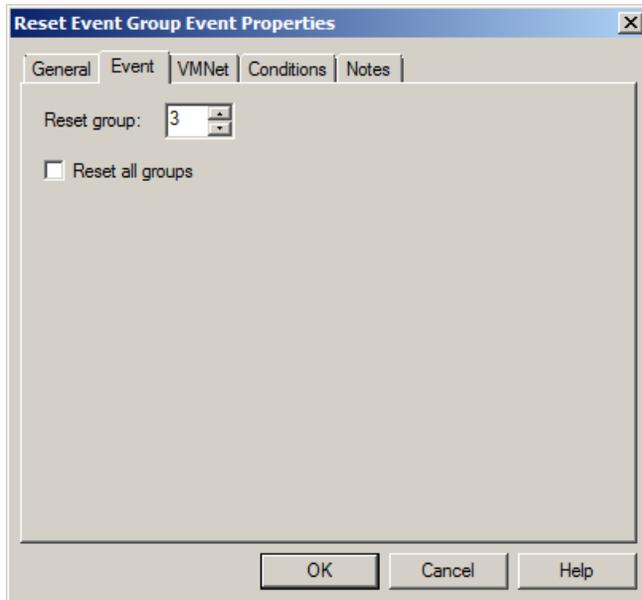
**Enable playback**

Uncheck this box to prevent the event from triggering during playback.

**Lock clip**

Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

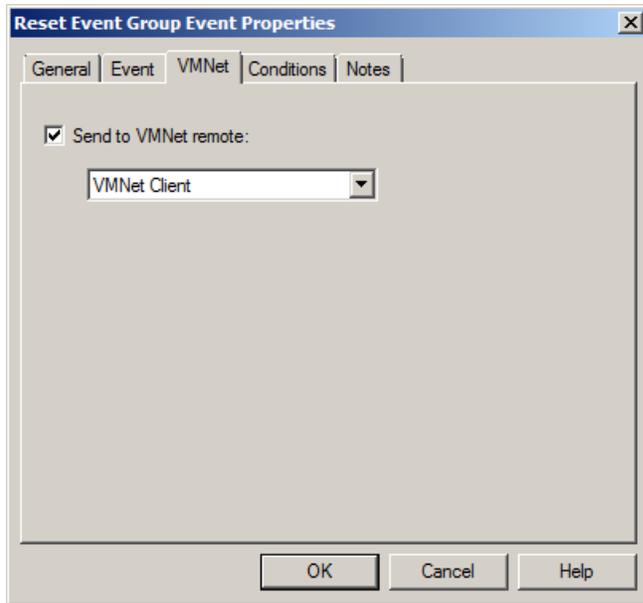
## Reset Event Group Event Properties



Select the event group to reset, or reset all groups by checking the *Reset all groups* box..

## Reset Event Group Event VMNet Properties

Setup VMNet remote event.



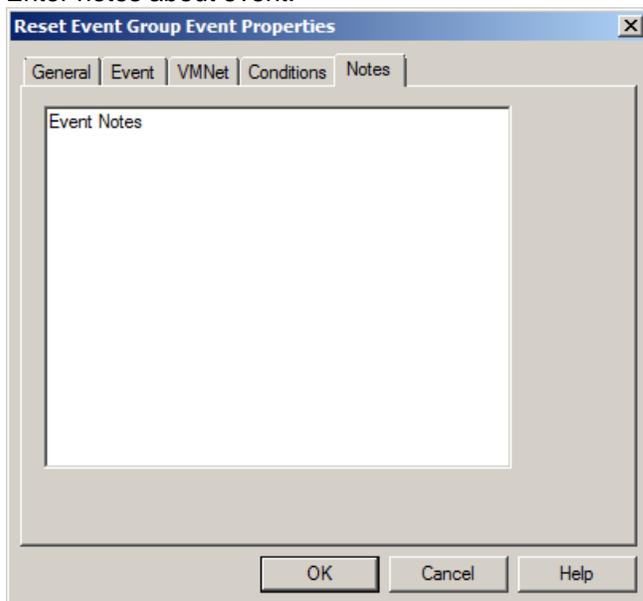
With *Send to VMNet remote* checked the *Set Router Preset* event is routed to a VMNet server on the network by way of the selected client (see [VMNet](#), [Project VMNet Settings](#)), and will not be executed on the local computer.

## Reset Event Group Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## Reset Event Group Event Notes

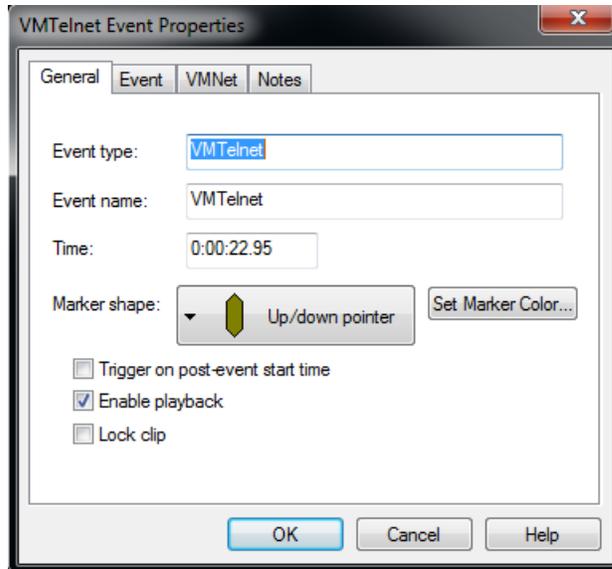
Enter notes about event.



## VM Telnet Event

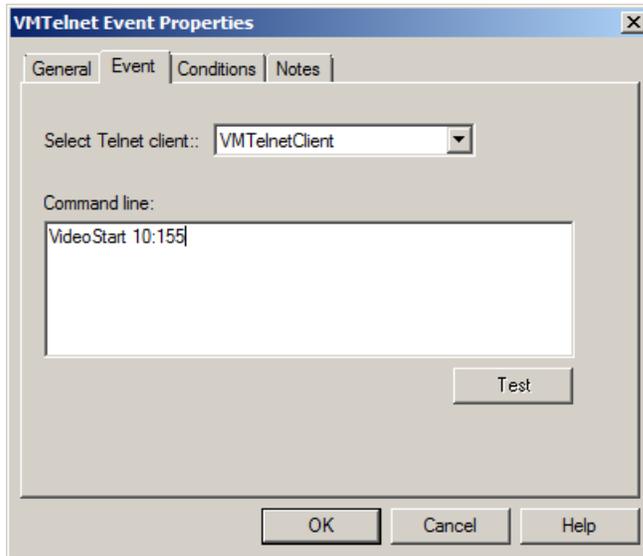
Sends telnet messages through selected telnet client. (See [VMNet Telnet Clients](#)).

### VM Telnet Event General Properties



- Event type:** Describes the event type. In this case it is a *VMTelnet* event.
- Event name:** The name of the event as it will appear in the status bar and in tool tips when the mouse cursor passes over the event.
- Time** This field lets you explicitly set the time location of the event on the timeline. The time format used by the field is the same specified in the *Time display format* of the [Timeline Options window](#).
- Marker shape:** Select a desired shape for the event marker. Event markers are not resizable (as are audio clips and fixture effect clips) because they are executed at a specific instance in time rather than over a range of time.
- Set Marker Color... button** Choose a color for the marker. When event markers are first dragged into an event track, they appear in a dark gray color. This indicates that the event has not yet been setup. After it has been setup, it assumes its proper color.
- Trigger on post-event start time.** When this is checked, the event will trigger immediately if playback is started after the event. If unchecked, the event will only trigger at the event. Playback must start before or on the event.
- Enable playback** Uncheck this box to prevent the event from triggering during playback.
- Lock clip** Check this box to lock the clip onto the timeline. Locked clips cannot be moved or resized.

## VM Telnet Event Properties



The screenshot shows a dialog box titled "VMTelnet Event Properties" with a close button (X) in the top right corner. It has four tabs: "General", "Event", "Conditions", and "Notes". The "General" tab is selected. Inside the dialog, there is a label "Select Telnet client::" followed by a dropdown menu showing "VMTelnetClient". Below this is a label "Command line:" followed by a text input field containing "VideoStart 10:155". A "Test" button is located below the text field. At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

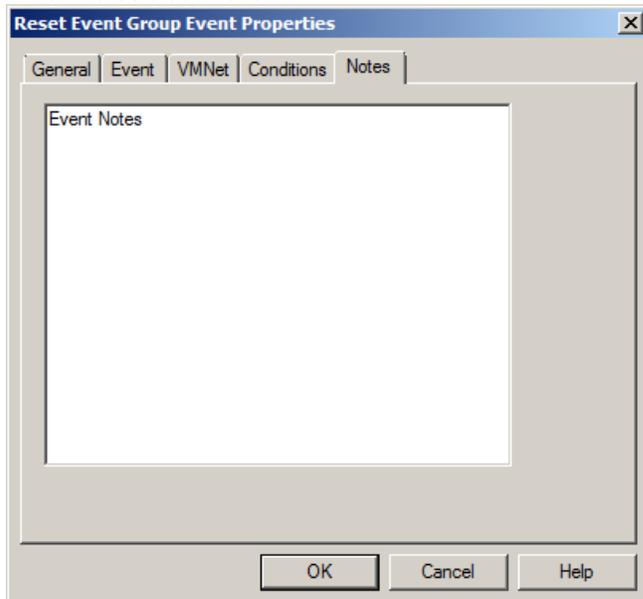
Select the telnet client from the list of clients created in the [Project Telnet Settings](#) window. Then enter a command line that will be sent to the telnet server associated with the selected client.

## VM Telnet Event Conditions

Setup event trigger conditions (see [Event Conditions](#)).

## VM Telnet Event Notes

Enter notes about event.



The screenshot shows a dialog box titled "Reset Event Group Event Properties" with a close button (X) in the top right corner. It has five tabs: "General", "Event", "VMNet", "Conditions", and "Notes". The "Notes" tab is selected. Inside the dialog, there is a large text input field labeled "Event Notes". At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

## Event Conditions

Event conditions let you specify a set of conditions that must be true for the event to trigger at the specified time. This powerful feature gives VenueMagic the ability to make decisions and take actions based on those decisions. Multiple conditions can be “stringed” together.

General Event **Conditions** Notes

Conditions (processed in order): Enable conditions:

AND	VARS_InterruptionOcured > 0
AND	VARS_IgnoringButtons = 0

Buttons: Add... Edit... Remove Move up Move down

Delay time (secs): 3

### Conditions

Lists textual descriptions of conditions (2<sup>nd</sup> column) and a Boolean expression (1<sup>st</sup> column) that specifies how the condition will be “compared” to the result of all the previous conditions.

### Enable conditions

Check this box if the condition is to be used. If unchecked, the conditions are ignored and the event triggers normally.

### Add

Add a new condition to the list. Brings up the [Event Condition Window](#).

### Edit

Edit the selected condition in the list. Brings up the [Event Condition Window](#).

### Remove

Deletes selected conditions from the list.

### Move up/down

The position of a condition in the list is important, as the conditions are evaluated first to last, with each condition evaluated against the result of all prior conditions. Clicking these buttons will move the selected event up/or down in the list.

### Delay Time

Specifies a delay time before trigger condition is evaluated. For example, if a [cue button](#) is setup to trigger an event with a delay time of 3 seconds, the event will not trigger until 3 seconds after clicking on the cue button.

This feature is also useful in [Multi-Events](#) events where it is desired that events are run at specific times with respect to each other.

Note: The trigger condition is not evaluated until the end of the delay time. This means that the trigger condition must be TRUE when the delay time has passed if the event is to trigger.

## Event Condition Window

The screenshot shows the 'Event Condition' dialog box. It has a title bar with a close button. Inside, there's a 'Comparison type' section with two radio buttons: 'Variable with constant' (selected) and 'Variable with variable'. To the right are 'OK' and 'Cancel' buttons. Below that is a 'Boolean operation' dropdown menu showing 'AND'. Then, a 'Value #1 source' text box containing 'VARS.Attract1Cnt' and a 'Select...' button. Next is a 'Compare operation' dropdown menu showing '>='. Finally, a 'Value #2' text box containing the number '3'.

A condition is simply a comparison between two numeric values. These values can either be a variable and a number, or two variables. A variable is defined here as any input available in the [Select External Control](#) window.

In the sample window above, a condition is setup that is only true after the [Variable Table](#) variable *AttractCnt1* is greater than or equal to 3. *AttractCnt1* was previously setup to be incremented by a [Set Variable Event](#) to count the number of times a specific timeline (perhaps a looped one) was run. This condition is *true* only after the timeline has run (or looped) 3 or more times.

- Comparison type** Select whether the condition comparison is between a variable and a constant or between two variables.
- Boolean operation** Once this condition has been evaluated, it will be applied to the other conditions in the list. The selections are:
- AND** – Result is *true* only if *this* condition is *true* and the result of all previous conditions in the list is *true*.
  - OR** – Result is *true* if this condition is *true* or the result of all previous conditions in the list is *true*, or both.
  - XOR** – Exclusive OR. Same result as **OR** operation except in the case where both this condition and the result of all previous conditions is true. In this case the result is *false*.
  - NOP** – No operation. Selecting this operation is a good way of removing a condition from the list without deleting it.
- Value #1 source** Click select to bring up the [Select External Control](#) window and select a variable to be compared.
- Compare operation** Select how the *Value #1* is to be compared with *Value #2*. The choices are:
- = – *Value #1* is exactly equal to *Value #2*.
  - <> – *Value #1* is not equal to *Value #2*.
  - < – *Value #1* is less than *Value #2*.
  - > – *Value #1* is greater than *Value #2*.
  - <= – *Value #1* is less than or equal to *Value #2*.

>= – Value #1 is greater than or equal to Value #2.

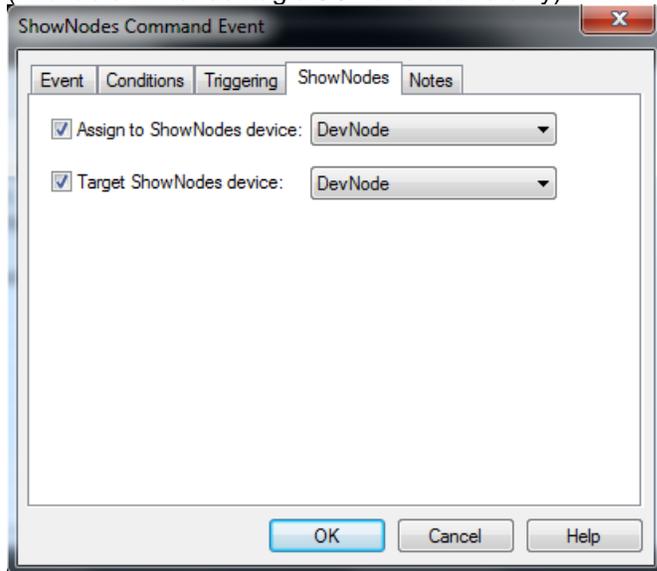
## Value #2

If *Variable with constant* is selected as the comparison type, enter a number in this field for Value #2. If *Variable with variable* is selected, another select button will be available for selection of a Value #2 source using the [Select External Control](#) window.

Value #2 source:

## Event ShowNodes Window

(Available in VenueMagic SC+ and above only)



Use this window to tie an event to a [ShowNodes](#) device. Only events supported by ShowNodes will have this tab available, and only if the *ShowNodes* device is checked in the [Supported Devices Setup](#) window.

### **Assign to ShowNodes device**

Check this box to assign this event to a ShowNodes device event table. Select the desired node in the adjacent drop list. The assigned node becomes the *parent* of this event.

This option is only available for events that are in the [Event Table](#). Once assigned, the VenueMagic Event Table will no longer trigger this event. Instead the assigned node will manage the event and trigger it when the conditions met as defined in the [Event Conditions](#) window.

**Important note:** When setting up conditions in a ShowNodes-assigned event, the external inputs used for conditions must be selected from what is available to ShowNodes. This includes:

- Analog and digital inputs from any ShowNodes device.
- Any [Variable Table](#) variable assigned to a ShowNodes device.

**All other external inputs available to VenueMagic are not**

	<b>available to ShowNodes.</b>
<b>Target ShowNodes device</b>	Designates which ShowNodes device will actually run the event. This setting is available for all events that support ShowNodes.

### Selecting Parent and Target Nodes

It is the event table in the *parent* node that monitors the event conditions and determines when the event is triggered or reset. The parent then sends the event “command” to the target node, which executes it immediately.

The *target* node must always be the node that is able to execute the event. For example, in the case of a “run timeline” event, the *target* node must be the node where the desired timeline resides. The *parent* node, on the other hand can literally be any *show controller* node on the network.

So how does one choose a *parent* node for the event? In most cases, the *parent* node is selected to be the same as the *target* node. Only in situations where *network traffic* is a concern would this be different. If this is the case, it is best to select for the *parent* node that node which has most of the inputs used in the event’s trigger conditions. This reduces the frequency at which changes to input conditions on nodes need to be transmitted to other nodes. In the end, however, it doesn’t really matter which node is the *parent* node because all *show controller* nodes are capable of receiving inputs (for event conditions) from any node(s) and then sending an event command to any node on the network.

### Exporting Cue Buttons to ShowNodes

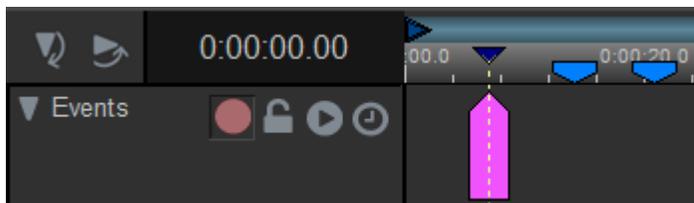
See [Exporting Cue Button Events to ShowNodes Event Tables](#).

## Real-time Recording of Events

VenueMagic will let you record cue button event triggers during playback. First, setup a cue button to trigger a VenueMagic event and check the *Recordable* box (see [Cue Button General Properties](#)). Next, enable recording for the desired event track by clicking on the Enable real-time event recording button.



During playback, press the cue button and the event will trigger, but it will also be automatically dropped onto event track at the current time cursor position.



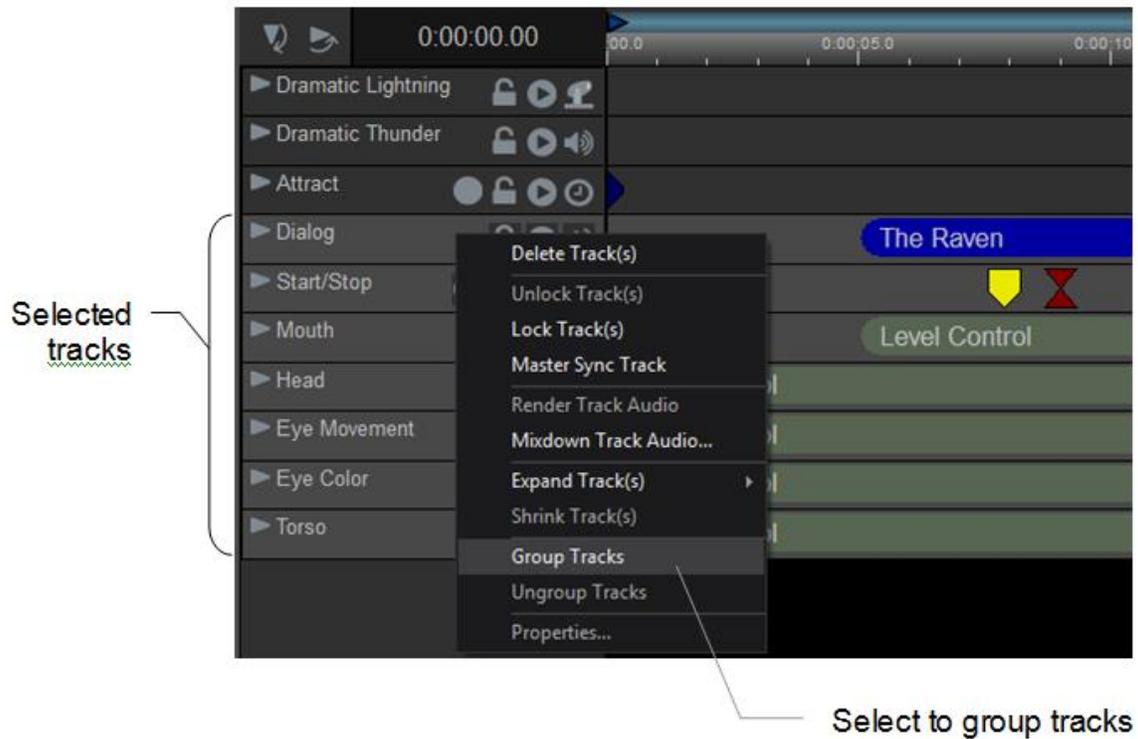
## Group Tracks

Group tracks allow you to combine multiple audio, video, control and event tracks into a single track. This helps organize your timeline by making it appear less cluttered.

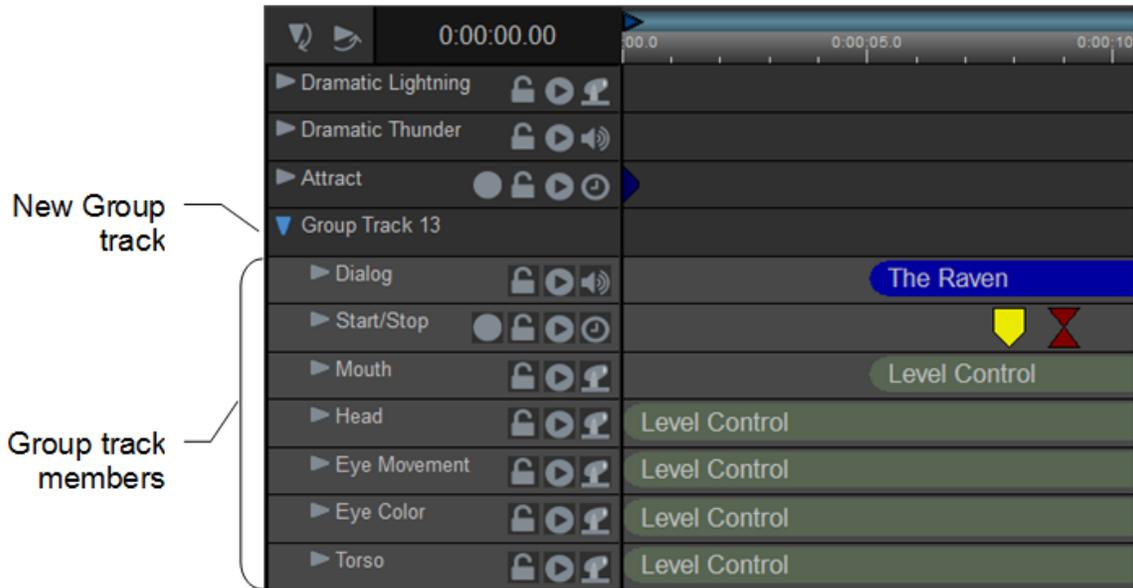
### Creating Groups

To group multiple tracks together, do the following steps:

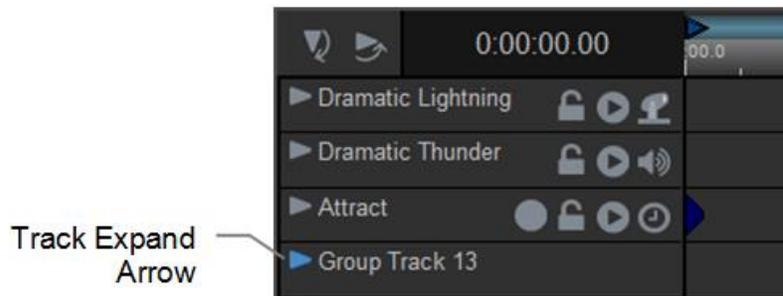
1. Select the tracks you wish to group. Select multiple tracks by holding down the **Ctrl** key on the keyboard while clicking on the track panels of the desired tracks.
2. Right-click on one of the selected tracks, then select **Group Tracks** from the pop-up menu.



A new Group track is created containing the selected tracks.



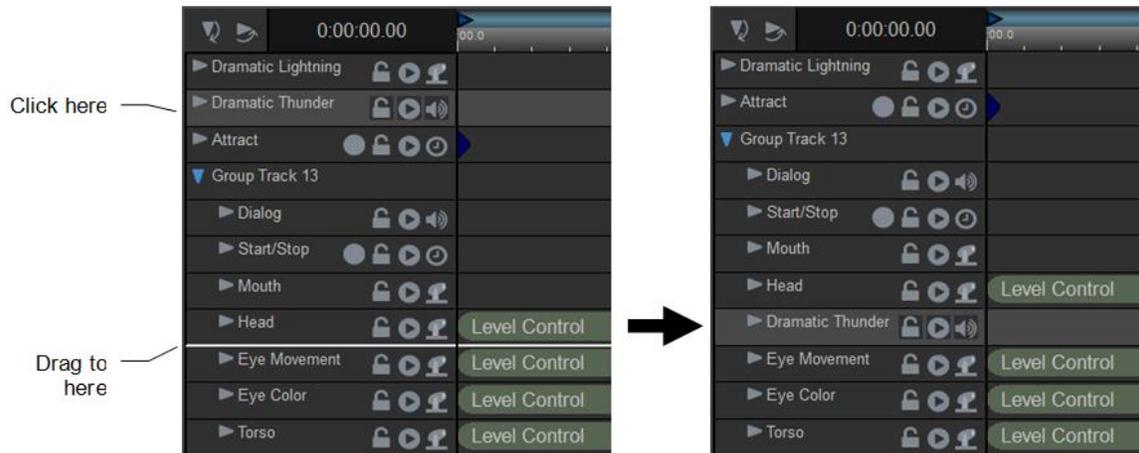
Click in the Track Expand Arrow to show/hide the contents of the group track.



Rename the group by double-clicking on the Group track panel to bring up the [Group Track Properties](#) window.

### ***Adding/Removing Tracks from a Group***

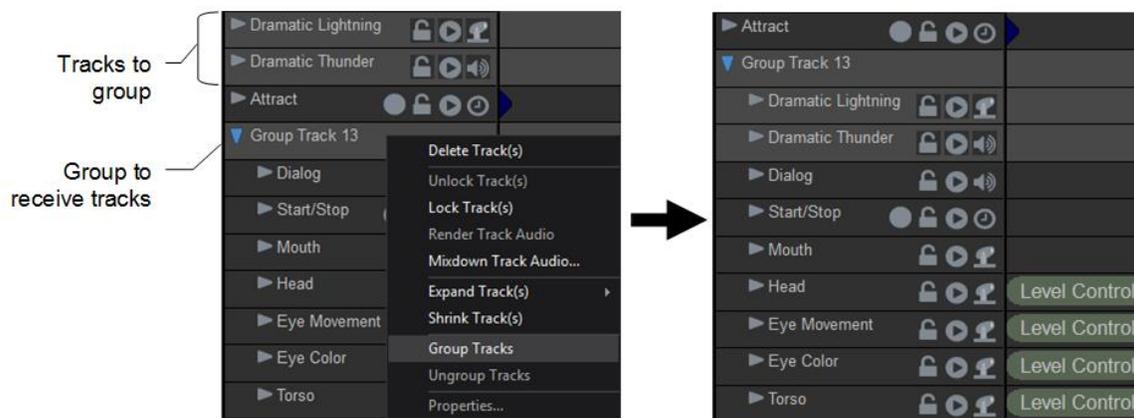
Once a group has been created, adding more tracks is as simple as dragging desired tracks into the group. To do this, the group must first be expanded by clicking on the *Track Expand arrow*. Then click on the Track Panel of a single outside track and drag the track into group and release the mouse button to drop the track at the desired position within the group.



Similarly, you can drag tracks out of a group.

Dragging tracks in and out of a group only works for one track at a time. To add multiple tracks into a group:

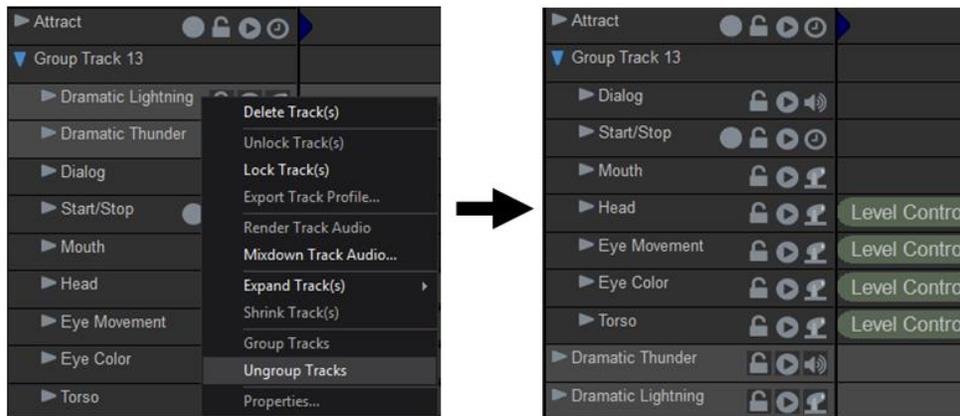
1. Select the tracks you wish to add to an existing group. Select multiple tracks by holding down the **Ctrl** key on the keyboard while clicking on the track panels of the desired tracks.
2. While holding down the **Ctrl** key, select the group you wish to add the tracks to.
3. Release the Ctrl key, then right-click on the Group track and select **Group Tracks** from the pop-up menu.



Note: You cannot add Group tracks to other Group tracks.

Similarly, you can remove tracks from a group by:

1. Select the tracks within a group that you wish to remove from that group.
2. Right-click on one of the tracks and select Ungroup Tracks.



The selected tracks are removed from the group. When all tracks have been removed from a Group track, the Group track is also removed.

### **Removing Group Tracks**

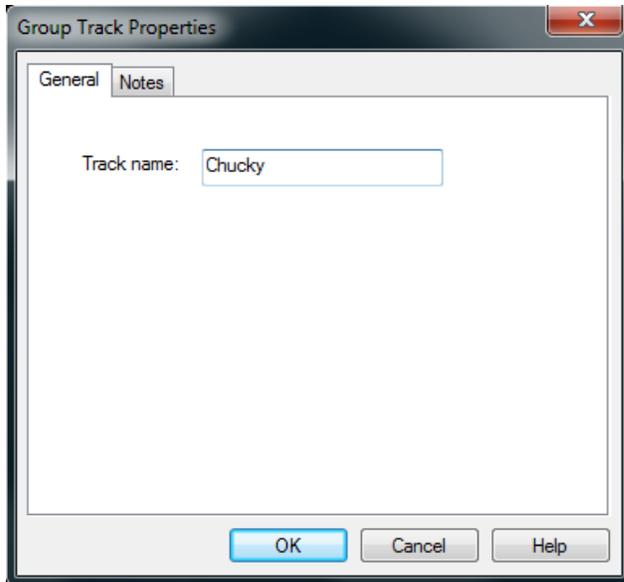
Removing a Group tracks will also remove all of the tracks within a group. If the Group track exists on other pages, the same rules apply to remove the Group track as does for removing any track on a page (see [Removing Tracks from a Page](#)).

### **Group Tracks and Timeline Pages**

Track grouping is independent of timeline pages. This means that any change you make to a Group track (either adding or removing tracks) will affect that Group track on all timeline pages where that Group track may exist (see [Timeline Pages](#)). The following rules apply when a Group track exists on multiple pages:

1. If a track is removed from a group on one page, it will be deleted from that group on other pages. It will remain only on the page it was ungrouped from.
2. Adding a track to a group on one page will add or move that track to the group in other pages.
3. Changing the order of tracks within a group in one page will not affect the track ordering within the same group on other pages.
4. Tracks within a group that exists on other pages cannot be deleted from as “Current page only”. It must be deleted from the entire timeline by selecting “Timeline (all pages)” in the *Remove Selected Tracks* message window. (See [Removing Tracks from a Page](#))

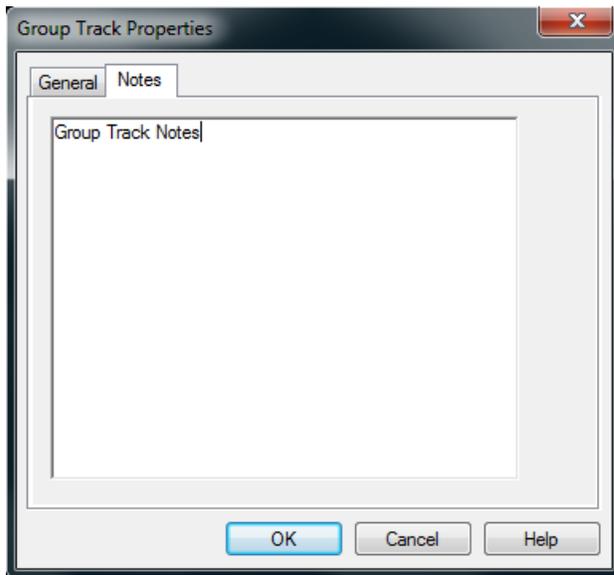
### **Group Track General Properties**



**Track name** Enter the track name to be displayed in the track panel.

### **Group Track Notes**

Enter notes about the Group track.



### **Track Lock Functions**

Special options have been provided to setup protection for tracks. These options are available in the *General* tab of the *Track Properties* window for each track type.

Lock track  
 Allow clip property/envelope edits  
 Allow clip sliding/sizing  
 Require password:   
 Verify password:

**Lock track** Check this box to lock the track for all clip changes. This includes adding/deleting clips, changes to clip properties/envelopes, sliding/sizing clips within the track and sliding clips in and out of the track.

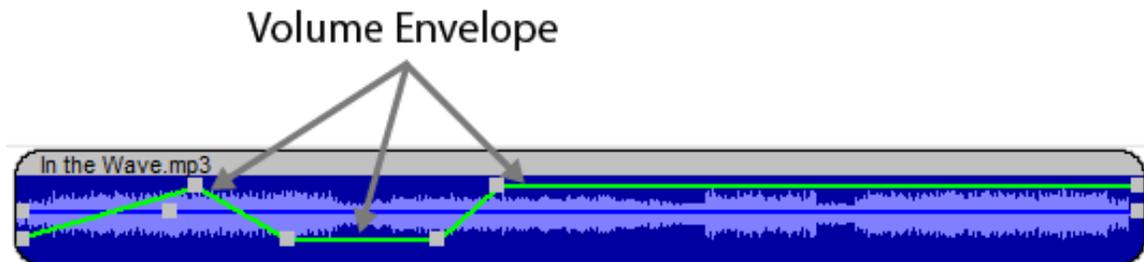
**Allow clip property/envelope edits** Check this box to allow changes to clip properties and envelopes.

**Allow clip sliding/sizing** Check to enable sliding and sizing of clips. This does not enable sliding clips in and out of a track.

**Require password**  
**Verify password** Check this box to require a password for unlocking the track, then enter a password twice (the second time for verification of the first). When this option is checked, the entered password will be required to open the track, or to unlock the track by clicking the  button on the *Track Control Panel*. Note: this box is automatically unchecked when the *Track Properties* window is opened. This helps prevent accidental locking.

## Envelopes

This section contains an overview of what envelopes are and how to use them. Details about specific envelopes are contained in other sections.



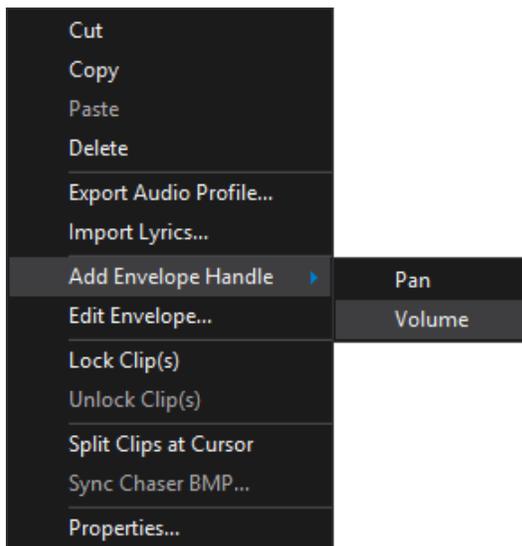
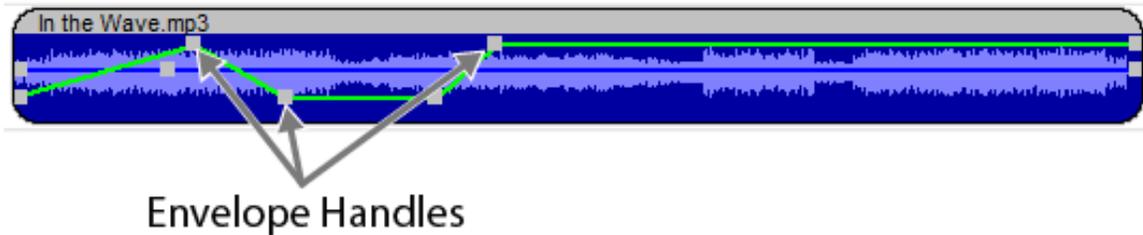
Envelopes allow you to adjust audio clip and lamp clip settings *during playback*. Envelopes can adjust:

- Volume/pan
- Sound effects settings
- Lamp level
- Fixture Effect settings

Envelopes are shown by default, unless the number of envelopes exceeds the maximum allowed for the track (see [Timeline Options](#)). Select which envelopes you would like to show in the [Audio Track Envelope Properties](#) and [Control Track Envelope Properties](#) windows.

## Envelope Editing from the Timeline

An envelope is edited by adding and dragging *envelope handles*.



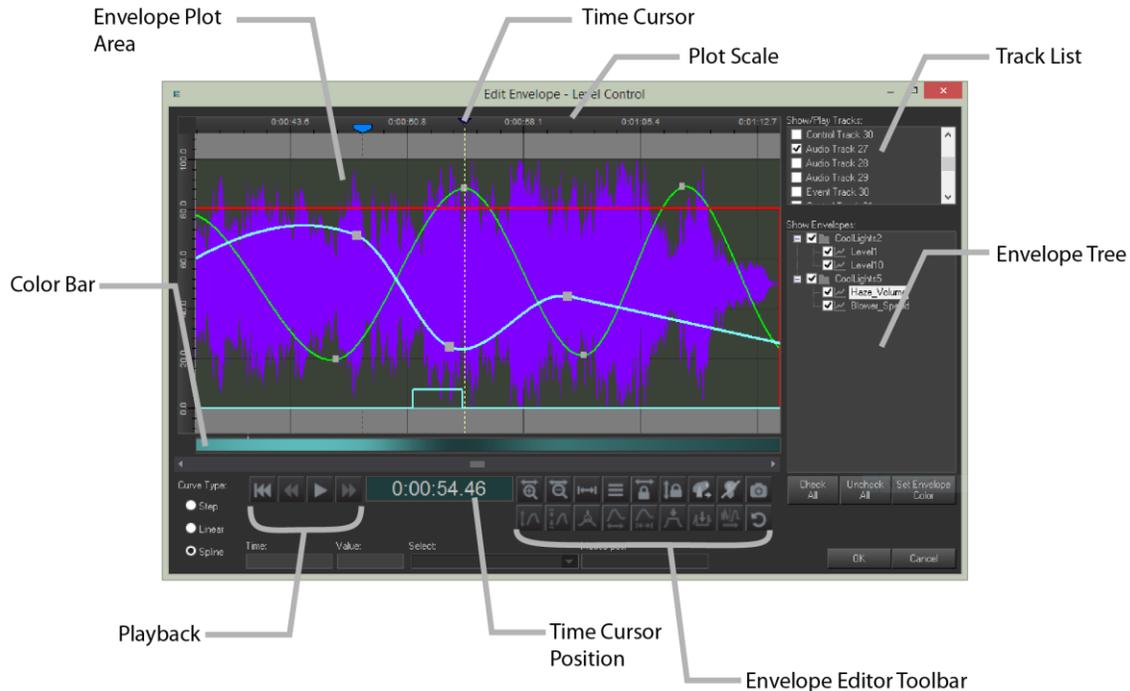
To add a handle, position the mouse cursor above where you would like to add the handle, then click the *right* mouse button to bring up the timeline clip menu. Select *Add Envelope Handle*, and then select the envelope you would like to add a handle to. All envelopes turned on and shown for the clip will be listed in the menu.

To move the handle, simply place the mouse cursor over the desired handle, left click and drag.

To delete a handle, right click on the desired handle and click *Delete Envelope Handle*.

## Envelope Editor

Editing envelopes on the timeline is quick and easy for a limited number of handles. However it's cumbersome if you want to precisely place multiple handles in multiple envelopes. For more sophisticated envelopes, VenueMagic provides a graphical envelope editor. Open the envelope editor by right-clicking on the desired clip and selecting *Edit Envelope*.



## Envelope Editor Items:

### Envelope Tree

Lists all envelopes available to the clip. For an understanding of how the tree is organized, see [Envelope Tree Organization](#). The tree functions as follows:

- Check the box beside the envelope(s) you wish to display in the *Envelope Plot Area*.
- Checking the box beside a folder will check everything inside the folder as well.
- Select an envelope to bring it to the front so that you can edit its handles. You can also do this by clicking on the envelope curve in the plot area.
- Select an *RGB* or *Position* folder to activate [Multi-Channel Handle Mode](#).
- Select an envelope and click *Set Envelope Color* to set the color of an envelope curve. If the current clip is a [Level Control](#) fixture effect, then the envelope color will also be the color of the channel level line shown between clips.
- Click *Check All* or *Uncheck All* button to check or uncheck all off the envelopes in the tree, respectively.

### Track List

Lists all tracks in the timeline. Check those tracks you wish to display in the background of the plot area. Select the track that you wish to be highlighted. Checked tracks are also played during playback in the envelope editor, while unchecked tracks are muted/disabled.

### Plot Scale

Current position of time cursor. Can show time relative to clip or entire timeline (see [Envelope Editor Settings](#)).

### Time Cursor

Marks current playback position. Move it before playback to decide the position where playback should start.

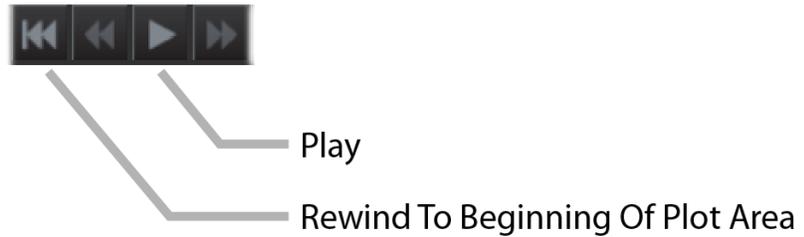
**Time Cursor Position**

Displays current position of the *Time Cursor* relative to the clip or entire the timeline (see [Envelope Editor Settings](#)).

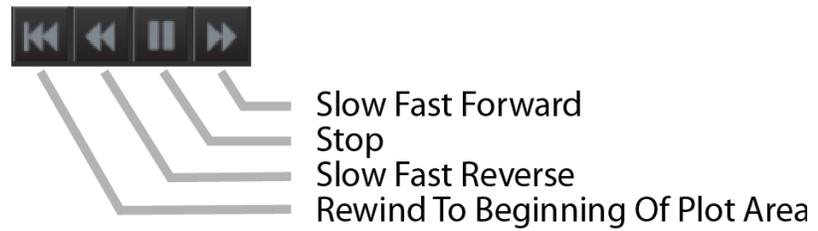
**Playback Control**

Controls playback of the clip in the *Envelope Editor*.

While not in playback:



While in playback:

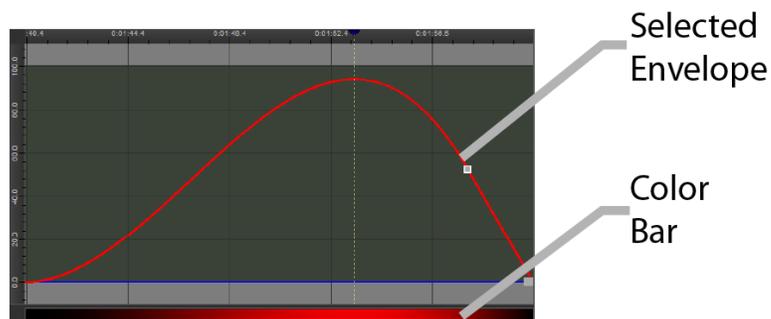


You can also play/stop by pressing the space bar.

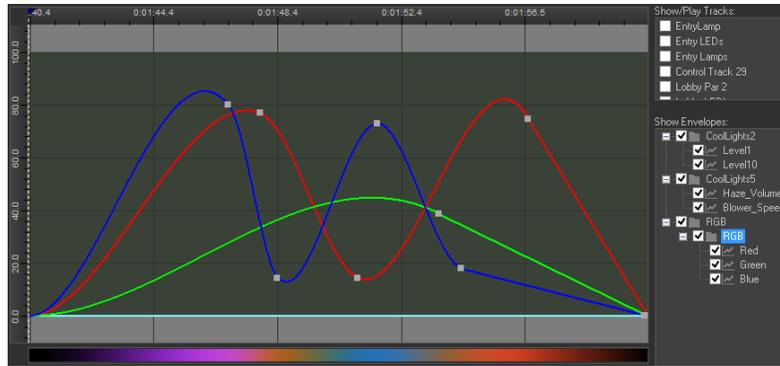
**Envelope Plot Area Color Bar**

See [Envelope Plot Area](#).

The Color Bar shows a color gradient representation of the currently selected envelope, the base color being that of the selected envelope itself.



If an *RGB* folder is selected, the *Color Bar* will show the color blend of the *Red*, *Green* and *Blue* channels.



In [Multi-Channel Handle Mode](#), the *Color Bar* also contains all of the multi-channel handles for the selected *RGB* or *Position* folder.

### Envelope Editor Toolbar



Zoom in envelope plot area around time cursor.



Zoom out envelope plot area around time cursor.



Zoom out envelope plot area to include all of the clip



Show [Envelope Editor Settings](#) window.



Lock plot area so that handles cannot be dragged along the time axis.



Lock plot area so that handles cannot be dragged along the level value axis.



Update lamps while editing. If the clip is a [Level Control](#) clip, then each envelope will be directly associated with a lamp channel. With this box checked, Changing the value of the selected handle will, in real-time, set the output level of the associated channel.



Turn off all lamps.



Snapshot the current channel levels (see [Snapshot Channels](#)).



Undo last action.

These are for editing recorded data and will be discussed later (see: [Editing Recorded Data](#)).



## Envelope Editor Fields:

**Curve type:** Select the default curve type. Also sets the curve type for any selected handles. The following curve types are supported:

- **Step:** Stair-steps from one handle to the next.



- **Linear:** Connects each handle with a straight line.



- **Spline:** Connects each handle with a smooth curve.



**Time:** Shows time of currently selected handle, referenced to the plot scale. Changes as handle is dragged. For precise time settings, enter a time value into the field and hit *Enter*. Enter the value in one of the following formats

- *seconds*
- *mins:secs*
- *hours:mins:secs*
- *hours:mins:secs:frames* (SMPTE)

The value will automatically be converted to the current time display format as set in the [Envelope Editor Settings](#) window.

**Value:** Value of currently selected handle. You can also enter a value into the field and hit *Enter*.

**Select:** For envelopes associated with channels that select between multiple settings (see [Fixture Channel Types](#)) shows the current selection based on the handle value. You can select a setting in this box, which will cause the handle to move to the center of the selection range.

**Mouse pos:** Current [*time*], [*value*] position of the mouse within the plot area.

## Envelope Tree Organization

The Envelope Tree of the Envelope Editor is organized according to the following rules (see figures below for an example):

1. If the associated clip is a [Level Control](#) fixture effect clip, then envelopes are organized by:

[Fixture...](#)  
[Channel...](#)

### Sub channel

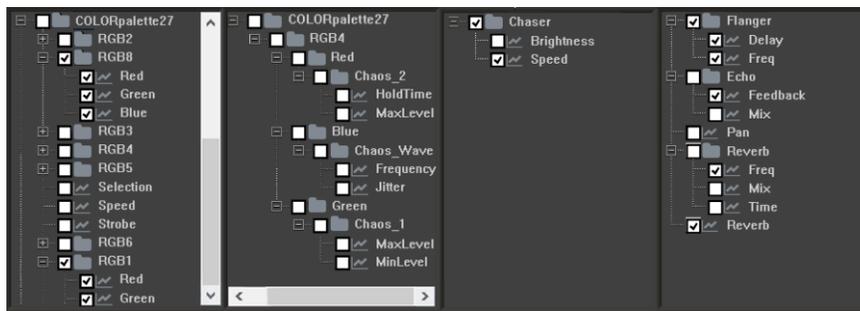
2. If the clip is [built-in fixture effect](#), and some of the parameters have been configured to be set by envelope (see [Built-in Fixture Effect Settings Properties](#)), then the envelopes are organized by:

*Fixture...*  
*Channel...*  
*Sub channel...*  
*Variation Type...*  
*Parameter*

3. For [Lamp Chaser](#) clips, all envelopes are inside a folder called *Chaser*.
4. For [audio](#) clips, the *Pan* and *Volume* envelopes are at the top level, and any configured [sound effect](#) envelopes are organized by:

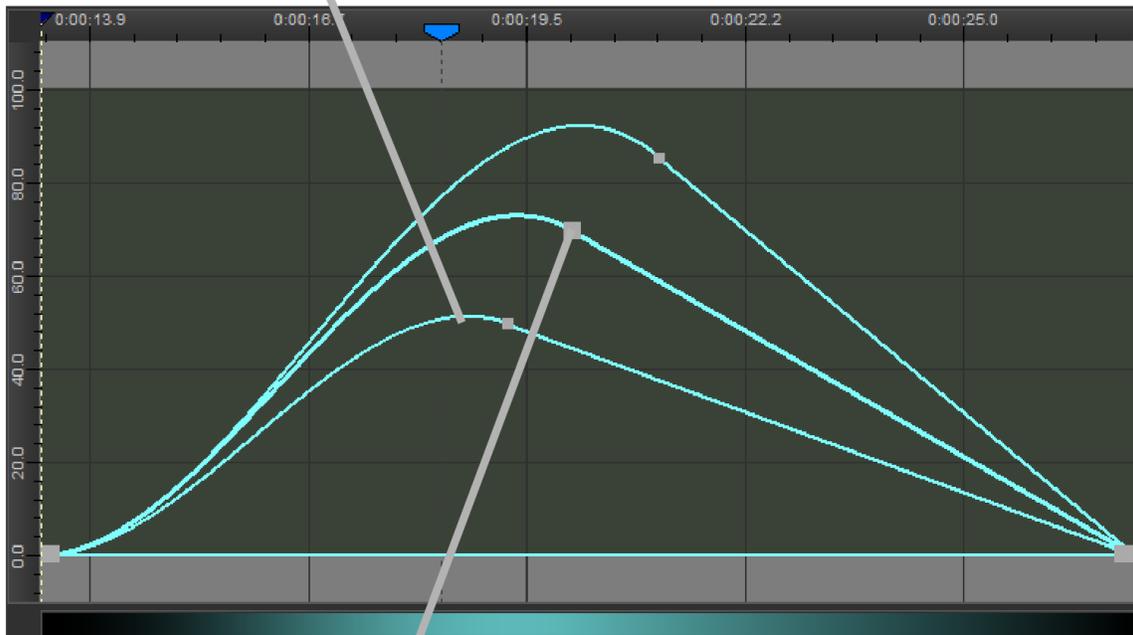
*Effect...*  
*Effect Channel*

### Example Figures:



### Envelope Plot Area

## Envelope Curve



## Envelope Handle

The Envelope Plot Area shows the following:

- Desired envelopes and handles when checked in the *Envelope Tree*.
- Elements of other tracks (audio graph, envelopes) for tracks checked in the *Track List*. Showing other tracks helps you sync the handles in this clip to what's going on in other tracks.

The Envelope Plot Area allows you to do the following:

- Click and drag an envelope handle to move it within the plot area.
- Double-click on an envelope curve to add a point to it.
- Right-click on an envelope and select *Delete Handle(s)* to delete it.
- Click anywhere in the plot area (except on a handle) and drag a selector box to select multiple handles. Then you can drag them all together.
- If the *Update lamps while editing*  function is enabled then sliding a handle up and down will affect the associated channel in real-time. (Functions only if clip is a [Level Control](#) fixture effect).

Additional rules and considerations:

- A handle cannot be moved beyond the handles before and after it. This will be enforced even if multiple handles are selected.

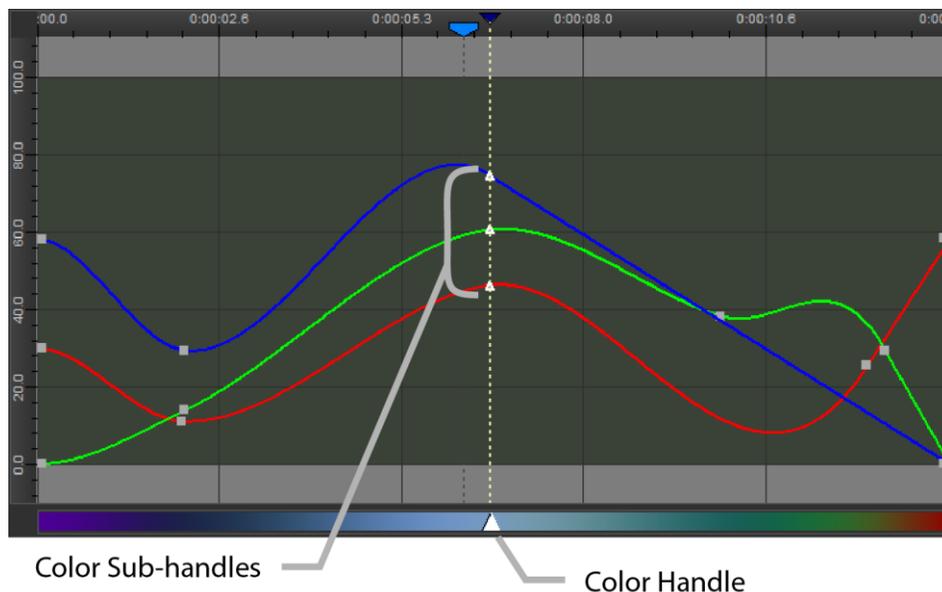
- The first and last handles of a clip cannot be moved horizontally (along the time axis).
- The first handle of a Level Control envelope cannot be moved at all. This is because its level is set by the last level of the previous clip, or, if there is no previous clip, by the level set in the [Control Track Channel Settings](#) window.

Note: If the desired envelope does not appear in the plot area, make sure that it has been checked in the envelope tree.

## Envelope Editor Multi-Channel Handle Mode

The Envelope Editor enters *Multi-Channel Handle Mode* whenever an *RGB* or *Position* folder is checked and selected in the *Envelope Tree*. In this mode, you may add a multi-channel handle by right-clicking in the color bar and selecting *Add Color Handle*, if an *RGB* folder is currently selected, or *Add Position Handle* if a *Position* folder is selected.

In the following case, an *RGB* folder was selected and a *Color Handle* was added to the color bar.



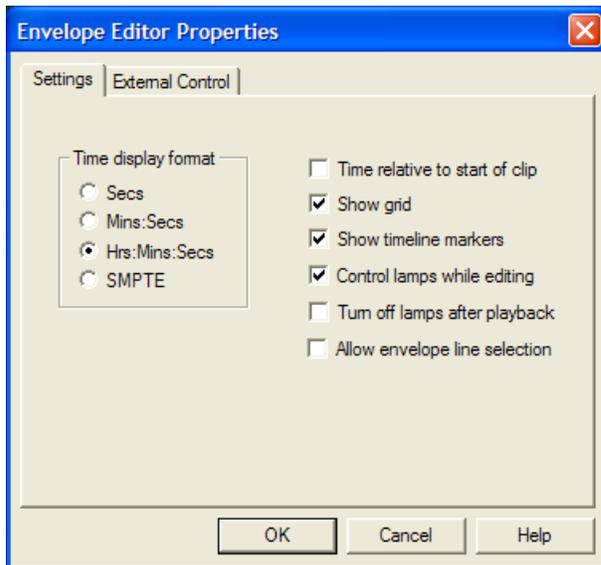
As seen in the figure above, adding a single handle to the *Color Bar* also added three additional color *sub-handles* to the *Red Green* and *Blue* envelopes in the plot area. Notice that these handles are triangular shaped rather than the square used by the normal envelope handles.

Click and slide the color handle left to right and the three sub-handles move with it. Now click and slide a sub-handle in the plot area. Note that you can only change its value by moving it up and down. You cannot change its time. These three sub-handles are locked together in the timeline and can only be moved with the sub-handle.

You can also select a specific color to be associated with the color handle. Right click on the color handle in the *Color Bar* and select *Edit Color Handle*. Then select the desired color. The value of each sub-handle will be changed in order to create the selected color.

The function of the handles and sub-handles is similar if a *Position* folder is selected, but only two sub-handles are created—one for *Pan* (or *X*) and one for *Tilt* (or *Y*). You will also notice that the *Color Bar* is black when a *Position* folder is selected.

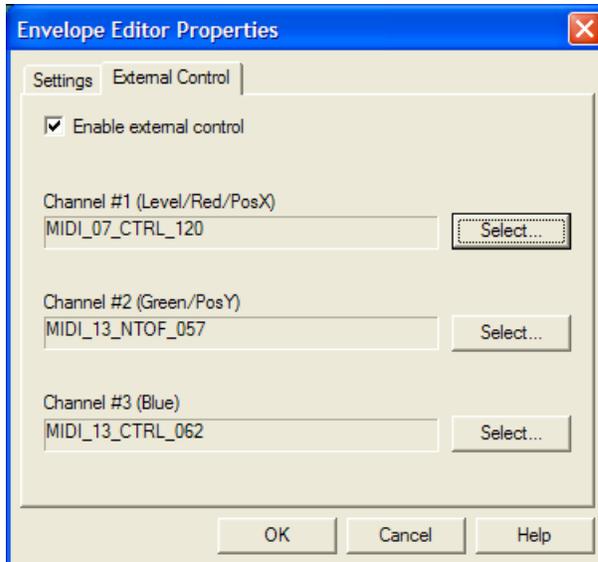
## Envelope Editor Settings



- Time display format** Select the format that time will be displayed throughout the envelope editor.
- Time relative to start of clip** Check this box to display envelope editor time relative the beginning of the clip. If unchecked, time will be shown relative to the entire timeline.
- Show grid** Uncheck to remove grid from plot area.
- Show timeline markers** Check to display timeline markers in envelope editor. Just as in the timeline, you may place the mouse cursor over the marker to display its name, but you may not move, edit or delete them here. To move the time cursor to a marker, right click in the plot scale area and select Go to Marker, and then the desired marker.
- Control lamps while editing** If the clip is a [Level Control](#) clip, then each envelope will be directly associated with a lamp channel. With this box check. Changing the value of the selected handle will, in real-time, set the output level of the associated channel.
- Turn off lamps after playback** Check this box to have then Envelope Editor turn off all lamps after playback. If left unchecked, lamp levels remain as they are when playback stops.
- Allow envelope line selection** When this box is checked, an envelope may be selected by clicking on an envelope line in the envelope plot area. When unchecked, envelopes may be selected only from the envelope tree, or by clicking on an *envelope* handle in the envelope plot. Un-checking this box will help avoid inadvertently selecting the wrong envelope while adding handles.

## Envelope Editor External Control Properties

The VenueMagic Envelope Editor will allow you to set the value for an envelope point or color handle using external control.



### Enable external control

Check to enable external control of selected envelope handle(s).

### Channel #1

Click Select to bring up the [Select External Control](#) window, and select an external input to control Envelope Editor Channel #1. This will affect the currently selected envelope handle. If a handle is selected in the [Color Bar](#), Channel #1 will affect the *Red* channel (for RGB channel types), or the *X/Pan* channel (for Motion XY / Motion PT channel types). (See: [Fixture Channel Types](#)).

### Channel #2

Click Select to bring up the *Select External Control* window and select an external input to control Envelope Editor Channel #2. This will only affect the *Green* channel (for RGB channel type) or the *Y/Tilt* channel (Motion XY or Motion PT channel types) of the selected *Color Bar* handle.

### Channel #3

Click Select to bring up the *Select External Control* window and select an external input to control Envelope Editor Channel #3. This will only affect the *Blue* channel (for RGB channel type).

## Copying Envelopes & Envelope Handles

The Envelope Editor offers a variety of ways that you can copy and paste envelopes and envelope handles. You can:

- Copy selected handles in an envelope to another location in the envelope or into a different envelope.
- Copy Color Bar handles to another location on the Color Bar or on the Color Bar of another envelope group.
- Copy an envelope group (RGB or Position) to another compatible envelope group in the same fixture or a different one.
- Copy all envelopes from one fixture to another identical fixture.

### To copy individual envelope handles:

1. Select the envelope you wish to copy handles from.
2. Select the handles you wish to copy.
3. Right-click on one of the selected handles and select *Copy Handles*.
4. Right-click on the envelope you wish to copy to at the location in time where you wish them copied at and select *Paste Handle at Cursor*.
5. OR right click on an envelope in the envelope tree and select *Paste Handles* to copy the handles to the same time as the new channels

Copying Color Bar handles functions similarly.

### To copy an entire envelope or envelope group:

1. Right-click in the envelope tree on the envelope or envelope group (RGB or Position) you wish to copy select *Copy [name] Envelopes*, where **name** is the name of the envelope or envelope group you are copying.
2. Right click on the envelope or compatible envelope group you wish to copy to and select *Paste Envelopes from [name]*.

### To copy all of the envelopes in a fixture:

1. Right-click in the envelope tree on the fixture you wish to copy select *Copy [name] Handles*, where **name** is the name of the fixture being copied.
2. Right click on fixture you wish to copy to and select *Paste Envelopes from [name]*.

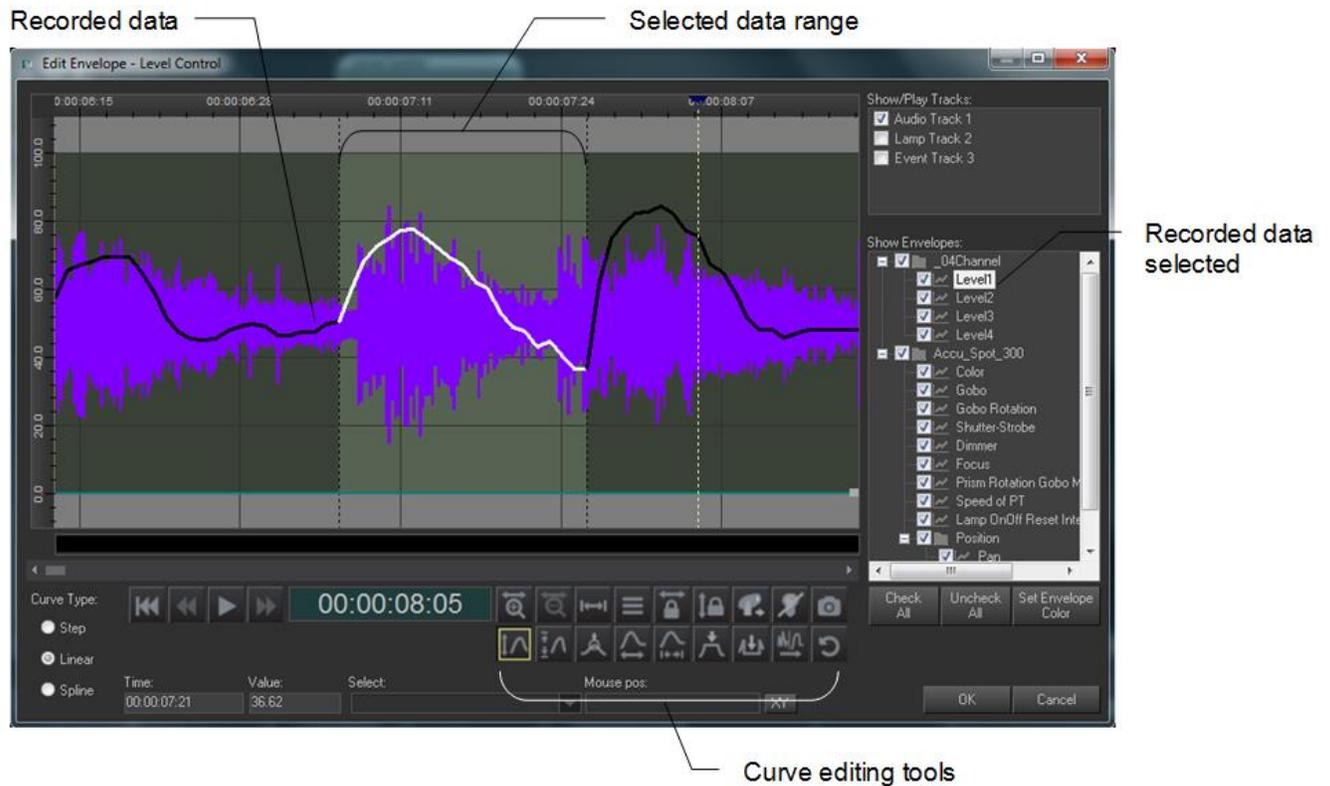
### Intelligent Copy Buffering

Fixtures envelopes can only be pasted to a matching fixture. For example, if you copy all the envelopes in a *DJ Scan 250 EX*, you can only paste those envelopes to another *DJ Scan 250 EX*. The Envelope Editor will enforce this. However, the Envelope Editor also supports *intelligent copy buffering*. This means you can copy multiple fixture types into the copy buffer, one after another, and the copy buffer will keep track of all of them. When you attempt to paste to a fixture, the copy buffer is searched and if a matching fixture is found, you are given the option of pasting it. Envelope groups functions similarly, allowing you to paste RGB and Position envelope groups only to other RGB and Position envelope groups, respectively.

## Editing Recorded Data

*(Only Available for VenueMagic DMX+AV and above)*

Then Envelope Editor can also be used to edit recorded channel data (see [Real-time Recording and Editing of Channels](#)).



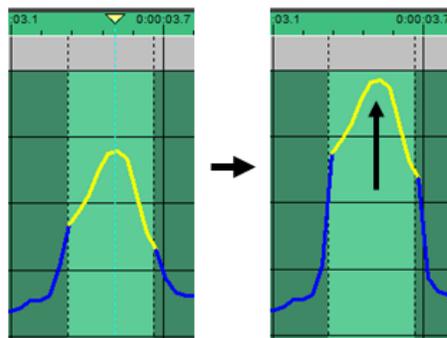
When recorded data is selected in the *Envelope Tree*, the appearance and behavior of the Envelope Editor changes somewhat. The first thing you will notice is that the curve editing tools, which are normally grayed-out, are now enabled. In order to edit the recorded data, you must select a range of data to edit. Do this by clicking the left mouse button somewhere in the plot area and then holding the button down as you drag the mouse cursor to select a range. When you have selected the desired range, release the mouse button. After selecting the range, you can easily resize the range by clicking on and dragging either edge of the range. Click anywhere in the plot area outside of the range to deselect it.

## Curve Editing Tools

The curve editing tools for recorded data are quite powerful. Below is a brief description of each tool, but the best way to understand them is to use them.

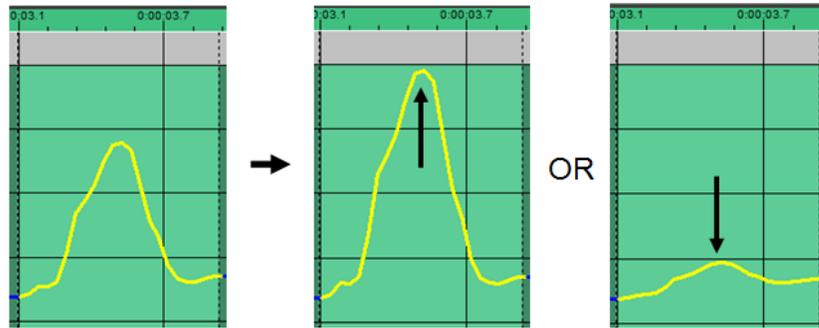


**Move Level:** Click and drag the selected range up and down.

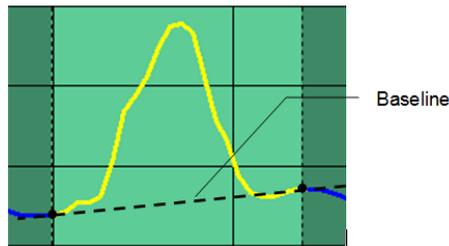




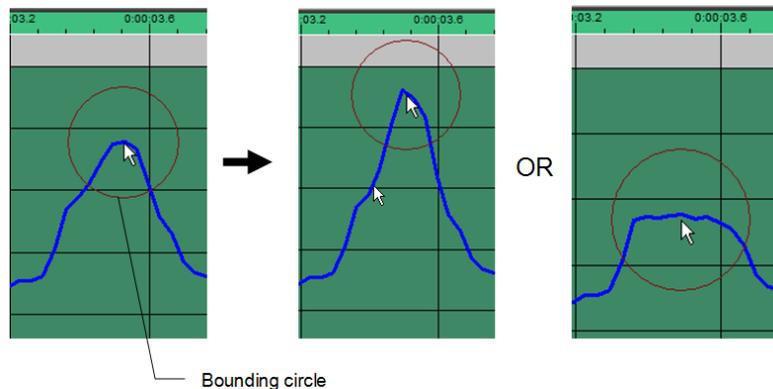
**Stretch Level:** Stretch the selected range. Stretching is relative to where the mouse cursor is initially placed when the left button is clicked. The closer a point on the curve is to this initial point, the faster it will stretch when the mouse is moved.



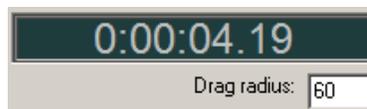
Stretching is also affected by the proximity of the initial point to the baseline of the selected curve. The baseline is defined as the line that connects the endpoints of the curve at the edges of the selected range.



**Drag Level:** This tool drags curve points proportionally to the distance between the initial click point and a point on the curve, scaled within the range of a bounding circle. This tool does not require a selected range because the bounding circle selects which points in a curve will move.



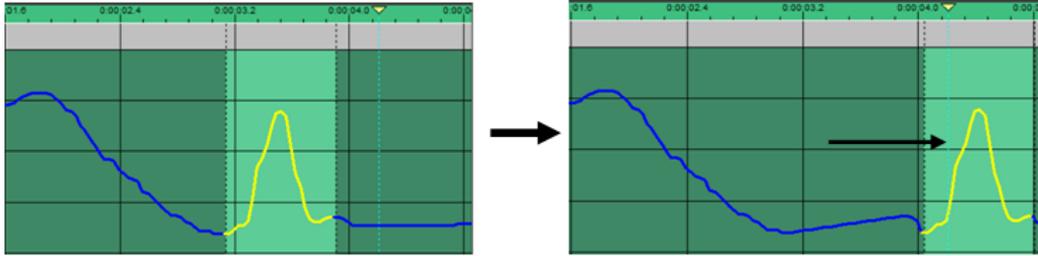
You can adjust the radius of the bounding circle by moving the mouse wheel or by entering a value into the *Drag radius* box just below the cursor time display. The *Drag radius* box is only visible when the *Drag Level* tool is selected.



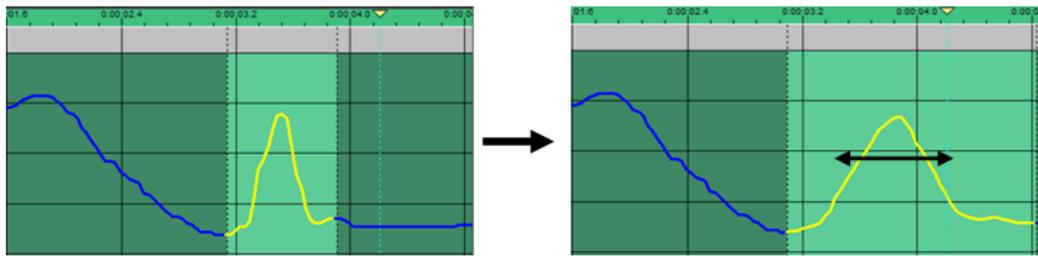
The *Drag Level* tool is ideal for stretching part of a curve without affecting the rest of the curve.



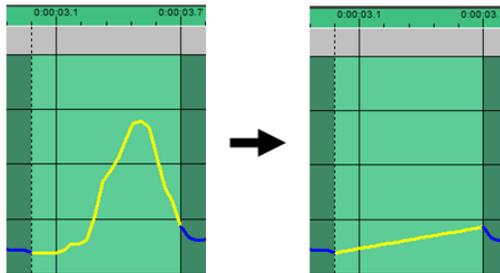
**Move in Time:** Moves the selected range in time.



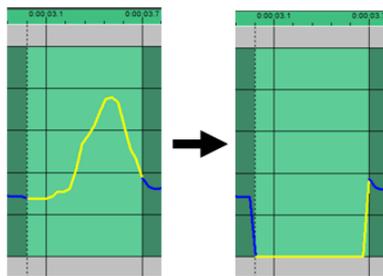
**Stretch in Time:** Stretch the selected range in time. The center of stretching is the initial point where the mouse was clicked to begin dragging.



**Flatten Curve:** Flattens the curve along the baseline of the selected curve. (See Stretch Level toll above for an explanation of the baseline).

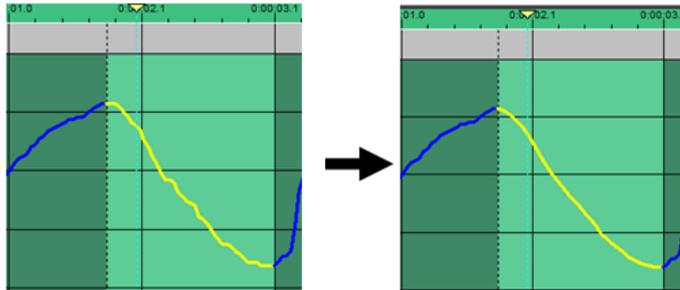


**Set Curve To Constant:** Sets all points in range to a specified constant.



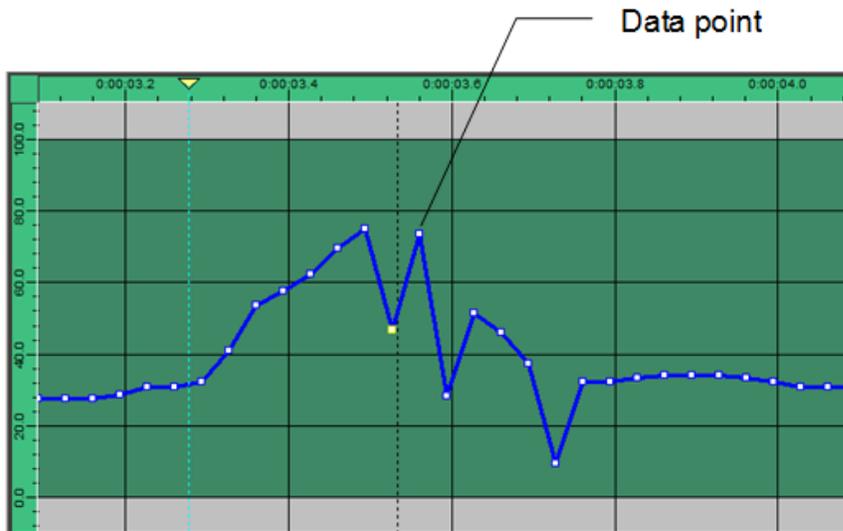


**Smooth Curve:** Smooth out the curve in the selected range. Clicking this button multiple times increases the smoothing.



## Editing Individual Data Points

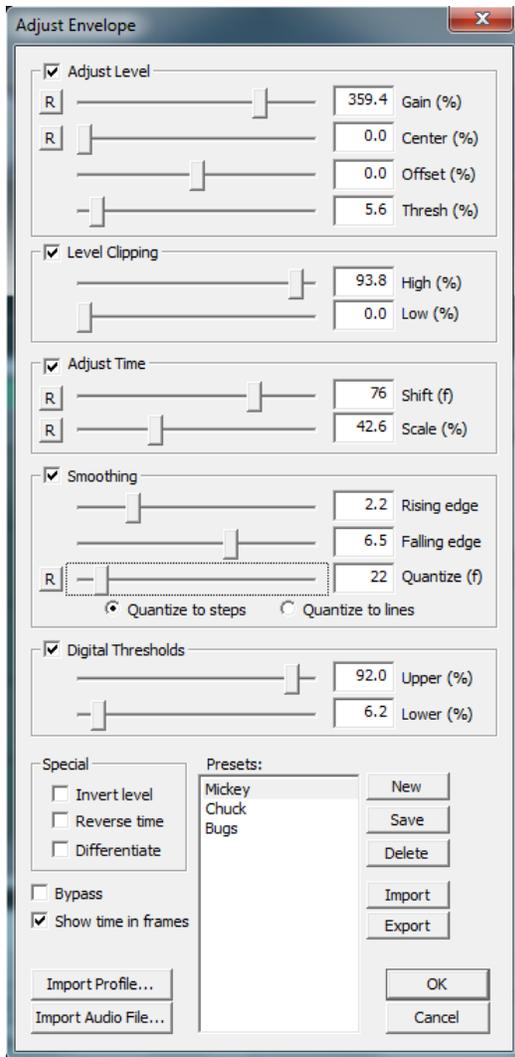
Expand the envelope plot range to maximum by clicking on the  button until it grays-out. You will now see that the individual data points are visible in the plot. The curve editing tools equally apply to this view except that you can select and move data points individually.



## Adjust Envelope Window

(Available in SC+ and above only.)

Right-click on a recorded envelope in the [Envelope Editor](#) and select *Adjust Envelope...* to bring up the *Adjust Envelope* window.

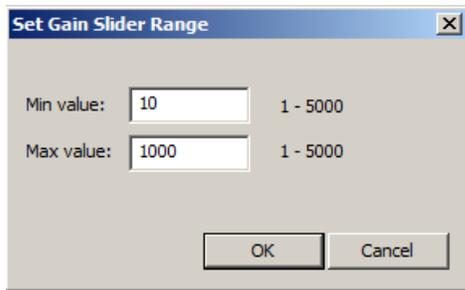


From this window you can adjust the current envelope or the selected section of it with more precision than the standard [curve editing tools](#). Any change of settings is shown immediately in the *Envelope Editor*. All functions of the *Envelope Editor* are disabled while the *Adjust Envelope* window is open with the exception of the time cursor and the playback controls. This allows you to playback the envelope while changing settings on-the-fly.

The *Adjust Envelope* window will also import previously exported profiles as well as extract a profile from an audio .wav file (this is often referred to as a “Yak” function when it is used to extract an audio envelope from a file with dialog which is used to control mouth movements in an animatronics character).

Adjustments are made by either moving the associated slider, or by entering a number directly into the text entry field. Settings can be saved in a list of presets that can be re-used.

On the right side of selected sliders is a set slider range button **R** that will open a window to let you set the desired range of the slider.



Sliders without a  button have fixed ranges that cannot be changed.

### **Adjust Envelope Window Items Descriptions**

#### **Adjust Level**

Check this box to enable level adjustment sliders:

**Gain (%)** – Adjust the amplitude of the envelope by a percentage.

**Center (%)** – Adjust the center to which gain will be applied. Rising and lowering the gain will expand the waveform vertically around the center % value.

**Offset (%)** – Adjust the horizontal position of the envelope by a level percentage.

**Thresh (%)** – Adjust zero threshold. Any data below this value is zeroed out.

#### **Level Clipping**

Check this box to enable level clipping then adjust the **High (%)** and **Low (%)** values to cut-off the top and bottom of the envelope, respectively.

#### **Adjust Time**

Check to enable time adjustments:

**Shift (f/s)** – Shifts envelope in time by the specified frames (f) or seconds (s). Select how time is displayed with the *Show time in frames* checkbox (discussed below).

**Scale (%)** – Scale the time range by the specified percentage.

#### **Smoothing**

Check to enable smoothing:

**Rising edge** – Smooths out the rising edges of the envelope. Ranges from zero (no smoothing) to 10 (a lot of smoothing).

**Falling edge** – Smooths out the falling edges of the envelope. Ranges from zero (no smoothing) to 10 (a lot of smoothing).

**Quantize (f/s)** – Quantizes envelope by sampling the envelope at specified increments of frames/seconds and filling the space between samples with either a line or a step. Select **Quantize to steps** to fill in the space with steps or **Quantize to lines** to fill it with lines. A value of zero disables quantizing.

#### **Digital Thresholds**

Check this box to convert envelope into a “digital” representation of the curve.

**Upper (%)** – Selects the upper threshold level for digitizing. Where the original curve is above this point is where the output curve goes to 100%.

**Lower (%)** – Selects the upper threshold level for digitizing. Going left to right, once the original curve reaches the specified **Upper** threshold and its output goes to 100%, the curve must drop below the **Lower**

threshold level before it goes back to 0%. This effectively introduces a hysteresis effect. To eliminate the hysteresis effect, always set **Upper** and **Lower** to the same value.

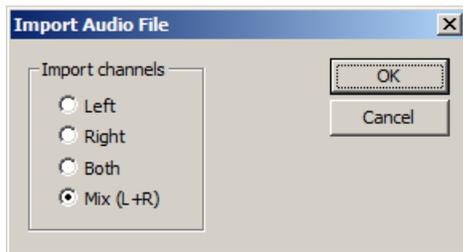
- Invert Level** Check this box to vertically invert the selected envelope.
- Reverse Time** Check to invert the envelope left-to-right along the time axis.
- Differentiate** Performs a differentiation function to produce the derivative of the original curve. If the original curve plots position vs. time, the new plot will show velocity vs. time.
- Bypass** Check to bypass all settings. The original un-modified curve is shown in the *Envelope Editor*.

### **Importing Profiles**

Import profiles into the currently selected channel of the Envelope Editor by click on *Import Audio Profile*. (See [Importing Channel Data Profiles](#)).

### **Importing Audio Profiles**

Import envelope of .wav audio file directly into the *Envelope Editor* without first having to create a profile from an audio clip. Click on *Import Audio File*, and then select the .wav file you would like to import. If the .wav file contains stereo audio, the Import Audio File window will appear.



Select how you want the profile to be imported:

- Left:* import just the left channel  
*Right:* import just the right channel  
*Both:* import both left and right channels as separate channels in the profile  
*Mix:* import the sum of the left and right channels into a single profile channel

Click Ok and the profile is imported to the envelope within the selected range.

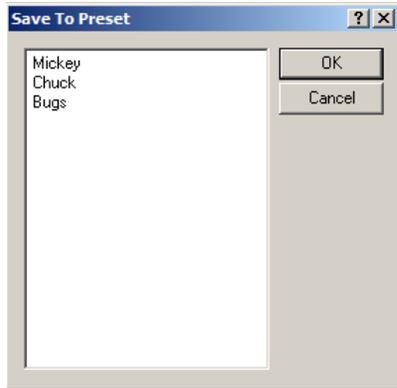
### **Saving and Reusing Setting Presets**

Once settings have been adjusted as desired for a particular envelope, they can be saved under a *Settings Preset* and applied later onto other envelopes.

Click the **New** button to create a new *Settings Preset* and add it to the *Presets* list, then type in a name for the preset. Adjust the settings as desired, and then click **Save** to bring up the *Save to Preset* window.

### **Importing and Exporting Setting Presets**

The *Import* and *Export* buttons let you Import a *Settings Preset* file or export your own presets for to a file that can be imported into another project.



Select the preset you wish to save to and click OK.

To apply an existing preset to the current envelope, select the desired preset in the *Preset* list and the new settings are applied immediately. Delete presets by selecting them in the Preset list and clicking **Delete**.

**Important note:** Be sure to save any changes to the current preset before selecting another preset, otherwise your changes will be lost.

## Channel Data Profiles

(Available in SC+ and above only.)

VenueMagic gives you the ability to export and import *channel data profiles*. A channel data profile (also referred to simply as a “profile”) is a file that contains a list of channels, by name, and a stream of data for each channel. These profiles can be imported for later use (described below).

## Exporting Channel Data Profiles

Profiles can be exported from the following sources:

### Audio Clips

Right-click on an audio-clip in a VenueMagic [timeline](#) and select *Export Audio Profile*. Enter a filename in the file dialog and click OK. If the audio clip is stereo, the *Export Audio Clip* window will appear.



Select how you want the profile to be exported:

- Left:* export just the left channel
- Right:* export just the right channel
- Both:* export both left and right channels as separate channels in the profile
- Mix:* exports the sum of the left and right channels into a single profile channel

Click Ok and the profile is exported to the selected file. If the audio clip is mono, export will begin immediately after the export file is selected and the *Export Audio Clip* window is not shown at all.

### **Fixture Effect Clips**

Right-click on a [fixture effect](#) and select Export Clip Profile, then select a file to receive the exported data. This will export all of the channels controlled by that clip along with an “image” of the output data for each channel.

### **Control Tracks**

Right-click on [control track panel](#) and select Export Track Profile. This will export output data for the entire track into a profile.

### **Timelines**

Export a profile file for the currently loaded timeline by selecting *Files*→*Export Timeline Profile* from the main menu.

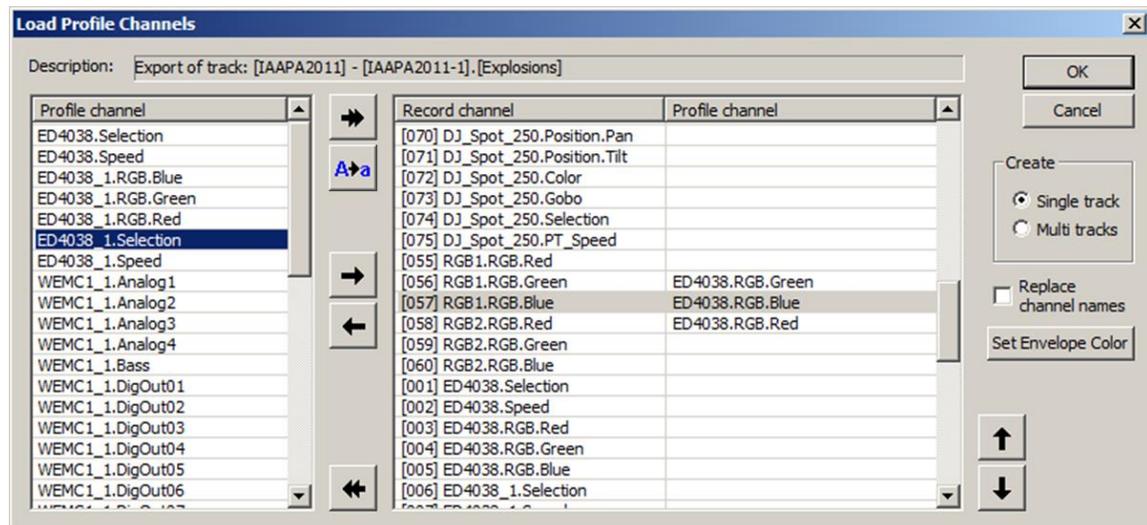
### **DMX Recorder**

The [DMX recorder](#) can record DMX input or output and save it to a profile.

## **Importing Channel Data Profiles**

Profiles can be inputted into [control tracks](#), [level control](#) effects and [envelopes](#) (see also [Adjust Envelope Window](#)).

All profile imports will bring up the *Load Profile Channels* window, which is used to tell the import function which channels to import and where they will go.



The list on the **left** shows all of the profile channels included in the profile file. The list on the **right** shows all of the record channels available to receive the imported channel data. Drag channels you wish to import from the profile channel list over to the record channel list, then drop it on the channel you would like to import it to. To remove an imported channel from the recorded channel list, simply drag it back over to the profile channel list. Click OK to perform the importing.

Notice that as you drag a profile channel over to the recorded channel list, it is removed from the profile channel list. This is because you cannot import a single profile channel into more than one record channel.

The Load Profile Channels window is used with the following import functions:

### **Importing to Level Control Effects**

Profiles can be loaded into selected channels in a *level control* effect (see [Level Control Setup Recording Properties](#)).

### **Importing to Envelope Editor**

The [Adjust Envelope Window](#) can import profiles directly into envelopes in the [Envelope Editor](#).

### **Importing to a Timeline**

Profiles can be used to auto-populate a timeline with profile data with one or multiple channels per track. (see [Auto-populating a Timeline from a Profile](#))

Not all of the settings in this window are available to all import functions. The table below lists each button/setting, a description of its functions, and when it is available.



Moves all profile channels to record channel list, in order from top to bottom, filling in the unused record channels.



Move all profile channels back into the profile channel list.



Moves selected profile channels to record channel list, in order from top to bottom, filling in the unused record channels starting with the first selected record channel, if any.



Move selected profile channels back into the profile channel list. (Also accomplished by dragging).



Moves a single selected profile channel up/down in the record channel list. (Also accomplished by dragging).



Move all or selected profile channels to record channels, automatically selecting the best match for each based on the channel names.

### **Create**

This setting is used only by the [auto-populate timeline](#) function. The options are:

**Single track** – imports all channels into a single control track.

**Multi tracks** – imports each channel into its own control track.

### **Replace channel names**

Check this box if you wish each fixture channel name to be changed to match the name of the profile channel being imported into it.

Available only with [auto-populate timeline](#) function.

### **Set Envelope Color**

Click this button to select the envelope color of all imported profiles.

Available only with [auto-populate timeline](#) function.

## **Auto-populating a Timeline from a Profile**

(Available in SC+ and above only.)

You can use a channel data profile to automatically populate a timeline with tracks and level control effects. From the main menu, select *Insert*→*Control Tracks from Profile*. After selecting a file to import, and setting up the channel mapping in the [Load Profile Channels](#) window, VenueMagic will automatically perform the following functions:

1. Required control tracks are added to the timeline, either one for each channel or one for all channels, depending on what was specified in the *Load Profile Channels* window.
2. Required fixture channel(s) are added to new control track(s).
3. A [level control effect](#) is added to each new control track.
4. Profile data is loaded into level control effects as specified in the *Load Profile Channels* window.

## Recording DMX Input/Output Data to a Profile

(Available in SC+ and above only.)

VenueMagic will let you record DMX input from a [DMX input device](#) or the DMX output from a timeline playback, and put it into a [profile](#) file. In the Main Menu, select *Tools*→*Record DMX* to bring up the *Record DMX* window.

### Recording DMX Input

The screenshot shows the 'Record DMX' dialog box. The 'Select source' section has 'Default DMX input' selected. The 'Output to universe' checkbox is checked, with a dropdown set to '1'. The 'Sync source' section has 'Main dock' selected. The 'Description' field is empty. The 'Record time' is 0:00:00.00. The 'Select record channels' list has channels DMXIN\_001 through DMXIN\_006 checked, with a count of 6. The 'Check All' button is highlighted.

Under *Select source*, select the *Default DMX input* option to setup recording from the default DMX input into a profile. This option is only available if a DMX input has been configured in the [DMX Device Setup](#) window.

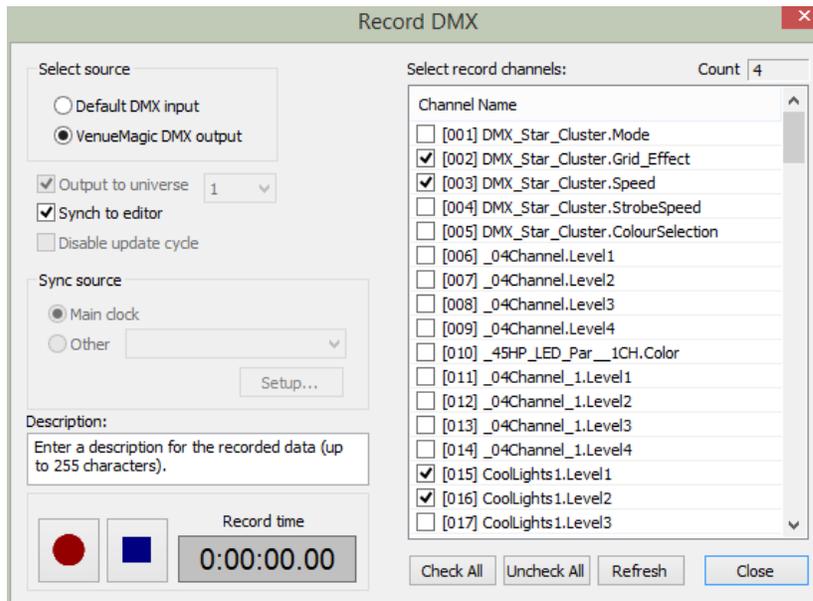
Next, select the DMX channels you would like to record by checking the corresponding box in the *Select record channels list*.

If you wish to route DMX input to its corresponding DMX output channels, check the *Output to universe* box, then select the universe you would like to output to. Output will be sent to the device setup for that universe in the [DMX Device Setup](#) window.

The *Description* field can be filled with any text up to 255 characters. This text is what is displayed in the Description field at the top of the [Load Profile Channels](#) window.

## Recording DMX Output

Select *VenueMagic DMX output* as the source if you would like to record DMX output generated by VenueMagic.

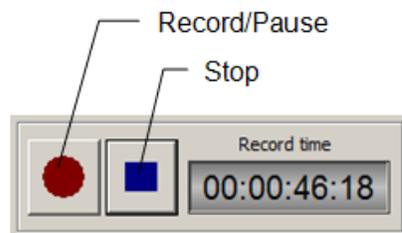


The *Select record channels* list will list all of the DMX fixture channels assigned to the current [project](#), by name, preceded by the associated DMX channel in square brackets (i.e.: “[001]”). Check the box next to the channels you wish to record.

Check the *Sync to editor* box if you’re primarily interested in syncing to the playback of a timeline. In this mode, starting recording will also start playback of the timeline currently being edited at the current position of the time cursor. The recorder will also record time information directly from the timeline rather than use its own clock. Stopping or pausing recording will also have the same affect on timeline playback.

## Record Controls

Actual recording of DMX is managed by the record controls **Record**, **Pause** and **Stop**. The *Record time* window shows the current record time in *hours:minutes:seconds.hundreths* format.



## Starting Record

Recording starts immediately when the **Record** button is clicked. The *Record* button then turns into the **Pause** button. If *Sync to editor* is checked, the timeline currently in the editor begins playing, starting at the last time cursor position.

When recording starts, the *Record time* is reset to zero, turns green and begins running forward to report the current time as it is being recorded in the profile. If *Sync to editor* is selected, *Record*

*time* will not reset to zero, but will instead show the current playback time of the timeline currently being edited.



### Pausing Record

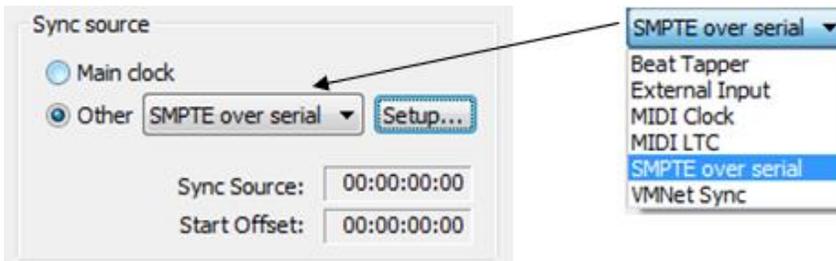
To pause recording, click on the **Pause** button (formerly the Record button). This will stop the *Record time* which starts flashing between gray and green until recording is resumed or stopped. The **Pause** button also turns back into the **Record** button, which can be clicked to resume the recording.

### Stop Record

Click the **Stop** button to stop recording. This will bring up a file browser so that you can tell VenueMagic where to store the recorded profile.

### Synching to External Time Sources

The *Sync source* section lets you set an external sync source. By default, this is set to *Main clock*, which will sync recording to the Record DMX window's main clock, or to the time source of the currently active timeline if *Sync to editor* is checked.



To sync to an external source, select the *Other* option and then select desired sync source and click *Setup* to set up the sync source parameters. (see [Synching VenueMagic Timelines to an External Clock Source](#)).

## Importing Profiles from ASCII Text Files

VenueMagic can import profiles from an ASCII text file that conforms to a specific format. This makes it possible to input show data created by other software. This is done by selecting "Text File" as the file type in the file browser when you are selecting a file to import. The text file must adhere to the sample format below:

```
* Sample VenueMagic ASCII-based Profile File

* An asterisk as the first character in the line denotes a comment

*****
* *** The following two lines must be included.
* *** FILE_VERSION must be 1.0.
* *** DESCRIPTION can be anything up to 254 characters
*****
FILE_VERSION(1.0)
DESCRIPTION("Export of Fixture Effect: [Level Control]")

*****
```

\* This section associates channel numbers with channel names.  
 \* Channel names can be arbitrary strings, channel numbers should be sequential  
 \*\*\*\*\*

```
CHANNEL (0, "BOC.Power")
CHANNEL (1, "BOC.Dimmer_Strobe")
CHANNEL (2, "BOC2.RGB.Blue")
CHANNEL (3, "BOC2.RGB.Green")
CHANNEL (4, "BOC2.RGB.Red")
CHANNEL (5, "BOC2.ServoC.Motion")
CHANNEL (6, "BOC2.ServoA.Motion")
```

\*\*\*\*\*

\* This section contains all of the channel data.  
 \* TIME(s) specifies time in seconds and applies to all channel "events" that follow  
 \* Channel events are of the format (channel, level %).  
 \* List must start with "PROFILE\_START" and end with "PROFILE\_END"  
 \*\*\*\*\*

```
PROFILE_START
  TIME (0)
    (0,0)
    (1,0)
    (2,0)
    (3,0)
    (4,0)
    (5,0)
    (6,100)
  TIME (0.0333333)
    (0,0)
    (1,0)
    (2,0)
    (3,0.0820137)
    (4,0)
    (5,0.0527208)
    (6,99.8963)
  TIME (0.0666667)
    (0,0)
    (1,0)
    (2,0)
    (3,0.323193)
    (4,0)
    (5,0.208095)
    (6,99.5909)
  TIME (0.1)
    (0,0)
    (1,0)
    (2,0)
    (3,0.716246)
    (4,0)
    (5,0.46194)
    (6,99.0921)
PROFILE_END
```

## Audio Export

VenueMagic will allow you to export all of the audio in a track, or in an entire timeline, to a single wav file, or to multiple wav files if multi-channel output is used (see [Audio Device Setup](#)).

To export a mix-down of specific audio tracks:

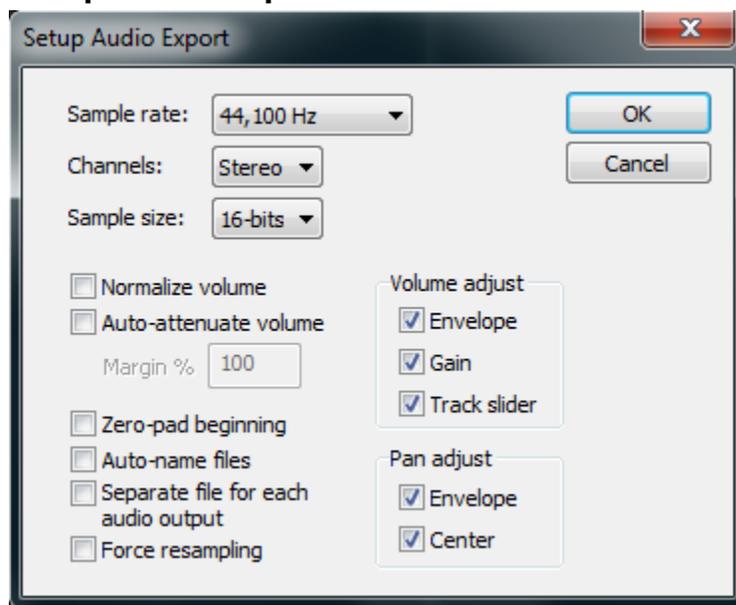
1. Select the desired audio track(s) by clicking on the [Audio Track Panel](#) (hold down **Ctrl** key to select multiple tracks).
2. Right-click one of the selected track panels (do not hold down **Ctrl** key).
3. Select **Mixdown Track Audio...** from the pop-up menu. This will bring up the [Setup Audio Export Window](#).

4. Setup the desired parameters in the Setup Audio Export Window and click OK. Depending on your settings, you will either be prompted for a mix-down file and location, or for a folder where automatically named files will be placed.
5. Mix-down begins after file/folder has been selected.

To export a mix-down of the timeline currently being edited:

1. From the main menu, select **Timeline** → **Mixdown Audio...** to bring up the [Setup Audio Export Window](#).
2. Setup the desired parameters in the Setup Audio Export Window and click OK. Depending on your settings, you will either be prompted for a mix-down file and location, or for a folder where automatically named files will be placed.
3. Mix-down begins after file/folder has been selected.

## Setup Audio Export Window



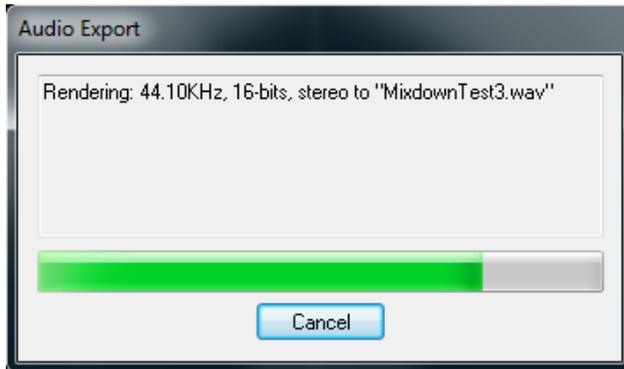
Sets up audio mix-down for tracks or timelines. Settings are as follows:

- Sample rate**      Sample rate for final mix-down(s). Source audio clips that are not at this rate are converted into temporary files. Choose from:
- 22,050 Hz
  - 44,100 Hz (CD quality – adequate for most situations)
  - 48,000 Hz (used for video)
  - 96,000 Hz (extra high quality)
- Channels**      Channel for mix-down file. Select **Stereo** (2-channels) or **Mono** (1-channel). If **Mono** is selected, stereo clip L & R channels are mixed into one channel. If **Stereo** is selected, mono clips are copied into both L & R channels.
- Sample size**      Select mix-down file sample size. Either 8-bit (rarely used), 16-bit or 24-bit.
- Normalize volume**      Checking this box will adjust the overall volume level of the mix-down output so that the peak level is always at 100%. This feature is useful when source clips are too quiet. The normalize function will not prevent audio clipping. Enabling this function will slow down the mix-down process.

- Auto-attenuate volume** Check this box to ensure that audio clipping does not occur during mix-down. If there are peaks that will be clipped, the overall volume of the mix-down is lowered to prevent this.
- In addition, the **Margin %** setting lets you specify what level the top peak of the mix-down will have.
- Note: this function will not repair audio sources that are already clipped due to saturation during recording. It will only ensure that clipping does not occur during the mix-down process.
- Zero-pad beginning** If the first audio clip in a track or timeline does not start at time zero, checking this box will force VenueMagic to pad the mix-down file with silence up until the first clip. That way the resulting audio file will align to the beginning of the timeline.
- If left unchecked, the resulting mix-down will start immediately at the first audio clip, regardless of where it is in the timeline.
- Auto-name files** If checked, output wav file(s) are automatically named based on the name of timeline they came from. If left unchecked, the user will be prompted for the name of the mix-down .wav file before mixing begins. If checked, the user is prompted instead for a folder where the files will be put.
- Separate file for each audio output** When checked, VenueMagic will generate a separate mix-down file for each audio output as defined in the [Audio Device Setup](#) window and setup in the [Audio Track Audio Properties](#) window.
- Auto-name files must also be checked for this to function properly. Before mix-down starts, the user will be prompted to specify a folder where the mix-down file(s) are to be placed.
- Force resampling** VenueMagic does what it can to make sure that sample rates are properly matched by creating temporary files with re-sampled source files. It also tries to maintain temporary files in a way that reduces the need to perform re-sampling of source files more than once (as this takes a lot of time).
- However, there are certain rare situations where a mismatch of the original source and the temporary file can occur—particularly when the user replaces audio files that have been re-sampled previously. Checking this box will force VenueMagic to resample all files that do not have the same sample rate specified in **Sample rate**.
- Volume adjust** This section lets you select what will affect the *volume* in a mix-down. Check the associated box to enable the following:
- **Envelope** – Volume [envelopes](#) affect mix-down.
  - **Gain** – Audio clip volume [gain setting](#) affects mix-down.
  - **Track slider** – [Track slider](#) setting affects mix-down.
- Pan adjust** This section lets you select what will affect the stereo *pan* in a mix-down. Check the associated box to enable the following:
- **Envelope** – Pan [envelopes](#) affect mix-down.
  - **Center** – Audio clip pan [center setting](#) affects mix-down.

Important note: [Audio clip sound effects](#) are NOT applied during mix-down.

## Audio Export Status



Displays status of audio export. Click *Cancel* to cancel export.

## ***Synching VenueMagic Timelines to an External Clock Source***

(Available in DMX+AV and above only. Some features available only in SC+)

VenueMagic can sync a timeline to an external clock source. The following items are synched in a frame-accurate manner:

- All control tracks.
- All event track triggers.
- All audio start and stop times.
- All video start and stop times.

VenueMagic will not scale the playback speed of audio or video files. Only their stop and start times are affected. When an audio or video clip is triggered, it will run at real-time based on the VenueMagic main clock regardless of what the sync source is doing except for the following:

1. If the Hold option is selected in the [Timeline Synching Options](#) window, audio and video playback for the timeline will hold when the external clock source stops or drops out.
2. Random jumps of the sync clock of more than +/- 1-2 seconds will restart audio and video at the new time.

[Lamp chasers](#) that are set to sync to the beat tapper or external control will not be affected by external sync clock.

Synching is setup for individual timelines in the [Timeline Synching Options](#) window. Once setup, you can enable synching from the main menu by selecting *Timeline* → *Enable External Sync*, or by clicking on the  icon on the toolbar at the bottom of the timeline. When synching is enabled, the timeline control panel will change to show additional information specific to the type of sync chosen, as shown below.



Additional syncing information

To start syncing, click the timeline play button.



Play Timeline

You can also assign a synced timeline to a [cue button](#). Syncing starts when the cue button is triggered.

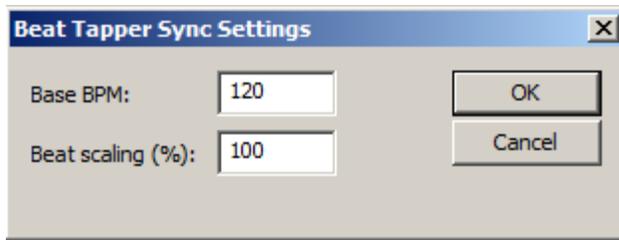
There are no sync settings on the project level. External syncing of Playlists is not currently supported.

VenueMagic timelines are can be synced to the following external sync clock sources:

<b><i>Beat Tapper</i></b>	Sets the speed of timeline playback using the <a href="#">Beat Tapper</a> based on a specified BPM.
<b><i>External Input</i></b>	Setup an external input (slider, etc...) to control the speed of playback.
<b><i>MIDI Clock</i></b>	Sync to another midi device or application using a MIDI Clock signal.
<b><i>MIDI LTC</i></b>	Sync to another midi device or application using the MIDI Linear Time Code signal.
<b><i>SMPTE Over Serial</i></b>	Sync to ASCII-based SMPTE received over a serial port.
<b><i>VMNet Sync</i></b>	Sync to another VenueMagic timeline running as a <a href="#">VMNet Time Code Source</a> on the network.

## Synching to Beat Tapper

This allows syncing to the VenueMagic [beat tapper](#). This is for adjusting the speed of playback only. It will not attempt to match the actual position of beats as in [Lamp Chasers](#).



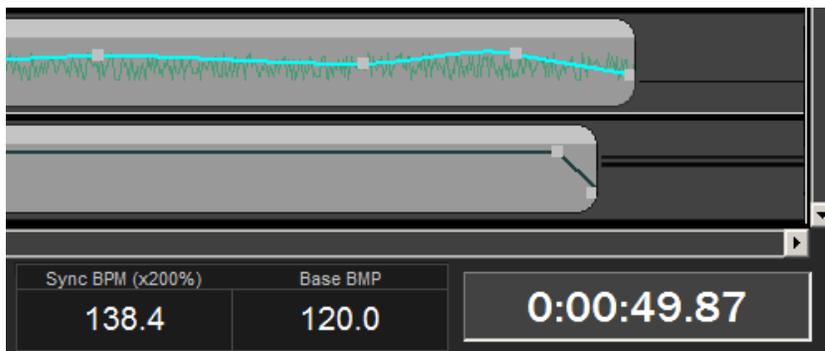
**Base BPM**

The base beats per minute from which playback speed is determined. For example, if this value were set to 120 BPM, when the beat tapper shows 240 BPM, the timeline would be running at twice normal speed.

**Beat scaling (%)**

This is an addition scaling factor that can be applied to timeline playback speed after the beat tapper/base BPM calculation. By default, this is 100%, which has no effect. A value of 50% cuts playback speed—based on the beat tapper and base BPM setting—by on-half.

When sync is enabled, the timeline control panel adds additional syncing information:



**Sync BPM (X%)**

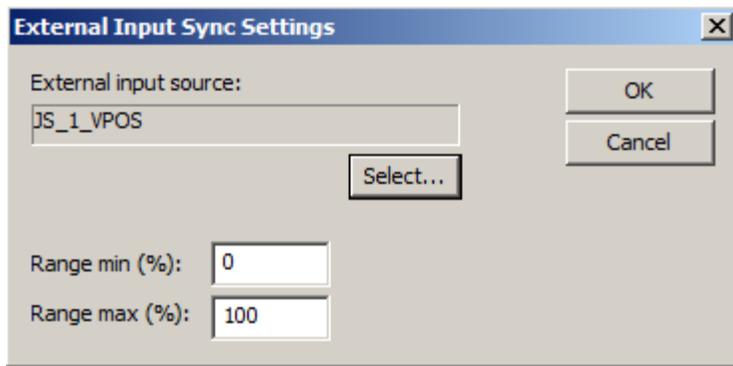
Current value of the beat tapper. X is the value in the Beat scaling (%) field above.

**Base BPM**

The base beats per minute from which playback speed is determined. For example, if this value were set to 120 BPM, when the beat tapper shows 240 BPM, the timeline would be running at twice normal speed.

**Syncing to External Input**

An external input such as a slider control may be used as a playback speed control for a timeline.

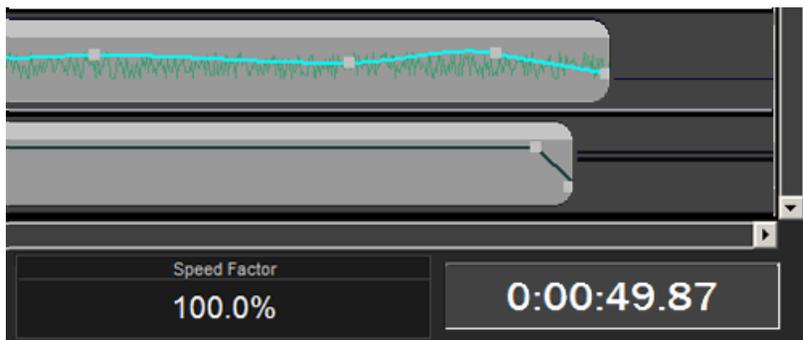


**External input source** Click the *Select...* button and chose an [external input device](#) to control the timeline playback speed.

**Range min (%)**  
**Range max (%)** Since external inputs normally return values ranging from 0-100%, it is necessary to “rescale” that range if we desire to adjust the timeline speed to a value greater than 100%. Use the Range min (%) and Range max (%) settings to do this.

Example: if Range min were set to 50% and Range max to 100%, then the 0% setting on an external input (i.e.: if a slider is set to zero position) would correspond to 50% playback speed, and 100% on the external control would correspond to 200% playback speed.

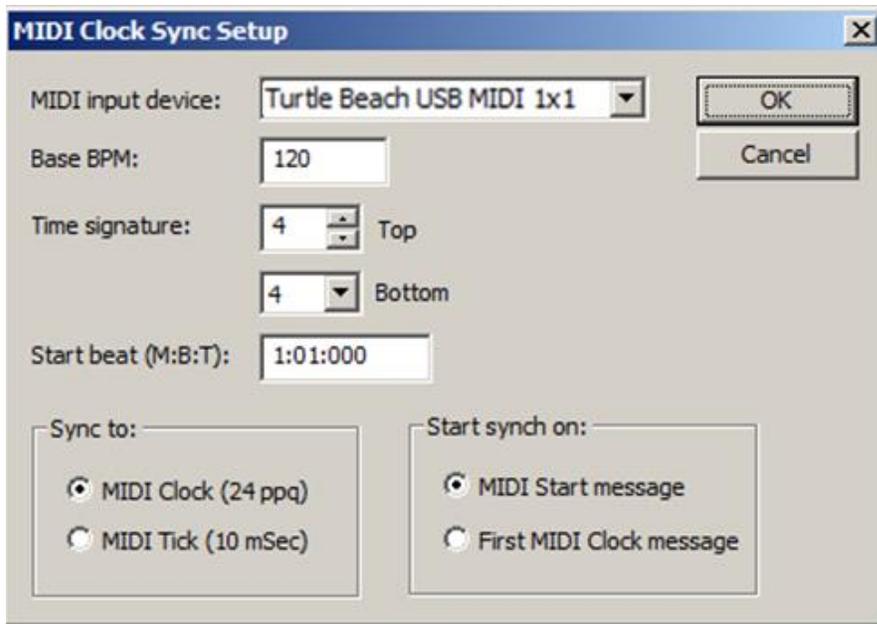
When sync is enabled, the timeline control panel adds additional syncing information:



**Speed Factor** Percentage of real-time speed timeline is currently running at. 100% = normal time.

## Synching to MIDI Clock

You can sync a VenueMagic timeline to a MIDI device or application that can send MIDI Clock messages.



- MIDI input device** Select from currently connected MIDI input devices from which to receive the MIDI Clock message.
- Base BPM** The base beats per minute for the MIDI Clock message. This should match the BPM setting in the MIDI device or application sending the clock. You should also set the Base BPM for the timeline to the same value (see [Timeline Options](#)).
- Time signature (top and bottom)** Enter the time signature associated with the clock. These settings should match the settings in the MIDI device or application sending the clock. You should also set these values for the timeline to the same value (see [Timeline Options](#)).
- Start beat (M:B:T)** Enter the start beat in measures, beats and ticks. When syncing has begun, the timeline will not start until this beat is reached.
- Sync to:** Select the type of clock message to sync to:  
**MIDI Clock:** Midi clock signal which is sent by MIDI device at a rate of 24 pulses-per-quarter note.  
**MIDI Tick:** Syncs to MIDI time tick which is sent by the MIDI device at a rate of 10 milliseconds.
- For most applications, the default setting **MIDI Clock** is used.
- Start sync on:** Select what starts syncing:  
**MIDI Start message:** Most sequencers generate a MIDI Start message before sending Clock messages. This allows slave devices to prepare

for syncing. With this option selected, VenueMagic will wait for a Start message before it begins syncing.

**First MIDI Clock message:** Some software does not send a MIDI *Start* message first, but goes right into sending *Clock* messages. Select this option and VenueMagic will start syncing on the first *Clock* message after the timeline is started.

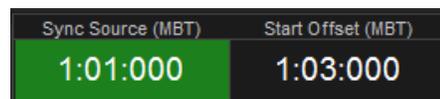
The best way to determine the best option for the sync source you're using, use the [MIDI Monitor](#) to watch what the sync source is doing.

When sync is enabled, the timeline control panel adds additional syncing information:



**Sync Source (MBT)**

Current sync time based on MIDI clock counts. When the timeline play button is pressed, this field will flash green until MIDI clock signals are received, at which time it will remain solid green.



**Start Offset (MBT)**

The start offset entered into the **Start offset (M:B:T)** field above. When the MIDI clock signals are being received, this field will flash green until the Sync Source has reached this value, at which time it will remain solid green.

## How MIDI Clock Syncing Works

There are essentially five MIDI messages sent by your MIDI device or application that the VenueMagic timeline will respond to.

**Song Position**

Commands a start position for playback within the song. VenueMagic will respond by moving the time cursor to the designated time.

**MIDI Start**

Indicates that syncing is to begin at time=0. Immediately followed by a MIDI Clock message

- MIDI Stop**                      Indicates that syncing is to stop. No clock messages are received afterwards until a MIDI Start or MIDI Continue is received.
  
- MIDI Continue**                Sent to start syncing after a Song Position message is sent. Acts the same as MIDI Start, except playback is not reset to time=0. Followed immediately by a MIDI Clock message.
  
- MIDI Clock**                    Sent by controlling device at a rate of 24 pulses per quarter note. VenueMagic uses the BPM and time signature settings to calculate beats, measures and ticks.

As soon as the timeline play button is pressed, the time cursor is set to zero, and VenueMagic waits for either a Song Position or MIDI Start message, at which time it will take the appropriate action as described above.

## Synching to MIDI LTC

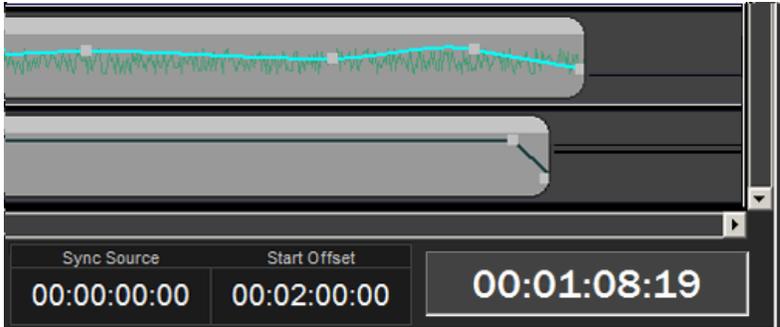
You can sync a VenueMagic timeline to a MIDI device or application that can send MIDI Linear Time code messages.



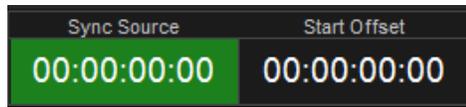
- MIDI input device**            Select from currently connected MIDI input devices from which to receive the MIDI LTC messages.

<b>Start offset</b>	Enter the start offset in hours:minutes:seconds:frames. When syncing has begun, the timeline will not start until this value has been reached.
---------------------	--

When sync is enabled, the timeline control panel adds additional syncing information:



**Sync Source** Current sync time received from MIDI device. When the timeline play button is pressed, this field will flash green until MIDI timecode signals are received, at which time it will remain solid green.



**Start Offset** The start offset entered into the **Start offset** field above. When MIDI LTC messages are being received, this field will flash green until *Sync Source* has reached this value, at which time it will remain solid green.

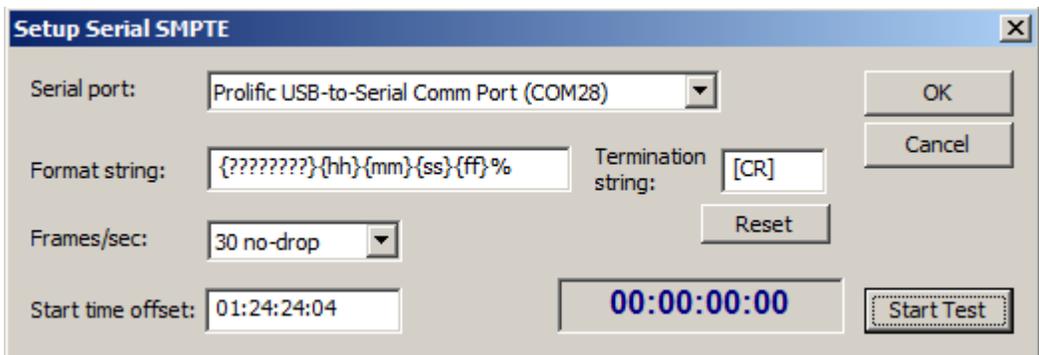
## How MIDI LTC Syncing Works

When the timeline play button is pressed, the timeline starts waiting for MIDI LTC quarter frame or full frame messages, at which time it begins syncing to the time code messages. If the time code suddenly jumps more than 1 second in either direction, the timeline will move to the new time and resume playing.

## Syncing to SMPTE over Serial

(VenueMagic SC+ and above only)

VenueMagic timelines can sync to SMPTE time code received in ASCII format over a serial port from a SMPTE reader. VenueMagic does not decode audio SMPTE stripes.



**Serial port** Select the list of currently available serial communications ports (see [Serial Port Input/Output](#)).

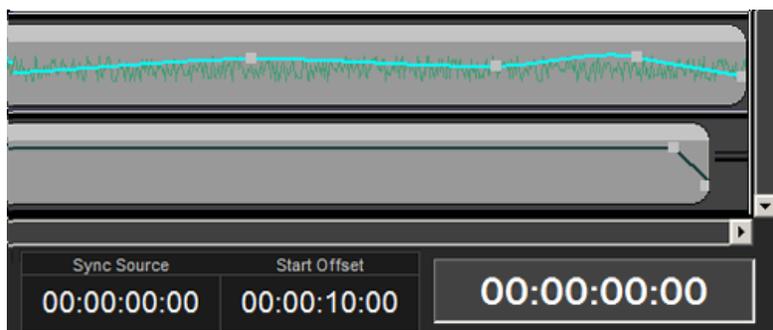
**Format string** Defines the format that VenueMagic expects to receive. Once you have determined the output format of your SMPTE reader, see [Setting Up SMPTE Format Strings](#) to determine what should go in this field. To reset format string and termination string to factory defaults, click *Reset*.

**Termination string** The character(s) VenueMagic should look for to indicate a termination. This information is available in the manual of your SMPTE reader. For information on how to enter control character, see [Serial Event Properties](#) .

**Frames/sec** Select the frame rate mode: 24, 25, 30 and 30-drop. VenueMagic does not automatically detect SMPTE frame rates. You should set the SMPTE fps mode in the [Timeline Options](#) window to the same value

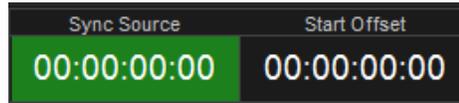
<b>Start offset</b>	Enter the start offset in hours:minutes:seconds:frames. When syncing has begun, the timeline will not start until this value has been reached.
<b>Start Test</b>	<p>Click this button to test SMPTE input. If the SMPTE device is properly connected and sending SMPTE strings, and if the Format string and Termination string have been properly set, the adjacent time display will display SMPTE code as it is received.</p> <p>If VenueMagic encounters a problem decoding the SMPTE string, "ERROR" will appear in this box. This usually means that the format or termination string is incorrect. It could also mean that the serial connection is not clean. Use the <a href="#">Serial Input Monitor</a> to verify that the SMPTE code is being delivered properly.</p>

When sync is enabled, the timeline control panel adds additional syncing information:



**Sync Source** Current sync time received from SMPTE reader. When the timeline play button is pressed, this field

will flash green until time code is received, at which time it will remain solid green.



### **Start Offset**

The start offset entered into the **Start offset** field above. When SMPTE time code is being received, this field will flash green until *Sync Source* has reached this value, at which time it will remain solid green.

## **How Syncing over Serial SMPTE Works**

Since VenueMagic does not decode audio SMPTE stripes, this must be done by an external device (such as an ESE SMPTE time code reader). The decoded data is output via an RS232 port and received by VenueMagic.

Syncing starts when the timeline play button is pressed. If the time code suddenly jumps more than 1 second in either direction, the timeline will move to the new time and resume playing.

## **Setting Up SMPTE Format Strings**

VenueMagic uses a simple syntax to define how SMPTE time code should be interpreted. Note: understanding this section will require a certain degree of technical knowledge with regards to serial communication as well as the time code reader hardware you are using.

Some time code readers transmit the time as a string of ASCII characters (example: "01:22:03:28"). Others return a stream of binary data. Below is a summary of how to handle both cases.

### **Format Strings for ASCII-Based Time Codes**

1. Characters inside curly braces (i.e.: {}) are interpreted as data using the following codes:

<b>H</b>	Indicates an "hours" digit. The string "{HH}" would tell VenueMagic to expect a two-digit decimal value that represents SMPTE hours.
<b>M</b>	Indicates a "minutes" digit. The string "{MM}" would tell VenueMagic to expect a two-digit decimal value that represents SMPTE minutes.
<b>S</b>	Indicates a "seconds" digit. The string "{SS}" would tell VenueMagic to expect a two-digit decimal value that represents SMPTE seconds.
<b>F</b>	Indicates a "frame" digit. The string "{FF}" would tell VenueMagic to expect a two-digit decimal value that represents SMPTE frames.
<b>?</b>	Identifies a character that can be anything. The string "{?????}" specify that these five characters in

the string can be anything, and should be ignored.

2. Characters inside parenthesis (i.e.: ()) indicate that this character can be one of several different characters that should be treated the same. Example: “(;.)” that VenueMagic should expect either a colon (:), semi-colon (;) or period (.).
3. All other characters specify what VenueMagic should expect at that position in the string.
4. Terminate the format string with the percent (%) character.

Example: The string below would tell VenueMagic to expect two *hours* digits, followed by a colon, then two *minutes* digits, a colon, and then two seconds digits followed by either a colon, semi-colon, or period. This is followed by two frame digits.

**{hh} : {mm} : {ss} ( : ; . ) {ff} %**

### **Format Strings for Binary-Based Time Codes**

1. Indicate that this is a binary type by starting the format string with a dollar-sign (“\$”) character, followed by a 2-digit hexadecimal number that specifies how many bytes into the stream the time data starts. Some readers will include a header at the beginning of the stream with a lot of information we don’t need. This hexadecimal number will tell VenueMagic to ignore the header portion and go straight to the number.
2. After the header, it is expected that the bytes that follow will be the hours, minutes, seconds and frame fields. VenueMagic expects that each of these fields will take a single byte. Enter the following characters in the proper order to interpret the stream:

<b>H</b>	Indicates an “hours” byte.
<b>M</b>	Indicates a “minutes” byte.
<b>S</b>	Indicates a “seconds” byte.
<b>F</b>	Indicates a “frames” byte.
<b>X</b>	Represents a byte to be ignored. This is required if time fields are separated by bytes with information other than the time information. Important: This character is also required to fill in the space between the last time byte (usually the “frames byte”) and the end of the entire message.

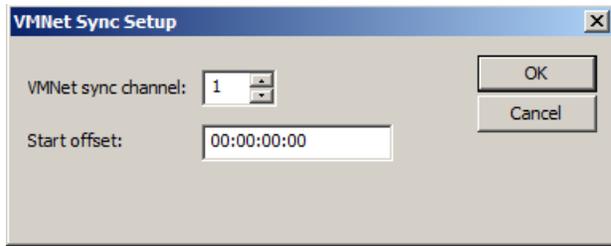
Example: A 20-byte time code message from a reader includes 10 bytes of header, followed 4 bytes of time in the *hours-minutes-seconds-frames* order. The format string would look like this (note the “X” characters at the end to pad the remaining 6 bytes of the message):

**\$10HMSFXXXXXX**

## **VMNet Sync**

A VenueMagic timeline can sync to another VenueMagic timeline running on a different computer connected to the internet. This feature provides unlimited possibilities as one might guess. The timeline to be synched to must first be designated a [VMNet Time Code Source](#) by checking the *Broadcast VMNet sync* box in the [Timeline Synching Options](#) window.

Then setup the timeline to be synched in the *VMNet Sync Setup* window below.



**VMNet Sync Channel** Must be set to the same channel as the source timeline.

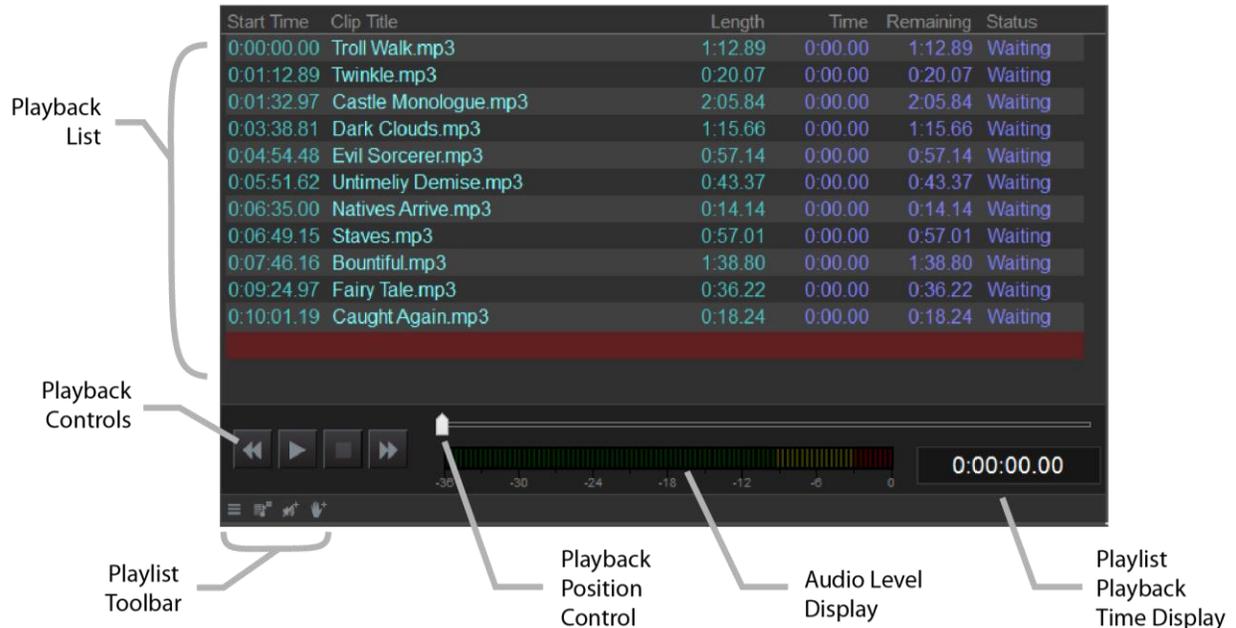
**Start Offset** The start offset entered into the **Start offset** field above.

## Timeline Looping and the External Sync Function

The timeline looping function only works with *Beat Tapper* and *External Input* syncing. Timelines using *MIDI Clock*, *MIDI LTC*, or *SMPTE over Serial* external sync methods cannot be run in looping mode.

# Playlists

Playlists let you create lists of timelines and audio files for sequential playback.



## Playback List

Drag [timelines](#) and audio files from their respective folders in the [Project Window](#) into the *Playback List*. Drag Playlist items within the list to change their playback order. Items may be reorganized during Playback if their status column reads “Waiting” (see **Status** below). The Playback List includes the following columns:

- Start time** The starting time for the playback of this item, relative to the start of the Playlist. This value is automatically set to provide sequential playback of all items in the list. It is calculated based on the length of the clips and any overlap you may specify (see [Playlist Clip Playback Properties](#)).
- Clip title** The name of the clip. By default, this is the name of the timeline or audio file. You may change the displayed name in the [Playlist Clip General Properties](#) window.
- Length** Length of the clip. This value is takes into consideration the actual length of the song and any time removed from the beginning and/or ending of it (see [Playlist Clip Playback Properties](#)).

Note: If the clip item is a timeline that has been edited since this Playlist was last loaded, then, after saving the timeline file, reload the Playlist by right-clicking on the Playlist in the [Open Files List](#) and select *Reload file*.

<b>Time</b>	Current playback time relative to the start of the clip.
<b>Time remaining</b>	Current time remaining in the playback of this clip.
<b>Status</b>	The current playback status of the clip. Can be one of the following: <ul style="list-style-type: none"> <li>• <b>Waiting:</b> Item is waiting to be played.</li> <li>• <b>Fading in...:</b> Item is fading in.</li> <li>• <b>Fading out...:</b> Item is fading out.</li> <li>• <b>Playing:</b> Item playing.</li> <li>• <b>Paused:</b> Item has been paused.</li> <li>• <b>Next up:</b> Item is next in line to be played.</li> <li>• <b>Done:</b> Item has completed playing.</li> </ul>

## Playback Controls



Play/pause timeline from current playback position.

Hot key: SPACEBAR



Stop playback and reset playback position to the beginning of the playlist.



Move to the beginning of the currently playing item. If playback is less than 2 seconds into the song, moves to the beginning of the previous item.



Move to the beginning of the next item.



When “checked” (indicated by yellow border) all timeline pages are played during playback. If “unchecked” only the currently selected page is played. (See [Timeline Pages](#))

## Playlist Toolbar



Show [Playlist Options](#) dialog window.



Show [Clip Properties](#) dialog window.



Insert a [Silence Block](#) into the Playback list



Insert a [Wait Block](#) into the Playback list.

## ***Playback Position Control***

Drag this slider to position playback of currently playing clip.

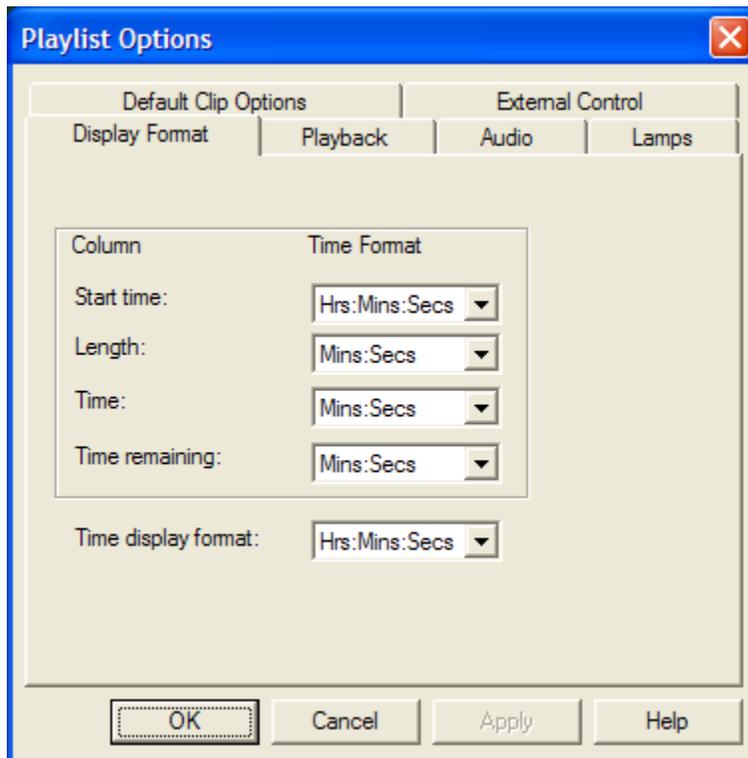
## ***Playlist Playback Time Display***

Displays the current playback position of the Playlist.

## ***Playlist Audio Level Display***

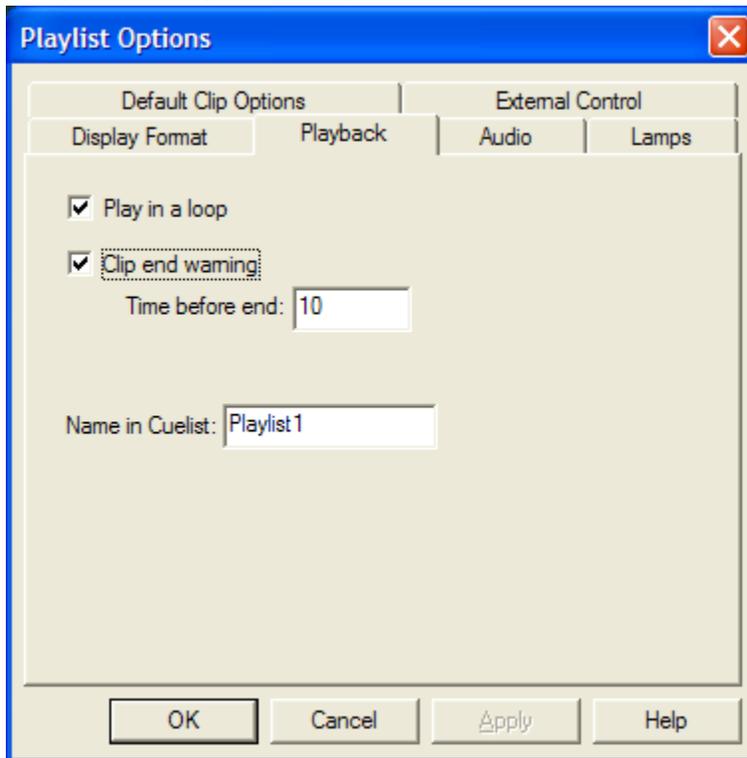
Graphically shows the audio levels of the playlist during playback.

## ***Playlist Display Format Options***



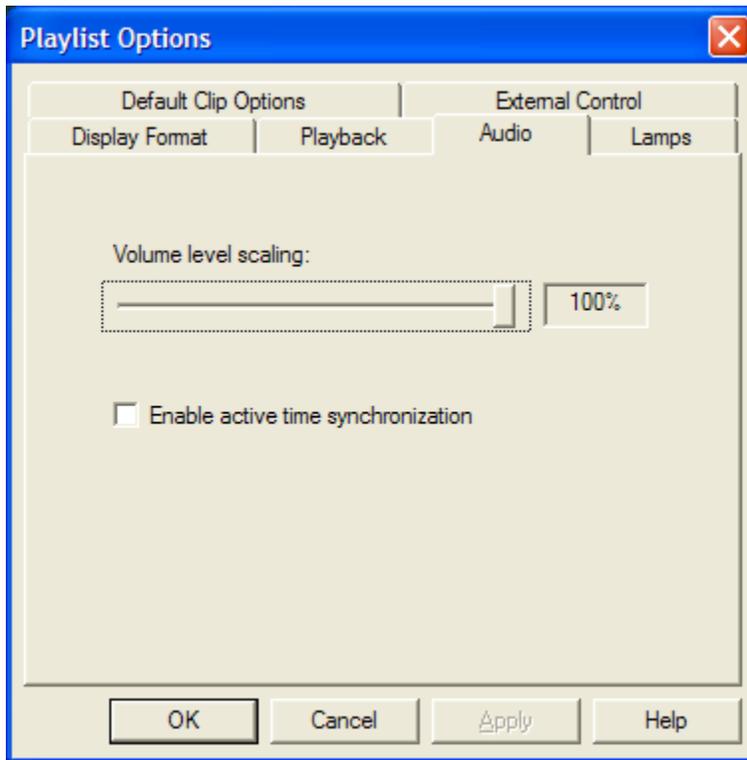
Select the time display format for each column in the playlist. The Time display format box selects the display format for the [Playlist Playback Time Display](#).

## Playlist Playback Options



- |                         |  |
|-------------------------|--|
| <b>Play in a loop</b>   | Play entire playlist in a loop.  |
| <b>Clip end warning</b> | Check this box to make a clip flash yellow as it approaches the end of its playback time.                                    |
| <b>Time before end:</b> | Enter how many seconds before the end of playback the clip should start flashing yellow.                                     |
| <b>Name in Cuelist:</b> | Enter the name that will appear in the <i>Cue</i> column of the <a href="#">Cue List</a> while the Playlist is being played. |

## Playlist Audio Options



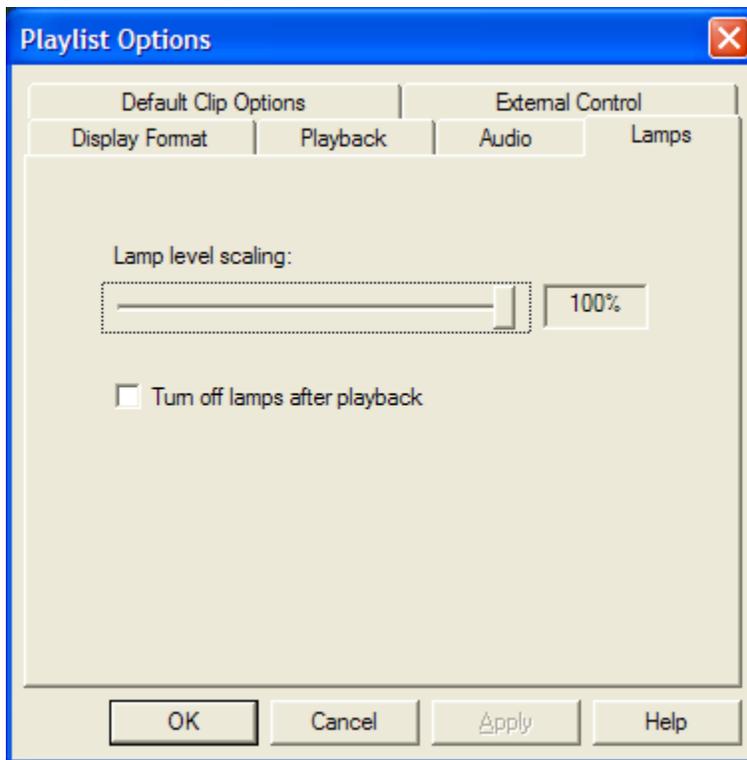
**Volume level scaling**

Move the slider to set the main volume level for the playlist (0% - 100%).

**Enable active time synchronization**

When enabled (default) VenueMagic will actively adjust the playback speed of currently playing audio clips to make sure that the audio stays in sync with master playlist clock. This can, in rare situations, cause an undesirable “warbling” effect in the audio output. If this is the case for a given timeline, then uncheck this box. However, by doing so, you run the risk of fixture effects getting slightly out of sync with the audio (usually less than a second). If lamp synchronization is not an important issue, then disable this feature.

**Playlist Lamp Options**



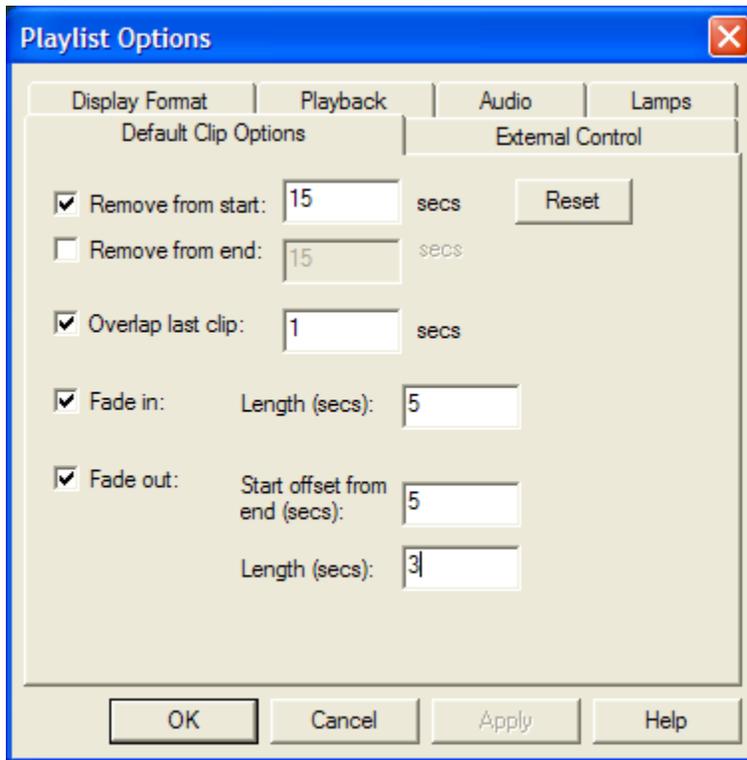
**Lamp level scaling**

Set the lamp brightness level scaling for the playlist (0% - 100%).

**Turn off lamps after playback**

When checked, all playlist lamps are set to level zero at the end of playback. Unchecked, lamps remain at last level when playback ends. Note: only Dimmer and RGB channels are affected by this feature. All other channel types will remain unchanged (see [Fixture Channel Types](#)).

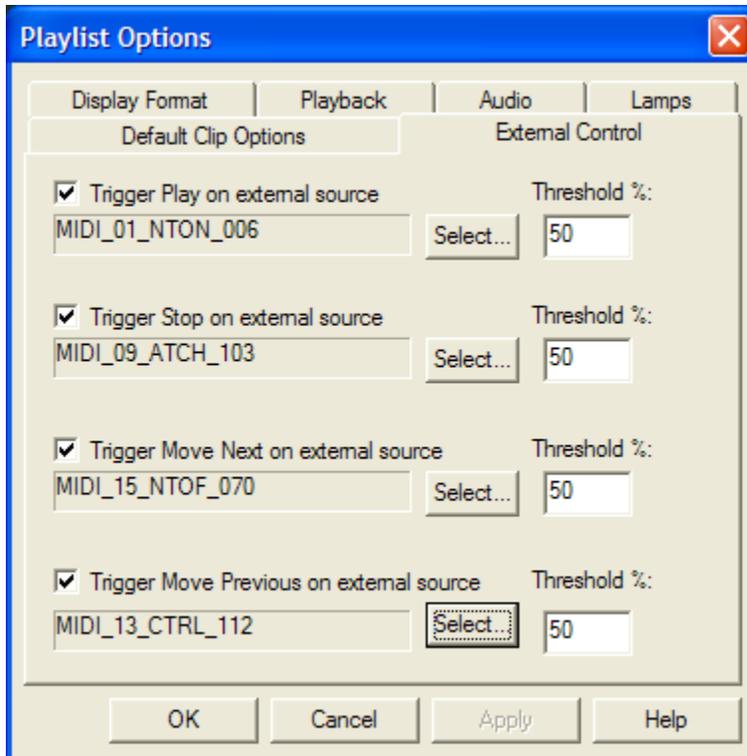
## Playlist Default Clip Properties



This window sets up the defaults for the properties that come up in a new clip in the *Playlist Clip Playback Properties* window (see [Playlist Clip Playback Properties](#) for an explanation of field items). Click Reset to restore these settings to their original values.

## Playlist External Control Options

This dialog window lets you configure a Playlist's [playback controls](#) to be controlled externally (i.e. MIDI device or [VCS](#)).



**Trigger Play on external source**

Check this box to enable external control of the Playlist's *Play* button. Click on the adjacent *Select...* button and choose an input source in the [Select External Control](#) window. Since external controls input percentage values, enter the level the external input will have to send in order to trigger the button into the Threshold field. See [Understanding Threshold Values](#).

**Trigger Stop on external source**

Identical in operation to the *Trigger Play on external source* function.

**Trigger Move Next on external source**

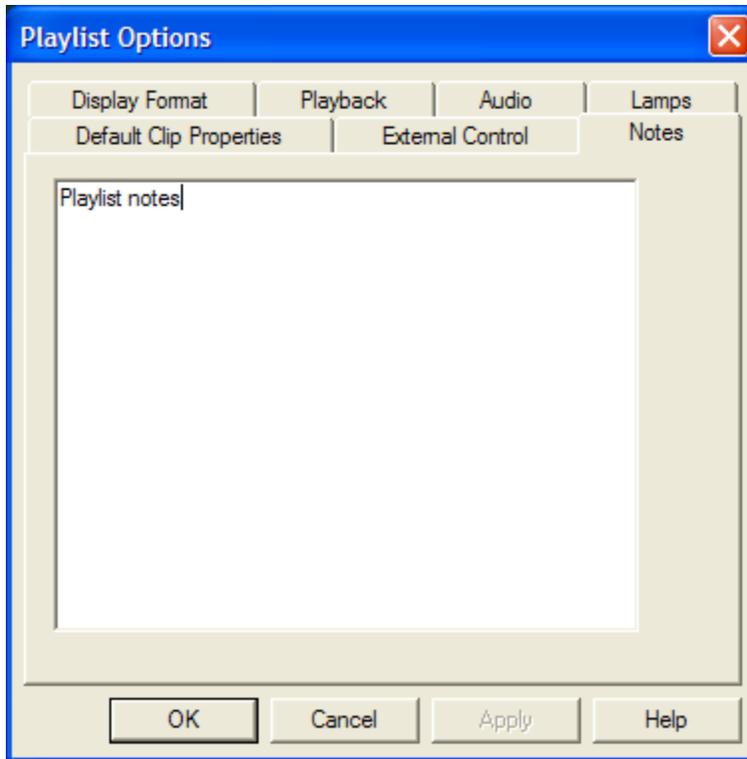
Identical in operation to the *Trigger Play on external source* function.

**Trigger Move Previous on external source**

Identical in operation to the *Trigger Play on external source* function.

***Playlist Notes***

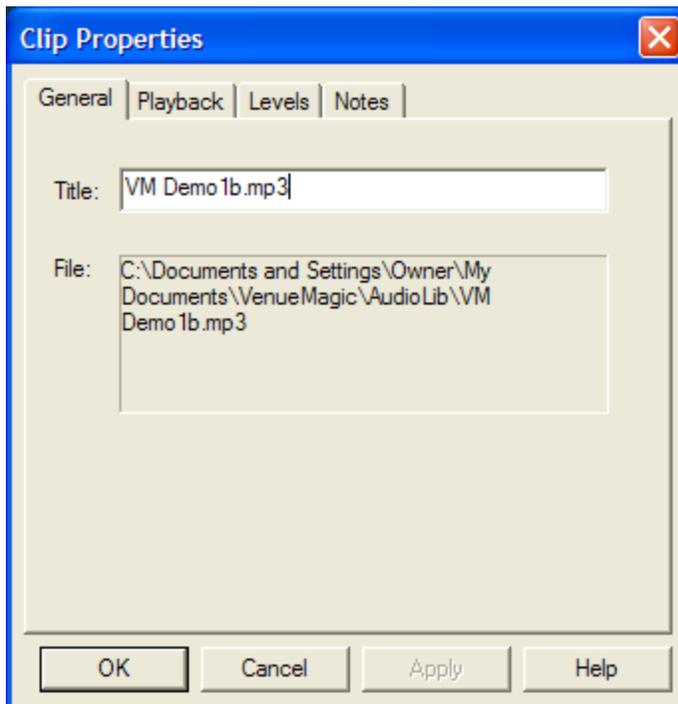
Enter notes about Playlist.



## ***Playlist Clips***

Double-click on a clip item in the [Playback List](#) to bring up the *Clip Properties* window.

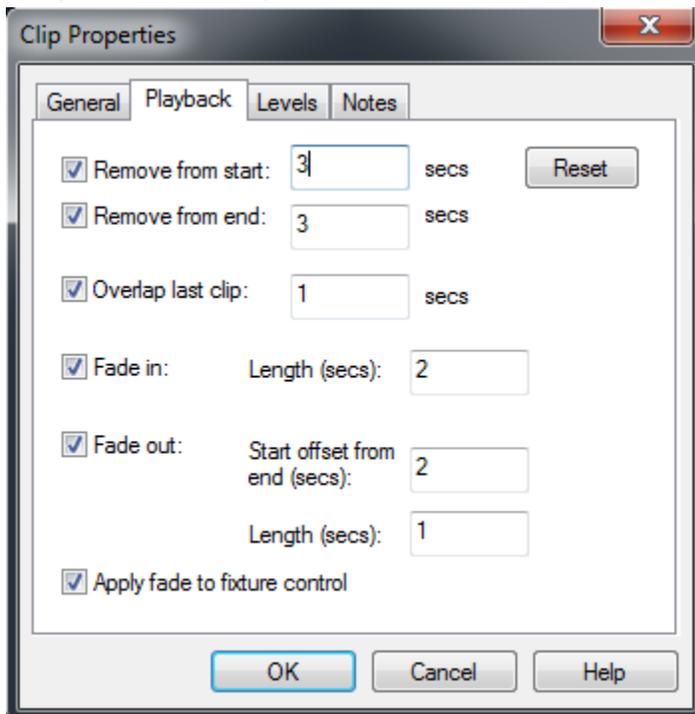
## **Playlist Clip General Properties**



**Title:** The title of the clip as it appears in the [Playback List](#). Changing this does not change the name of the file.

**File:** The directory path and filename of the actual clip file.

## Playlist Clip Playback Properties



**Remove from start:** Check this box to remove a section from the beginning of the clip and enter how many seconds to remove.

**Remove from end:** Check this box to remove a section from the end of the clip and enter how many seconds to remove.

**Overlap last clips:** Check this box to start playback of this clip while the previous clip is still playing. Enter the desired number of seconds of overlap. If this is the first clip, or if the previous item was a *Silence Block* or a *Wait Block*, then this box will be disabled.

**Fade in:** Check to fade in the clip audio when playback starts. Then enter how many seconds of fade in into the *Length* field. Overlap this with a fade out of the previous clip to create a cross-fade effect between clips.

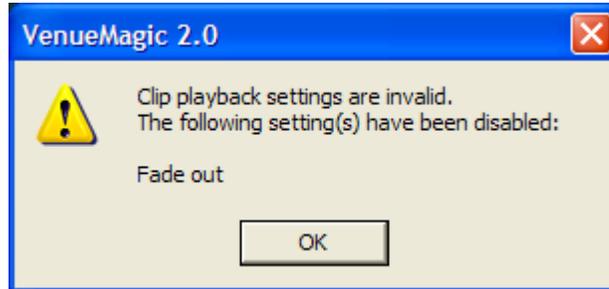
**Fade out:** Check to fade out the clip audio at the end of playback. Then fill in the fields:

- **Start offset from end:** How many seconds from the end of the clip will fade out begin.
- **Length:** The length of the fade out in seconds.

**Apply fade to fixture control**

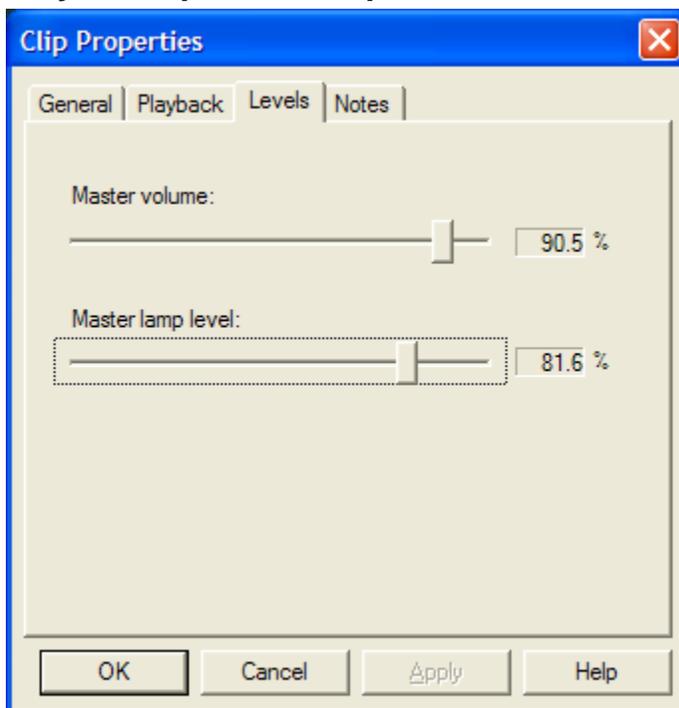
Check this box to apply the audio fade parameters to lighting control.

**Note:** It is possible to enter values in these fields that will contradict each other. An example of this is when the *Start offset from end* value is less than the fade out *Length* value. If contradicting values are entered, VenueMagic will detect it and alert you with the message:



It is the user's responsibility to correct the values and re-enable the disabled setting(s).

**Playlist Clip Level Properties**

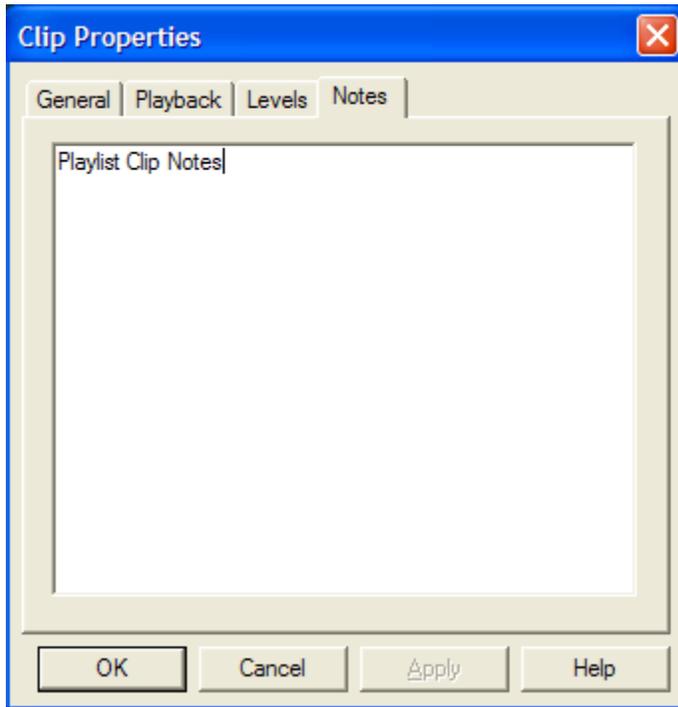


**Master volume:** Sets the master volume of the clip's audio. Use this to normalize the volume across the clips in the playlist.

**Master lamp level:** Sets the master lamp level of the clip.

## Playlist Clip Level Properties

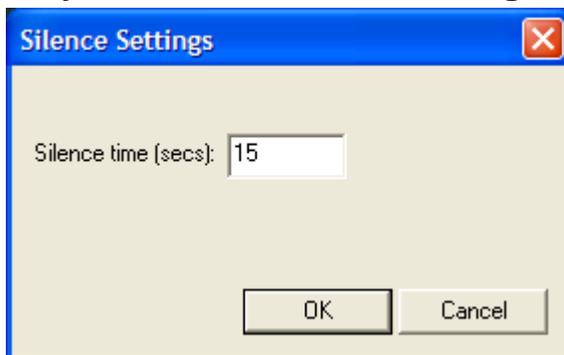
Insert notes about Playlist Clip.



## Playlist Silence Block

A *Silence Block* adds a period of silence in a playlist. Add a *Silence Block* by clicking on the [toolbar](#) button. 

## Playlist Silence Block Settings



**Silence time (secs):** Enter how many seconds of silence is desired.

## Playlist Wait Block

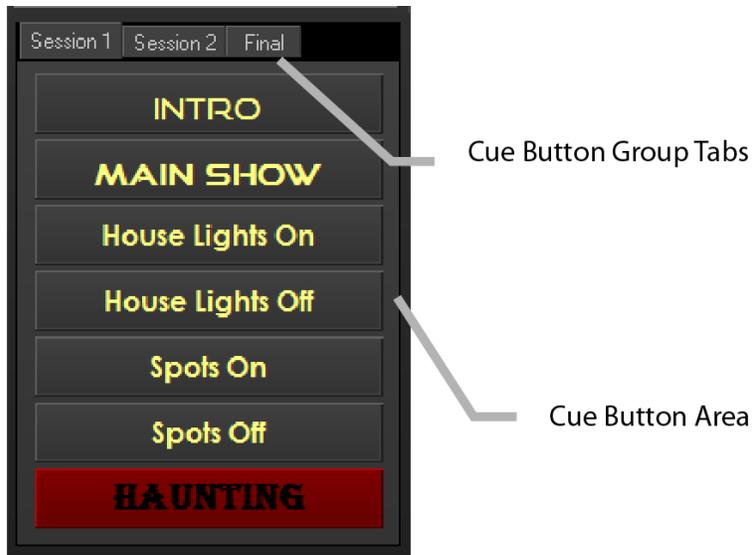
A *Wait Block* pauses playback and waits for the  button to be clicked to resume. Add a *Wait Block* by clicking on the  [toolbar](#) button.



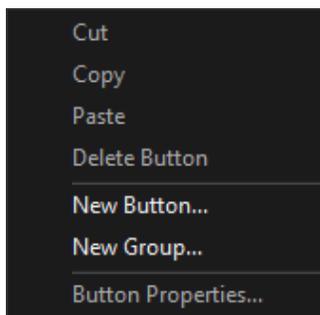


### ***Programmable Cue Button Pane***

Cue buttons can be programmed to execute a timeline, playlist or audio file by adding it to the Cue List. Once a button has been programmed, just click on it to run the specified file.



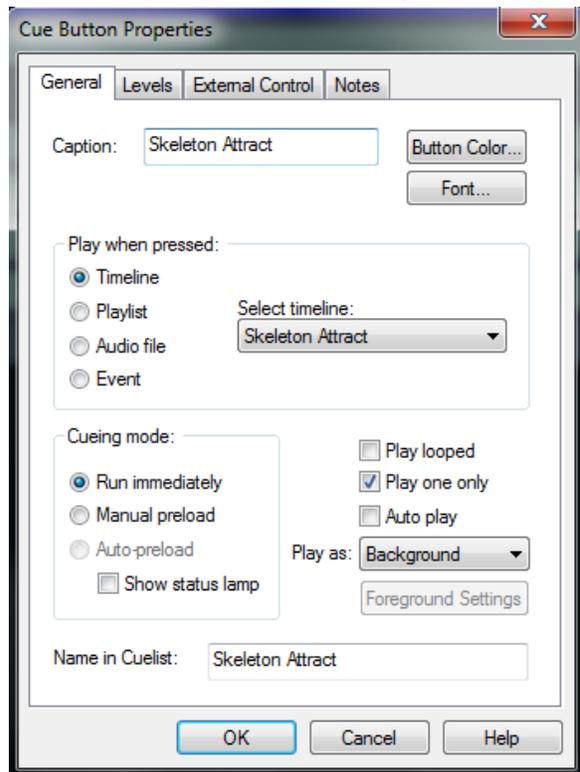
Right-click anywhere in the Cue Button Area to bring up a menu of options:



- Cut**                 Delete selected button and place a copy of it into the copy buffer.
- Copy**                Place a copy of the button into the copy buffer.
- Paste**               Paste the button in the copy buffer, inserting it before the selected button.
- Delete Button**     Delete selected button without first copying it into the copy buffer.
- New Button...**    Add a new cue button to the current cue button [group](#).
- New Group...**    Add a new cue button group. *Note: VenueMagic Express only allows one group.*
- Button Properties...**   Bring up the *Cue Button Properties* window.

You may also click and drag a button to move its position within a group.

## Cue Button General Properties



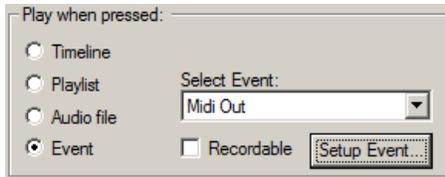
**Caption:** Enter the caption displayed on button. Place an ampersand ('&') character in front of any character in the caption to make the corresponding key on the keyboard trigger the cue. For instance, enter "&EnvTest1" for the caption, and you will be able to trigger the cue by pressing the letter 'E' on your keyboard. Case is ignored.

**Button Color...** Sets the color of the button face.

**Font...** Sets the font style and color for the caption.

**Play when pressed:** Select the type and file that is run in the cue list when the button is pressed. Select from the following:

- **Timeline:** Select a [timeline](#) to run. Selections are limited to the timelines in the *Timeline* folder in the [Project Window](#).
- **Playlist:** Select a [playlist](#) to run. Selections are limited to the timelines in the *Playlist* folder in the Project Window.
- **Audio File:** Selecting this option will provide a *Browse* button that will bring up a file window. You may select any Wave (.wav), MP3 (.mp3), Windows Media (.wma) or MIDI (.mid) audio file. The selected file need not be included in the Audio folder of the Project Window.
- **Event:** Select an event from the list and click *Setup Event...*



Listed are the same events that you can add to a timeline event track (see [Event Tracks](#)). Check *Recordable* if you would like this event to be recordable on the selected event track during playback. (see [Real-time Recording of Events](#)).

**Cueing mode:**

Select the type of cueing preload you would like:

- **Run immediately:** Cue runs immediately.
- **Manual preload:** Enables manual preloading of cues.
- **Auto-preload:** Cue is automatically preloaded (*currently unavailable*).

(see [Preloading Cues](#))

**Show status lamp**

Check this box to show the preload cue status lamp beside the cue button. This should usually be enabled only when *Manual preload* is selected as the cueing mode. It can also be enabled when *Run immediately* is selected for consistency in button appearance if desired. However, in this mode, the button really serves no purpose (except for looks) and will remain dark. (see [Preloading Cues](#))

**Play looped**

Check this box to make the selected file play in a loop.

**Play one only**

With this box checked, only one instance of this cue can run in the cue list. If this cue is already running in the cue list, attempts to cue another instance will be ignored.

**Auto play**

Check this box to make the selected file Automatically start playing when the project is loaded.

**Play as:**

Select how you wish this cue to be played. Your choices are essentially *background* or *foreground*. A *background* cue plays uninterrupted until it ends or is stopped by the user or an event. You can simultaneously play as many background cues as you like. A *foreground* cue plays until another foreground cue with the same number interrupts it and takes its place. There are 20 foreground cues available, numbered 1 through 20. A foreground cue will only interrupt another foreground cue with the same number. An additional foreground cue called *Foreground All* will interrupt any foreground cue, regardless of its number. *Foreground All* cues can also be interrupted by any other foreground cue.

Background cues do not affect foreground cues and vice versa.

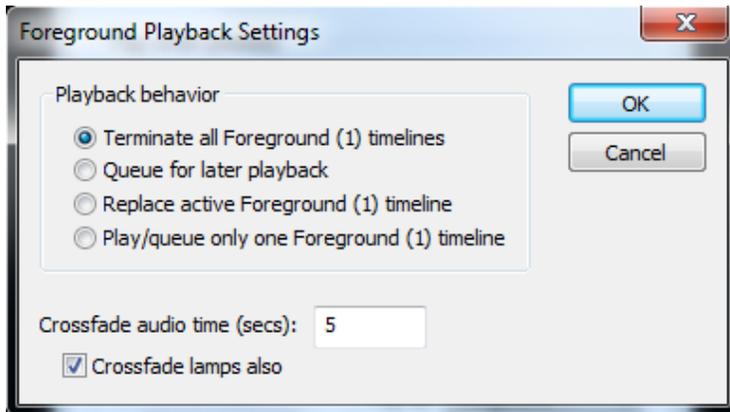
**Foreground Settings**

If a Foreground level is selected in the **Play as** option, click this button to open the [Foreground Playback Settings](#) window, which lets you specify the behavior of the foreground timeline playback.



**Name in Cue list** This is what will be displayed in the *Cue* column when the file is run in the [Cue List](#). This will override the Name in Cue list settings in the [Timeline Playback Options](#) and [Playlist Playback Options](#) windows.

## Foreground Playback Settings



The Foreground Playback Settings window lets you specify how starting a new foreground timeline affects other timelines currently playing on the same foreground level. The options are as follows:

### **1. Terminate all Foreground (level) timelines**

The new foreground timeline plays immediately. If a timeline is currently playing on the same foreground level, it is terminated. Any queued timelines of the same level are removed from the queue.

### **2. Queue for later playback**

If there is currently a timeline playing on the same foreground level, the new timeline is placed on a queue and will start playing as soon as the currently playing timeline (on the same foreground level) ends or is terminated. If there are already other timelines on the same foreground level waiting in the queue, newly added timelines (again, on the same foreground level) are played in the order they were added to the queue. If there are no queued timelines with the same foreground level, the new timeline is played immediately.

### **3. Replace active Foreground (level) timeline**

Functions the same as *Terminate all Foreground (level) timelines*, but queued timelines on the same level are *not* removed from the queue. In other words, the new timeline replaces the currently running timeline, but the queue is left untouched.

### **4. Play/queue only one Foreground (level) timeline**

If another timeline on the same foreground level is either queued or running currently, the new timeline is neither run nor queued.

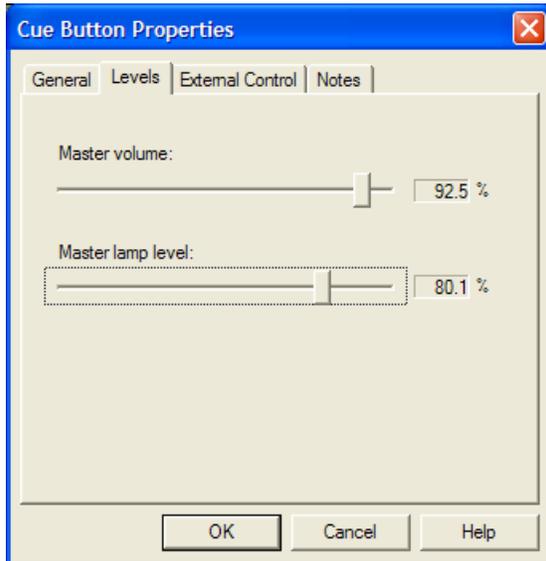
## **Applying Audio and Lamp Transitions**

Rather than immediately terminate and play foreground timelines (as described above) you can specify a “transition time” that will cross-fade the audio and lamp level from one timeline to the next. For options 1 and 3, this will cause the cross-fade to start immediately and will last the specified number of seconds. For option 2, the next queued timeline will start cross-fading the specified number of seconds before the end of the currently playing timeline.

The settings are:

<b>Crossfade audio time (secs)</b>	Specifies the number of seconds of audio cross-fade, or zero if no cross fade is desired. Time can include a decimal (i.e.: 2.0, 2.5, etc...).
<b>Crossfade lamps also</b>	Check this box if lamp levels are also to transition over this period of time.

## Cue Button Level Properties

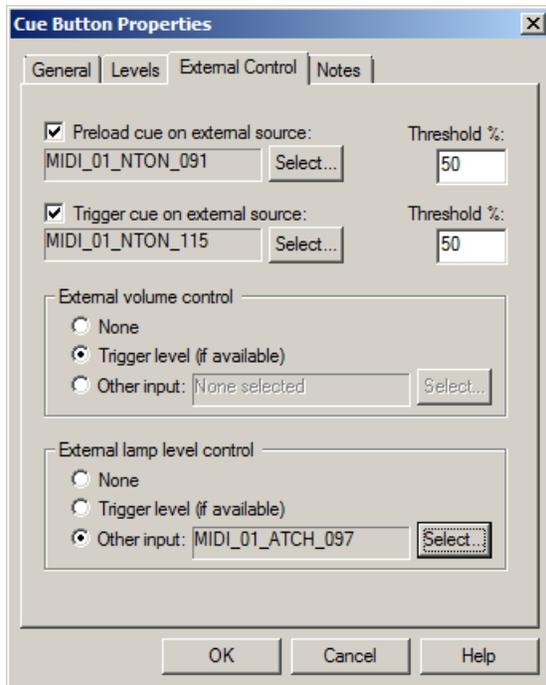


**Master volume:** Sets the master volume of the cue's audio.

**Master lamp level:** Sets the master lamp level of the cue.

## Cue Button External Control Properties

Cue Buttons can be activated and controlled externally by MIDI or by [VCS](#).



**Preload cue on external source:**

Check this box if you would like the cue associated with this button to be preloaded from an external source, and then click on Select... to bring up the [Select External Control](#) window. Available only when cueing mode is set to Manual preload in the [Cue Button General Properties](#) window. (See also: [Preloading Cues](#))

Since external controls input percentage values, enter the level the external input will have to send in order to trigger the button into the *Threshold* field. See [Understanding Threshold Values](#).

**Trigger cue on external source:**

Check this box if you would like this cue button to be activated from an external source, then click on Select... to bring up the [Select External Control](#) window.

Since external controls input percentage values, enter into the *Threshold* field the level the external input will have to send in order to trigger the button. See [Understanding Threshold Values](#).

**External volume control**

VenueMagic can snapshot any input value and use it to set the master volume for the cue. Select from:

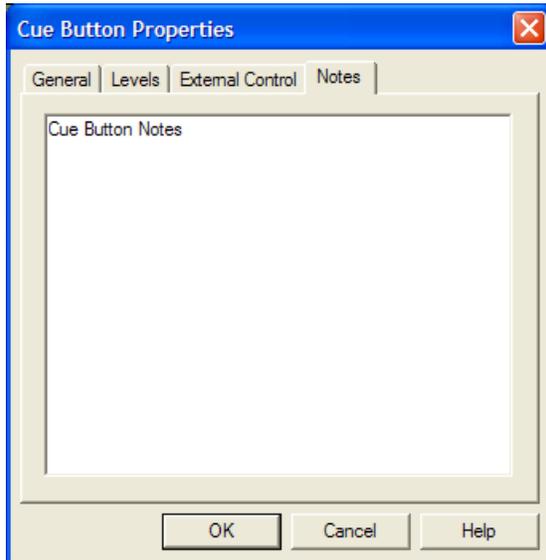
- **None:** Do not control master volume externally.
- **Trigger level:** If the trigger source is a MIDI Note on message, the volume level will be taken from the note velocity data. Otherwise, it will be taken from the value that caused the trigger.
- **Other input:** Click the Select button to bring up the Select External Control window and select a source to be snapshot at the moment the trigger is received.

**External lamp level control**

Identical in function to the *External volume control* but affects the master lamp level of the cue.

## Cue Button Notes

Enter notes about Cue Button.



## Cue Button Groups

*(Only Available for VenueMagic Classic and above)*

You can setup an unlimited number of Cue Button Groups, each with up to 16 buttons. Cue Button Groups appear as tabs above the [Cue Button Area](#). Select the tab to show the group.

Right-click on a group tab to bring up a menu of options:



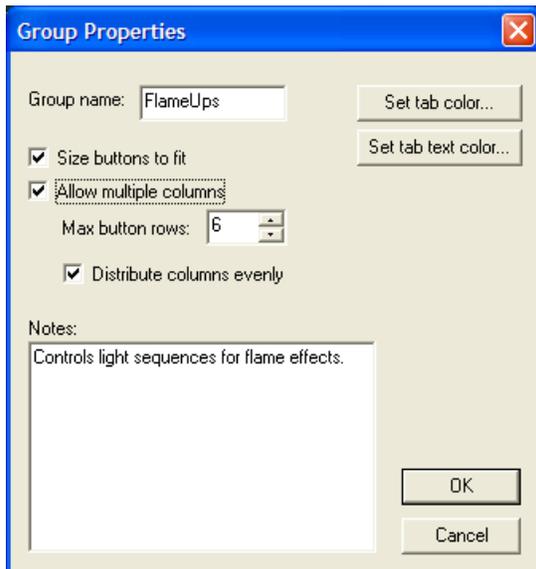
**Paste Button** If you have copied a button into the Copy buffer, this option will add that button to the selected group.

**New Group** Add a new cue button group.

**Delete Group** Delete the selected cue button group.

**Group Properties...** Bring up the Group Properties dialog window for the selected group.

## Cue Button Group Properties



**Group name:** Enter the group name that will appear in the *Cue Button Group* tab.

**Set tab color...** Sets the color of the *Cue Button Group* tab. Also sets the color of the [cue button area](#) background.

**Set tab text color...** Sets the color of the *Cue Button Group* tab text.

**Size buttons to fit** Check this box to make the cue buttons scale themselves to fill the entire length of the cue button area.  
Examples:

Checked:



Unchecked:



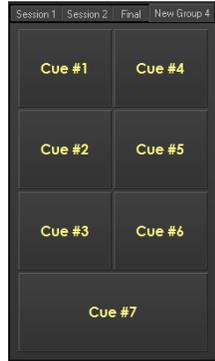
**Allow multiple columns:** Check this box to allow for multiple cue button columns.  
Example:



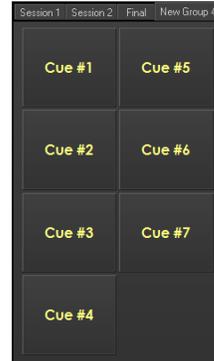
**Max button rows:** Specifies the maximum number of button rows permitted in the cue button area before the rows are split into columns.

**Distribute columns evenly** Check this box to make sure that buttons get distributed evenly. This may require the last button to be wider than the others.  
Examples:

Checked:



Unchecked:



**Notes:** Insert notes about the group.

## ***Preloading Cues***

By default, when a cue is triggered (either by clicking the cue button or by an external control message), VenueMagic follows this order of operation:

1. Load cue
2. Initialize cue
3. Execute cue

For audio and small timelines/playlists, this whole process usually happens so fast that a delay is barely noticeable. However, for larger timelines and playlists, the process of loading and initialization can sometimes take several seconds.

To totally eliminate this delay, VenueMagic will allow you to “preload” a cue so that it runs immediately when the cue button is clicked (or an external control message is received).

To setup a cue for pre-loading, select the *Manual preload* option for the cueing mode in the [Cue Button General Properties](#) window.



When in *Manual preload* mode, an indicator lamp appears beside the cue button. If the lamp is red, the cue has not yet been preloaded. If it is green, then the cue is preloaded and will begin immediately the next time the cue is triggered.

### **Preloading & Execution**

When the lamp is red, you can initiate preloading by clicking on the cue button. As soon as it turns green, it is ready to be executed. Click the button again to execute the preloaded cue.

In summary, VenueMagic follows this order of events when the cue button is clicked while in *Manual preload* mode:

If lamp is **red**:

1. Load cue
2. Initialize cue
3. Turn lamp **green**.

If lamp is **green**:

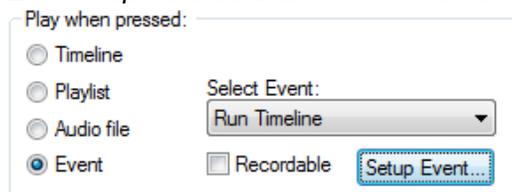
1. Execute cue
2. Turn lamp back to **red**.

## **Exporting Cue Button Events to ShowNodes Event Tables**

(SC+ and above only)

If a cue button is setup to run an event that is available to [ShowNodes](#) (also see [Event ShowNodes Window](#)), that event can be exported to a ShowNodes event table by following these steps:

1. Setup the cue button to execute an event in the **Play when pressed** option of [Cue Button General Properties](#) window), select an event and click **Setup Event** to open the *Event Properties* window for the selected event.



2. Setup the event as required.
3. If the event is ShowNodes compatible, the [ShowNodes tab](#) will be available. Click on this tab. Check the **Assign to ShowNodes device** box and select a parent node. Then close the *Event Properties* window.

Event VMNet Conditions ShowNodes Notes

Assign to ShowNodes device: SN\_00016

Target ShowNodes device: SN\_00016

4. In the [External Control tab](#) of the Cue Buttons property window, setup the cue to be triggered by an external input.

Trigger cue on external source: VMDN\_SN\_34270286\_Digit Select...

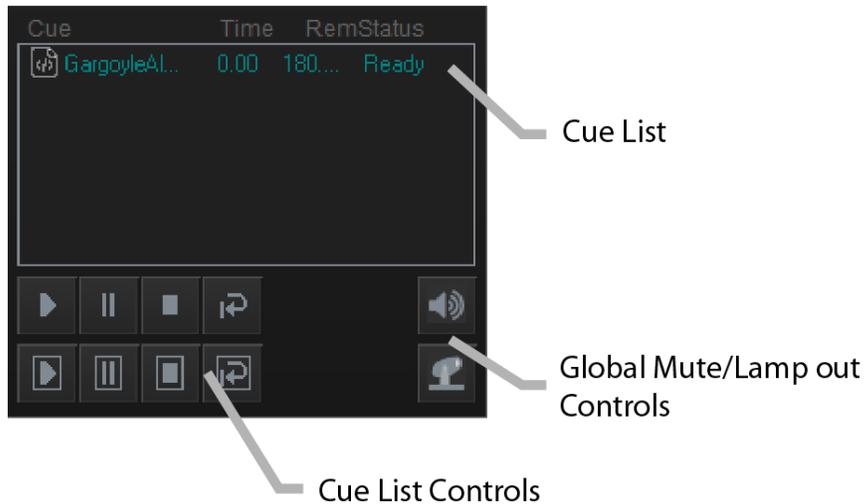
Threshold %: 50

The selected input *must* come from a ShowNodes device.

At [Build & Upload](#) time, cue button events setup as described above will be converted into event table events and exported to the selected parent node. In summary, the event that is setup in steps 1 and 2 is exported to the event table of the node specified in step 3. The event is triggered by the condition setup in step 4.

## Cue List Pane

Includes the Cue List and Cue List controls.



## Cue List

The *Cue List* displays all [timeline](#), [playlist](#) and audio cues currently playing. Cues are added to the list in the following ways:

- Clicking on a [Cue Button](#).
- Sending an [event](#) from a timeline.
- Dragging a timeline, playlist or audio file from the [Project Window](#) into the Cue List.

Cues added to the *Cue List* begin playing immediately and are removed from the list when playback is complete, unless the cue is in loop mode in which case it will repeat playback until removed from the cue manually (or by event).

The Cue List contains the following columns:

- |               |  |
|---------------|--|
| <b>Cue</b>    | The name of the cue. This is the name specified in the <i>Name in Cue list</i> setting found in <a href="#">timeline</a> , <a href="#">playlist</a> , event (timeline, and audio files), and <a href="#">cue button</a> settings windows.  |
| <b>Time</b>   | Current playback time for the cue, in seconds.   |
| <b>Rem</b>    | Current playback time remaining for the cue, in seconds.   |
| <b>Status</b> | Current playback status for cue. Can be one of the following: <ul style="list-style-type: none"><li>• <b>Play</b>: Cue is playing normally.</li><li>• <b>Sync</b>: Cue is playing, synched to an external time source. (see <a href="#">Synching VenueMagic Timelines to an External Clock Source</a>).</li><li>• <b>Paused</b>: Cue is currently paused.</li><li>• <b>Loop</b>: Cue is playing in a loop and will restart when its playback has finished.</li><li>• <b>Ready</b>: Foreground cue has been queued and is</li></ul> |

awaiting playback (see [Foreground Playback Settings](#))

The “Play”, “Sync”, “Loop” and “Ready” status strings will also include one of the following suffixes:

- **(BG)**: Cue is playing as foreground.
- **(Fn)**: Cue is playing as foreground *n* (where *n* is replaced by the foreground level number).
- **(FA)**: Cue is playing as a foreground at the “all foreground” level.

You can select which columns are displayed and in what format using the [Cue List Column Settings](#) window.

## Cue List Controls

The *Cue List Controls* buttons affect the playback of *selected* cues (upper group) or *all* at once (lower group with boxes). Select a single cue in the list by clicking on it or select multiple timelines by clicking while holding down the CTRL key. The buttons function as follows:



Resume playback (must be paused).

Pause playback.

Stop playback and remove cue(s) from the list.

Take looped cues out of looping mode so that they will stop and be removed from the list when they have finished current playback.

## Global Mute/Lamp-out Controls

Even though these buttons appear on the Cue List Pane, their affect is global.

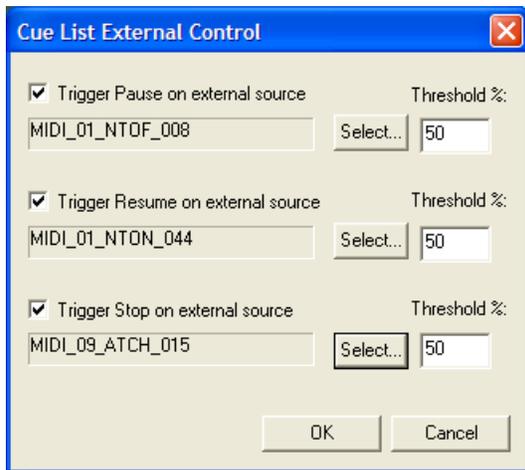


Mute audio in all currently playing timelines, playlists and audio files.

Disable all lamps.

## Cue List External Control

Provides for external control of [Cue List Controls](#).



### Trigger Pause on external source

Check this box to enable external control of the cue list's *Pause (all)* button. Click on the adjacent *Select...* button and choose an input source in the [Select External Control](#) window. Since external controls input percentage values, enter the level the external input will have to send in order to trigger the button into the Threshold field. See [Understanding Threshold Values](#).

### Trigger Resume on external source

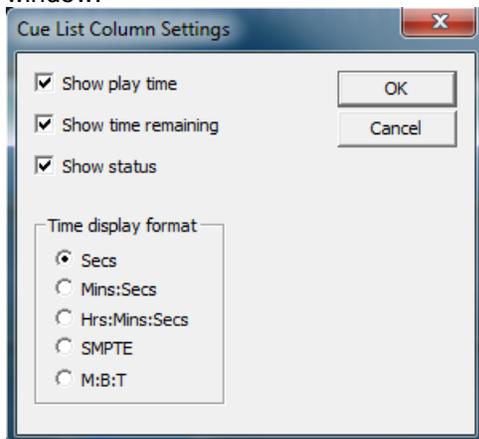
Identical in operation to the *Trigger Pause on external source* function.

### Trigger Stop on external source

Identical in operation to the *Trigger Pause on external source* function.

## Cue List Column Settings

Right-click in the cue list and select Column Settings to open the *Cue List Column Settings* window.



### Show play time

Check this box to enable display of the *Time* column of the [Cue List](#), which

shows the current playback time of the associated timeline.

**Show time remaining**

Check this box to enable display of the *Rem* column of the [Cue List](#), which shows the remaining playback time of the associated timeline.

**Show status**

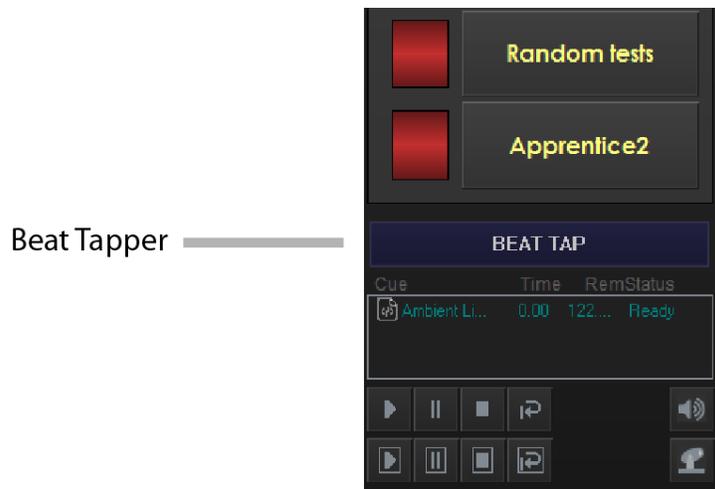
Check this box to enable display of the *Status* column of the [Cue List](#), which shows the current status of the associated timeline

**Time display format**

Select the format you wish to use to display time in the *Time* and *Rem* columns of the [Cue List](#). See [Timeline Options](#) for a more complete description of time format options. Note: the SMPTE and M:B:T formats will use the same settings (i.e.: *FPS*, *Base bpm* and *Time sig*) that are set in the *Timeline Options* window for the timeline.

## Beat Tapper Control

The Cue Control Window is also home to the *Beat Tapper* control. As the name of this control implies, it is used to establish a “beat” which is used to control the speed of [Lamp Chaser](#) effects that have been setup to follow it (see [Lamp Chaser Setup Properties](#)). To show the Beat Tapper control, go to the main menu and select *View→Beat Tapper*. The Beat Tapper control will appear between the cue button area and the cue list.

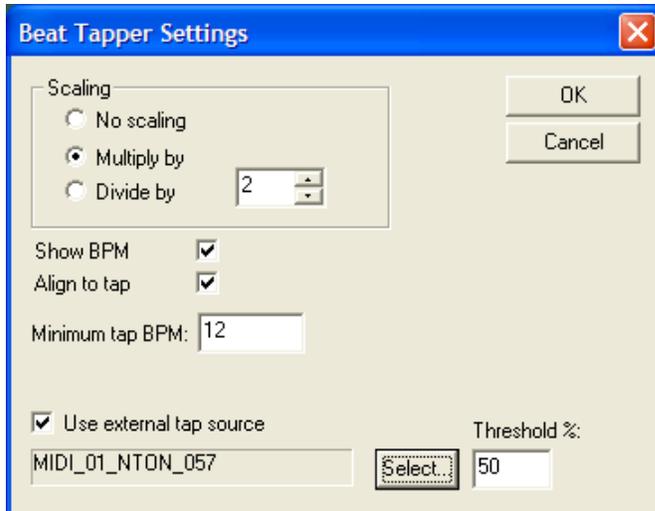


There are three ways to tap-in a beat:

1. Tap in the beat by clicking (with the left mouse button) in the flashing BEAT TAP lamp on the Cue Control Window.
2. Tap on the letter “T” key on your keyboard.
3. Tap on an external midi controller key (see [Beat Tapper Settings](#)).

## Beat Tapper Settings Window

Right-click on the Beat Tapper control and select *Beat Tapper Settings...* to bring up the *Beat Tapper Settings* window.



### Scaling

You can scale the beat before it gets to the Lamp Chaser effects. This affects the chasers only while the flashing of the Beat Tapper control is unaffected.

- **No scaling:** Do not perform any scaling of the tapped-in beat.
- **Multiply by:** Multiply tapped-in beat by the specified amount to make the beat faster.
- **Divide by:** Divide tapped-in beat the specified amount to make the beat slower.

Note: Scaling the chaser beat will have no effect on the actual tempo of the music.

### Show BMP

Check this box to show the current, un-scaled BPM in the beat tapper control.

### Align to tap

With this box checked, lamp chasers will align their beats to be in sync with the tapped-in beat. If unchecked, the speed of the chaser will match the tapped-in beat, but their synching will not be lined-up.

### Minimum BPM

Enter the minimum BPM that would normally be tapped in. Beats tapped-in slower than this will be ignored.

### Use external tap source

Check this box to allow tapping to be done from an external MIDI source. Click on Select... to bring up the [Select External Control](#) window. Enter the level the external input will have to send in order to trigger the button into the *Threshold* field. See [Understanding Threshold Values](#).

## Fixture Preview Window

The *Fixture Preview Window* helps you get an idea of how your show may look during playback by displaying a graphical representation of selected [fixtures](#) in your [project](#). Activate the *Fixture Preview Window* by selecting *View:* in the VenueMagic main menu.



### Select Fixture Preview

Right-click anywhere in the Fixture Preview Window and select the *Select Lamps...* option to bring up the [Select Channels](#) window. You can also add previews by dragging fixtures and/or groups over from the *Fixtures* and *Channel Groups* folders in the [Project Window](#). Click and drag lamps to rearrange them within the window. To set the properties for a specific lamp, right-click on the lamp and select the *Lamp Properties...* option. This will bring up the [Fixture Preview Attributes](#) window.

### Multi-Channel Fixture Previews

Some fixtures contain more than just lamp level channels. They may include gobo, speed, pan, tilt and other channels (see [Fixture Channel Types](#)) that do not lend themselves to be displayed as simple lamps. The *Fixture Preview Window* only shows lamp intensity and color as graphical representation. Other channels are represented as text, as shown below.



Multi-channel Fixture Previews are identified by a gold ring:



Single-channel Fixture Previews are identified by a silver ring:



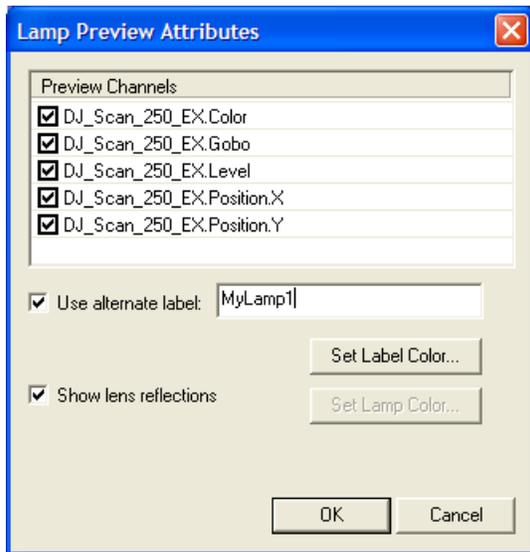
Below is a table of channel types and how they affect a Fixture Preview:

<b>Color Wheel</b>	Preview lamp shows current color for Color Wheel setting.
<b>Dimmer</b>	Controls lamp intensity.
<b>Gobo Wheel</b>	Current gobo shown as text.
<b>Motion</b>	Current position shown as text.
<b>Motion PT</b>	Current <i>Pan</i> and <i>Tilt</i> positions shown as text.
<b>Motion XY</b>	Current <i>X</i> and <i>Y</i> positions shown as text.
<b>Reserved</b>	Not shown
<b>RGB</b>	Fixture Preview color and intensity derived from combining <i>Red</i> , <i>Green</i> and <i>Blue</i> channels.
<b>Selector</b>	Current selector is shown as text.
<b>Speed</b>	Current value of <i>Speed</i> channel is shown as text.
<b>Time Duration</b>	Current value of <i>Time Duration</i> channel is shown as text.
<b>Time Interval</b>	Current value of <i>Time Interval</i> channel is shown as text.

If a fixture has multiple lamps, then adding to the Fixture Preview Window will produce multiple Fixture Previews.

The simple nature of the display approach allows for faster real-time updating, giving you a more accurate picture as far as timing is concerned.

## Fixture Preview Attributes



**Preview Channels** Select which channels in the selected lamp will affect the lamp display.

**Use alternate label:** By default, the displayed lamp label is the name of the fixture or channel. If you want to give it a different label, check this box and enter the new label text into the adjacent box.

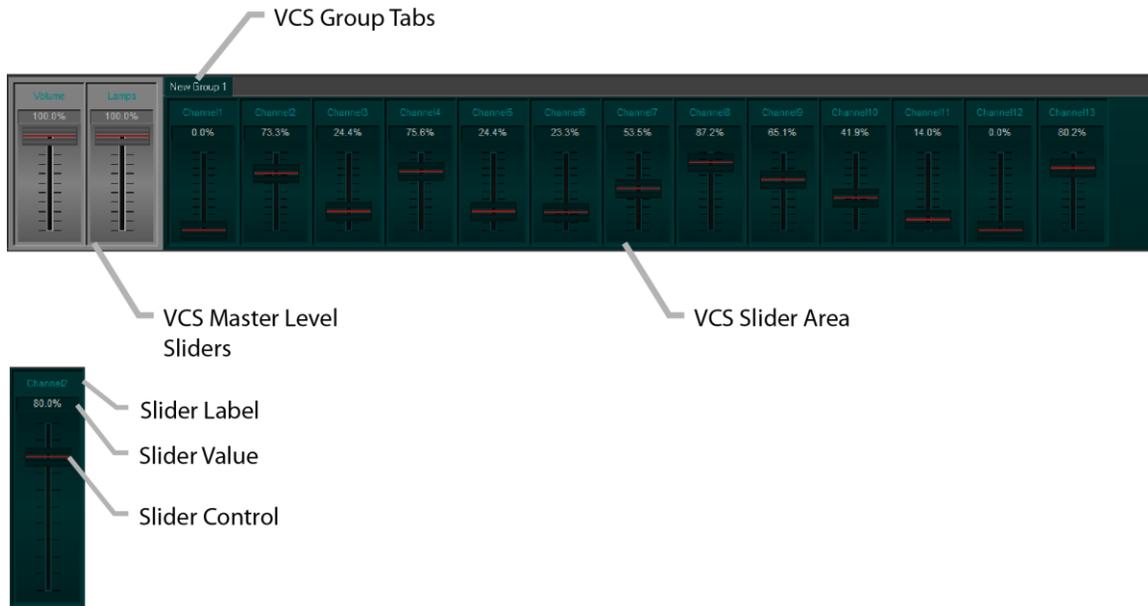
**Set Label Color...** Set the label color.

**Set Lamp Color...** Set the color of the lamp. Only available to lamps that do not have an *RGB* or *Color Wheel* channel.

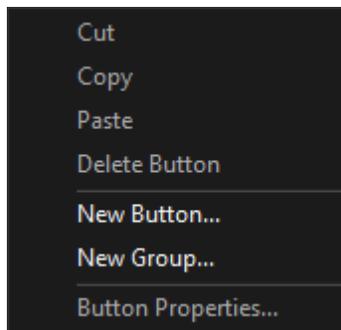
**Show lens reflections:** Check this box if you would like the lamp display to show lens reflections. Lens reflections look nice, but they do tend to slow down the Fixture Preview Window update time.

## Virtual Control Surface (VCS)

The *Virtual Control Surface* is a collection of sliders that you can use to control anything that gives you the option of external control. Activate the VCS from the VenueMagic main menu by selecting *View: Virtual Control Surface*.



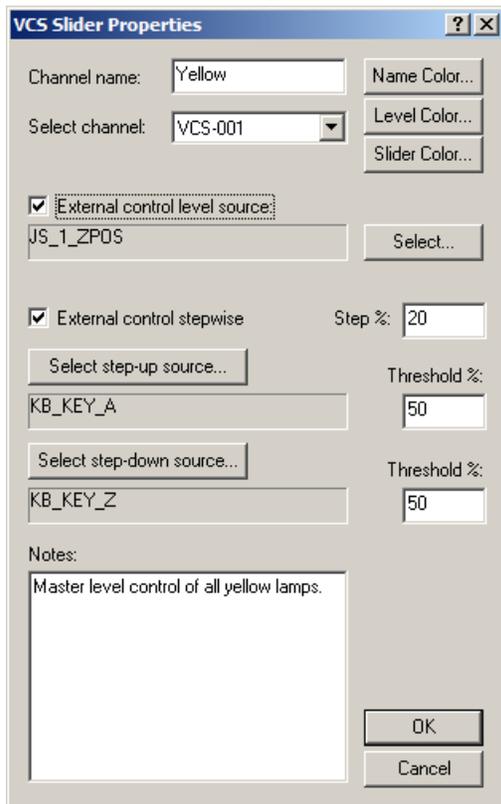
Right-clicking anywhere in the *VCS Slider Area* to bring up the VCS pop-up menu:



- Cut** Delete selected slider and place a copy of it into the copy buffer.
- Copy** Place a copy of the selected slider into the copy buffer.
- Paste** Paste the slider in the copy buffer, inserting it before the selected slider.
- Delete** Delete selected slider without first copying it into the copy buffer.
- New Slider...** Add a new slider to the current VCS slider [group](#).
- New Group...** Add a new VCS slider group. *Note: VenueMagic Express only allows one slider group.*
- Slider Properties...** Bring up the [VCS Slider Properties](#) window.

You can also click in a slider's label area and drag the slider around to reorganize the window.

## VCS Slider Properties

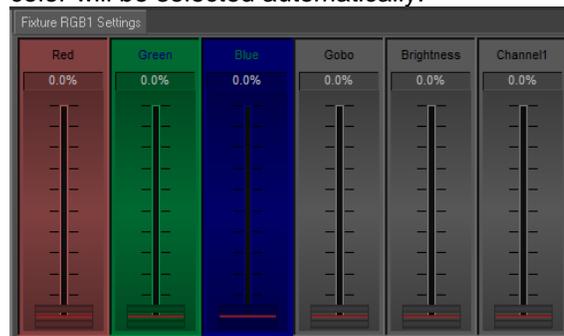


**Channel name:** Enter text that will be displayed in the slider label.

**Name Color:** Click this button to set color of the name text.

**Level Color:** Click this button to set color of level display text.

**Slider Color:** Click this button to set the color of the slider background. The slider text color will be selected automatically.



**Select channel:** Select a VCS channel that will be controlled by this slider. There is a total of 128 slider channels available.

**External control source:** Check this box to control the slider from an external source, and then click *Select...* to bring up the [Select External Control](#) window. Since the slider itself is available as an external source, the external source entered

here will also control whatever the slider itself is controlling.

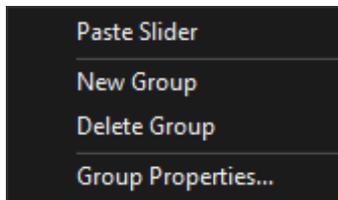
<b>External control stepwise</b>	Check this box to enable stepwise slider adjustments. In this mode, sliders are adjusted incrementally when specified external input conditions are met.
<b>Step %</b>	What percent of change occurs when stepwise control is triggered.
<b>Select step-up source</b>	Click to bring up the <a href="#">Select External Control</a> window to select the external control for stepwise <i>increasing</i> the slider level. Then set the Threshold value (see <a href="#">Understanding Threshold Values</a> ).
<b>Select step-down source</b>	Click to bring up the <a href="#">Select External Control</a> window to select the external control for stepwise <i>decreasing</i> the slider level. Then set the Threshold value appropriately
<b>Notes:</b>	Enter notes with respect to slider.

## **VCS Slider Groups**

*(Only Available for VenueMagic Classic and above)*

You can setup any number of *VCS Slider Groups*, each with as many sliders as you like. *VCS Slider Groups* appear as tabs in the [VCS Group Tabs](#) area. Select the tab to show the group.

Right-click on a group tab to bring up a menu of options:



<b>Paste Slider</b>	If you have copied a slider into the Copy buffer, this option will add that slider to the selected group.
<b>New Group</b>	Add a new VCS slider group.
<b>Delete Group</b>	Delete the selected VCS slider group.
<b>Group Properties...</b>	Bring up the <a href="#">VCS Slider Group Properties</a> dialog window for the selected group.

## **VCS Slider Group Properties**



- Group name:** Enter the group name that will appear in the *VCS Slider Group* tab.
- Set tab color...** Sets the color of the [VCS Slider Group](#) tab. Also sets the color of the *VCS Slider Area* background.
- Set tab text color...** Sets the color of the *VCS Slider Group* tab text.
- Notes** Enter notes about group.

## VCS Master Level Sliders

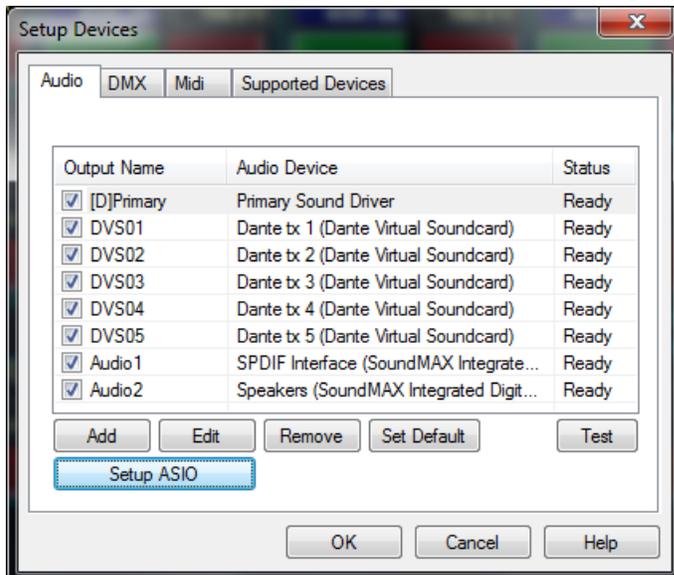
The VCS Master Level Sliders globally control the volume and lamp levels for all timelines, playlists and audio files currently playing. They do not belong to any group and are always shown when the VCS is active. Right click on either slider and select Slider Properties... to bring up the [VCS Slider Properties](#) window. You will note that Slider name and Select channel boxes are grayed out. However, you may select an external control source as you wish.



## Device Setup

### Audio Device Setup

Lists all audio outputs with user-assigned names.



By default, there will be only one output, which is the default primary output for your computer. To add additional outputs to the list, click on **Add** to bring up the [Add Audio Output](#) window then enter an Output Name and select an Audio Device. Enable the device for use by checking the box in the Output Name column.

To edit the Output Name and selected Audio Device of an audio output, first, select the item in the list and click **Edit** to open the [Edit Audio Output](#) window. To remove one or more audio outputs, select the outputs you wish to delete in the list, then click **Remove**.

To set a default audio output, select the desired output in the list, and then click **Set Default**. Only one default may be selected, and the selected default is designated by “[D]” appended to the beginning of the Channel Name. The specified default audio output is the output used by all audio tracks in *VenueMagic Express* and *VenueMagic Classic* editions. For *VenueMagic DMX+AV* and above, which allow multiple audio outputs, the default audio output is the one used by default for newly created audio tracks (see [Audio Track Audio Properties](#)).

The Status column in the audio output list displays the status of the audio output device:

- **Ready** – Audio device is ready to output audio.
- **Error** – Audio device is unavailable or is not functioning properly.

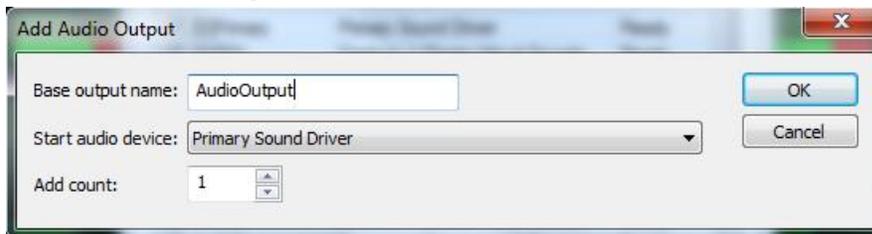
Click the **Test** button to play a sound on the selected audio output.

**Important Note:** VenueMagic supports WDM, ASIO, and DirectSound. If your audio card does not appear on this list, check with the manufacturer of the card to obtain and install the necessary drivers for the card. Be aware that some manufacturers may only provide certain drivers for their audio hardware. *Before purchasing any audio hardware for use with VenueMagic, please verify that it supports WDM, ASIO, or DirectSound.*

### ASIO Support

VenueMagic includes support for audio devices that use the ASIO interface. ASIO is required to play 24-bit audio files. Before using ASIO, you must first select an available ASIO device interface. Click on **Setup ASIO** to open the [Setup ASIO](#) window.

## Add Audio Output



**Base output name** Enter a name for the audio output. This can be any name that uniquely identifies this audio output. If **Add count** is greater than 1, then this name becomes a base name to which consecutive numbers will be appended when multiple outputs are generated.

**Start audio device** Select from a list of audio devices currently available on your computer. If **Add count** is greater than 1 then multiple audio outputs will be added starting with the selected device in the list and then continuing on to the next device on the list, etc...

*\*Important Note:* VenueMagic supports WDM, ASIO, and DirectSound. If your audio card does not appear on this list, check with the manufacturer of the card to obtain and install the

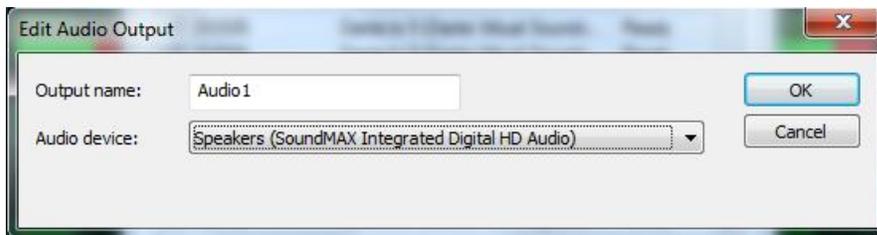
necessary drivers for the card. Be aware that some manufacturers may only provide certain drivers for their audio hardware. *Before purchasing any audio hardware for use with VenueMagic, please verify that it supports WDM, ASIO, or DirectSound.*

Add count

Specify how many audio output devices to be added. The name of each output will be the **Base output name** with consecutive numbers appended to each added output to keep the names unique. The associated devices start with the device selected in the **Start audio device** list and advance consecutively through devices in the order they appear in the list.

This allows you to add multiple audio devices at once rather than having to enter one at a time.

## Edit Audio Output



Output name

Enter a name for the audio output. This can be any name that uniquely identifies this audio output.

Audio device

Select from a list of audio devices currently available on your computer.

*\*Important Note:* VenueMagic supports WDM, ASIO, and DirectSound. If your audio card does not appear on this list, check with the manufacturer of the card to obtain and install the necessary drivers for the card. Be aware that some manufacturers may only provide certain drivers for their audio hardware. *Before purchasing any audio hardware for use with VenueMagic, please verify that it supports WDM, ASIO, or DirectSound.*

## Setup ASIO



This window sets up VenueMagic's ASIO interface to function with a specific ASIO device interface.

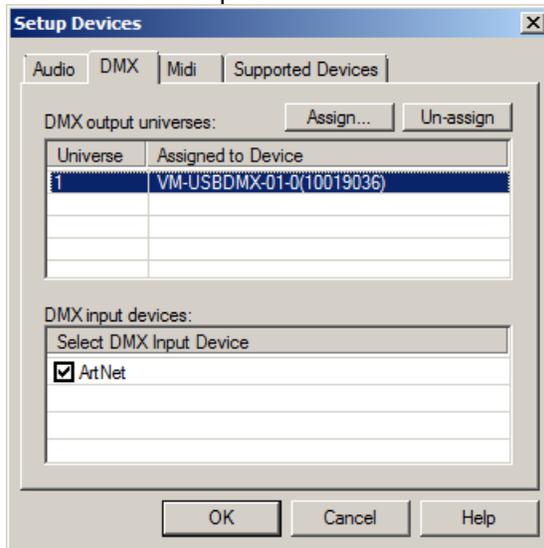
**Enable ASIO** Check this box to enable the VenueMagic ASIO interface.

**Select device** This list shows all of the ASIO device currently installed on the host computer. Select the interface you would like to use. Only a single ASIO interface can be used at a time. If the desired interface does not appear on this list, verify that the proper ASIO drivers for the device have been installed and that the device is properly connected.

**Sample rate** Set the desired sample rate for audio output.

## DMX Device Setup

This window displays all available universes (depending on the VenueMagic version) and allows you to select from a list of assigned devices to be used for each universe. It also lets you select a source for DMX Input.

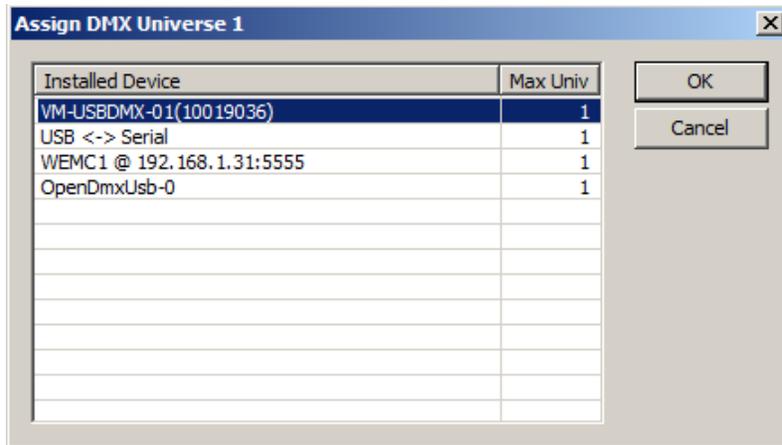


### DMX Output Universes

You can assign any supported and installed device to any available universe (depending in which version of VenueMagic you own). Only a single device can be assigned to a specific universe and vice versa.

To un-assign a universe, select the desired universe and click the Un-assign button.

To assign a universe to a DMX device, select the universe you wish to assign, then click the *Assign* button to bring up the *Assign DMX Universe* window.



This window lists all currently connected DMX devices and the number of universes it supports. Select the desired device and click OK.

### ***DMX Input Devices***

*(Only Available for VenueMagic Classic and above)*

VenueMagic will allow you to select a single installed device that can be used for DMX input. Devices that are capable of DMX input are shown in the *DMX input devices* list. Some devices (such as the Enttec USB Pro) can either do DMX input or output, but not both. If you have already assigned such a device to a universe in the *DMX output universes* list, it will not appear in the *DMX input devices* list unless you first unassigned it. Likewise, any such device selected in the input list will not be available for assignment to an output. Devices capable of doing input and output simultaneously (such as ArtNet) are available in both lists.

Only one DMX device may be selected for input. DMX input is available in the [Selecting External Control](#) window.

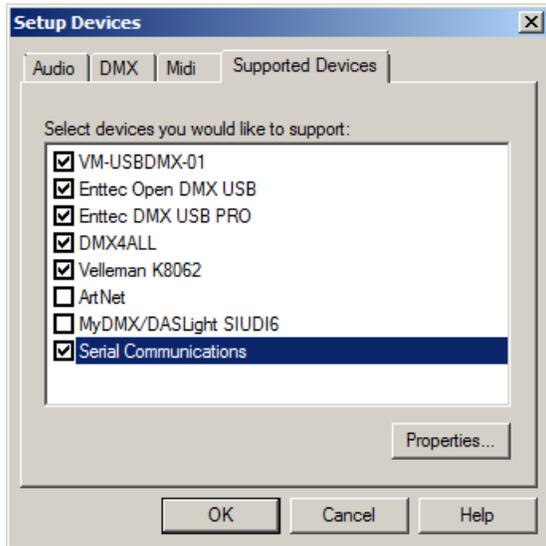
## MIDI Device Setup

Select the MIDI input and output devices to be used by VenueMagic. Only one of each may be selected, which will apply across all projects. *MIDI output is not available in VenueMagic Express.*



## Supported Devices Setup

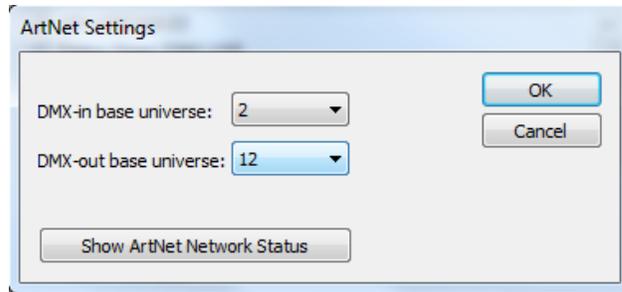
VenueMagic supports several models of DMX interfaces. Each device has its own set of drivers and control functions. Check the device(s) you are currently using with VenueMagic. If you are not using a device, leave it unchecked.



As support for other devices is added to future versions of VenueMagic (DMX or non-DMX) it will appear in this list. If a device requires some setup, select the device, then click the *Properties* button. For information about serial communications, see [Serial Port Output](#).

For more information about the DMX interfaces that VenueMagic supports, please see our website at <https://www.venuemagic.com/supported-dmx512-interfaces>.

## ArtNet Settings Window



Open the ArtNet Settings window from the [Supported Devices Tab](#) of the Setup Devices window. This window lets you set the base universe for DMX input and DMX output.

For DMX input, this is the ArtNet universe VenueMagic will look at to receive DMX input. For DMX output, this is the ArtNet universe to which VenueMagic will output what it considers to be Universe 1 (as specified the [DMX Device Setup](#) window).

In the settings for the figure above, VenueMagic would receive DMX input from ArtNet channel 2. It would output VenueMagic universe 1 to ArtNet universe 12. For VenueMagic SC2+ and DMX2+AV, universe 2 would output to ArtNet universe 13.

Click **Show ArtNet Network Status** to open the *Network Status* window for ArtNet. This tool lists and monitors the status of ArtNet devices detected on the network.

## Selecting External Input Devices

The Select External Control window is used by all VenueMagic features that require the selection of an external device.

**Select External Control**

Select input device: Joystick Interface

Device input group: Joystick #01

Process data    Scaling=100%, Offset=0%    Setup...

Select input channel:    Capture enabled

Name	Joystick Channel	Status	Scaling
JS_1_XPOS	Joystick #1 - X-Axis Position	Ready	None
JS_1_YPOS	Joystick #1 - Y-Axis Position	Ready	None
JS_1_ZPOS	Joystick #1 - Z-Axis Position	Ready	(0/50/100)
JS_1_RPOS	Joystick #1 - R-Axis Position	Ready	None
JS_1_UPOS	Joystick #1 - U-Axis Position	Unavailable	None
JS_1_VPOS	Joystick #1 - V-Axis Position	Unavailable	None
JS_1_POV	Joystick #1 - POV Angle	Ready	None
JS_1_BTN1	Joystick #1 - Button #1	Ready	None
JS_1_BTN2	Joystick #1 - Button #2	Ready	None
JS_1_BTN3	Joystick #1 - Button #3	Ready	None
JS_1_BTN4	Joystick #1 - Button #4	Ready	None
JS_1_BTN5	Joystick #1 - Button #5	Ready	None
JS_1_BTN6	Joystick #1 - Button #6	Ready	None
JS_1_BTN7	Joystick #1 - Button #7	Ready	None
JS_1_BTN8	Joystick #1 - Button #8	Ready	None
JS_1_BTN9	Joystick #1 - Button #9	Ready	None
JS_1_BTN10	Joystick #1 - Button #10	Ready	None

Input Settings...  
Clear Input Settings

- Select input device:** Select a source device for external input. This version of VenueMagic supports:
- DMX Input (see [DMX Device Setup](#)) (*VenueMagic DMX+AV only*)
  - MIDI Input (see [MIDI Device Setup](#))
  - Virtual Sliders [Virtual Control Surface \(VCS\)](#).
  - Joystick (up to 15) (*VenueMagic Classic and DMX+AV only*)
  - Keyboard (key-down=100%, key-up=0%) (*VenueMagic Classic and DMX+AV only*)

Other input sources will be included as they become available.

**Device input group:** Input channels on some devices are divided into groups. Select the group that applies.

**Process Data** Check this box if you would like to perform additional processing on this input. Then click the Setup button to open the *Data Processing* window. This functions differently from [Input Channel Settings](#) window in that the settings here are associated with the item using the input rather than the input itself. For example, if this setting is used for a channel route, only that route would be affected by settings. Other channel routes that may use the same input are not affected.

**Select input channel:** Here is listed all available input “channels” for the selected input device. The list column headers adapt themselves to the selected device. Pick a channel from the list and click OK.

**Capture enabled:** Monitors the selected input device for input messages and selects the

associated “channel” in the list. When the proper channel is selected, click OK.

**Input Settings**

Brings up the [Input Channel Settings](#) window.

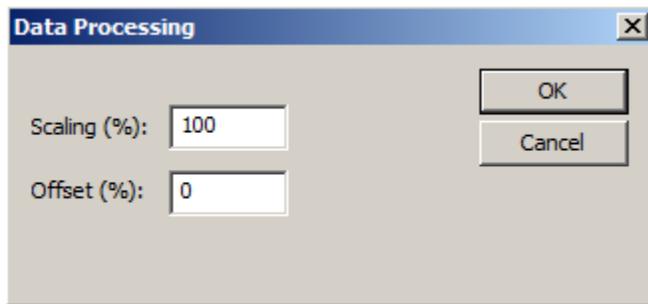
**Reset Settings**

Resets any scaling setup in [Input Channel Settings](#) window.

**Select input channel list Scaling column**

If scaling has been setup for this channel, the current settings are displayed here. The format is “(Low/Mid/High)”, where *Low*, *Mid* and *High* are the settings in the [Input Channel Settings](#). If the Invert level setting is enabled, the above text will be preceded by the minus sign: “-(Low/Mid/High)”. If no scaling has been setup, then column will show the word “None”.

### **Input Channel Data Processing**



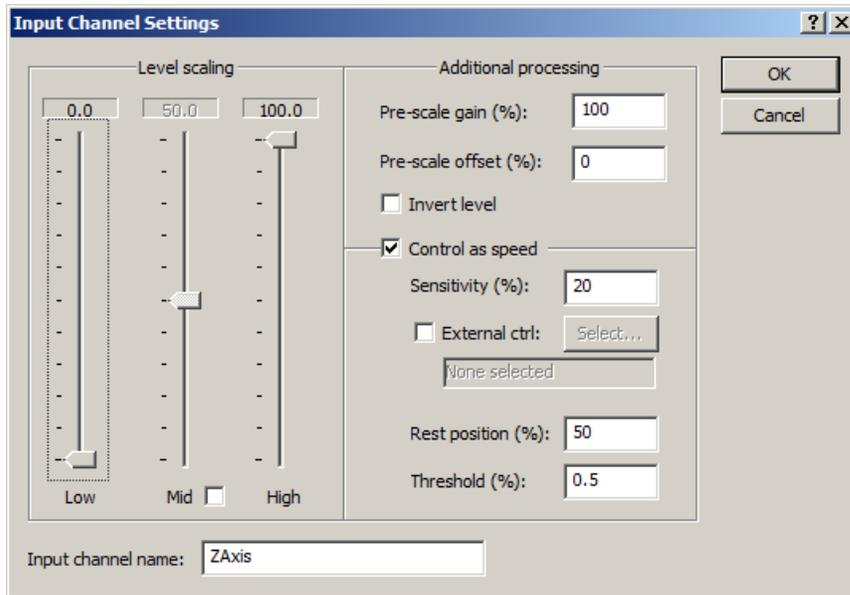
Set channel processing for an input channel for a particular item (such as a channel route, slider control, etc...). The scaling and offset values will modify the input channel’s value as follows:

$$final\ value = (input\ value) \times scaling + offset$$

**Important note for ShowNodes:** ShowNodes uses *Input Channel Data Processing* for [channel route](#) inputs only.

### **Input Channel Settings Window**

(VenueMagic DMX+AV only)



The *Input Channel Scaling* window allows you to setup scaling and other processing for any input. **Important note for ShowNodes:** ShowNodes ignore *Input Channel Settings*.

### **Input Channel Name**

Enter the desired name for this input.

### **Level Scaling**

These settings are similar to those found in the [Calibrate Lamps](#) window.

- Low** Sets the low value for the channel range. In other words, if the input is set to zero, *Low* will be the scaled value.
- Mid** Sets the mid value for the channel range. When the input is at 50% full scale, this will be the scaled value. This allows for non-linear scaling. Check the *Mid* checkbox to enable this feature.
- High** Sets the high value for the channel range. If the input is set to its highest level, *High* will be the scaled value.

### **Additional Processing**

In this group you can set additional parameters to process the input channel. The top section allows for added scaling:

- Pre-scale gain (%)** Multiply input channel by a gain factor before it goes through level scaling. A value of 100% would leave the input unchanged. 50% would cut it in half, 200% would double it. The valid range is from 0-100%.
- Pre-scale offset (%)** Offset the input by a desired percentage. This offset is added to the input signal before the *Pre-*

*scale gain*. A value of 0% leaves the input unchanged. 50% would add 50 to the input level before it is multiplied by the gain. -50% subtracts 50. The valid range is -100% to +100%.

**Invert Level**

Check this box to invert the channel such that 0% scales to 100% and 100% to 0%. Inverting is applied after gain and offset, but before scaling.

**Control as Speed**

In some cases, it would be convenient for the input channel to control the speed of something rather than a level. For instance, suppose you were controlling a moving head with a joystick that snapped-back to a zero (rest) position when you let go of it. It would be much more effective if you could use the joystick to control the speed of the head in the desired direction rather than use it to command the position directly. You can enable this feature for the input channel by checking the *Control as speed* box.

With this enabled for X and Y joystick channels, you could route them to the *Pan* and *Tilt* channels of a moving head (see [Channel Routing](#)). Now, push the joystick forward and watch the *Tilt* axis of the head start moving. Release the joystick and the head stops. Push forward harder on the stick and the head moves faster. Pull back on the stick and the *Tilt* axis moves the other direction. Similar action occurs on the *Pan* axis as you move the joystick left and right. Try this out with the *Control as speed* box unchecked and see what happens.

The following parameters are available to fine tune the *Control as speed* feature:

**Sensitivity (%)**

Adjusts how sensitive the output speed is to movement in the joystick. 100% is for high speeds, 1% for very slow.

**External ctrl:**

If you would like control the Sensitivity parameter using another external input, check this box. Then click the Select button and select an input and set a threshold value. (See [Selecting External Input Devices](#), [Understanding Threshold Values](#)).

**Rest position**

Most joysticks send values that range from 0-100% with a rest position (when you let go of the joystick) that is technically at 50%. Here is where you tell VenueMagic what level is should be interpreted as the rest position. The default of 50% should be fine in nearly all cases.

**Threshold (%)**

While in rest position, many (usually cheaper) joysticks tend to *chatter*. This means that they move back and forth between levels even though you are not touching it. The *Threshold* value specifies how far the joystick must move away from rest position before it is no longer considered at rest. The default of 0.5% usually works fine.  
**Note:** Do not confuse this with the threshold value used for triggering as described in [Understanding Threshold Values](#).

## Understanding Threshold Values

Some VenueMagic External Control settings require a *Threshold* value, which usually defaults to 50%. The reason that this value is necessary is that some MIDI controller buttons will send a midi message twice, first when pressed, again when released. Only the *data* field of these two messages will differ. VenueMagic will look at the data field and compare it to the threshold value to make sure that only the “pressed” message will be used. Most MIDI data values range between 0 and 127, which VenueMagic scales to a range of 0 to 100%. Buttons that send two messages usually send 127 in the data field when pressed, and 0 in the field when released. Setting the threshold to 50% (a MIDI value of roughly 63) usually works in most cases. If the selected MIDI button sends only one message when pressed (and no message when released) it is not always certain what value the data field will contain. In this case, it is best to set the threshold value to 0%, which is a special case that will trigger on the message regardless of its associated value. If you’re not sure what your MIDI button is doing, use the [MIDI Monitor](#).

If you want a trigger to occur when the associated value is *less than* the specified threshold, put a negative sign in front of it.

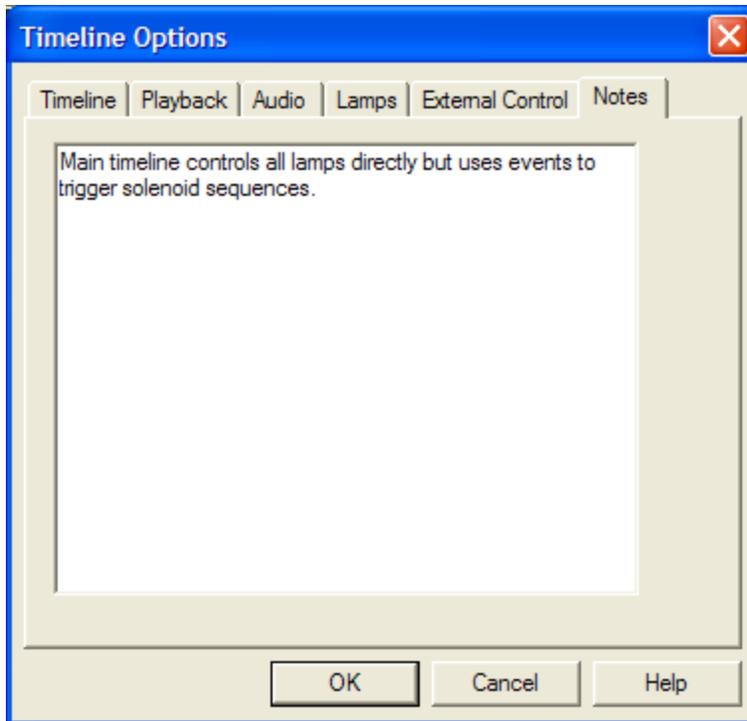
In summary:

<b><i>Threshold value</i></b>	<b><i>Description</i></b>
<b>50%</b>	Trigger occurs with value is <i>greater than</i> 50% (63 for MIDI controllers). Use this for MIDI control buttons that send two messages, where the first messaged (pushed) is greater than the second (released).
<b>-50%</b>	Trigger occurs with value is <i>less than</i> 50% (63 for MIDI controllers). Use this for MIDI control buttons that send two messages, where the first messaged (pushed) is greater than the second (released).
<b>0%</b>	Trigger occurs when messages is received, regardless of associated value. This is the best setting for note keys and MIDI controller buttons that send only one message.

**Note:** VenueMagic converts all *MIDI NOTE OFF* messages to *NOTE ON* messages with a velocity of zero.

## Project Notes

Various items in VenueMagic include a tab or field to insert notes. Enter anything you like into these fields as they are there to help you keep track of your thoughts as you put shows together.

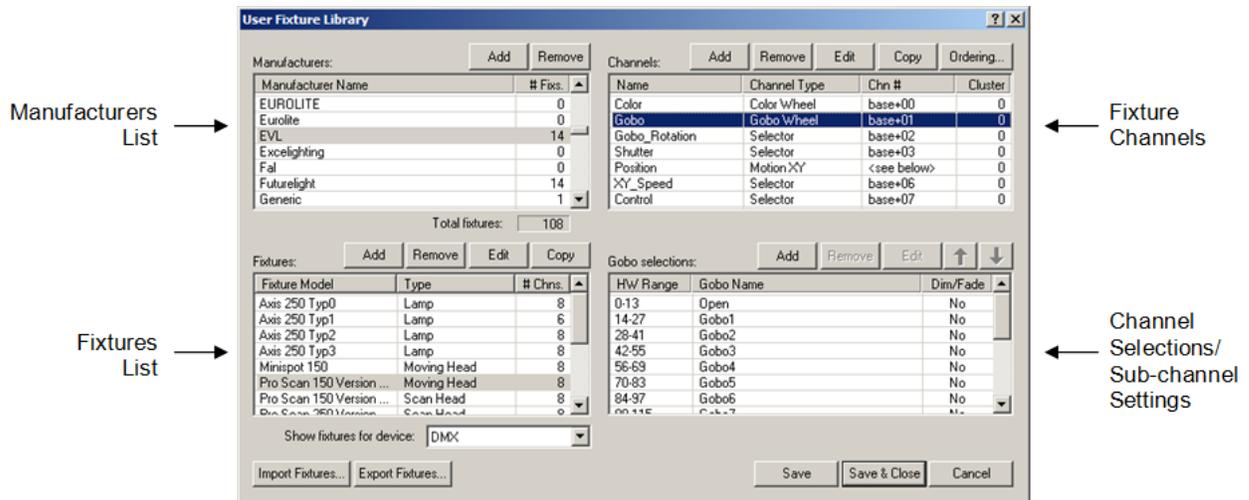


## User Fixture Library

*(VenueMagic Classic and above only)*

VenueMagic's fixture library includes hundreds of fixture profiles from various manufacturers and it is constantly being added to. However, you may, from time to time, desire to use a fixture that is not currently part of the installed library. VenueMagic's User Fixture Library allows you to enter your own fixture profiles and use them in your projects as easily as you would fixtures from the installed library. Profile information for specific fixtures should be available from the fixtures manufacturer and will be required for entering fixtures into the library.

In the main menu, select *Tools*→*User Fixture Library...* to bring up the User Fixture Library window:



The User Fixture Library window is divided into four sections:

- Manufacturer List** List of fixture manufacturers.
- Fixture List** List of all fixtures associated with the selected manufacturer.
- Fixture Channels** All channels in the selected fixture.
- Channel Selections/ Sub channel Settings** For channels that are divided into range values (such as gobos and color wheels) this list shows hardware range values associated with functions for the selected fixture channel. It also shows sub channel information for compound channels.

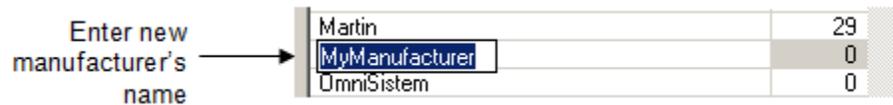
The *Save* button lets you save changes without closing the window. The *Save & Close* button saves your changes and then closes the window.

Note: Changes made to the fixtures in the User Fixture Library will in no way affect fixtures stored in the main fixture library.

## Manufacturers List



VenueMagic lets you keep track of your user fixtures by manufacturer. Initially, this list is taken from the main fixture database when you run the program, but you may add and remove manufacturers as you like. To add a manufacturer, click on the *Add* button and enter then name of the new manufacturer.

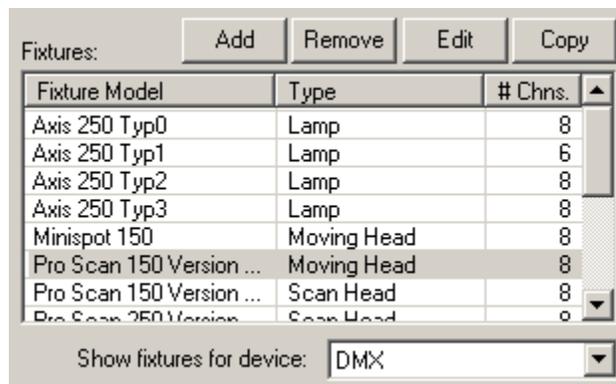


To change the name of a manufacturer, select the desired manufacturer, then click in the Manufacturer Name column and key in a new name.

To remove a manufacturer and all of the fixtures in the User Fixture Library that are associated with it, click the *Remove* button.

The *#Fixs.* Column show the number of fixtures the library contains for that manufacturer. *Total fixtures:* shows the total number of fixtures in the User Fixture Library.

## Fixtures List



The fixtures list lets you add, remove, edit or copy fixtures associated with the manufacturer currently selected in the manufacturers list. If no manufacturer is selected, this list will be blank. The list displays the fixture model, type and the number of channels the fixtures contains.

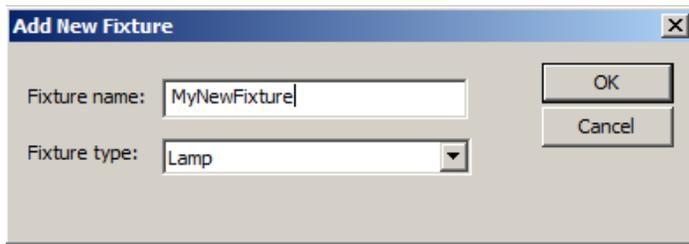
*Show fixtures for device* selects the device the fixture is associated with. The available options are:

**DMX** – Fixture is a DMX fixture.

**Virtual** – Fixture is a virtual fixture (see [Virtual Fixtures](#)).

### Adding a Fixture

Click the *Add* button to bring up the *Add New Fixture* window.

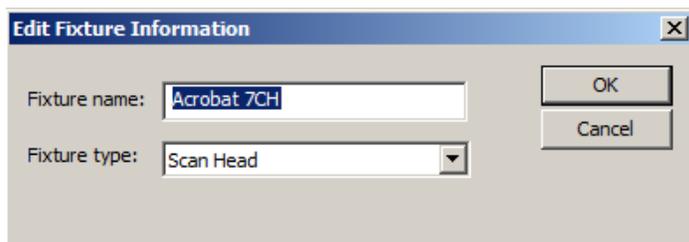


The 'Add New Fixture' dialog box features a title bar with a close button. It contains two input fields: 'Fixture name:' with the text 'MyNewFixture' and 'Fixture type:' with a dropdown menu showing 'Lamp'. To the right are 'OK' and 'Cancel' buttons.

Enter a name for the new fixture (usually the name given by the fixture's manufacturer) and then select a fixture type. If you're not certain of the fixtures type, leave it at the default, "Lamp". This field is mainly for your benefit and has no effect on how VenueMagic will interpret the fixture. Click OK when you're done and the new fixture will be added to the list.

### Editing a Fixture

To edit the name or type of a fixture already in the list, click the Edit button. A similar window will appear.



The 'Edit Fixture Information' dialog box has a title bar with a close button. It contains two input fields: 'Fixture name:' with the text 'Acrobat 7CH' and 'Fixture type:' with a dropdown menu showing 'Scan Head'. To the right are 'OK' and 'Cancel' buttons.

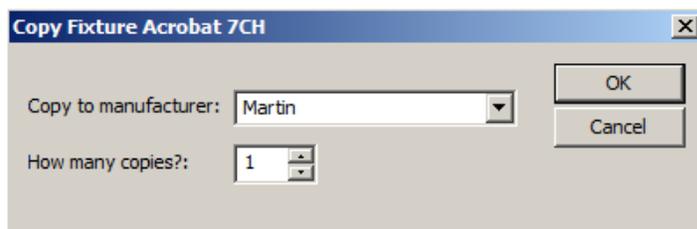
Fixture names must be unique to the associated manufacturer.

### Removing a Fixture

Click the *Remove* button to remove selected fixtures from the list. You may remove a single fixture or multiple fixtures by selecting them in the list. Removing a fixture also deletes all associated channels associated with that fixture.

### Copying a Fixture

You can copy a fixture along with all of its channels and channel range settings by clicking *Copy* to bring up the Copy fixture window.



The 'Copy Fixture Acrobat 7CH' dialog box has a title bar with a close button. It contains two input fields: 'Copy to manufacturer:' with a dropdown menu showing 'Martin' and 'How many copies?:' with a spinner box showing '1'. To the right are 'OK' and 'Cancel' buttons.

First select the manufacturer you would like to copy the fixture to. By default, the current manufacturer is selected. This feature is convenient, because several manufacturers may carry the same fixtures under a different name. Next, select how many copies of the fixture you would like to make.

## Fixture Channels List

Name	Channel Type	Chn #	Cluster
Shutter	Selector	base+00	0
Reflector	Selector	base+01	0
Gobo	Gobo Wheel	base+02	0
Position	Motion PT	<see below>	0
Speed	Selector	base+05	0
Speed_ColorGobo	Dimmer	base+06	0

This list shows all of the channels associated with the selected fixture. From here you can add, remove, edit and copy channels within the fixture. You can also adjust the DMX channel ordering. Please select one of the links below for more information on specific topics.

**Important Note:** Once a fixture has been added to a project (see [Add Fixtures](#)) you will not be able to add or remove fixture channels. In this case, the *Add*, *Remove* and *Ordering* buttons will be disabled.

### Adding Channels

Click on the *Add* button to bring up the Add Fixture Channel window.

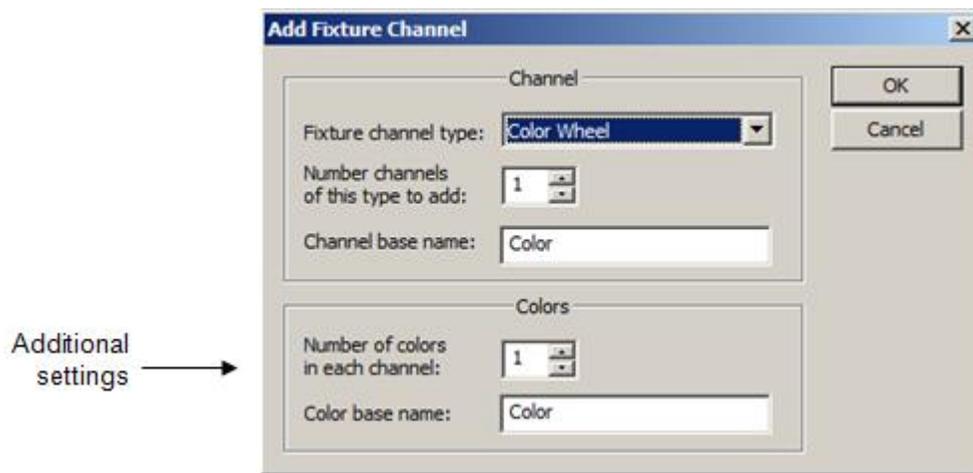
The screenshot shows a dialog box titled "Add Fixture Channel". It has a close button (X) in the top right corner. The dialog is divided into two main sections. The top section is labeled "Channel" and contains three input fields: "Fixture channel type" with a dropdown menu showing "Dimmer", "Number channels of this type to add" with a spinner set to "1", and "Channel base name" with a text box containing "Level". To the right of these fields are "OK" and "Cancel" buttons. The bottom section is labeled "Channel Selections" and contains an empty list area.

First select a channel type from the *Fixture channel type* list. This is not an arbitrary selection like the *fixture* type. VenueMagic uses this very important setting to decide how the channel should behave in different fixture effects. For a detailed explanation of fixture channel types, see [Fixture Channel Types](#).

Next, select how many channels of this type you would like to add and enter a base name for the channel. If you request more than one of this channel type to be added, the base name will be appended by a number (ex: Lamp1, Lamp2, etc...) to prevent duplicate channel names within a fixture.

### Adding Channels with Selections

The channel types *Color Wheel*, *Gobo Wheel*, and *Selector* use DMX level ranges to select colors, gobos or additional features. When one of these channel types is selected, the Add Fixture Channel window will offer additional settings.



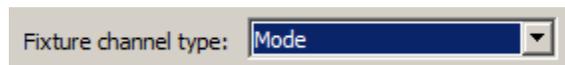
In the case of the Color Wheel channel type, you can enter in the number of color settings available, and then set the base name for each setting. You will later be able to edit the name, DMX level range and other attributes (such as the actual color) in the *Channel Selection/Sub channel Settings* list later on.

### **Adding Composite Channels**

The channel types *RGB*, *Motion PT*, *Motion PT Fine*, *Motion XY* and *Motion XY Fine* are called *composite* channels (see [Fixture Channel Types](#)). This means that they are further broken down into sub channels (RGB.Red, RGB.Green, RGB.Blue, MotionPT.Pan, etc...). This allows VenueMagic fixture effects to operate on these channels together to produce more sophisticated lighting effects. Sub channels of composite channels are displayed in the *Channel Selection/Sub channel Settings* list for the selected channel.

### **Mode Channels**

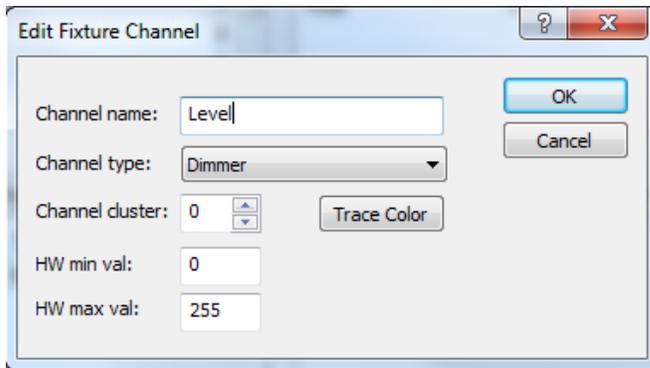
A *Mode* channel type is used to define a specific operating mode for the fixture.



Quite often, changing the mode in the fixture will also change the channel configuration of the fixture, including the number of channels and their purpose. The way that VenueMagic deals with multi-mode fixtures is by requiring that a separate fixture be added for each mode. After adding the mode channel, you can edit it to set the mode value.

### **Editing Channels**

To edit a fixture's settings, select the fixture and click the Edit button to bring up the *Edit Fixture Channel* window.



Enter a new name for the channel into the *Channel name* field. For most of the channel types you will be able to select a trace color by clicking the *Trace Color* button. The trace refers to the lines that are drawn to represent the channel level in a [timeline](#) or in the [Envelope Editor](#). Trace colors for composite channels are set in the *Channel Selection/Sub channel Settings* list.

From *Channel type* list, change the type of the channel as desired (see [Fixture Channel Types](#)). This field is disabled for composite channels such as RGB, etc.... It is also disabled for selector, gobo and color wheel types. The list will also be limited to channel types with the same number of bits (8 vs. 16) as the originally created channel.

### **Channel Clusters**

You can also set the channel's associated *channel cluster*. This value is used to help determine how a channel should be represented in the [Fixture Preview Window](#). When a fixture is dragged into the Fixture Preview Window, each cluster will have its own separate lamp. This is useful for fixtures such as dimmer packs which control multiple lamps. In addition, some RGB Lamp fixtures may provide control for several RGB channels, each of which will need its own lamp in the preview window. If an RGB fixture includes a master level control that controls all of the red, green and blue levels together, this channel should have the same cluster number as the RGB channel.

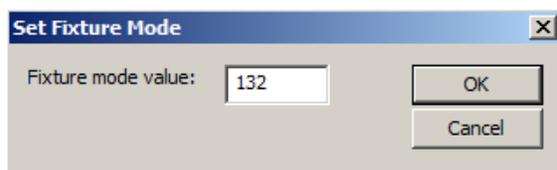
VenueMagic will automatically try to assign the cluster number for you as you add new fixtures. In most cases, the default assignment will work just fine. However, you have the option to change it here if it does not.

### **Hardware Min/Max Values**

Most DMX fixture channels have a hardware range of 0 to 255, representing 0 to 100% in the VenueMagic world. In addition, VenueMagic combines LSB and MSB of 16-bit controllers into one channel with a range of 0 to 65535. These values are set by default and will not need to be changed. However, there are some fixtures that require odd values that are not within the normal range. These fields are also good for making sure that VenueMagic never sends values outside of the range for this fixture channel.

### **Editing Mode Channels**

Mode channels have their own edit window that only permits you to set the DMX mode code.

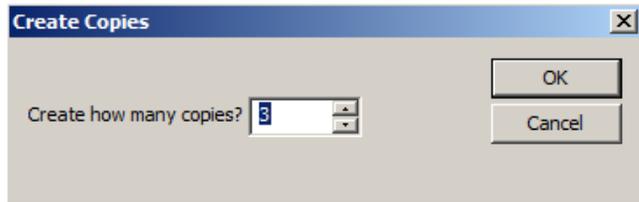


## Removing Channels

You can remove one or more selected channels by clicking on the *Remove* button. This will delete the channel and any associated ranges or subchannels.

## Copying Channels

To copy a selected channel, click on the Copy button to bring up the Create Copies window.



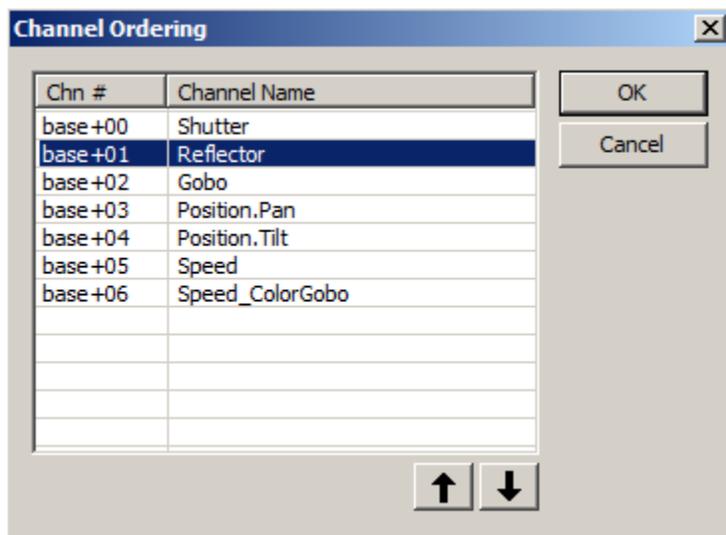
Enter the number of copies you would like to make of the selected channel and click OK. VenueMagic will copy the selected channel any associated range or sub channel information. Each copy will have a sequential number appended to the channel name to prevent duplication.

## Setting Channel Order

After you have entered all of the channels in a fixture, you will need to make sure that all of the channels are in the right order as indicated by the fixture's documentation.



Click on the Ordering button to bring up the *Channel Ordering* window.



The Channel Ordering window shows all of the physical channels you have included in the fixture and their assigned channel within the fixture. The term *base* in the *Chn #* column represents the base DMX channel setting for the fixture. Notice how the composite channel *Position* has been broken down into its sub channels, *Position.Pan* and *Position.Tilt*.

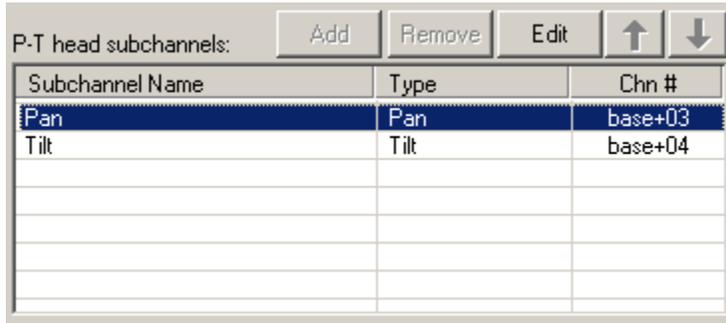
Select a channel, then use the   buttons to change the position of the channel in the fixture's channel number ordering. Click OK when you have finished.

## Channel Selection/Subchannel Settings

This list will show different information based on the channel type of the channel currently selected in the *Fixture Channel* list.

### Motion PT and Motion XY Channels

If the selected fixture channel is Motion PT or Motion XY, then the *Channel Selection/Subchannel Settings* window will display the associated subchannels like this:

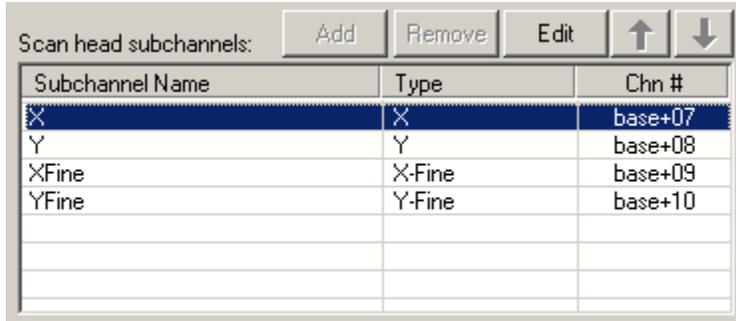


Subchannel Name	Type	Chn #
Pan	Pan	base+03
Tilt	Tilt	base+04

Position subchannels cannot be added or removed, but you can change their trace color by selecting a channel and clicking on *Edit*.

### Motion PT Fine and Motion XY Fine Channels

Motion PT Fine and Motion XY Fine channel types are for channels that control motion using two DMX channels per axis for greater precision. As you can see, the *Channel Selection/Subchannel Settings* window will show all four channels.



Subchannel Name	Type	Chn #
X	X	base+07
Y	Y	base+08
XFine	X-Fine	base+09
YFine	Y-Fine	base+10

You can set the trace color for the coarse position channels (X, Y) but not for the fine channels (XFine, YFine). The reason for this is that VenueMagic handles the splitting of position values across the coarse and fine channels automatically. After you have set them up in the User Fixture Library window, you will not see them anywhere else.

### RGB Channels

When an RGB type channel is selected, the *Channel Selection/Subchannel Settings* shows the *Red*, *Green* and *Blue* subchannels. You cannot change the trace color of these subchannels because it is assumed (perhaps erroneously, but oh well...) that you will want them to be red, green and blue, respectively. This assignment is made for you automatically.

### Color Wheel, Gobo Wheel and Selector Channels

For these channel types, the function and appearance of the *Channel Selection/Subchannel Settings* window is changed. Rather than showing subchannels, it now shows DMX level ranges and their associated settings.

Color wheel selections:

Add Remove Edit ↑ ↓

HW Range	Color	Dim/Fade
0-9	White	No
10-19	Green	No
20-29	Magenta	No
30-39	Green2	No
40-49	Blue	No
50-59	Light Blue	No
60-69	Red	No
70-79	Yellow	No

### Adding Level Ranges

The best way to add selection ranges to a channel is to do it all at once using the bottom half of the [Add Fixture Channel](#) window. If done this way, the *Channel Selection/Subchannel Settings* window is pre-loaded for that channel with HW ranges that are evenly divided. Later you can go back and edit the names and ranges. However, if you find yourself needing to add another level range, then click on the Add button to bring up the Add Range Settings window. This window is slightly different for each channel type.

### Add Color Wheel Range

**Add Color Wheel Range Settings** [X]

Name:

Dimmer/fader:

Colorwheel color:

Hardware min value:

Hardware max value:

**Name** Type in a name for the color.

**Dimmer/fader** When checked, this range acts like a dimmer. In other words, a fixture effect can vary the level within the range. When unchecked, only the center point of the range is used by the fixture. For example, if, for this fixture, the range 200-255 on this channel corresponds to a rainbow color (non-stop rotating of the color wheel) and the level adjusts the speed of the rotating wheel, then check this box so that VenueMagic knows that the whole range controls something.

**Colorwheel color**

Select a pre-defined color from the list or select CUSTOM for your own color. Selecting a predefined color will also automatically set the Name field to the appropriate color name.



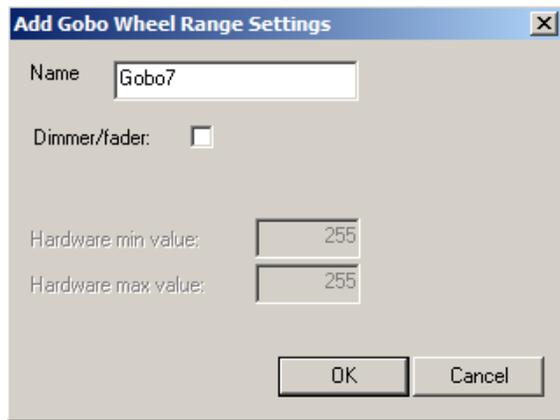
**Hardware min value**

The hardware value (0 to 255) specifying the bottom of the range, inclusively. Hard coded to 0, which puts any added ranges at the very end.

**Hardware max value**

The hardware value (0 to 255) specifying the top of the range, inclusively. Hard coded to 255.

**Add Gobo Wheel Range**



**Name**

Type in a name for the gobo.

**Dimmer/fader**

See [Add Color Wheel Ranges](#).

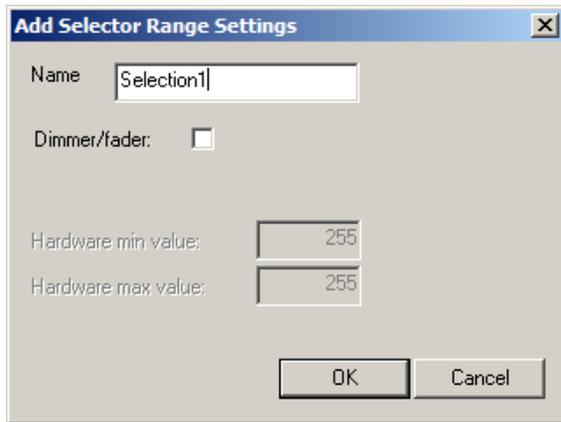
**Hardware min value**

The hardware value (0 to 255) specifying the bottom of the range, inclusively. Hard coded to 0, which puts any added ranges at the very end.

**Hardware max value**

The hardware value (0 to 255) specifying the top of the range, inclusively. Hard coded to 255.

## Add Selector Range



The screenshot shows a dialog box titled "Add Selector Range Settings". It has a close button (X) in the top right corner. The "Name" field contains the text "Selection1". Below it is a checkbox labeled "Dimmer/fader" which is currently unchecked. There are two input fields: "Hardware min value:" containing "255" and "Hardware max value:" containing "255". At the bottom, there are two buttons: "OK" and "Cancel".

**Name** Type in a name for the selection.

**Dimmer/fader** See [Add Color Wheel Ranges](#).

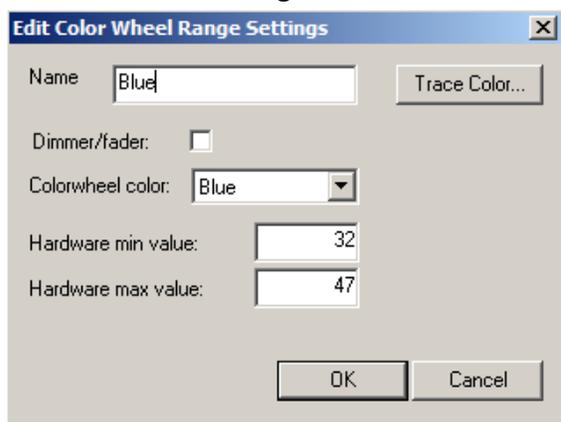
**Hardware min value** The hardware value (0 to 255) specifying the bottom of the range, inclusively. Hard coded to 0, which puts any added ranges at the very end.

**Hardware max value** The hardware value (0 to 255) specifying the top of the range, inclusively. Hard coded to 255.

## Editing Level Ranges

To edit a selected range, click the *Edit* button to bring up the *Edit Range Settings* window. This window is slightly different for each channel type.

## Edit Color Wheel Range



The screenshot shows a dialog box titled "Edit Color Wheel Range Settings". It has a close button (X) in the top right corner. The "Name" field contains the text "Blue". To the right of the "Name" field is a button labeled "Trace Color...". Below it is a checkbox labeled "Dimmer/fader" which is currently unchecked. There is a dropdown menu labeled "Colorwheel color:" with "Blue" selected. There are two input fields: "Hardware min value:" containing "32" and "Hardware max value:" containing "47". At the bottom, there are two buttons: "OK" and "Cancel".

**Name** Type in a name for the color.

**Dimmer/fader** Check this box if the range is to behave like a dimmer/fader. See [Adding Color Wheel Ranges](#) for a more detailed explanation of this setting.

**Colorwheel color**

Select a pre-defined color from the list or select CUSTOM for your own color. Selecting a predefined color will also automatically set the Name field to the appropriate color name.



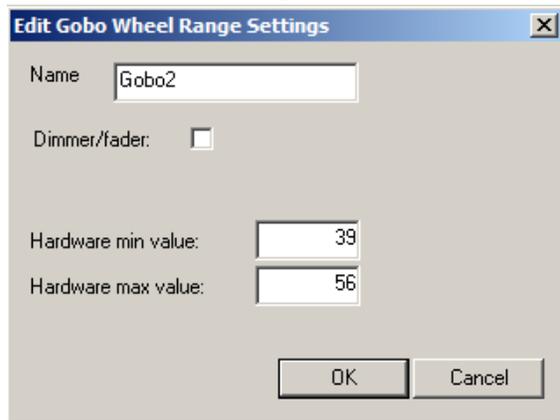
**Hardware min value**

The hardware value (0 to 255) specifying the bottom of the range, inclusively. (See also [Hardware Min/Max Value Auto-accommodation](#))

**Hardware max value**

The hardware value (0 to 255) specifying the top of the range, inclusively. (See also [Hardware Min/Max Value Auto-accommodation](#))

**Edit Gobo Wheel Range**



**Name**

Type in a name for the gobo.

**Dimmer/fader**

See [Add Color Wheel Ranges](#).

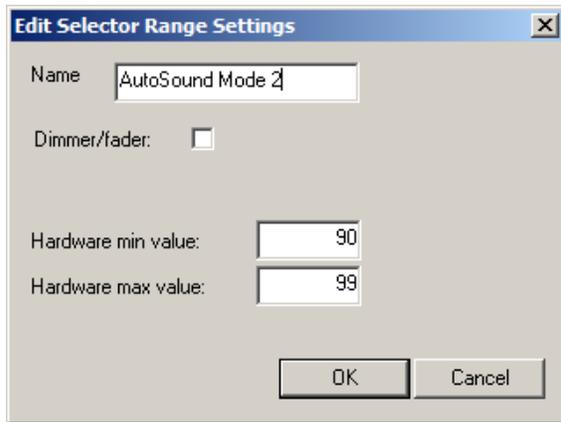
**Hardware min value**

The hardware value (0 to 255) specifying the bottom of the range, inclusively. (See also [Hardware Min/Max Value Auto-accommodation](#))

**Hardware max value**

The hardware value (0 to 255) specifying the top of the range, inclusively. (See also [Hardware Min/Max Value Auto-accommodation](#))

## Edit Selector Range



The screenshot shows a dialog box titled "Edit Selector Range Settings". It has a close button (X) in the top right corner. The "Name" field contains the text "AutoSound Mode 2". Below it is a "Dimmer/fader" checkbox which is currently unchecked. There are two input fields: "Hardware min value" with the number "90" and "Hardware max value" with the number "99". At the bottom of the dialog are two buttons: "OK" and "Cancel".

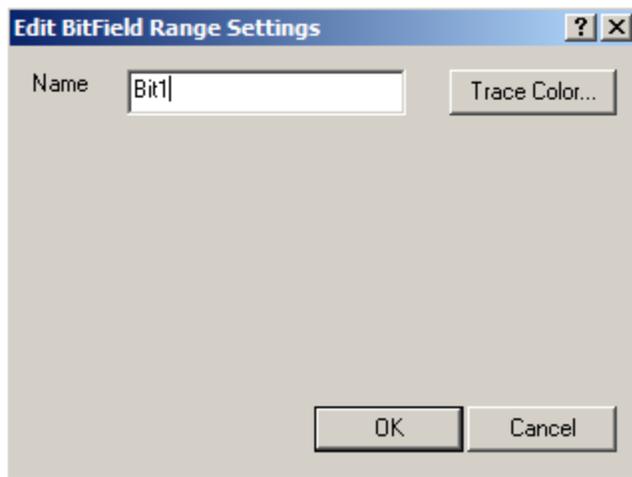
**Name** Type in a name for the selection.

**Dimmer/fader** See [Add Color Wheel Ranges](#).

**Hardware min value** The hardware value (0 to 255) specifying the bottom of the range, inclusively. (See also [Hardware Min/Max Value Auto-accommodation](#))

**Hardware max value** The hardware value (0 to 255) specifying the top of the range, inclusively. (See also [Hardware Min/Max Value Auto-accommodation](#))

## Edit Bitfield Bit



The screenshot shows a dialog box titled "Edit BitField Range Settings". It has a help button (?) and a close button (X) in the top right corner. The "Name" field contains the text "Bit1". To the right of the name field is a button labeled "Trace Color...". At the bottom of the dialog are two buttons: "OK" and "Cancel".

**Name** Enter a name for the bitfield bit.

## Hardware Min/Max Value Auto-accommodation

If you change the hardware min and/or max values for a channel range, VenueMagic will automatically adjust other ranges to accommodate the ranges you entered to prevent overlap and gaps in the ranges. This can often lead to unpredictable results if you enter range values very different from the original assigned ranges. Before radically changing hardware values for a

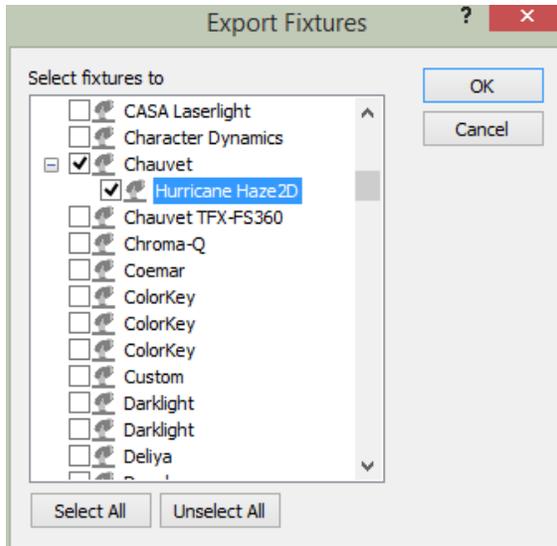
range, it is best to first move the channel range close to where you want it using the above the [Channel Selection/Subchannel Settings](#) list and then editing it.



## Exporting Fixtures



VenueMagic will allow you to export selected user fixtures to a file that can be imported by others. Click on the *Export Fixtures...* button to bring up the *Export Fixtures* window.



This tree shows a list of fixtures, listed by manufacturer, that are currently included in the user fixture library. Place a check on the fixtures you wish to export. You may also select all fixtures for a manufacturer by checking the box next to the manufacturers name. To export all fixtures, click on Select All. When you have checked all fixtures you wish to export, click OK, then select a path and enter a filename for the exported fixtures.

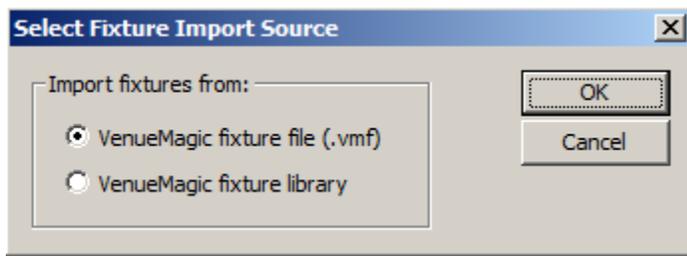
If the operation was successful, VenueMagic shows the message:



## Importing Fixtures

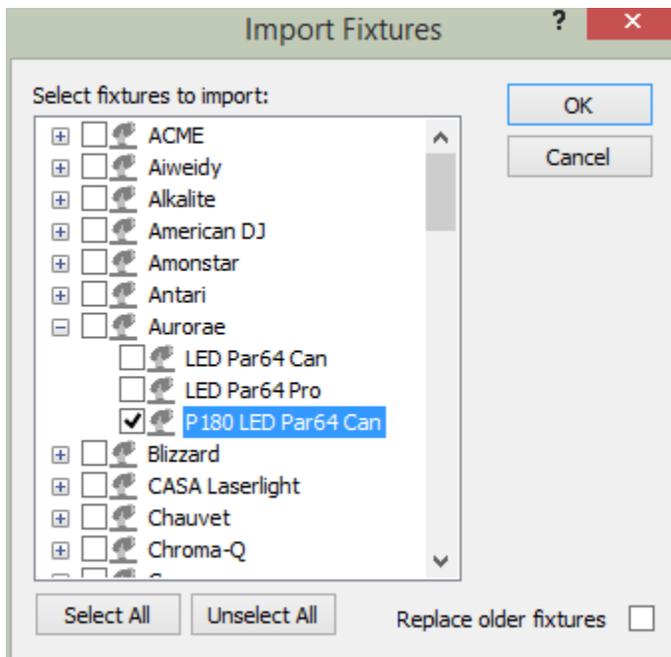


VenueMagic will allow you to import fixtures from a previously exported file, or from the main fixture library that came with your installation of VenueMagic. Start by clicking on the *Import Fixtures...* button.



The *Select Fixture Import Source* lets you choose where you will import from. Select the first option to import from a previously exported fixture file. Select the second option to import from the main fixture library. Then click OK.

Selecting the first option first brings up a file selection window from which you may select the file you wish to import fixtures from. Once the file has been selected and loaded, the *Import Fixtures* window allows you to choose which fixtures to import. Selecting the second option brings up the *Import Fixtures* window without first asking you to select a file. The *Import Fixtures* window functions similarly to the [Export Fixtures](#) window.

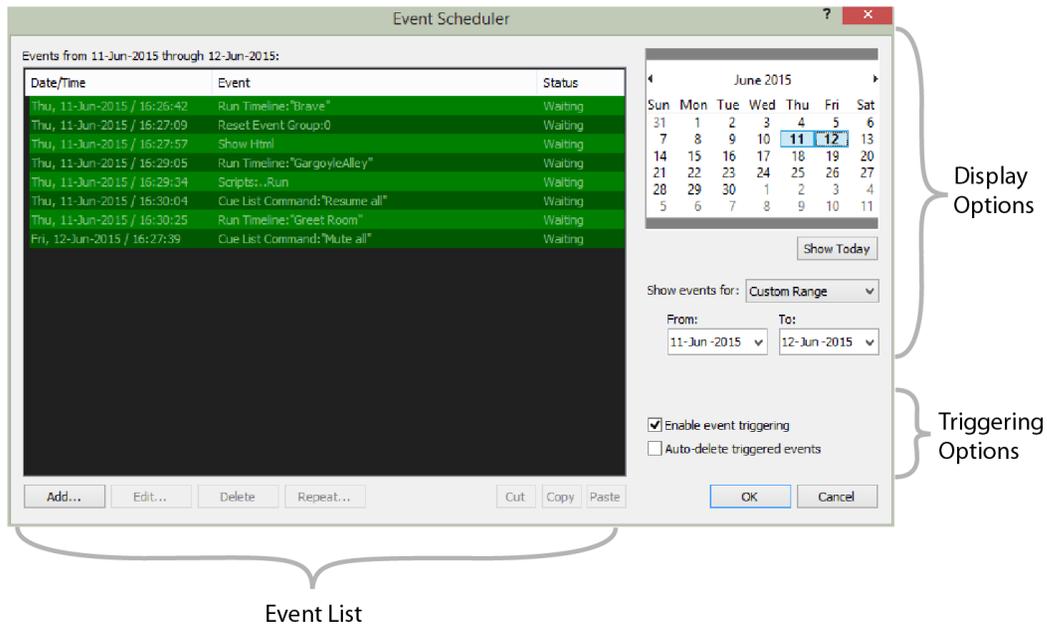


If you attempt to import a fixture that is already in your user fixture library, it will be ignored. If you want the imported fixture to replace the old one, check the *Replace older fixtures* option.

## Event Scheduler

(VenueMagic DMX+AV and above only)

The *Event Scheduler* lets you schedule the execution of a VenueMagic event for a specific date and time. From the main menu, select *View*→*Event Scheduler* to open the *Event Scheduler* window.



This Event Scheduler window is divided into three sections:

1. The event list shows the entered events according to display options and lets you add, edit, delete, copy, etc... events.
2. Display options specify the range of dates for which events are displayed.
3. Triggering options specify event triggering behavior.

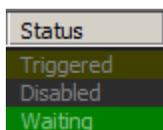
## Event List

The event list shows information about all events in the range specified in the display options. Shown for each is event is:

- **Date/Time:** The date and time that the event will be triggered.
- **Event:** A brief description of the event.
- **Status:** The current status of the event. Can be one of the following:
  - *Waiting:* Event is waiting for its trigger time.
  - *Triggered:* Event has been triggered. If *Auto-delete triggered events* is enabled, this status will never be seen.
  - *Disabled:* Usually means that the event has not been completely setup.

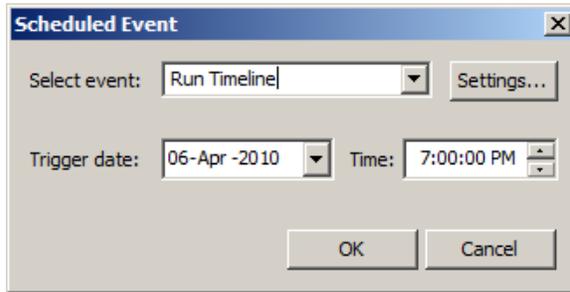
## Color Coding

For convenience, events in the list are color coded according to their status:



## Adding Events

To add an event when no existing event is currently selected, click on the *Add...* button to bring up the *Scheduled Event* window for a new event.



### Select event

Select the event you would like to trigger. Listed here are the same events that you can add to a timeline event track (see [Event Tracks](#)).

### Settings...

Click this button to bring up the events settings window for the selected event. For more information about these settings, go to the event setup window for the specified event in the [Event Tracks](#) section.

### Trigger date

Click on the  button to bring up the date picker and select a date for the event to trigger.

### Time:

Enter the time of day that you would like the event to trigger.

Added events are placed in the list sorted by date/time. When you add an event, the trigger date and time in the *Scheduled Event* window will default to the date and time of the last event currently displayed in the list. If no events are currently displayed, it will default to the current time, on the date specified in the *display options* section.

## Inserting Events

If an event is currently selected, the *Add...* button will be changed to display *Insert...*



This functions similarly to the *Add* button, except that the default date and time will be the same as the currently selected event. Again, if you change the date/time, the event will be repositioned in the list so that the proper display order (by date/time) is maintained.

## Editing Events

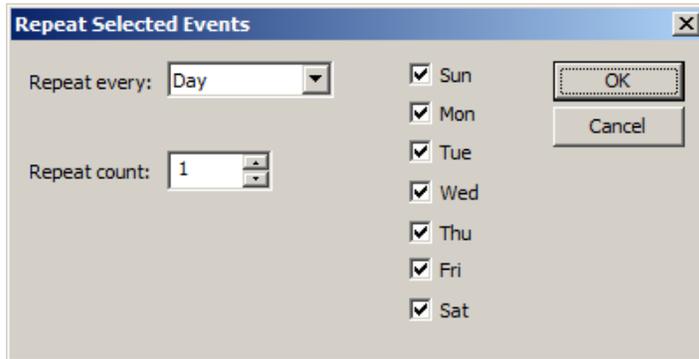
Select the event you wish to edit and click *Edit...* Modify any of the event settings in the *Scheduled Event* window.

## Deleting Events

Deleting one or more events by selecting them in the event list and clicking Delete.

## Repeating Events

You can tell events to repeat regularly at daily or weekly intervals. Select the events you wish to repeat and click on *Repeat...* to bring up the *Repeat Selected Events* window.

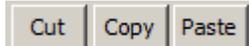


**Repeat every** You can tell the selected events to repeat every *Day* or every *Week*. If *Day* is selected, you can choose which days of the week it will be triggered.

**Repeat count** Enter the number of times you would like the selected events to repeat.

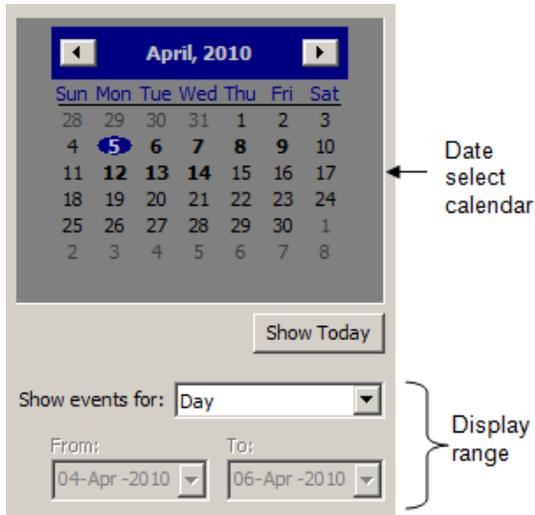
Repeating events really just copies them at the specified interval for the specified number of times. Once they have been set to repeat, you cannot go back and change the repeat parameters.

## Cut, Copy and Paste

You can also cut, copy and paste selected events using the  buttons. When you paste copied events, the event time remains the same, however, the date will be adjusted relative to the date currently selected in the *display options* section. For example, suppose you were to copy two events that occurred on the 15<sup>th</sup> and 16<sup>th</sup> day of the month respectively. If you were to set the display options to show events for the 20<sup>th</sup> day of the month and click *Paste*, the two events will be pasted to the 20<sup>th</sup> and 21<sup>st</sup> days of the month, respectively. *Note*: you cannot paste events prior to the current date and time.

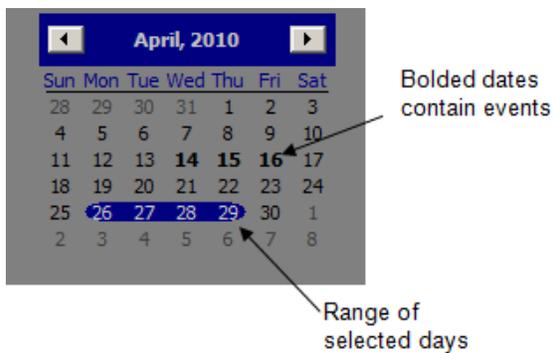
## Event List Display Options

The *event list display options* lets you select which day or range of days are displayed in the event list.



### Date Select Calendar

In the *date select calendar*, click on the day you would like to display in the list. You can also select several days by clicking and dragging the mouse pointer across multiple days.

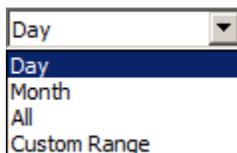


As you make your selection, the event list is updated with all events scheduled to trigger within the range. Use the   keys to select the displayed month.

Dates that contain events are marked in bold

### Showing Events Over Ranges

You can a range of dates with the *Show events for* selector



Select *Day* for a single day in the currently displayed month or *Month* to show events for the entire month. If you select *Custom Range*, you can enter an arbitrary range of dates in the *From* and *To* fields below.

To show events scheduled for today, click on the *Show Today* button.

## Triggering Options

- Enable event triggering** Check this box to enable triggering of scheduled events. Uncheck it to prevent events from triggering.
- Auto-delete triggered events** With this box checked, events will be cleared from the list as soon as they are triggered. If unchecked, triggered events remain listed with their status set to *Triggered*. Triggered events can be copied to a future time but cannot be reset to trigger again.

## Real-time Recording and Editing of Channels

*(Only available for VenueMagic DMX+AV and above)*

VenueMagic allows you to perform real-time recording of DMX, MIDI and Joystick inputs. You can setup Level Control effects to record input channel levels as they control specific output channels, and then play them back later. For more information on setting up the record feature, see [Level Control Setup Recording Properties](#).

After you have recorded data, you can go back and edit it using the envelope editor. The Envelope Editor includes tools for moving, stretching, dragging, smoothing, time shifting, and more. For more information on editing recorded data, see [Editing Recorded Data](#).

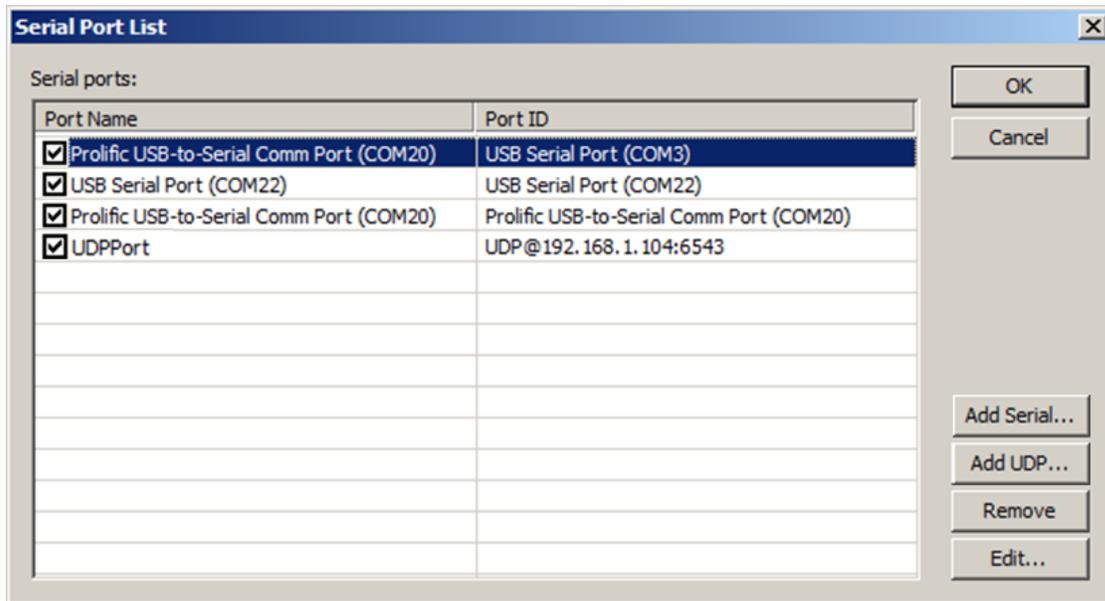
## Serial/UDP Port Input/Output

*(Only available for VenueMagic DMX+AV and above)*

VenueMagic lets you send custom, synchronized messages over any serial communications or UDP port on a local area network (LAN). It will also let you specify special input commands to allow external serial or UDP devices to command VenueMagic to send events or act as external control devices. From the [Supported Devices](#) tab in the [Setup Devices](#) window, check and select *Serial Communications* devices list, and click the *Properties* button. This will bring up the *Serial Port List* window.

### **Serial Port List Window**

Use this window to add or edit serial or UDP ports that can be used by VenueMagic [Serial Out Events](#).

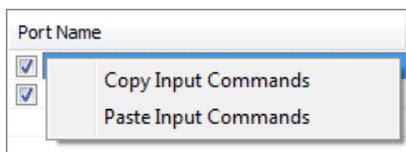


This list does not show all of the serial ports available on your computer. Rather it shows only those ports that you have told VenueMagic you want to use. To add a serial port to the list, click the *Add Serial* to bring up the [Setup Serial Port](#) window. To add a UDP port, click on *Add UDP* to bring up the *Setup UDP Port* window. To edit the settings of an already added serial port, select the port from the list and click *Edit...* To delete a port from the list, select it then click *Remove*.

You can enable/disable the port by checking/un-checking the box to the left of the *Port Name*.

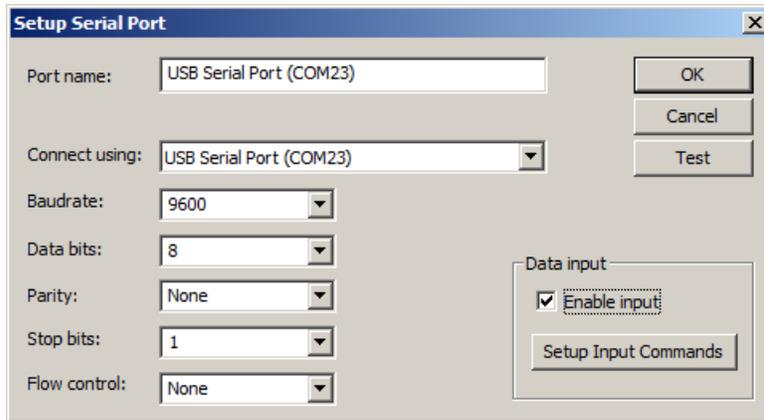
### Copying Serial Input Commands

Input commands that have been setup for a serial port (see [Serial Input Commands](#)) may be copied from one serial port to another by right clicking on the port to copy and selecting **Copy Input Commands**. Then right click on the port that the commands will be copied to and select **Paste Input Commands**.



### Setup Serial Port

This window lets you set up a serial communications port for use by VenueMagic.

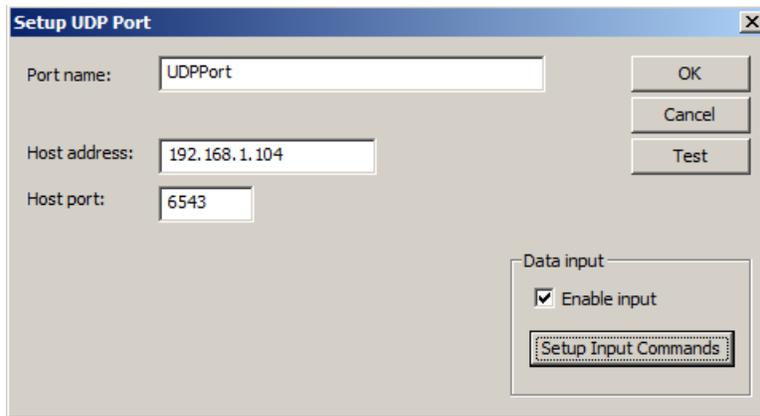


This information is dependent on the hardware you will be communicating with. Consult the manual that came with your hardware for the proper serial communications settings.

- Port name** Type in any unique name for the port. By default, it will be the name of the port selected in the *Connect Using* field.
- Connect using** Shows a list of all available serial ports on your computer. Select the one you would like to use.
- Baudrate** Select an appropriate baud rate from the list.
- Data bits** Select the number of data bits required (4-8). Most hardware will require this to be set to 7 or 8.
- Parity** Select the option for parity check. If you're unsure, leave it at none.
- Stop bits** Select the stop bits (1, 1.5 or 2). A value of 1 is most common.
- Flow control** Select the flow control (handshaking) mode for communications. "None" is the most common selection.
- Enable input** Check this box to enable serial input from the selected port.
- Setup Input Commands** Click this button to bring up the [Serial Input Commands](#) window.
- Test** Click the Test button to make sure you can open your serial port. Note: A successful test only tells you the serial port on your computer is set up and working properly. *It does not tell you if you are communicating with your hardware.*

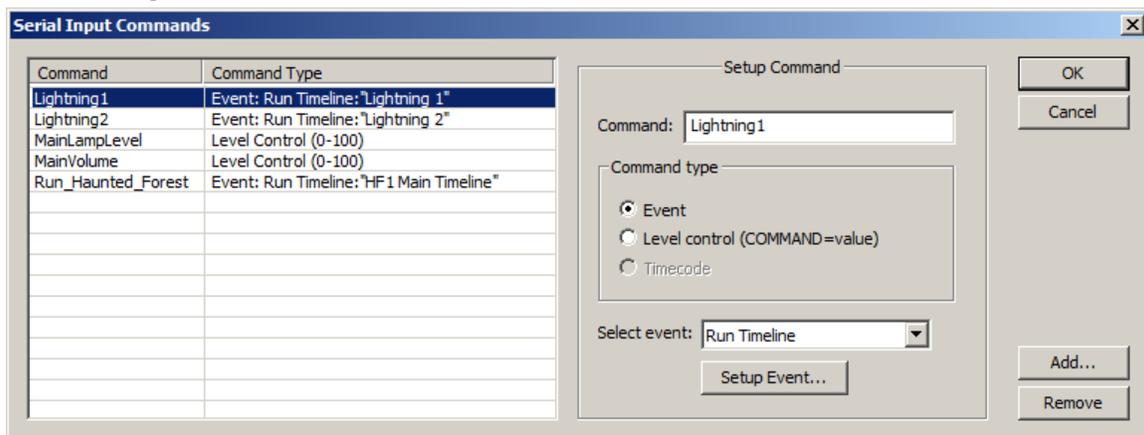
## Setup UDP Port

This window lets you set up a UDP communications port for use by VenueMagic.



- Port name** Type in any unique name for the port. By default, it will be the name of the port selected in the *Connect Using* field.
- Host address** Enter the computer name or IP address that this port will be communicating with.
- Host port** Enter the port number the UDP port will open for sending and receiving.
- Enable input** Check this box to enable serial input from the selected port.
- Setup Input Commands** Click this button to bring up the [Serial Input Commands](#) window.
- Test** Click the Test button to make sure you can open your UDP port. Note: A successful test only tells you the UDP port on your computer is set up and working properly. *It does not tell you if you are communicating with another computer.*

## Serial Input Commands



VenueMagic lets you set up serial/UDP input commands that will enable an external device to perform the following functions on VenueMagic:

1. Trigger an event
2. Provide level data available in the [Select External Control](#) window.

Click the *Add* button to create a new command, and then set up the command parameters:

**Command** This is the command string that the external device must send to trigger this command. Command strings sent by the external device must be terminated with a carriage return character (hex=0x0d, decimal=13).

**Command type** Select from the following command types:

- **Event:** Receiving the command triggers a VenueMagic [Event](#).
- **Level:** Command appears in the [Select External Control](#) window.
- **Timecode:** Currently unsupported.

### Event Commands

The screenshot shows a dialog box titled "Setup Command". It has a "Command:" text box containing "Lightning1". Below it is a "Command type" section with three radio buttons: "Event" (selected), "Level control (COMMAND=value)", and "Timecode". At the bottom, there is a "Select event:" dropdown menu showing "Run Timeline" and a "Setup Event..." button.

Choose a VenueMagic event in the *Select event* list. Click on *Setup Event...* to bring up the properties window for the selected event.

### Level Control Commands

The screenshot shows a dialog box titled "Setup Command". It has a "Command:" text box containing "MainLampLevel". Below it is a "Command type" section with three radio buttons: "Event", "Level control (COMMAND=value)" (selected), and "Timecode". At the bottom, there are two text boxes: "Min value:" containing "0" and "Max value:" containing "100".

Level control commands must be sent by the external device in the form:

*command = level<CR>*

Where *command* is the specified command string and *level* is a number between *Min value* and *Max value*. The terminating character, <CR> (hex=0x0d, decimal=13) must always be added to

the end of the string. VenueMagic will scale the full range of *Min value* to *Max value* and convert it into the 0%-100% values that VenueMagic expects.

Serial input commands that have been setup for one serial port can be copied to another (see [Copying Serial Input Commands](#)).

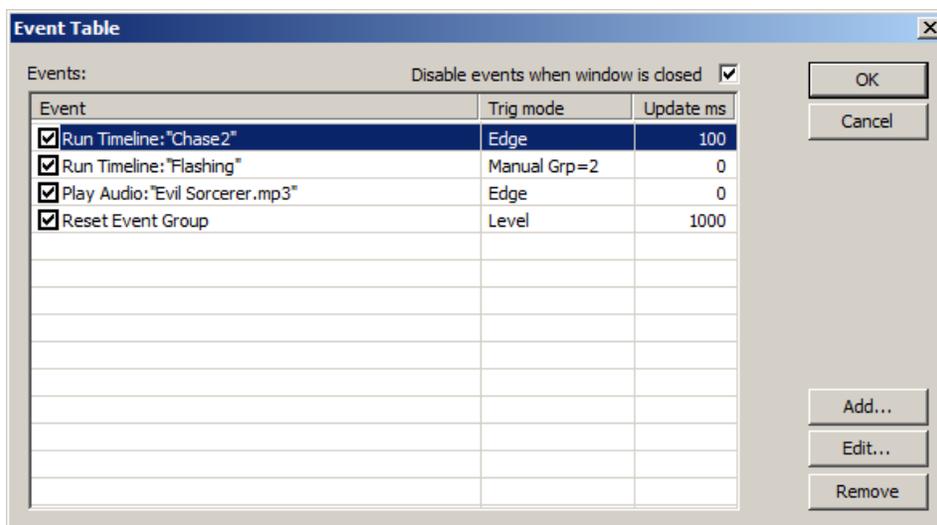
## Serial Output Commands

All serial output is handled by the [Serial Port Output Event](#).

## Event Table

(Only available for VenueMagic SC+ and above)

Open the *Event Table* window by selecting *Events* → *Event Table* in the main menu.



Events in the *Event Table* function identically to events in an [event track](#). The big difference is that while event track events conditionally trigger at a specific time in a timeline, events in the *Event Table* will trigger the moment a condition is true. You can also setup events in the table to trigger periodically at a specified time interval.

To add an event to the list, click the *Add* button. This will bring up the [Select Event window](#). Select the event you would like to add and click OK and the Event Properties window will appear for the selected event. Set up the event just as you would an event on a timeline.

You will notice an additional tab in the *Event Properties* window that does not appear for events in timelines. The Trigger tab is specific to events in the event table and offers for control over how, and how often, an event will trigger (see [Event Trigger Settings](#) below).

The *Edit* button will bring up the *Event Properties* window for the selected event. The *Remove* button will remove selected events from the event table.

Check the *Disable events when window is closed* box to prevent the events table from activating as soon as the window is closed. This will prevent events from triggering unexpectedly. The event table can be enabled manually by selecting *Events* → *Enable Event Table* in the main menu. When enabled, the table will constantly scan through the events, triggering them when the specified conditions are valid.

## Naming Events

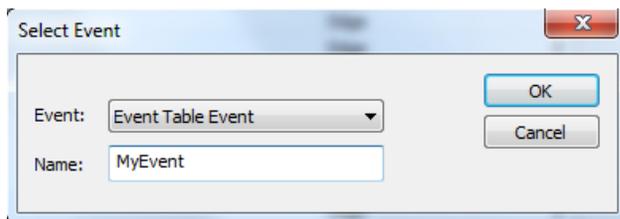
Event names are useful for helping to identify what an event is triggering. The *Event* column shows the default name assigned to each event which is pretty much a description of what the event is doing. You can change what appears in this field by following these steps:

1. Click on the event to select it in the list.
2. Click on the name itself to open an edit box.
3. Enter the desired name and press the ENTER key.

Event	Trig mode	Update ms
<input checked="" type="checkbox"/> AudioTest1	Edge	0
<input checked="" type="checkbox"/> Run Timeline	Edge	0

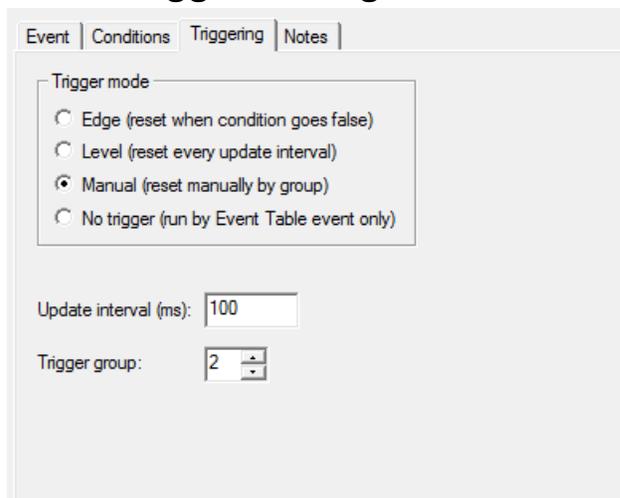
Enter the desired event name

## Select Event Window



Select the type of event to add to the event table. Click OK and the properties window for the selected event will come up. Enter into the **Name** field the name of the event as it will appear in the table.

## Event Trigger Settings



Event table events offer additional flexibility when it comes to how the event is triggered.

### Trigger mode

The trigger mode is actually more concerned with how an event resets itself after it has been triggered. An event is triggered when the specified condition (set in the [Conditions](#) tab) becomes *true*. A triggered

event must be reset before it is able to trigger again. The following options are available:

**Edge** – Once an edge trigger has been triggered, it can only be reset when whatever condition caused the trigger becomes false. For example, if an event condition causes the event to trigger when a [Virtual Slider](#) goes above 50%, the trigger will automatically reset when the slider drops back down to 50%.

**Level** – A level triggered event will execute when the specified condition is true and will execute repeatedly until the condition becomes false. This mode is usually used with an Update interval value greater than zero; otherwise the event will be repeatedly triggered at the full VenueMagic cycle rate.

**Manual** – In this mode, the triggered event must be manually reset before it can trigger again. There are two ways to reset a manual event:

1. Select *Events* → *Reset Event Groups* in the main menu. This will reset all event groups.
2. Reset it using a Reset Event Group event. This will reset a specific event group or all of them.

**No trigger** – Disables triggering of this event altogether. This mode should only be selected if the event is to be executed exclusively by the [Event Table event](#).

### Trigger group

To more easily facilitate the manual resetting of large numbers of Manual-mode events, each event is assigned to an *event group*. In this field, select the group number an event will belong to. When Reset Event Group event is executed, all events assigned to a specified group number are reset together.

## Variable Table

*(Only available for VenueMagic SC+ and above)*

The VenueMagic variable table is a list of general purpose variables that store numeric values that can be used as external input sources (see [Selecting External Input Devices](#)).

The value of the variable table's variables are set primarily by the [Set Variable Event](#), however they can also be modified by a special function of Channel Routing Groups to take advantage of a variable's redirect feature. Access to a variable's value is available only as an external input source.

From the main menu, select *Devices* → *Variable Table* to open the Variable Table window.

Variable Name	Description	Start Val	Redirected
PlayTimelineNum	Number of timeline to play	1	No
Attract2Cnt	Counts looping of Attract2 ti...	0	No
Attract1Cnt	Counts looping of Attract1 ti...	0	No
PresetSlider1	Router preset slider 1	0	Yes
PresetSlider2	Router preset slider 2	0	Yes
PresetSlider3	Router preset slider 3	0	Yes

To add a variable to the table, click Add to create a new variable and bring up the [Variable Properties window](#).

### Variable Properties Window

Variable name:

Description:

Startup value:

Redirect to:

Assign to ShowNodes device:

**Variable name** Enter a name to uniquely identify the variable.

**Description** An optional description of the variable.

**Startup value** Enter the value that the variable will be automatically set to when VenueMagic first starts up. The variable will retain this value until it is changed by a [Set Variable Event](#) or by a Channel Routing Groups change if the routing group is setup to do so.

**Redirect to** Check this box and any value assigned to the variable will be redirected to a MIDI channel. Click *Select* to bring up the [Select MIDI Message](#) window.

This feature is mainly intended to function with the Channel Routing Groups feature. As such, the number assigned to the variable is expected to be in the range 0-100, and will be re-scaled to a value between 0 and 127 before being sent as a MIDI message.

**Assign to ShowNodes device** Check this box to assign the variable to a [ShowNodes](#) node. Select a node from the adjacent drop list.

Assign to ShowNodes device:

This list will only show project nodes that are capable of doing channel routing. Changes to these settings will not take effect on the selected node until the next [Build & Upload](#).

## Virtual Fixtures

(Only available for VenueMagic SC+ and above)

Virtual fixtures function as both fixture outputs and external inputs. Virtual fixtures appear in the Fixture folder of the [Project window](#), from where they can be added into control tracks. However, they are also available as external inputs in the [Select External Input Device](#) window. This allows you to use fixture effects to control volume levels, lamp levels or anything else that can be controlled with an external input.

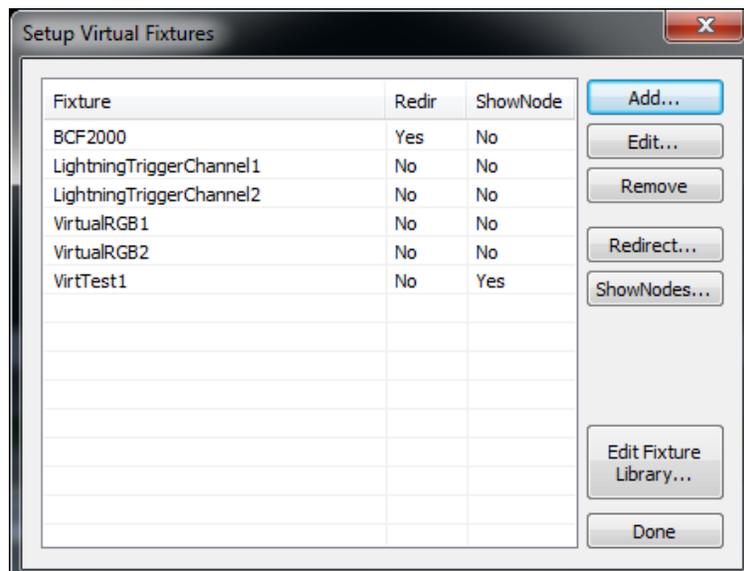
Unlike regular DMX [fixtures](#), which are associated with an actual piece of DMX hardware, virtual fixtures represent “imaginary” hardware and, by default, do not control anything outside the software (unless redirected to MIDI outputs—see [Redirecting Virtual Fixture Channels to MIDI](#)). They exist solely for the purpose of routing level control from a [control track](#) into an available external input source.

Virtual fixtures are created in two steps:

1. Create a virtual fixture in the [User Fixture Library](#). Be sure to select **Virtual** as the *Show fixture for device* option.
2. Add the fixture to the virtual fixture list from the *Setup Virtual Fixtures* window.

## Setup Virtual Fixtures Window

Open the *Setup Virtual Fixtures* window by selecting *Devices* → *Virtual Fixtures* from the main menu.



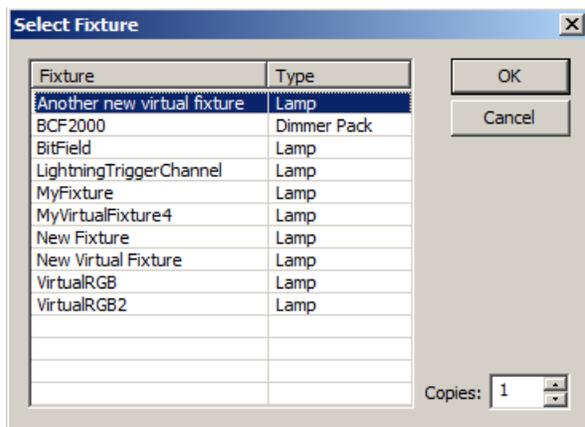
This list shows virtual fixtures that have been set up for the project.

### Add

Click *Add* to bring up the [Select Fixture List](#), which shows a list of all virtual fixtures that have been created in the [User Fixture Library](#).

- Edit** Click *Edit* to bring up the [Edit Fixture Settings](#) window for the selected fixture. From here you can rename the fixture and channels as they appear in the Virtual Fixtures list.
- Remove** Removes selected fixtures from the list.
- Redirect...** The redirect features lets you assign virtual fixture channels to actual MIDI messages. Select a fixture with channels you would like to redirect to MIDI, then click *Redirect* to bring up the [Redirect Virtual Fixture Channels](#) window. If a fixture has been redirected, the text “Yes” will appear in the **Redir** column. “No” in that column indicates that the fixture has not been redirected.
- ShowNodes...** Opens the [Assign to ShowNodes](#) window from where you can assign all channels of the currently selected virtual fixture to a node (see [ShowNodes and Virtual Fixtures](#)). If a fixture has been assigned to a ShowNodes node, the text “Yes” will appear in the **ShowNodes** column. If the fixture is not assigned to ShowNodes, “No” will show in that column.
- Edit Fixture Library...** A shortcut to open the [User Fixture Library](#) for creation of new virtual fixtures.

## Select Fixture List

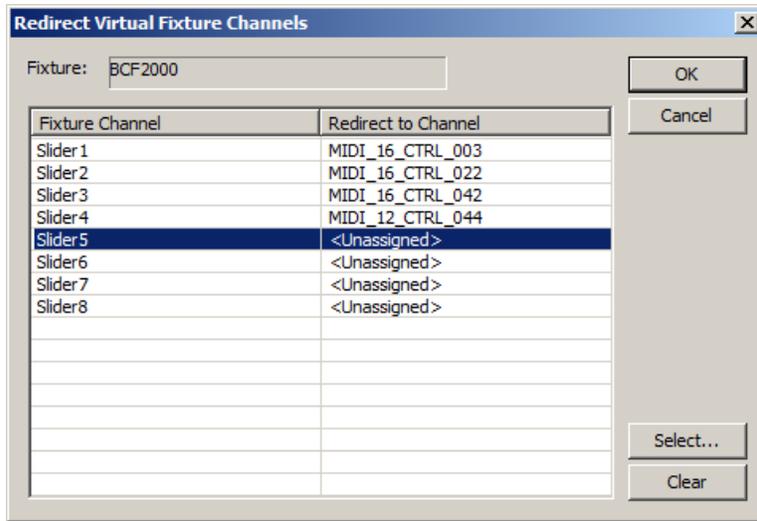


Lists the virtual fixtures that have been created in the [User Fixture Library](#). Select the fixtures you would like to add to the *Set up Virtual Fixtures* window and then select how many copies of each fixture you would like to add. Then click OK.

## Redirecting Virtual Fixture Channels to MIDI

Virtual fixtures are meant primarily to function as a link between [control track](#) level control and external inputs (see [Selecting External Input Devices](#)). However, they do offer an additional feature that allows them to be redirected to MIDI messages, giving VenueMagic the ability to seamlessly control MIDI-based fixtures as easily as it controls DMX-based fixtures.

Bring up the Redirect Fixture Channels window by selecting a virtual fixture in the [Setup Virtual Fixtures window](#) and clicking *Redirect*.



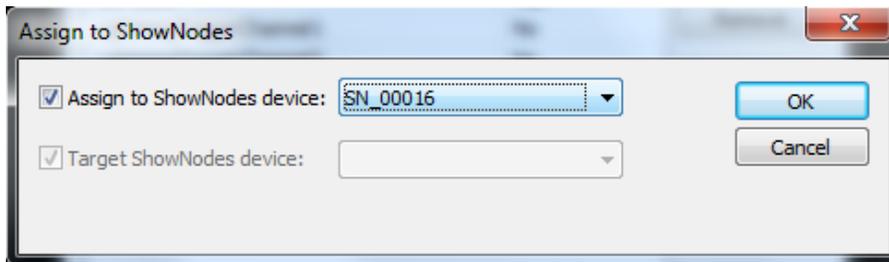
Shown here is a list of all of the channels contained in the selected fixture. Select a channel and click *Select* to bring up the [Select MIDI Message](#) window. (Note that this is the same selection window used by the [MIDI Out event](#).)

After you have assigned all of the desired channels to MIDI messages, click *OK* to return to the [Setup Virtual Fixtures window](#) where you will see that the *Redirected* column of the fixture now reads "Yes". This indicates that at least one channel in the fixture has been redirected to a MIDI message.

To un-assign the redirection of a channel, select the desired channel, and then click *Clear*.

## Assigning Virtual Fixture Channels to a ShowNodes Node

Click the *ShowNodes...* button on the [Setup Virtual Fixtures](#) window to open the *Assign to ShowNodes* window.



Virtual Fixtures can be assigned to a [ShowNodes](#) node by checking the **Assign to ShowNodes device** box and then selecting the desired node from the adjacent drop list. See [ShowNodes and Virtual Fixtures](#) for more information.

## VMNet

*(Only available for VenueMagic SC+ and above. Some features available in DMX+AV and Classic)*

**VMNet** expands the power of VenueMagic to local area networks, providing the following capabilities:

- Remote running and synching of timelines

- Remote execution of VenueMagic events
- Telnet services
- Interfacing for VM plug-ins running on other applications (Virtual DJ, etc...)

There are two components of VMNet: *Server*, *Client* and *Time code Source*. Any currently running VenueMagic on the network can function simultaneously as a server and a client.

## **VMNet Server**

The VMNet Server function provides the following services:

<b>Remote synching</b>	The VMNet server can receive time code messages from a VMNet time code source and relay it to any timelines running locally that are set up to receive them.
<b>Remote event execution</b>	VMNet servers receive event commands from clients and execute them on the local machine. Only certain VenueMagic events can be sent over VMNet. Consult the documentation on a specific event to see if it has VMNet remote execution available.
<b>Telnet service</b>	VMNet offers a simple Telnet server capability for the purpose of receiving VenueMagic event execution commands from other applications.
<b>Plug-in services</b> (available in Classic and above)	VenueMagic plug-ins running in other applications (such as Atomix's <i>Virtual DJ</i> ) communicate with VenueMagic through the VMNet server. A number of special functions are exposed to the plug-in to provide a very tight, clean and complete integration between the plug-in and VenueMagic, whether VenueMagic is running on the local computer, or on another computer connected to the network.

More information on how to set up the VMNet server can be found in the [Project VMNet Settings](#) section.

## **VMNet Clients**

A VenueMagic project can have as many Clients as required, each one set up to communicate with a single VMNet server running locally or on another computer connected to the network.

VMNet clients enable VenueMagic events to be sent to VMNet servers to be executed remotely on other VenueMagic installations running on the network.

This feature is available only to selected VenueMagic events which include an additional *VMNet* tab in their setup windows.

More information on how to setup VMNet clients can be found in the [Project VMNet Settings](#) section.

## **VMNet Time Code Source**

A VenueMagic timeline can be setup to be a VMNet time code source in the [Timeline Synching Options](#) window. There are multiple channels of VMNet time code available, so it is possible to run several timelines simultaneously as VMNet time code sources as long as they are all on different channels.

## VMNet Pass Codes

A VMNet server can be setup with a special pass code that prevents unauthorized users to control it from another VenueMagic on the network. A pass code can be any number from 0 to 2147483647 and needs to be set for the server and all clients that use the server.

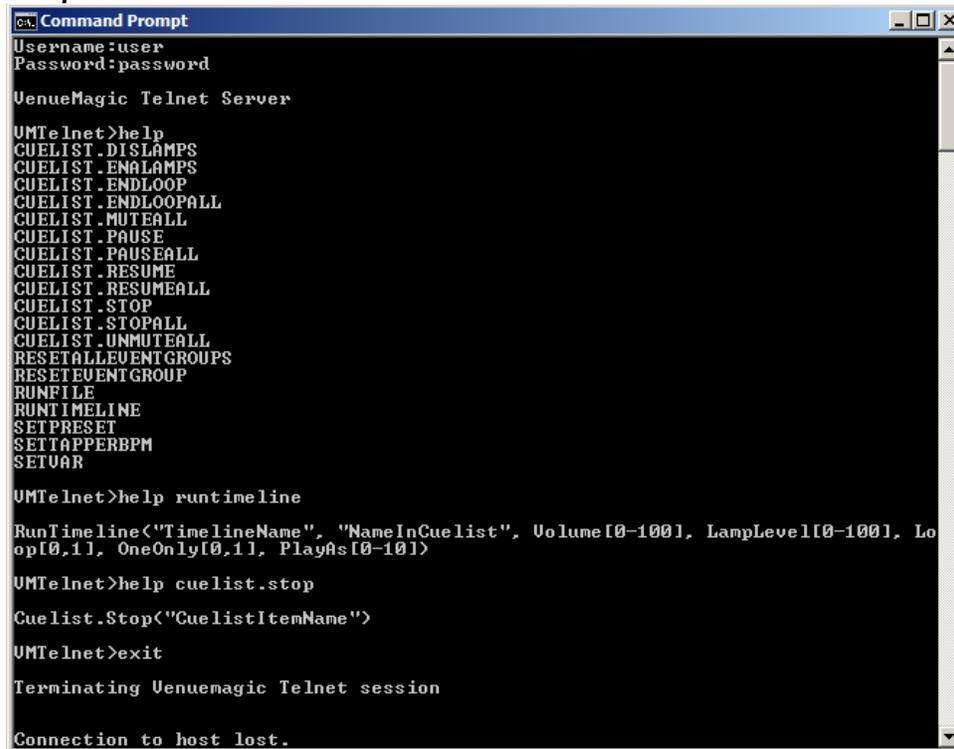
More information on how to setup VMNet pass codes can be found in the [Project VMNet Settings](#) section.

## VMNet Telnet Server

Telnet is one of the services offered by the VMNet server. It is a simple implementation that gives other applications the ability to remotely execute certain VenueMagic events. More information on how to setup VMNet Telnet server can be found in the [Project VMNet Settings](#) section.

Once a Telnet client has successfully connected to a VMNet Telnet server, a list of available event commands can be displayed using the **help** command. Typing **help** followed by one of the listed commands provides a simple description of the function's parameter list. Terminate the session by typing **exit**.

### Sample VMNet Telnet Session



```
ca. Command Prompt
Username:user
Password:password

VenueMagic Telnet Server

UMTelnet>help
CUELIST.DISLAMPS
CUELIST.ENLAMPS
CUELIST.ENDLOOP
CUELIST.ENDLOOPALL
CUELIST.MUTEALL
CUELIST.PAUSE
CUELIST.PAUSEALL
CUELIST.RESUME
CUELIST.RESUMEALL
CUELIST.STOP
CUELIST.STOPALL
CUELIST.UNMUTEALL
RESETALLEVENTGROUPS
RESETEVENTGROUP
RUNFILE
RUNTIMELINE
SETPRESET
SETTAPPERBPM
SETUAR

UMTelnet>help runtime
RunTimeline<"TimelineName", "NameInCuelist", Volume[0-100], LampLevel[0-100], Loop[0,1], OneOnly[0,1], PlayAs[0-10]>

UMTelnet>help cuelist.stop
Cuelist.Stop<"CuelistItemName">

UMTelnet>exit
Terminating VenueMagic Telnet session

Connection to host lost.
```

Each of above event commands executes the VenueMagic events that the command name suggests. The command parameters are named after the settings in individual events. The following conventions are followed in the parameter lists:

- String values are enclosed in quotation marks, which should be included in the sent command.
- Numeric values can be entered with or without the decimal point.
- Parameter ranges and options are displayed in square brackets [ ]. The brackets must not be included in the command.

- For on/off parameter, 0=off, 1=on.

For example, the **RunTimeline** command in the sample screen above could be set as follows:

```
RunTimeline("MyTimeline", "MyTimeline", 100.0, 50,0, 1, 0, 0)
```

The passed parameters are:

Name of timeline:	<b>"MyTimeline"</b>
Name in cue list:	<b>"MyTimeline"</b>
Volume scaling:	<b>100.0</b>
Lamp level scaling:	<b>50.0</b>
Loop timeline:	<b>1 (enabled)</b>
Play one only:	<b>0 (disabled)</b>
Play as:	<b>0 (background timeline)</b>

### ***VMNet Telnet Clients***

Telnet clients enable VenueMagic to send telnet messages to standard telnet servers over a network. Multiple clients can be setup in the [Project Telnet Settings](#) window. Once clients have been setup, messages are sent using the [VMTelnet Event](#).

# Teleprompter

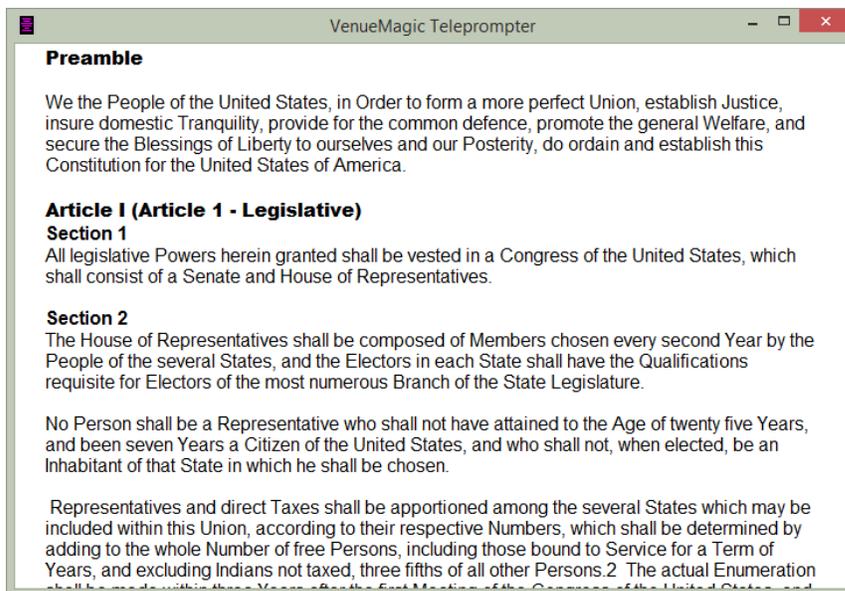
(Only available for VenueMagic DMX+AV and above)

The VenueMagic teleprompter is a powerful, full-featured teleprompter that is fully integrated into VenueMagic's [timeline](#) and [external control](#) functionality. With the VenueMagic teleprompter you can:

- Import, edit and format multi-page text for display.
- Scroll text manually using a MIDI controller (keyboard, foot control, etc...) or any other supported external control.
- Control text scrolling from a timeline (SC+ only).
- Display song lyrics or other text synchronized to timeline playback.
- Import Lyric (LRC) files to automatically populate a timeline with teleprompter text for a specific song.

## Main Teleprompter Window

From the main menu, select *View*→*Teleprompter* to bring up the VenueMagic Teleprompter window. You can also click on the  icon on the main toolbar. Click the icon again to close the window.



This window can be sized and positioned with the mouse. Size and position are saved when VenueMagic is exited. VenueMagic provides only one teleprompter window that is used by all timelines and projects.

## Fixed vs. Dynamic Text

Text displayed in the teleprompter window is either *fixed* or *dynamic*.

**Fixed text** is entered directly into the teleprompter editor (see [Teleprompter Edit Mode](#)). *Fixed* text is included as part of VenueMagic's global data (i.e.: not associated with a project or timeline) and is saved automatically when VenueMagic exits. It is also automatically loaded into the

teleprompter when VenueMagic is run and remains displayed in the window until it is overwritten by *dynamic* text.

**Dynamic text** is sent to the teleprompter by a [teleprompt marker](#) in a running [timeline](#). A timeline may contain multiple teleprompt markers. As the [time cursor](#) passes over a marker, the text and formatting associated with the marker are sent to the teleprompter, overwriting what is currently being displayed.

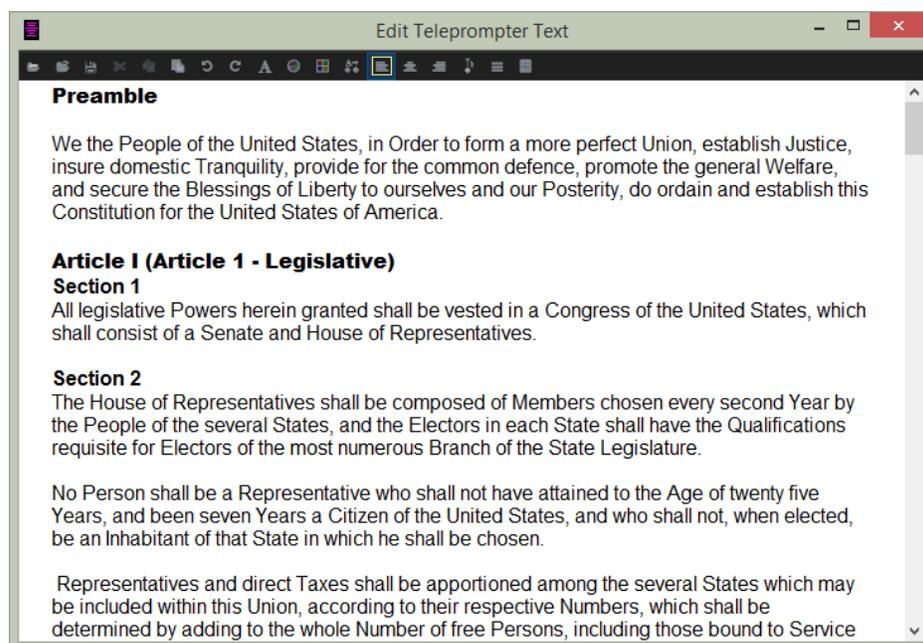
### Which to Use?

*Fixed* text is easier to use but not very flexible. *Dynamic* text is far more flexible because timelines can control what is being displayed in the teleprompter at all times during show playback.

It should also be noted that the teleprompter is limited to the number of characters it can display. If the text you have cannot be accommodated, you may have to split it up across multiple teleprompter markers.

## Teleprompter Edit Mode

At startup (i.e.: when VenueMagic is run), the teleprompter is put into *display mode*, where text can be displayed (and scrolled if needed) but not edited. In order to edit *fixed* text, you must put the teleprompter into *edit mode*. This is done by right-clicking anywhere in the teleprompter text area and selecting *Switch to Editor*. You can also click on the  icon in the main toolbar.



In edit mode, the teleprompter window functions as a typical text editor with standard settings and features such as:

- Text font, size and color.
- Horizontal/vertical justification
- Horizontal/vertical margins
- Background color
- Cut, copy, paste text
- Import standard (.txt) or formatted (.rtf) text files.

The teleprompter editor serves two main purposes:

1. Editing *fixed* text (see [Fixed vs. Dynamic Text](#))
2. Editing and exporting *dynamic* text to [timeline teleprompter markers](#) (see [Exporting Text and Formatting to Teleprompter Markers](#)).

### Edit Mode Toolbar



Below is a summary of the edit mode toolbar button functions:

<b>Button</b>	<b>Function</b>
	Erase editor contents.
	Import text (.txt) or formatted (.rtf) files. Note: Formatted (.rtf) files can be created by document editors such as WordPad and MS Word.
	Standard cut, copy and paste functions.
	Set font of selected text. Brings up text font setting window.
	Set color of selected text. Brings up color selection window.
	Set editor background color. Brings up color selection window.
	Applies teleprompter's current format settings to all teleprompter markers in currently loaded <a href="#">timeline</a> .
	Select horizontal alignment of selected text (left, center or right).
	Inserts a <a href="#">teleprompter marker</a> into the currently open timeline at the location of the <a href="#">time cursor</a> (see <a href="#">Exporting Text and Formatting to Teleprompter Markers</a> ).
	Opens <a href="#">Teleprompter Settings</a> window.
	Switch teleprompter back into <i>display</i> mode.

## Exporting Text and Formatting to Teleprompter Markers

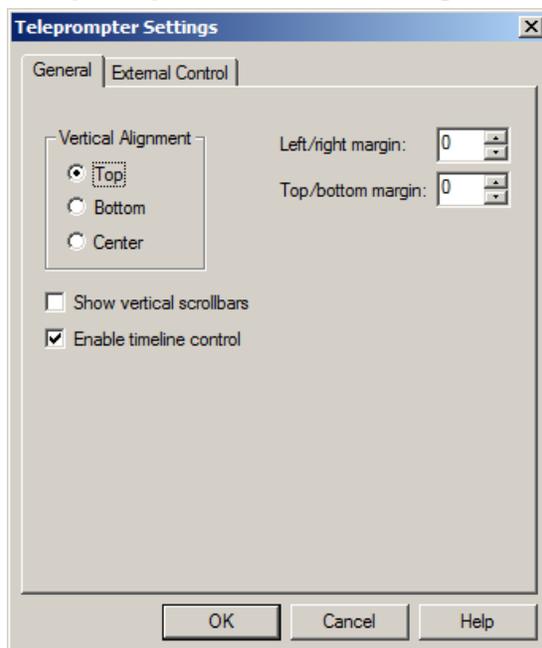
If you wish to divide up a larger piece of text across multiple [teleprompter markers](#) (song lyrics are a great example of this) the best thing to do is to first load it into the teleprompter editor and then export sections of the text to different markers.

This is done by first selecting a block of text, and then clicking on the  button. This will create a new teleprompter marker and copy into it the selected block of text, including formatting.

## Teleprompter Settings Window

The Teleprompter Settings window lets you set up the *display mode* behavior of the teleprompter window.

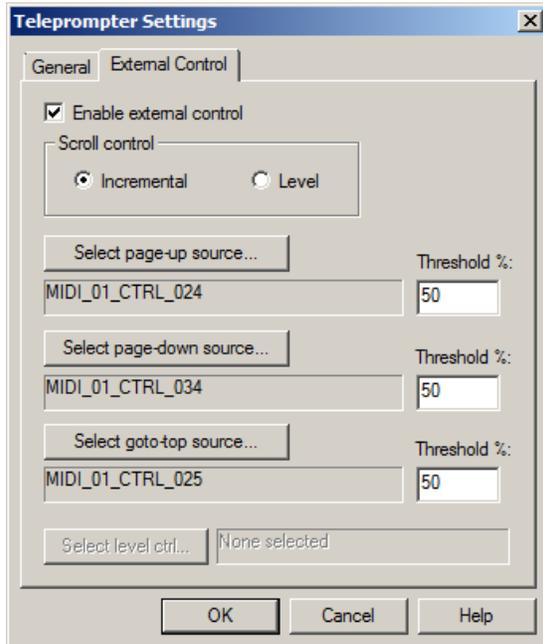
### Teleprompter General Settings



- |                                 |   |
|---------------------------------|---|
| <b>Vertical Alignment</b>       | Select the vertical alignment of all text in the teleprompter. This will only take effect during display mode. Select from <b>top</b> , <b>bottom</b> , and <b>center</b> . <b>Bottom</b> and <b>center</b> alignment works best if the teleprompter contains only a single page of text. |
| <b>Left/right margin</b>        | Adjust the left and right margins of the teleprompter.  |
| <b>Top/bottom margin</b>        | Adjust the top and bottom margins of the teleprompter.  |
| <b>Show vertical scrollbars</b> | Check this box if you wish the vertical scrollbars to be available during display mode. If scrolling is controlled exclusively from external controls, then scrollbars are probably not needed.   |
| <b>Enable timeline control</b>  | Uncheck this box if you do not want the teleprompter to be affected by timeline markers.  |

## Teleprompter External Control Settings

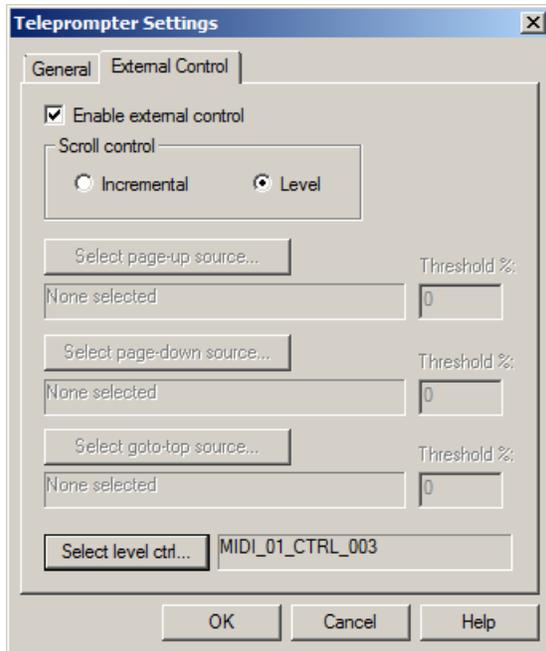
Here you can set how teleprompter page scrolling will respond to [external controls](#).



Check the *Enable external control* box if you wish use external inputs (MIDI, etc...) to control teleprompter page scrolling. Then select the desired *Scroll control* option, either **Incremental** or **Level**.

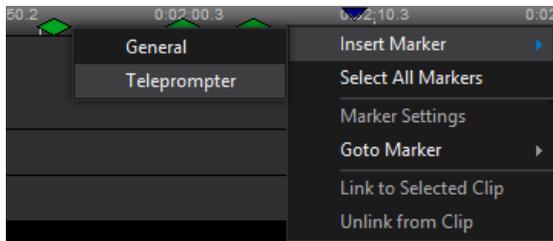
**Incremental** scroll control lets you control *page-up*, *page-down* and *goto-top* from external controls such as buttons on MIDI or PC joystick controllers. Click on the corresponding button (*Select page-up source*, *Select page-down source*, *Select goto-top source*) and select the desired external control in the [Select External Control](#) window. Then set the threshold value for each as appropriate (see [Understanding Threshold Values](#)). Incremental control is best for scrolling with foot switches or other MIDI devices.

**Level** scroll control lets you set the absolute scroll position using a MIDI slider or other external level control. An input value of 0% scrolls the teleprompter to the top of the first page of text, while 100% scrolls it to the last page of text.

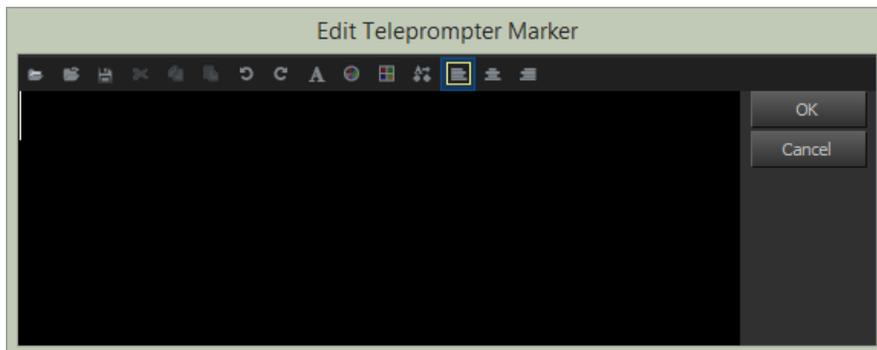


## ***Timeline Teleprompter Markers***

Timeline teleprompter markers let you specify formatted text to be displayed in the [teleprompter](#) window when timeline playback reaches the marker. To add a teleprompter marker, right-click on the timeline [time scale](#) where you would like the timeline to be placed and select *Insert Marker*→*Teleprompter*.



This will insert a green, diamond-shaped teleprompter marker and bring up the *Edit Teleprompter Marker* window.



This resizable editor functions similarly to the [teleprompter window](#) opened in *edit* mode.

During timeline playback, as the [time cursor](#) passes over a marker, the text and formatting associated with the marker are sent to the teleprompter, overwriting what is currently being displayed.

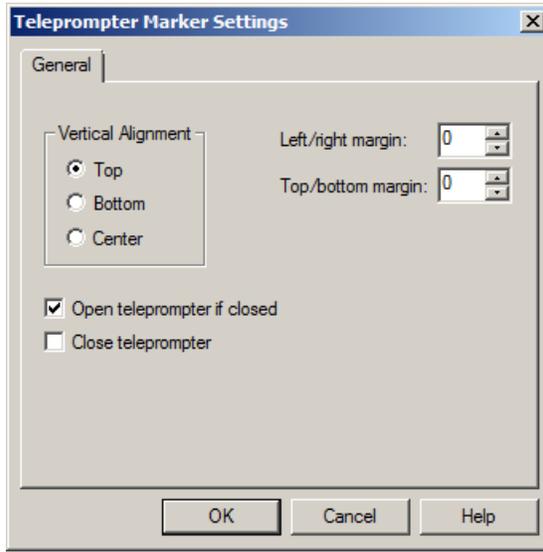
The format settings of a new marker are always the settings of the last marker that was edited. This makes it easier to maintain consistency in appearance when multiple markers are added consecutively.

You can also apply the format of the currently opened marker to all teleprompter markers in the timeline by clicking on the  button (see below).

Below is a summary of the teleprompter marker editor button functions:

<b>Button</b>	<b>Function</b>
	Erase editor contents.
	Import text (.txt) or formatted (.rtf) files. Note: Formatted (.rtf) files can be created by document editors such as WordPad and MS Word.
	Standard cut, copy and paste functions.
	Set font of selected text. Brings up text font setting window.
	Set color of selected text. Brings up color selection window.
	Set editor background color. Brings up color selection window.
	Applies this marker's current format settings to all teleprompter markers in the <a href="#">timeline</a> .
	Select horizontal alignment of selected text (left, center or right).
	Opens Teleprompter Marker Settings window.

## Teleprompter Marker Settings



- Vertical Alignment** Select the vertical alignment of all text in the marker. This will only take effect when sent to the [teleprompter](#) during timeline playback. Select from **top**, **bottom**, and **center**. **Bottom** and **center** alignment works best if the teleprompter displays only a single page of text.
- Left/right margin** Adjust the left and right margins of the teleprompter.
- Top/bottom margin** Adjust the top and bottom margins of the teleprompter.
- Open teleprompter if closed** Check this box and the teleprompter window will be automatically opened (if not opened already) when this marker is reached. If unchecked, the teleprompter will remain closed, if already closed, and the marker text will not be displayed.
- Close teleprompter** Check this box if you which this marker to close the teleprompter window.

## Linking Teleprompt Markers to Clips

(see [Linking Markers to Timeline Clips](#))

### **Importing Lyric (LRC) Files**

The [teleprompter window](#) is particularly useful for displaying lyrics to a song during playback. [Teleprompter markers](#) can be placed at specific locations on the timeline to make sure the correct lyrics are shown as the song plays.

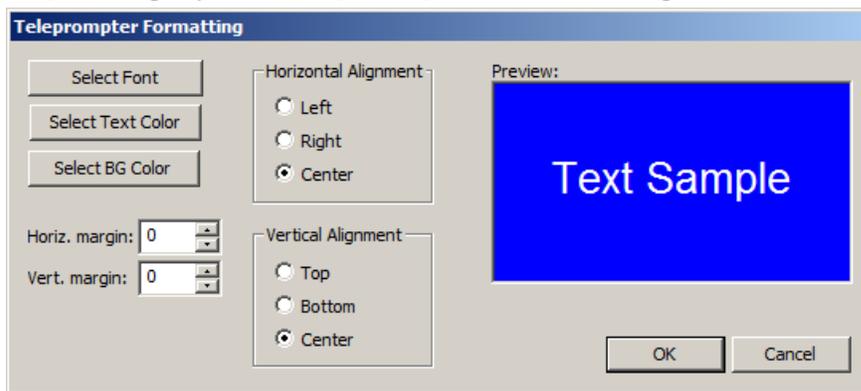
An alternative to manually adding teleprompter markers for each line of the lyrics, VenueMagic will allow you import standard Lyric (LRC) files. Lyric files are available from a variety of sources (including the internet) and include not only the lyrics for a particular song but also timestamps that specify where in the song different lines of lyrics should go.

If you have a lyric file for a particular song (for which you have an audio file), VenueMagic can import the lyrics using the following steps:

1. Add the audio clip for your song to a timeline audio track (see [Audio Tracks](#)).
2. Right-click on the audio clip and select *Import Lyrics*. This will open a file browser.
3. Locate and select the lyric file using the file browser and click *Open*.
4. In the [Teleprompter Formatting](#) window, setup the default formatting you would like for the lyrics, then click *OK*.

Timeline markers are automatically added to the timeline that contain lyrics for the song, placed at the proper times relative to the beginning of the audio clip. The markers are also linked to the audio clip so that as you drag the clip around, the markers will move with it.

## Importing Lyric Teleprompter Formatting



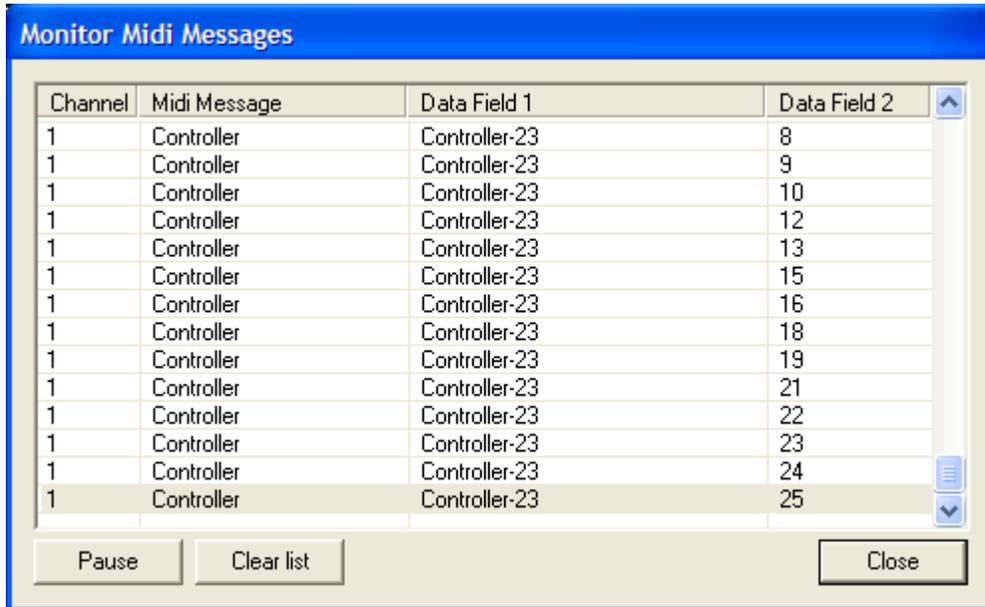
Set up the default formatting for all [teleprompter markers](#) created from importing a lyric file. The *Preview* window gives you a sample of how the text will look.

- |                             |   |
|-----------------------------|---|
| <b>Select Font</b>          | Click to bring up the font selector and setup the desired text font.  |
| <b>Select Text Color</b>    | Click to bring up the color selector and select the desired text color.   |
| <b>Select BG Color</b>      | Click to bring up the color selector and select the desired color for the teleprompter background.  |
| <b>Left/right margin</b>    | Adjust the left and right margins of the teleprompter.  |
| <b>Top/bottom margin</b>    | Adjust the top and bottom margins of the teleprompter.  |
| <b>Horizontal Alignment</b> | Select the horizontal alignment of all text in the marker. Select from <b>left</b> , <b>right</b> , and <b>center</b> .   |
| <b>Vertical Alignment</b>   | Select the vertical alignment of all text in the marker. Select from top, bottom, and center. Bottom and center alignment works best if the teleprompter displays only a single page of text. |

## Debugging Tools

### ***MIDI Monitor***

Real time monitoring and displaying of MIDI data from the default MIDI input device (see [MIDI Device Setup](#)). This window is activated by selecting *Tools: Monitor MIDI* in the main menu bar.



The screenshot shows a window titled "Monitor Midi Messages" with a table of MIDI data. The table has four columns: Channel, Midi Message, Data Field 1, and Data Field 2. The data shows 15 rows of controller messages on channel 1, with Data Field 1 values ranging from Controller-23 and Data Field 2 values ranging from 8 to 25. Below the table are three buttons: "Pause", "Clear list", and "Close".

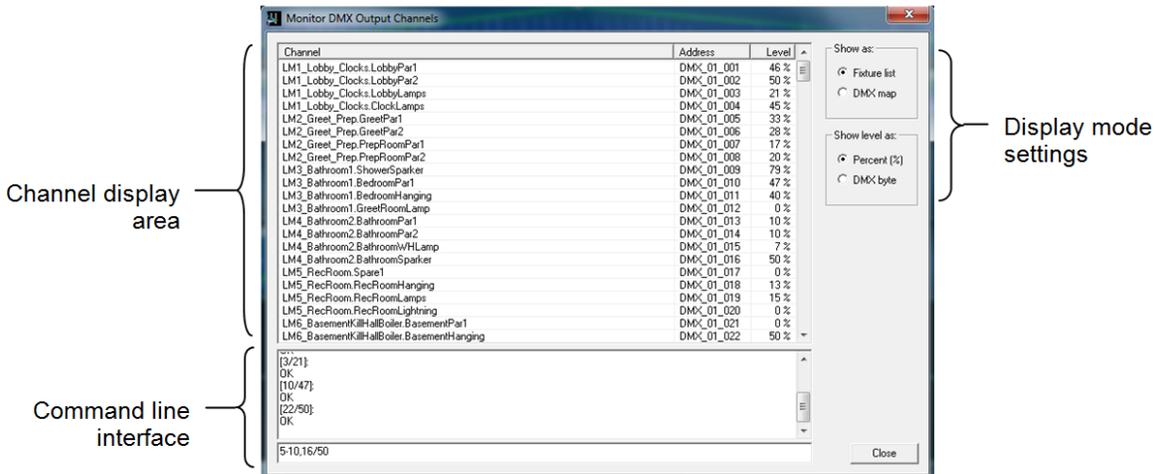
Channel	Midi Message	Data Field 1	Data Field 2
1	Controller	Controller-23	8
1	Controller	Controller-23	9
1	Controller	Controller-23	10
1	Controller	Controller-23	12
1	Controller	Controller-23	13
1	Controller	Controller-23	15
1	Controller	Controller-23	16
1	Controller	Controller-23	18
1	Controller	Controller-23	19
1	Controller	Controller-23	21
1	Controller	Controller-23	22
1	Controller	Controller-23	23
1	Controller	Controller-23	24
1	Controller	Controller-23	25

**Pause** Pauses adding of MIDI messages to the list.

**Clear list** Clear all MIDI message from the list.

### ***DMX Output Monitor***

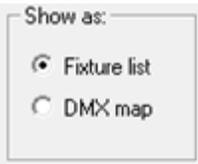
The DMX Output Monitor displays the current output values of all DMX channels for a selected universe. It also lets you set channel levels directly using a simple command line interface.



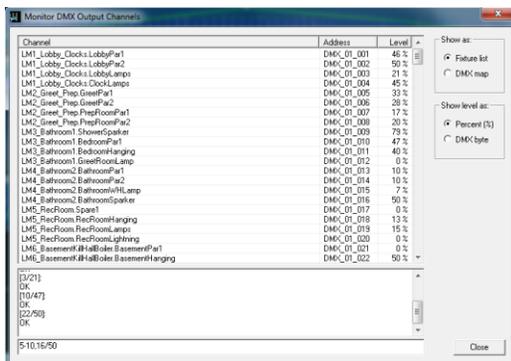
## Display Mode Settings

The *Display mode settings* let you select how you would like the channel information displayed in the *Channel display area*.

### Show As

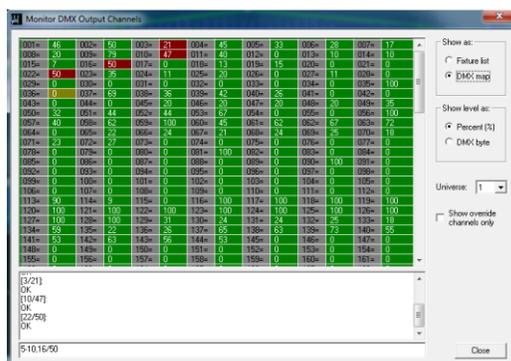


The *Show as* setting lets you select the format of the display:



### Fixture List

Selecting the *Fixture list* setting shows all DMX [fixtures](#) by name along with their respective addresses and level values. Only DMX channels with assigned fixtures are shown. All available universes are included in the list. Sort the list by channel name or DMX address by clicking either the *Channel* or *Address* column header, respectively.



### DMX Map

Selecting the *DMX map* option displays DMX channels in multiple rows and columns, each cell-pair showing the DMX channel number and current value.



The value cell is color-coded with the following meanings:

001= 46 Green indicates that this channel is assigned to a fixture and not overridden.

036= 0 Yellow indicates that the channel has not been assigned a fixture.

022= 50 Red indicates that the channel is locked into override mode and is exclusively under the control of the command line interface (discussed below).

### Show Level As

Show level as:

Percent (%)

DMX byte

The *Show level as* setting lets you select whether DMX values are displayed as a percentage value (0-100%) or as an actual DMX value (0-255).

### Universe

Universe: 1

Select the currently displayed DMX universe. Only applies to the *DMX Map* display mode as the *List Fixture* display mode shows all assigned DMX channels in all universes.

### Show Override Channels Only

Check this box to show only channels lock in override mode. Works only in the *DMX Map* display mode.

002=	10	003=	10	004=	10	005=	10	006=	50	007=	50	008=	10
009=	10	015=	50	016=	50	023=	56	043=	13	044=	13	045=	67
047=	13	064=	62	070=	62	106=	66	107=	66	108=	66	117=	66
118=	66	119=	66	142=	53	143=	53	146=	53				

A channel is locked into override mode when the **ch** command has been used to set a DMX channel value. While in override mode, a channel can only be controlled by the command line interface. Unlock the channel using the **cl** or **ca** command. *Important note:* Closing the *Monitor DMX Output Channels* window will **not** automatically unlock overridden channels. This must be done explicitly as described.

### Command Line Interface

The command line interface lets you set DMX channels directly using a simple set of commands.



Type commands into the *Command entry* box and press the Enter key. A response will be generated and placed into the scrolling *Command response* box.

## Command Syntax

DMX channel control commands are designed to perform operations over a single channel or range of channels.

### Specifying Channels

Specify a single channel using the syntax:

*universe.channel*

Examples:

1.5 - Universe 1, channel 5  
 2.512 - Universe 2, channel 512  
 10 - Universe 1 (default), channel 10.

Specify a range of channels with the minus sign (“-”) or several individual channels with the plus sign (“+”). Examples:

1-10 - Universe 1, channels 1-10  
 3+5+9 - Universe 1, channels 3, 5, and 9.  
 55-90+2.5-2.15 - Universe 1, channels 55-90 and universe 2, channels 5-15.

## Commands

The following commands perform operations on channels:

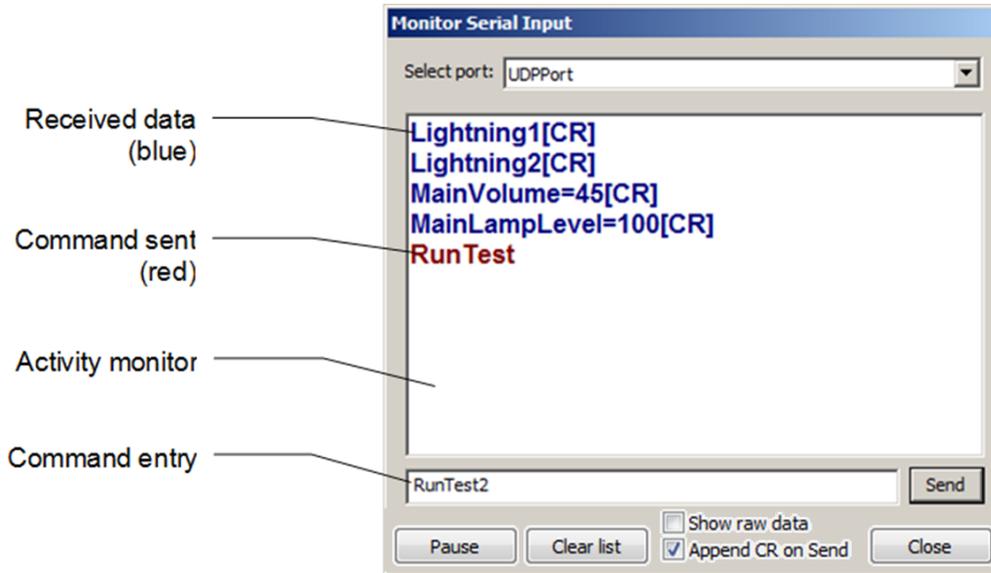
<p><b>ch</b></p>	<p>Set channel value. The syntax is:</p> <p><b>ch channels/percent_value</b> (set channels to percent value)  <b>ch channels*dmx_value</b> (set channels to DMX level)</p> <p>Examples:</p> <p><b>ch 22/50</b> (sets universe 1, channel 22 to 50%)  <b>ch 1-7+9*128</b> (sets universe 1, channel 1-7 and 9 to DMX level 128.)</p> <p>The “ch” is actually optional. You can do the same thing with:</p> <p><b>22/50</b> (sets universe 1, channel 22 to 50%)  <b>1-7+9*128</b> (sets universe 1, channel 1-7 and 9 to DMX level 128.)</p> <p>Note that if <b>ch</b> is used, there must be a space before the channel.</p> <p>Once a channel has been set to a value using this command, it becomes locked into override mode and can be controlled only from the command line interface. The DMX value cell(s) turns red indicating the override state.</p> <p></p>
<p><b>cl</b></p>	<p>Use this command to clear the override lock from the <b>ch</b> command and restore the channel to its former value. Examples:</p> <p><b>cl 22/50</b> (clears lock for universe 1, channel 22)</p>



## Serial Input Monitor

(VenueMagic DMX+AV and above only)

This window displays serial data received from to the selected port and also lets you send commands directly out the same port.



The activity monitor shows data received in blue, and commands sent from this window in red. To send a command out the serial port, click in the *command entry* field to show the cursor, and then enter the command. To send the command, hit the *Enter* key or click on the *Send* button.

**Select port:** Select the serial port to receive data from.

**Pause** Pause the display

**Clear list** Erases the contents of the display.

**Show raw data** If unchecked, single serial command strings (see [Serial Input Commands](#)) terminated by a carriage return <CR> are displayed on their own line as they are received. String is not displayed until <CR> is received.

If checked, all data is displayed as received. Control characters are shown by their ASCII mnemonic inside square brackets ("["]"). (See [Serial Event Properties](#) for a list of ASCII mnemonics).

**Send** Transmit to the selected serial port the command entered into the *command entry field*. After a command is sent, the command entry field is cleared.

**Append CR on Send** Check this box and a carriage return (ASCII 13) is appended to the command string before being sent to the serial port.

## Event Status

(VenueMagic SC+ and above only)

Event	Source	Time to trig	Cond. state	Trig. state	Delay
Cue List Command	Timeline: Timeli...	Passed	TRUE	Triggered	0.0
DetectInterruption	Event Table	100 ms	FALSE	Waiting	0.0
Disable Random...	Event Table	0 ms	TRUE	Waiting	0.0
Enable Random ...	Event Table	0 ms	TRUE	Waiting	0.0
Lightning	Timeline: Timeli...	Passed	TRUE	Triggered	0.0
Lightning	Timeline: Timeli...	48.9 secs	TRUE	Waiting	0.0
Lightning	Timeline: Timeli...	103.0 secs	TRUE	Waiting	0.0
Lightning	Timeline: Timeli...	154.6 secs	TRUE	Waiting	0.0
Lightning	Timeline: Timeli...	182.7 secs	TRUE	Waiting	0.0
Multi-Event	Timeline: Timeli...	Passed	FALSE	Waiting	0.0
Multi-Event	Timeline: Timeli...	Passed	FALSE	Waiting	0.0
Multi-Event	Timeline: Timeli...	Passed	FALSE	Waiting	0.0
Multi-Event	Timeline: Timeli...	Passed	FALSE	Waiting	0.0
Multi-Event	Timeline: Timeli...	Passed	FALSE	Waiting	0.0
Multi-Event	Timeline: Timeli...	Passed	FALSE	Waiting	0.0
Multi-Event	Timeline: Timeli...	Passed	FALSE	Waiting	0.0

Show events from:  
 Event table  
 Active timelines  
 Event scheduler  
 Reset Events  
 Refresh List  
 Close

VenueMagic events can be triggered from several places, namely:

- [Timelines Event Tracks](#)
- [Event Table](#)
- [Event Scheduler](#)
- [Cue Buttons](#)
- [Serial Control](#)

Keeping track of all these events—their sources, condition state and trigger state—can be a monumental task while developing and debugging a show.

The Event Status window simplifies this by providing real-time updated event status information for all events in the event table, active timelines and the event scheduler. This color-coded list provides useful information about the status of events, and their conditions and triggers in a manner that is clear and (with a little experience) easy to understand. For convenience, the *Event Status* window can remain open while you are doing other things with your project.

### Event Status List

The event status list contains five columns with information as described below. Each column can be sorted by clicking on the column header. Click on the header multiple times to sort by that column in ascending or descending order.

#### Columns

<b>Event</b>	A description of the event.
<b>Source</b>	Where the event resides: <i>Timeline</i> , <i>Event Table</i> or <i>Event Scheduler</i> . If it resides on a timeline, the name of the timeline is included.
<b>Time to trig</b>	For <i>timeline</i> and <i>event scheduler</i> events this column displays the number of seconds before the event is executed on a flashing green background. For <i>event table</i> events, it shows the update interval for the event (see <a href="#">Event Trigger Settings</a> ).
<b>Cond. state</b>	The current state of the trigger condition (see <a href="#">Event Conditions</a> ) :  <b>TRUE</b> (light green b.g.) – trigger condition is <i>true</i> . <b>FALSE</b> (dark green b.g.) – trigger condition is <i>false</i> .

**Disabled** (dark gray b.g.) – event has been disabled for playback.

A *TRUE* value indicates that the all of the conditions set in the [Event Conditions](#) are *true*. In this state, the event has either already triggered, or it is waiting for its time to come up. This value is not affected by the state of the actual trigger.

**Trig. state** The current state of the events trigger:

**Waiting** (dark yellow background) – event is reset and waiting for the next trigger.

**Triggered** (light green b.g.) – event has triggered and is waiting to be reset.

**Disabled** (dark gray b.g.) – event has been disabled for playback.

(see also, [Event Trigger Settings](#)).

**Delay** If an event has been setup with a non-zero [delay time](#), this column will show is the current delay countdown of the event's triggering.

**Reset Events** Click this button to reset all of the selected events with manual-mode triggers (see [Event Trigger Settings](#)).

**Refresh List** Updates the list with the currently active events—specifically the *timeline events*.

### **Which Events Are Shown**

*Event table* and *event scheduler* events are automatically added to the *Event Status* list when the window is opened. Events that are added to the *event table* and *event scheduler* while the *Event Status* window is opened are automatically added to the list when they are created.

*Timeline* events appear in the window when a timeline is activated (i.e.: when playback begins) and will remain in the list even after the timeline has become inactive (playback stops). Events for inactive (non-playing) timelines can be removed from the list by either clicking the *Refresh List* button, or by closing the timeline.

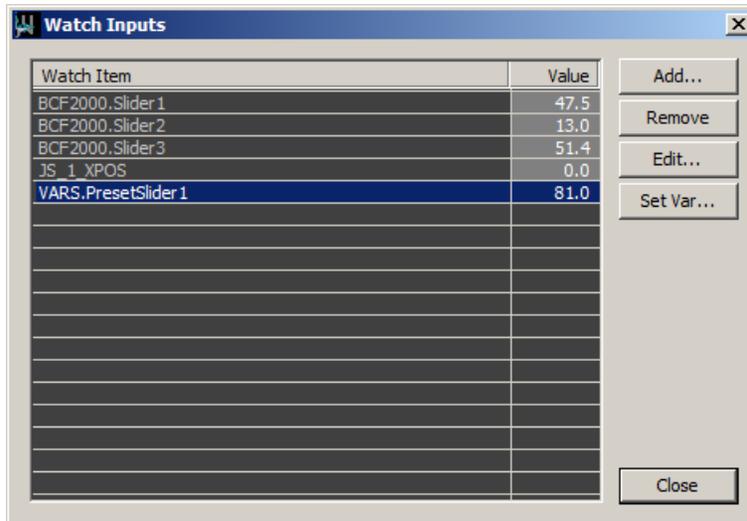
The **Show events from** checkboxes filter which event sources are represented.

For convenience, the *Event Status* window can remain open while you are doing other things with your project.

### **Watch Inputs**

(*VenueMagic DMX+AV and above only*)

Select *Tools* → *Watch Inputs* from the main menu to open the *Watch Inputs* window.



This handy little debugging tool lets you monitor selected external inputs in real-time. Its operation is really quite simple. Click the *Add* button to bring up the [Select External Control](#) window and select an external input. The selected input is added to the watch list.

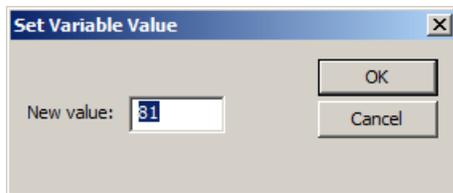
Click *Remove* to remove selected items from the list. The *Edit* button brings up the *Select External Control* window for the selected watch item so that you may change other functions available in that window.

### **Changing Variable Table Values**

If the selected watch item is a [Variable Table](#) variable, you can click the *Set Var* button to open the Set Variable Value window. From here you can enter a new value to be assigned to the variable.

### **Set Variable Value**

Enter a new value for the selected variable and click OK.



## **Scripts**

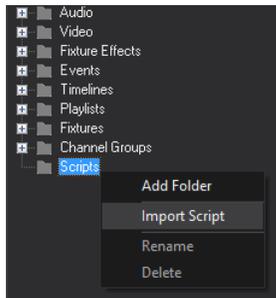
Scripts are plug-ins that add features and capabilities to VenueMagic. Scripts may include:

- Macros for automatically configuring a project or timeline.
- Interfaces to hardware provided by other manufacturers.
- Special real-time playback effects.
- Keys to unlock certain VenueMagic internal features.
- Special customized functions.

Future versions of VenueMagic will allow users to create their own scripts using a built editor. For now, scripts are available for download only from the VenueMagic website ([www.venuemagic.com](http://www.venuemagic.com)).

## Importing Scripts

Once a script has been downloaded, it can be imported by right-clicking on the Script folder in the Project Window and selecting *Import Script*.

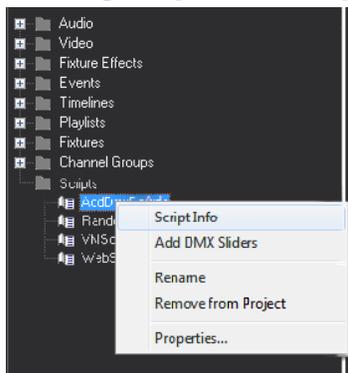


Locate the desired script in the file browser and click Open to import the script into the Script folder. Importing a script will also install any additional files required by the script.

## Registering Scripts

Some scripts are available for purchase and must be registered online before they can be used. After importing a purchased script, double-click on it to begin the registration process, and follow the instructions on the screen.

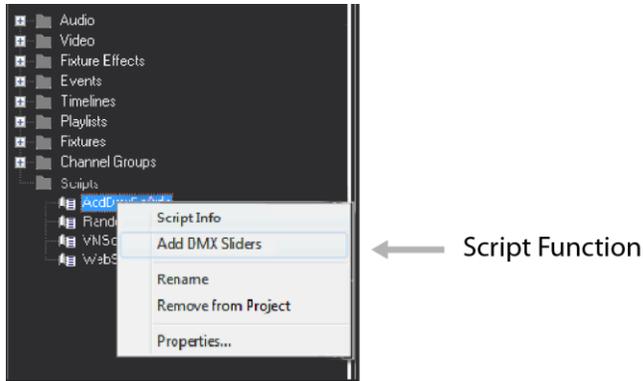
## Getting Help for a Script



Most scripts come with their own built-in help documentation. You can activate this by right-clicking on a script and selecting *Script Info*.

## Running a Script

Scripts can be run from the [Project Window](#) by right-clicking on the script in the *Script* folder. In most scripts there will be a single menu option below the *Script Info* option that will execute a script function.



Certain scripts can also be executed by Script Command event.

## ShowNodes

*(VenueMagic SC+ only)*

ShowNodes is hardware that provides I/O and standalone playback of timelines and video for the VenueMagic Show Control Software. ShowNodes connect directly to a local area network via Ethernet and can be programmed remotely by VenueMagic. Once programmed, ShowNodes can function autonomously without any connection to VenueMagic.

*Note on nomenclature:* The term *ShowNodes* (always plural) refers to the overall technology and architecture used for the communication and control of multiple devices on the network. Each ShowNodes hardware device is called a *node* or a *ShowNodes device*. VenueMagic's role in the ShowNodes architecture is that of *ShowNodes Programmer* or *ShowNodes Master*.

VenueMagic performs all ShowNodes operations through the [ShowNodes Manager](#). Enable ShowNodes in the [Supported Devices](#) tab of the [Setup Devices](#) window by checking the box next to the ShowNodes device in the list. Then, from the main menu, select *Devices* → *ShowNodes Manager* to open the ShowNodes manager.

With ShowNodes enabled, a number of VenueMagic property windows are added or modified to accommodate the assigning of VenueMagic functionality to nodes. Below are links to the new windows:

[Timeline ShowNodes Settings](#)

[Add Channel Route Window](#)

[Event ShowNodes Window](#)

[Variable Properties Window](#)

### **External Input Channel Settings and Processing**

External inputs from ShowNodes devices can have special scaling and settings applied to them when used by VenueMagic. However, ShowNodes themselves ignore these settings (see [Input Channel Settings Window](#)).

### **Node Detection**

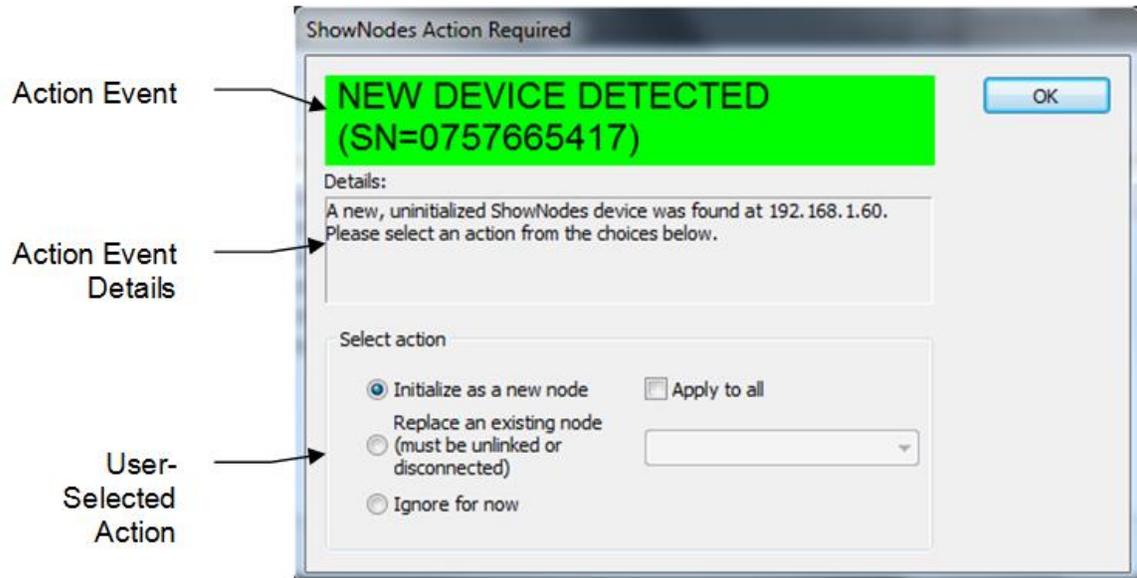
When a new ShowNodes device is detected on the network, VenueMagic responds by opening the [ShowNodes Action Required Window](#). This window offers the user choices on how the newly detected node should be handled.

### **Detecting another VenueMagic on the Network**

Only one instance of VenueMagic at a time can run ShowNodes on the same network. If ShowNodes is enabled in your project, it will check for another VenueMagic running ShowNodes

on a different computer on the network. If it finds one, a pop-up message will warn the user and all ShowNodes functionality will be suspended until the other VenueMagic is shut down or its ShowNodes is disabled. While suspended, the [ShowNodes Manager](#) title bar will read: "VenueMagic ShowNodes Manager – SUSPENDED". When the other VenueMagic has been disabled, the title bar will return to: "VenueMagic ShowNodes Manager" and ShowNodes will be fully functional.

## ShowNodes Action Required Window



When ShowNodes detects a new node on the network, the **ShowNodes Action Required** window pops up automatically (by default) to inform the user and provide options for possible actions. This window has three sections:

### Action Event Window

This section gives you a quick summary of what was detected. In most cases it will show something like this:

NEW DEVICE DETECTED  
(SN=0757665417)

Other messages may pop-up in this window depending on whether or not the detected node is factory initialized, or if it appears to have been part of another project.

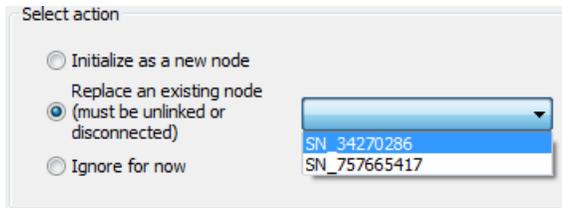
### Action Event Details

This section gives a more detailed description of what was detected and gives you instructions about what should be done next.

### User-Selected Action

Here the user selects what should be done with the newly detected node:

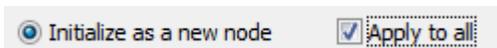
- **Initialize as a new node:** Node is initialized as a new node and added to the [ShowNodes Manager](#)'s *Nodes* list.
- **Replace an existing node:** If this option is selected, the user is presented with a list of nodes that have already been added to the project but are currently disconnected or [unlinked](#). Nodes in this list will always be of the same [HW Type](#) as the newly detected node. If there are no qualifying nodes available for replacement, this option is not available.



Once a node has been selected for replacement, click OK and the new node will be configured to replace the selected one. This includes downloading all timelines, audio files, etc...

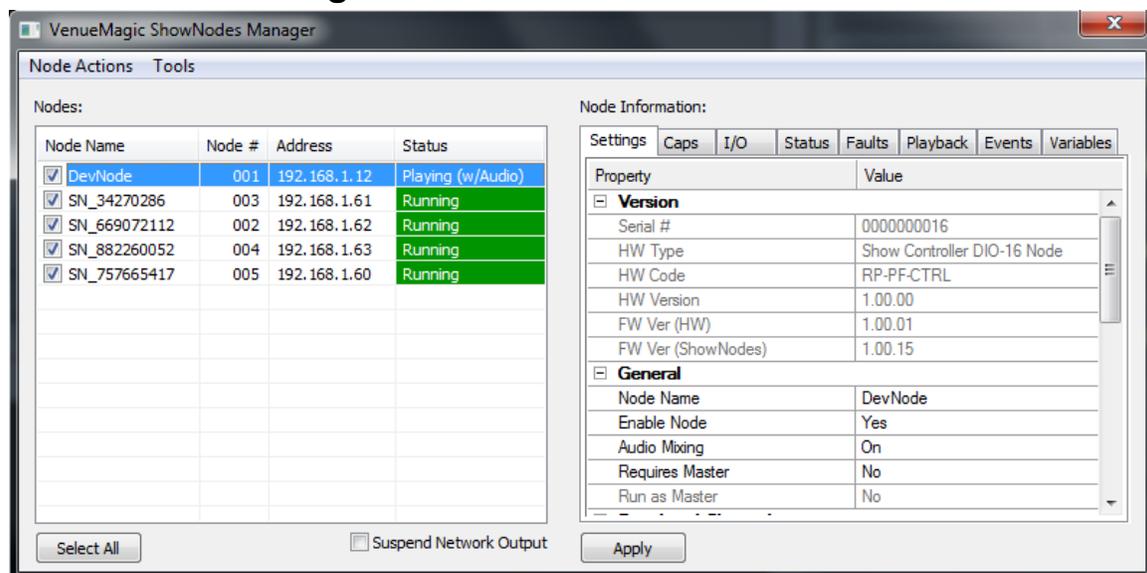
- **Ignore for now:** This option tells ShowNodes to do nothing with the node for now. It will appear as “Unassigned” in the Node list of the ShowNodes Manager and the user can get back to setting it up later by using the **Assign** option in the [Node Actions Menu](#).

This first and third options (i.e.: *Initialize* and *Ignore*) also give you the option to apply the same action to all nodes that have currently been detected.



Once an action has been selected, click OK.

## ShowNodes Manager



The *ShowNodes Manager* provides the tools and functions required for setting up, programming, monitoring and troubleshooting node devices. The ShowNodes Manager has two main sections: the *Nodes* list and the *Node Information* tabs.

### Nodes List

The *Nodes* list shows all nodes recognized by the currently loaded Venuemagic [project](#). Each row in the list has the following columns:

Node Name	A user provided name to uniquely identify the node. By default, this will be the string “SN_” followed by the serial number of the node. The node name can be changed in the <i>Node Name</i> field in the <a href="#">Settings</a> tab.
Node #	This is a unique number that the ShowNodes manager assigns to each node

	when first detected and initialized.														
Address	The current IP address of the node, if connected. If the node is not detected, then this column contains the last known IP address.														
Status	<p>This displays the current status of the node and can be one of the following:</p> <table border="1"> <tr> <td><i>Not Detected</i></td> <td>Node is part of the project but has not been detected on the network.</td> </tr> <tr> <td><i>Lost Connection</i></td> <td>Node was previously connected but connection was lost.</td> </tr> <tr> <td><i>Disabled</i></td> <td>Node has been disabled in <a href="#">Settings Tab</a>.</td> </tr> <tr> <td><i>Running</i></td> <td>Node is functioning properly and ready to go.</td> </tr> <tr> <td><i>Playing</i></td> <td>Node is playing one or more timelines. None of the timelines have audio.</td> </tr> <tr> <td><i>Playing (w/Audio)</i></td> <td>Node is playing one or more timelines. At least one timeline is playing audio.</td> </tr> <tr> <td><i>Unassigned (or &lt;Unassigned&gt;)</i></td> <td>This is a new node that has not been assigned to the project yet.</td> </tr> </table> <p>If the <b>Running</b>, <b>Playing</b> or <b>Playing (w/Audio)</b> status is displayed with a red background, then an error has occurred in the node. You can view errors by clicking on the <a href="#">Faults</a> tab.</p>	<i>Not Detected</i>	Node is part of the project but has not been detected on the network.	<i>Lost Connection</i>	Node was previously connected but connection was lost.	<i>Disabled</i>	Node has been disabled in <a href="#">Settings Tab</a> .	<i>Running</i>	Node is functioning properly and ready to go.	<i>Playing</i>	Node is playing one or more timelines. None of the timelines have audio.	<i>Playing (w/Audio)</i>	Node is playing one or more timelines. At least one timeline is playing audio.	<i>Unassigned (or &lt;Unassigned&gt;)</i>	This is a new node that has not been assigned to the project yet.
<i>Not Detected</i>	Node is part of the project but has not been detected on the network.														
<i>Lost Connection</i>	Node was previously connected but connection was lost.														
<i>Disabled</i>	Node has been disabled in <a href="#">Settings Tab</a> .														
<i>Running</i>	Node is functioning properly and ready to go.														
<i>Playing</i>	Node is playing one or more timelines. None of the timelines have audio.														
<i>Playing (w/Audio)</i>	Node is playing one or more timelines. At least one timeline is playing audio.														
<i>Unassigned (or &lt;Unassigned&gt;)</i>	This is a new node that has not been assigned to the project yet.														

The checkbox next to each node lets you enable or disable the nodes execution of timeline, event table events and the handling of channel routing. For example, If a timeline is assigned to a node, and a cue button is assigned to run that timeline on the node, un-checking this box will cause VenueMagic to run the timeline in the [Cuelist](#) rather than send the command to the node.

As another example, if an event table event were assigned to a node to run a timeline on that node, un-checking this box does two things:

1. Tells VenueMagic to handle the event through its own event table.
2. Tells the node not to trigger any event table events. In the node, this is called *Bypass Mode* and is discussed more in the [Status Tab](#) section below.

Similarly, channel routing assigned to a node is also bypassed and handled by VenueMagic when the box is un-checked.

This checkbox is useful in troubleshooting node operations by temporarily offloading some functions to VenueMagic.

### **Node Information Tabs**

This section contains several tabs for displaying information about one or more nodes selected in the *Nodes List*. Click a link below to get more information about the associated tab.

- [Settings Tab](#)
- [Caps Tab](#)
- [I/O Tab](#)
- [Status Tab](#)
- [Faults Tab](#)
- [Playback Tab](#)
- [Events Tab](#)

## [Variables Tab](#)

### **Node Manager Main Menu**

Click on a link below for more information on the ShowNodes Manager's main menu options.

### [Node Actions Menu](#)

### [Tools Menu](#)

### **Suspend Network Output**

Check this box to disable all *ShowNodes* network output. This is a good way to disable ShowNodes on the current computer to allow ShowNodes to run on another computer on the same network (see [ShowNodes](#) - **Detecting another VenueMagic on the Network**).

## **Settings Tab**

The Settings tab provides access to settings stored on the node that can be modified by the user. These settings can apply to one or more nodes selected in the [Nodes list](#). If multiple nodes are selected, then only some of the settings will be available.

Property	Value
<b>Version</b>	
Serial #	0000000016
HW Type	Show Controller DIO-16 Node
HW Code	RP-PF-CTRL
HW Version	1.00.00
FW Ver (HW)	1.00.01
FW Ver (ShowNodes)	1.00.16
<b>General</b>	
Node Name	DevNode
Enable Node	Yes
Requires Master	No
Run as Master	No
<b>Peripheral Channels</b>	
DMX-Out Settings	
DMX-In Settings	
DMX-Out Mode	Receive Only
<b>Run-time</b>	
Channel Routing	On
Timelines	On
Events	On
Event Table	On
Event Scheduler	Off
Serial Events	Off
Scripts	Off
Output Calibration	Off

Apply

The following settings are defined by section:

## Version

This information cannot be modified by the user.

<b>Serial #</b>	The serial number of the node.
<b>HW Type</b>	The node's hardware type description.
<b>HW Code</b>	A hardware-specific code used internally for identifying the hardware.
<b>HW Version</b>	The version of the hardware within the scope of the HW Code.
<b>FW Ver (HW)</b>	The current version of the firmware as it relates to specific I/O or controller hardware. This is separate from <b>FW Ver (ShowNodes)</b> version because different hardware types may get new firmware upgrades while the ShowNodes core firmware remains unchanged.
<b>FW Ver (ShowNodes)</b>	This is the current version of the ShowNodes node's core firmware.

## General

These can be modified by the user.

<b>Node Name</b>	Sets the name of the node. This can be any string of up to 32 characters.
<b>Enable Node</b>	Enables/disables node. When a node is disabled, it cannot run timelines or respond to events.
<b>Requires Master</b>	<p>By default, nodes all behave independently at startup. If this is enabled, a node will go through several stages at startup which are coordinated by a master node. This ensures that all similarly configured nodes are ready to go before timelines are executed by the master node.</p> <p>Currently, only VenueMagic can function as a master node. However, it is usually best to leave this setting at <b>No</b>.</p>
<b>Run as Master</b>	<p>If a node has the ability to function as a master, use this setting to enable that capability.</p> <p><b>Node:</b> Currently, only VenueMagic can function as a master node.</p>

## Peripheral Channels

These settings can be modified by the user if feature is available in node.

<b>DMX-Out Settings</b>	Click on this setting, and then click the  button to open the <a href="#">Node DMX Settings</a> window for DMX output.
<b>DMX-In Settings</b>	Click on this setting, and then click the  button to open the <a href="#">Node DMX Settings</a> window for DMX input.
<b>DMX-Out</b>	If a node has DMX capability, it can control its own DMX

<b>Mode</b>	output but can also merge in DMX control from VenueMagic or from other nodes. A node will not output DMX to other nodes unless this setting is set to <b>Transmit &amp; Receive</b> . If the node does not need to control DMX in other nodes, leave this setting at <b>Receive Only</b> . This will reduce network traffic.
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### Run-time

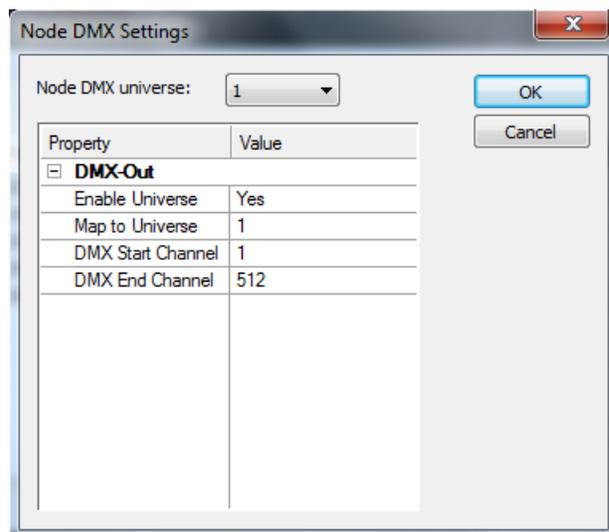
These settings can be modified by the user if the feature is available to the node.

<b>Channel Routing</b>	Enables/disables channel routing for the selected node(s).
<b>Timeline</b>	Enables/disables timeline playback for the selected node(s).
<b>Events</b>	Enables/disables timeline events table for the selected node(s).
<b>Event Table</b>	Enables/disables the event table for the selected node(s).
<b>Event Scheduler</b>	Enables/disables the event scheduler for the selected node(s).
<b>Serial Events</b>	Enables/disables the serial events for the selected node(s).
<b>Scripts</b>	Enables/disables script execution for the selected node(s).
<b>Output Calibration</b>	Enables/disables output calibration function for the selected node(s).

Once settings are changed, they can be sent to the selected node(s) by either clicking off the selected node(s) or by clicking the *Apply* button.

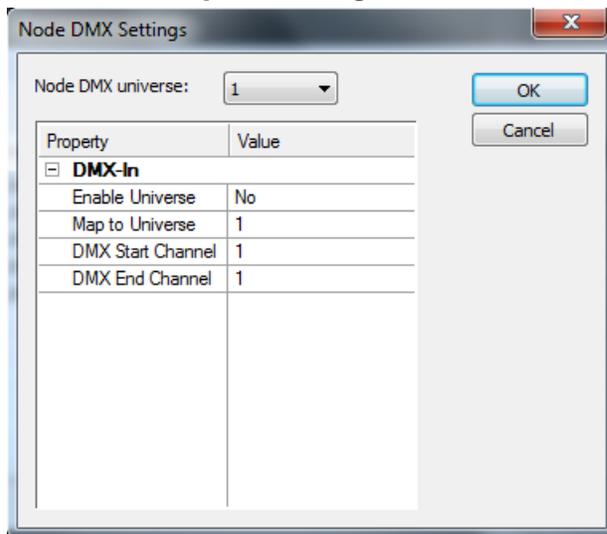
### **Node DMX Output Settings**

These settings are for the node's own DMX output. It does not affect DMX output to other nodes.



Node DMX Universe	Select the DMX universe within the node that will affect the following settings.
Enable Universe	Enables/disables the currently selected DMX universe.
Map to Universe	Specifies what universe the selected node universe will appear as to VenueMagic and to other nodes set up to control DMX. For example, suppose that the selected Node DMX universe were <b>1</b> , and this parameter were set to <b>2</b> . To VenueMagic, this node would be controlled through universe 2.  <b>Important Note:</b> This setting will allow universe settings from 1 to 32. However, you are still limited by the number of DMX universes your current version of VenueMagic has available.
DMX Start Channel DMX End Channel	These let you set the range of DMX addresses that the node will control. DMX channel commands outside of this range will be ignored.

### Node DMX Input Settings



Node DMX Universe	Select the DMX universe within the node that will affect the following settings.
Enable Universe	Enables/disables the currently selected DMX input universe.
Map to Universe	Specifies what universe the selected node universe will appear as to VenueMagic and to other nodes set up to input DMX.  <b>Important Note:</b> This setting will allow universe settings from 1 to 32. However, you are still limited by the number of DMX input universes your current version of

	VenueMagic has available. Currently, VenueMagic allows only one DMX input universe.
DMX Start Channel DMX End Channel	These let you set the range of DMX addresses that the node will input and make available to VenueMagic and other nodes. DMX channels received outside of this range will be ignored.

## Caps Tab

Settings	Caps	I/O	Status	Faults	Playback	Events	Variables
Capability		Available					
DMX output universes		1					
DMX input universes		None					
Audio channels		1					
Video channels		None					
Serial ports		None					
MIDI ports		None					
Timelines		Yes					
Events		Yes					
Event table		Yes					
Event scheduler		No					
Channel routing		Yes					
Variable table		Yes					
Scripts		No					
Date/time clock		No					
Audio mixing		Yes					
File system		Yes					
Can be master		No					

This tab displays which capabilities are available for the currently selected node. Only a single node may be selected for this tab. The capabilities should be self-explanatory.

## I/O Tab

Settings	Caps	I/O	Status	Faults	Playback	Events	Variables
Channel		Level					
Inputs							
Digital1							
Digital2							
Digital3							
Digital4							
Digital5							
Digital6							
Digital7							
Digital8							
Outputs							
Digital1							
Digital2							
Digital3							
Digital4							
Digital5							
Digital6							
Digital7							
Digital8							

Displays the status of digital, analog and DMX I/O for the selected node. Digital I/O is displayed as a color (dark gray = off, light blue = on). Analog displays a number from 0 to 100%. Settings for this tab are available in the [ShowNodes Manager Settings](#) window.

## Status Tab

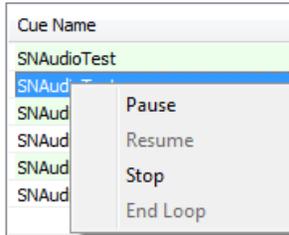
Settings	Caps	I/O	Status	Faults	Playback	Events	Variables
<input checked="" type="checkbox"/>			Timeline playback enabled				Yes
<input checked="" type="checkbox"/>			Event table enabled				Yes
<input checked="" type="checkbox"/>			Channel routing enabled				Yes
<input checked="" type="checkbox"/>			Transmit inputs enabled				Yes
<input checked="" type="checkbox"/>			Transmit outputs enabled				Yes
<input checked="" type="checkbox"/>			Local outputs enabled				Yes
<input checked="" type="checkbox"/>			Local inputs enabled				Yes
<input checked="" type="checkbox"/>			Media playback enabled				Yes
<input checked="" type="checkbox"/>			Output calibration enabled				Yes
<input checked="" type="checkbox"/>			Extern Output control enabled				Yes
<input type="checkbox"/>			Bypass mode enabled				No

Each node gives you the ability to temporarily disable certain capabilities remotely using the *Status* tab. The checkbox allows you to enable/disable the associated capability. The status column lets you know if that capability is currently enabled (*Yes*) or disabled (*No*). If the selected node does not have a specific capability, it is reported as disabled (*No*). Any changes to these settings are discarded when the node is reset or powered off.

Timeline playback enabled	Controls/displays the node's ability to play timelines. If unchecked while a timeline is playing, the timeline is stopped.
Event table enabled	Controls/displays the node's event table.
Channel routing enabled	Controls/displays the node's channel routing function.
Transmit inputs enabled	Controls/displays whether or not a node can report the state of its inputs to VenueMagic or to another node.
Transmit outputs enabled	Controls/displays whether or not a node can control outputs on another node.
Local outputs enabled	Controls/displays whether or not a node can control its own outputs. This does not affect DMX output.
Local inputs enabled	Controls/displays whether or not a node can receive input from itself.
Media playback enabled	Controls/displays whether or not a node can play media files (audio, etc...).
Output calibration enabled	Controls/displays the status of the node's output calibration function (see <a href="#">ShowNodes Output Calibration</a> ).
Extern Output control enabled	When checked, the node's outputs (including I/O, DMX) can be controlled from an external source (i.e.: VenueMagic or another node). When unchecked, external sources cannot control node outputs; only the node can



can control playback of one or more timelines in the Playback tab by first selecting the desired timelines, and then right-clicking on one of the selections to open the Playback tab menu.



This menu offers the same functions available to the VenueMagic [Cuelist](#).

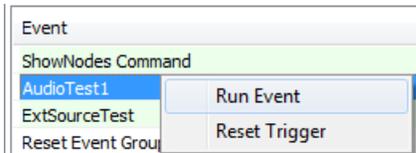
## Events Tab

Event	Cond	Trig
ShowNodes Command	TRUE	TRUE
AudioTest1	FALSE	FALSE
ExtSourceTest	FALSE	FALSE
Reset Event Group:0	TRUE	TRUE

For nodes with populated event tables, this tab displays the status of those events for all selected nodes. This information is subset of what is shown in the VenueMagic [Event Status](#) window.

Event	The name of the event as specified in the <a href="#">Event Table</a> .
Cond	Shows the state of the <a href="#">condition</a> (or conditions) that trigger the event.
Trig	Shows the current trigger state of the event.

You can right-click on one or more selected events to bring up the Events tab menu:

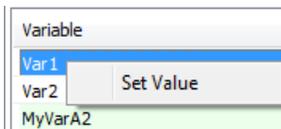


Run Event	Immediately executes the selected events, regardless of the current state of their conditions.
Reset Trigger	Events that are set up for <a href="#">Manual Trigger Mode</a> can be reset by selecting this option.

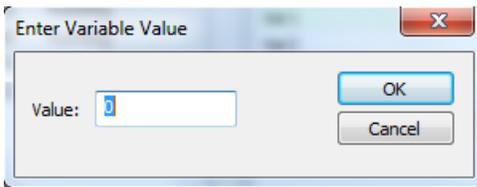
## Variables Tab

Settings	Caps	I/O	Status	Faults	Playback	Events	Variables	
							Variable	Value
							Var 1	24
							Var2	48
							MyVarA2	0
							MyVarA1	0
							SNState1	3325
							SNState2	0

Selected node(s) with populated variable tables will display their variables, along with the current value of these variables, in the *Variables tab*.



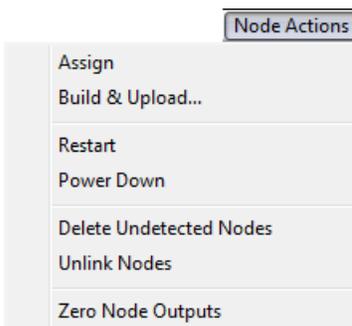
Change the value of selected variables by right-clicking and selecting *Set Value* to open the Enter Variable Value window.



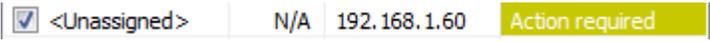
Key in the desired value and click OK to send that value to all selected variables.

*Important note on ShowNodes variables:* VenueMagic variables usually hold values from 0 to 100. ShowNodes variable table variables hold values from 0 to 65535. There is no translation between VenueMagic and ShowNodes variables. Whatever you enter here will be sent to the variables unmodified.

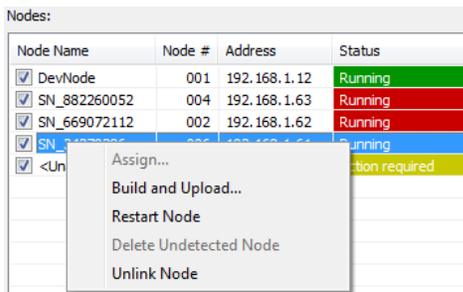
## Node Actions Menu



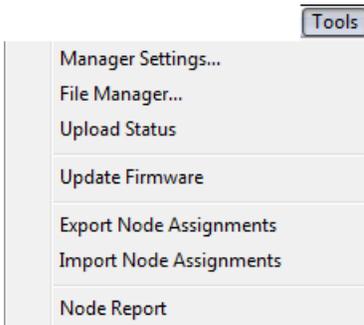
This menu provides operations that can be performed on one or more nodes.

<b>Assign</b>	<p>If a node has not yet been initialized, it will appear as “Unassigned” in the <i>Node</i> list of the <a href="#">ShowNodes Manager</a>.</p>  <p>Select the node in the list and then select the Assign menu options to bring up the <a href="#">ShowNodes Action Required Window</a>, where you can assign the node so that it becomes officially part of the project.</p>
<b>Build &amp; Upload</b>	This options opens the <a href="#">Build &amp; Upload Project Files</a> window, which handles exporting and uploading all node files, including timelines, audio, channel routing, event tables and others.
<b>Restart</b>	Restarts the selected nodes, or all nodes if none are selected.
<b>Power Down</b>	Turns off selected nodes or all nodes if none are selection.
<b>Delete Undetected Nodes</b>	Nodes that are <a href="#">unlinked</a> or currently undetected can be removed from the project using this option. This also removes any fixtures associated with the deleted nodes.
<b>Unlink Nodes</b>	Unlinking nodes is a way of disconnecting the hardware from the project without actually deleting node information. For more on this, see <a href="#">Unlinking Nodes</a> .
<b>Zero Node Outputs</b>	Zeros all outputs (I/O, DMX) on the node.

Some of these menu options are also available by right-clicking on a selected node (or nodes) in the *Node* list of the [ShowNodes Manager](#).



## Tools Menu



This menu provides additional tools for working with nodes and the [ShowNodes Manager](#).

<b>Manager Settings</b>	Opens the <a href="#">ShowNodes Manager Settings</a> window which provides options for configuring parts of the ShowNode Manager.
<b>File Manager</b>	Opens the <a href="#">ShowNodes File Manager</a> window which manages all node files.
<b>Upload Status</b>	Opens the <a href="#">Uploading ShowNodes Files</a> window, which monitors the uploading of project files to nodes.
<b>Update Firmware</b>	Opens the <a href="#">Update ShowNodes Firmware</a> window, which is a tool for loading new firmware into the nodes.
<b>Import/Export Node Assignments</b>	These options let you import and export node assignments across VenueMagic projects. See <a href="#">Sharing ShowNodes Setup across Projects</a> .
<b>Node Report</b>	Creates a report of all nodes listed in the ShowNodes manager. Report is exported as a text file and opened in Notepad.

## Sharing ShowNodes Setup across Projects

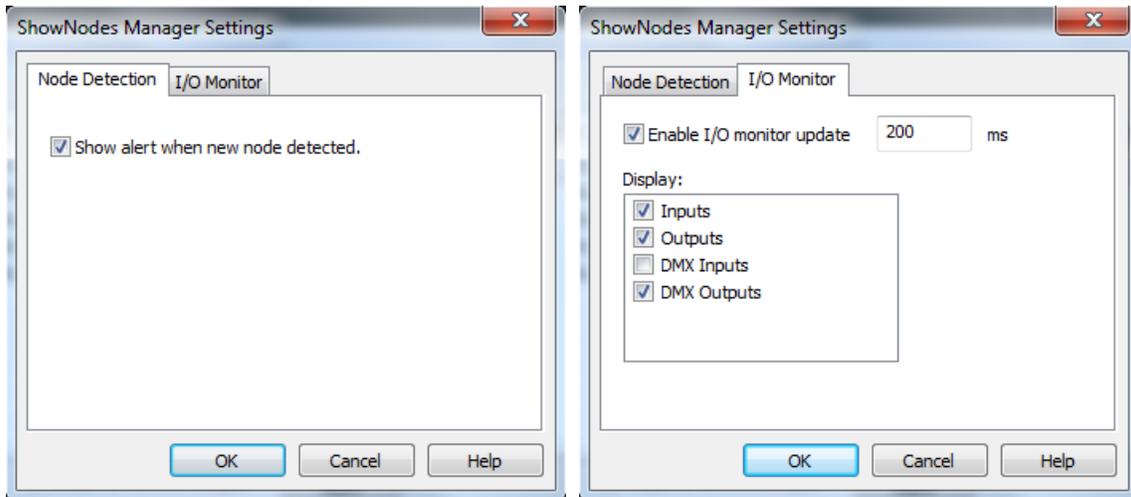
If you have a project with node assignments that you would like to share with another project, you can export the existing node assignments in the current project by selecting **Export Node Assignments** in the [Tools Menu](#) of the [ShowNodes Manager](#). Selecting this option will open a file browser where you can enter a file to receive the configuration.

Later, when you have created a new project that will use the same node setup, select **Import Node Assignments** from the same menu and then select the file you previously exported.

The node assignment file only contains basic information on each node. It does not include information on timelines, events, channel routing, or any other project-specific settings. The file simply tells the project that the nodes exist and what their node #'s are.

**Important note on node sharing:** Sharing nodes across projects can be tricky. When you switch from one project to another, it is necessary to do a *forced* export and upload of all project files to prepare the node for the current project. When you switch back to the previous project, you must do the same. (See [Build & Upload Project Files](#)).

## ShowNodes Manager Settings



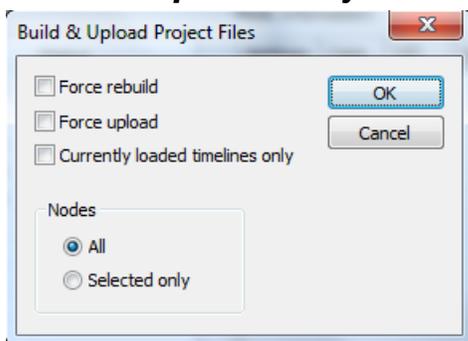
These settings affect certain aspects of [ShowNodes Manager](#) behavior.

In the *Node Detection Tab*, you can specify the behavior of the [ShowNodes Action Required Window](#). By default, the **Show alert when new node detected** box is checked. This causes the Action Required window to pop-up automatically whenever a new node is detected. When unchecked, newly detected nodes are added to the **Nodes** list of the [ShowNodes Manager](#) as “Unassigned”. There they wait for the user to assign them explicitly using the **Assign** option of the [Node Actions Menu](#).

The I/O Monitor affects only the [I/O Tab](#) of the [ShowNodes Manager](#). Check the **Enable Monitor Updates** box to turn up the updating of the I/O Tab. Then enter an update rate in milliseconds. The **Display** group selects which I/O is displayed:

<b>Inputs</b>	Show all digital and analog inputs. Does not include DMX.
<b>Outputs</b>	Show all digital, analog and PWM outputs. Does not include DMX.
<b>DMX Inputs</b>	Show all DMX inputs.
<b>DMX Outputs</b>	Show all DMX Outputs.

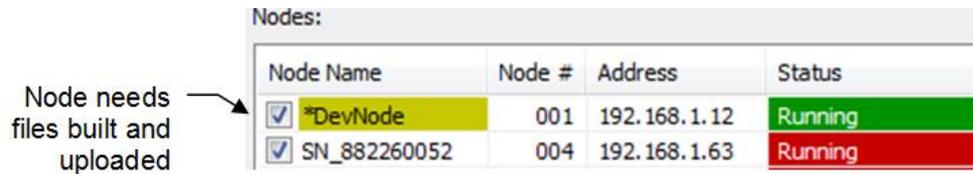
## Build & Upload Project Files



This window handles the exporting and uploading of project files to nodes. It is opened by selecting the Build & Upload option of the [Node Actions Menu](#).

Whenever a change is made to something in the project that needs to be sent a node, a flag is set so that the [ShowNodes Manager](#) always knows what files need to be rebuilt and uploaded to

what nodes. The *Nodes* list in the *ShowNodes Manager* window identifies nodes that need uploads by placing an asterisk (“\*”) in front of the node’s name and painting the background yellow.



Select **All** in the *Nodes* group to allow ShowNodes to decide which files need to be uploaded to their nodes. This is usually best. However, if you wish to upload to selected nodes only, pick the **Selected only** option.

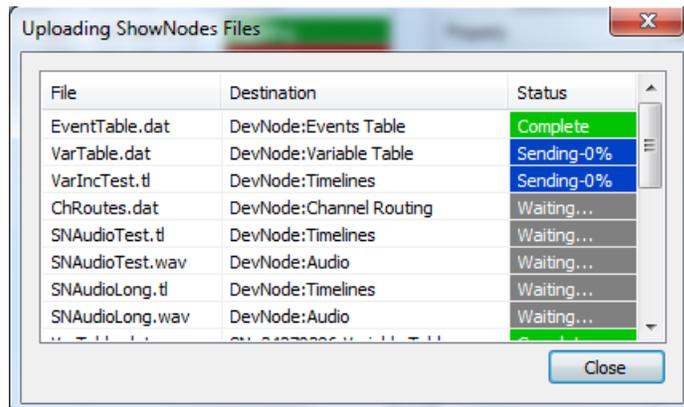
Checking **Force rebuild** will force an export of node files (all or selected) and then upload them, regardless of whether ShowNodes believes they need to be. Normally this should not be necessary. However, if for any reason the user suspects that files have not been properly rebuilt and uploaded, the *forced-rebuild* option is available.

If the user is certain all files have been exported but is not sure that they have been properly uploaded to nodes, check the **Force upload** box. This saves time by not requiring a re-build first.

If you wish to force-rebuild only the currently opened files, check **Currently loaded timelines only**. Otherwise, ShowNodes will open and rebuild all timelines.

Click the **OK** button to start the process. It will begin by exporting required timelines, audio, event table and other files. When it has completed this phase, the [Uploading ShowNodes Files](#) window is opened to monitor the uploading of files to their respective nodes.

## Uploading ShowNodes Files



This window monitors the progress of uploading files to their respective nodes. For each file to be uploaded, the list shows the following:

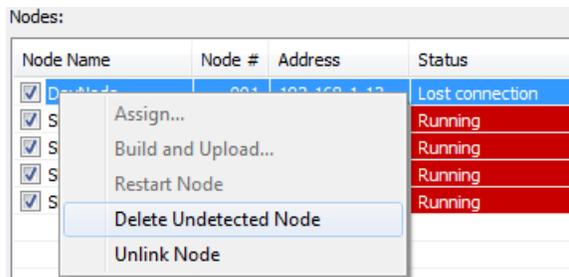
File	This is the name of the file that was created by the export function.
Destination	This shows the name of the node receiving the file and the “location” of the file on the node. Node and location are separated by a colon (“:”).

Status	Shows the current status of the uploading file:	
	Waiting...	File is waiting to be uploaded to the node.
	Sending-%	File is uploading. Also reports what percent of the file has been uploaded so far.
	Complete-100%	Upload is complete and file transfer connection is shutting down.
	Complete	File transfer has been completed successfully.
	Error	An error occurred and file transfer failed. Sometimes restarting VenueMagic and/or the node will correct this error. If it does not, contact VenueMagic support.

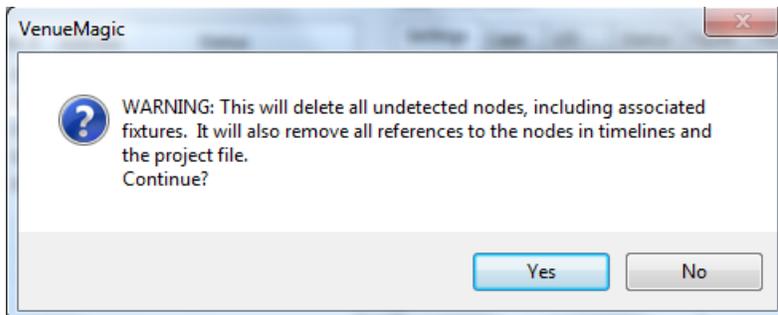
Click **Close** to close the window at any time. Closing this window does not terminate an upload in progress. In fact, you can re-open the window by selecting the **Upload Status** option in the [Node Actions Menu](#) of the [ShowNodes Manager](#).

### Delete Undetected Nodes

If you wish to remove a node from a project, start by disconnecting the node from the network. Or you can unlink the node (see [Unlinking Nodes](#)). Once a node is no longer detected on the network, it can be deleted from the project by first right-clicking on the node in the [ShowNodes Manager](#) Nodes list and then selecting **Delete Undetected Node**.



The following warning message will appear. Click Yes and the node will be deleted from the project. If there is an associated fixture, it will be deleted from VenueMagic.

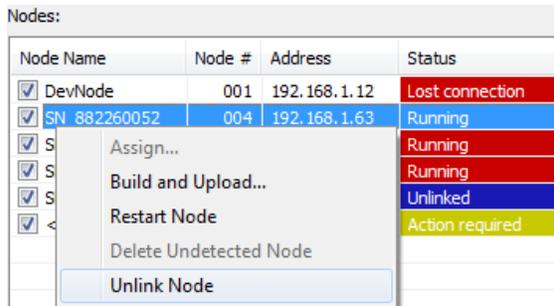


### Unlinking Nodes

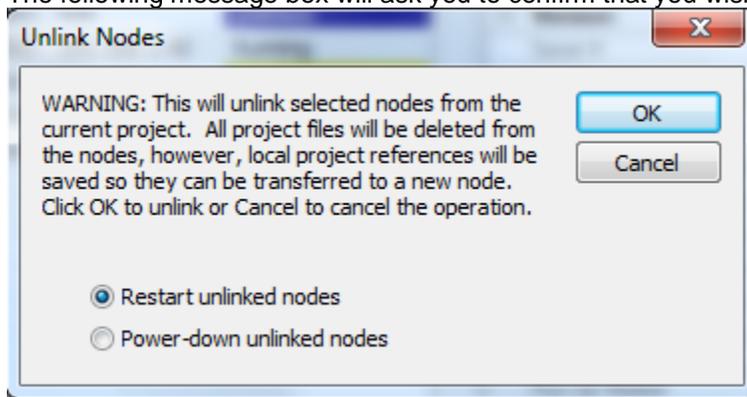
Unlinking a node does the following:

1. The node information in the project is “disconnected” from the actual node hardware and transferred to a “virtual” node where it is preserved for future use.
2. The actual node (hardware) is reset so that it appears as a new, uninitialized node.

Unlink a node by right-clicking on the node in the *Node* list of the [ShowNodes Manager](#) and select Unlink Node.



The following message box will ask you to confirm that you wish to unlink the node:



If any of the selected nodes are connected, you will also be given you the option of either restarting or powering down the nodes after they are unlinked.

Click **OK** and the node is unlinked and, if connected, will restart or power-down, depending on what was selected.

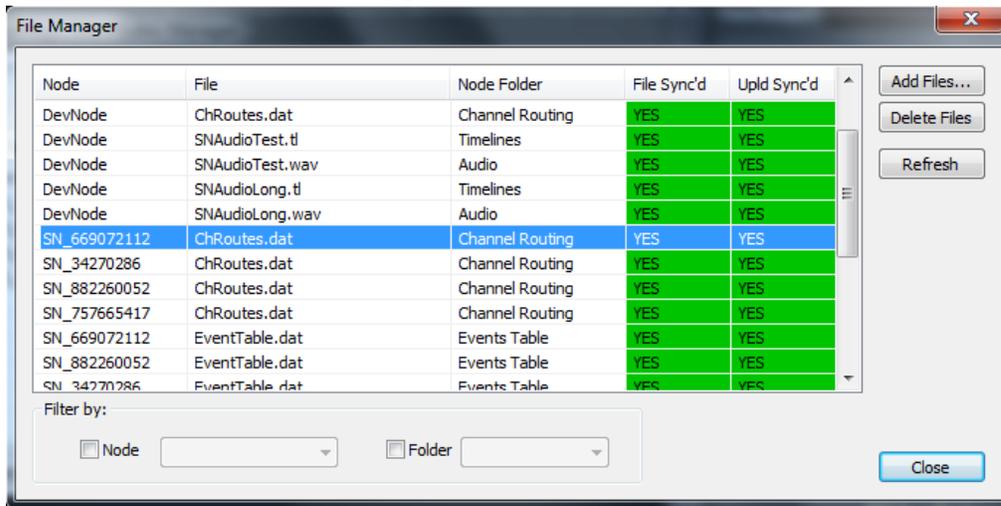
An unlinked node appears in the *Node* list of the [ShowNodes Manager](#) as a normal node with the status set to “Unlinked”.



Once a node has been unlinked, it can be removed from the project (see [Delete Undetected Nodes](#)) or assigned to a new node (see [ShowNodes Action Required Window](#)). As for the hardware, the unlinking causes it to be cleared so that it can be used in another project if desired.

Unlinking a node before deleting it is better than simply deleting it because it clears the hardware as well. If the hardware is not cleared before connecting it to another project, the [ShowNodes Action Required Window](#) will give you a warning letting you know that the node is currently assigned to another project.

## ShowNodes File Manager



This window shows all of the files that are assigned to nodes and allows the user to add or remove files as appropriate.

There are two different types of files displayed here:

1. **Exported files:** These are automatically generated when a project is [built](#) and includes timelines, audio, event tables and other files.
2. **User files:** This includes other files the user may wish to place on the node. Mainly, these would be limited to video files on a Video Playback node. However, future ShowNodes capabilities may take advantage of additional user files.

### Adding and Deleting Files

Add a *user* file to the file manager by clicking the **Add** button. This will bring up the [Add Files to Node](#) window. Fill in the node, folder and file information and click OK. The added user file will be uploaded to the designated node at the next [Build & Upload](#).

Similarly, a file can be deleted by first selecting the desired files in the list and clicking on the **Delete** button. *Exported* files cannot be added using the *Add* button (since they are added automatically) but they can be deleted. Deleting an *exported* file from the File Manager is a good way of forcing the file to be built and uploaded again.

### File List Columns

Each file in the File Manager list includes the following columns:

<b>Node</b>	Specifies what node the file is destined for.
<b>File</b>	The name of the file as stored by ShowNodes. ShowNodes stores the latest export of every node file locally.
<b>Node Folder</b>	The location on the node where the file will be placed. For timelines, audio and video files, this is actually a folder within the node's file system. For the event table, channel routing and variable table files, the "Node Folder" actually translates to a file name in a dedicated folder on the node.

<b>File Sync'd</b>	Reports whether or not the file is up to date with the project item it represents. For instance, if a timeline file has been exported since the last change to the actual timeline, this field will display "YES" (with a green background). If it needs to be exported, this column will display "NO" (yellow background).
<b>Upld Sync'd</b>	Reports whether a file has been uploaded to its node since the last rebuild. Again, "YES" means it has been uploaded, "NO" means it hasn't. A third possibility is "ERROR" (red background), which indicates that the last attempt to upload resulted in an error.

### File List Filters

You can choose to filter which files are displayed by Node and by Folder within the node.

Node	File	Node Folder	File Sync'd	Upld Sync'd
DevNode	VarIncTest.tl	Timelines	YES	YES
DevNode	SNAudioTest.tl	Timelines	YES	YES
DevNode	SNAudioLong.tl	Timelines	YES	YES

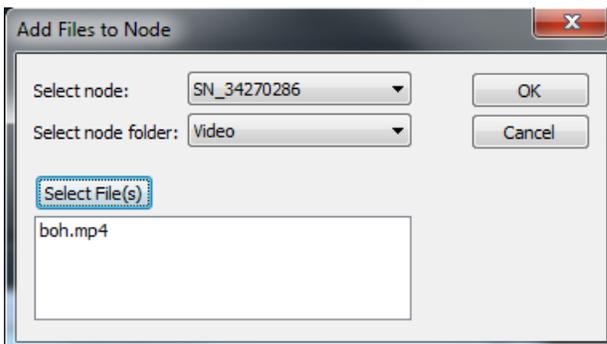
Filter by:

Node DevNode  Folder Timelines

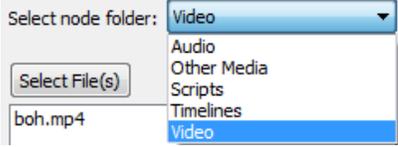
If I wished to display only timeline files within a particular node, I would check the **Node** box and select the node I wanted from the drop-down list. Then I would check the **Folder** box and select "Timelines" from the drop-down list.

Finally, the **Refresh** button queries the VenueMagic project and rebuilds the list of *exported* files. This is normally not required because a refresh is automatically performed when the *File Manager* window is opened.

### Add Files to Node



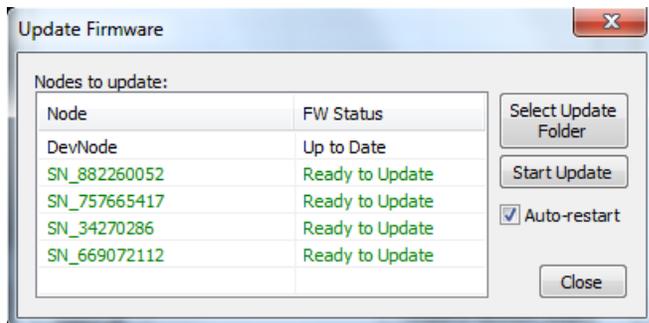
This window is opened when the Add button is clicked in the [ShowNodes File Manager](#) window.

Select node	A drop-down list containing the names of all nodes currently included in the project. Select the node you wish the added file to be uploaded to.
Select node folder	Specifies the location of the file on the node. For instance, if you are uploading a video file, choose the Video folder. This is important because a Video Playback node will always search its Video folder for the video it is commanded to play. Other folder selections are for future enhancements to ShowNodes.  
Select Files(s)	Click this button to open a file browser from which you can select multiple files to be added to the File Manager.

Click the OK button to add the files to the manager. The files will not be uploaded at this time but will be at the next [Build & Upload](#) operation.

## Update ShowNodes Firmware

Update the firmware of nodes selected in the Nodes list of the [ShowNodes Manager](#) window by selecting Update Firmware in the [Tools Menu](#). This will bring up the **Update Firmware** window.



The Node to update list contains all of the nodes selected for update and specifies the current update status. Initially they will all report **No Updates Available**. Click on **Select Update Folder**, and then browse for the folder that contains ShowNodes firmware update files. Once the folder has been selected, it is automatically scanned for the best possible update file for each node in the list, based on hardware type and version and the firmware version. Then, for each node, one of the following messages will be displayed in the *FW Status* column:

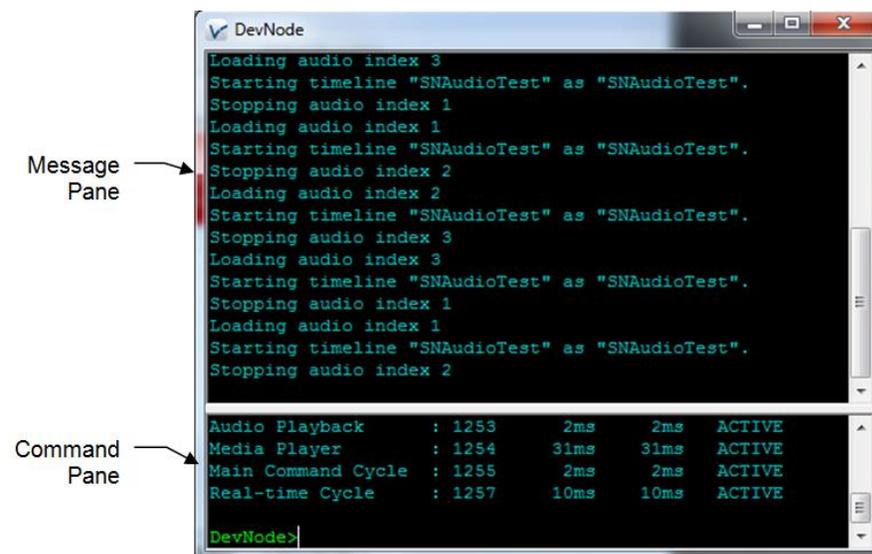
<b>No Updates Available</b>	Indicates that no firmware update files were located for this node type.
<b>Ready to Update</b>	This node is ready to be updated.
<b>Up to Date</b>	A firmware update file was located for the node's type, but its version is equal to or less than the node's current firmware version.

### Auto-restart

It is always recommended that this box be checked because the new firmware update will not take affect until the node is restarted. If you do not check this box, you will need to explicitly restart the node from the [Node Actions Menu](#).

Click **Start Update** to begin the update process for all nodes with “Ready to Update” in the *FW Status* column. The FW Status column will keep you apprised of the progress of the update process for each node, finally displaying "Update Complete" when a node has been updated and restarted properly. If an error occurred during the update process, the message “Error” will be displayed in the column. If a second attempt to update a node that reported “Error” is not successful, try restarting the node and/or VenueMagic and try again. If it still fails, contact VenueMagic support.

## Node Terminal



The *Node Terminal* provides direct access to a node’s messaging and command line interfaces. Open a Node Terminal for node by double-clicking on the node in the *Nodes* list of the [ShowNodes Manager](#) window.

The terminal window is divided into two panes, the *Message Pane* and the *Command Pane*. The window itself is sizeable and the size of the individual panes can be adjusted by clicking and dragging the horizontal bar between them.

### Message Pane

As part of its normal operation, a ShowNodes node sends messages describing various activities and reporting warning and errors. These are sent directly to the *Message Pane*. Normal message text is colored light blue and simply tells you what the node is up to. Warning messages are in yellow text and demand more attention. Errors are in red text and will likely require some level of attention on the user’s part. Any error reported here will also set a fault in the [Faults Tab](#) of the [ShowNodes Manager](#) window.

### Command Pane

Every ShowNodes node has a command line interface that allows you to execute node functions directly from the *Command Pane* of the *Node Terminal*. A list of available commands is not included here. However, you can request a list of commands from the node itself, along with brief summaries of their functions, by typing the text “help” into the *Command Pane* and then pressing the *Enter* key. You can get more information on any command in the list by typing in the command followed by a space and the string “-h”.

Example: The *Run Timeline* function, “rt” appears in the “help” list as:

```
rt - Run a timeline.
```

Typing in this:

```
rt -h
```

Will return this:

```
rt ["TIMELINE NAME"] [OPTIONS]
-v LEVEL - Volume level (0-100%)
-l LEVEL - Lamp level (0-100%)
-f LEVEL - Foreground playback level (1-20)
-L - Play in a loop
-O - Play one only
-n "NAME" - Name in playlist
-h - Help
```

You can open Node Terminals for as many nodes as you like. Once you become familiar with available commands, they become a powerful tool for troubleshooting a ShowNodes project.

## ***Exporting Timelines with Channel Expressions***

Timelines that control output channels indirectly through [Channel Expressions](#) need special consideration. If a timeline controls channels in [Virtual Fixtures](#) or other output channels, and Channel Expressions uses those channels to control a different set of channels indirectly, it is important that those channels controlled indirectly be included in the timeline. This can be accomplished by adding an empty [control track](#) to the timeline and then adding the indirect channels to that track. This must be done because only channels that are part of the timeline will be exported to ShowNodes.

For example, suppose you set up a virtual fixture with two channels, JawUD and JawLR, to control the up/down and left/right motion of the jaw on an animatronic head. Channel expressions are then used to convert JawUD and JawLR to control real (not virtual) fixture channels Jaw1 and Jaw2, which move the jaw directly. If a timeline uses JawUD and JawLR in a track to move the jaw it must also include a track with outputs Jaw1 and Jaw2. This track should not include any fixture effects of its own. It only exists to tell VenueMagic to export Jaw1 and Jaw2, which are being controlled by channel expressions. If this is not done, the exported timeline will not move the jaw from the node it was uploaded to.

## ***ShowNodes and Virtual Fixtures***

[Virtual Fixtures](#) can be assigned to ShowNodes where they can be used to perform some of the functions they do in VenueMagic. Assigning Virtual Fixtures to a node is accomplished in the [Setup Virtual Fixtures Window](#).

Once assigned to a node, virtual fixture channels controlled in a timeline can be used as external inputs to the node just as in VenueMagic.

Assigning a virtual fixture to a node does not affect how it functions in VenueMagic. The following describes the behavior of assigned virtual fixtures:

1. Assigned virtual fixtures behave the same in VenueMagic as do unassigned ones. The only difference is described in #5 below.

2. Virtual fixtures in nodes can be used in channel routing, events, or any other node function that uses external inputs.
3. A node can control a virtual fixture output channel on another node.
4. Virtual fixture inputs on one node can be used by other nodes.
5. If VenueMagic controls an assigned virtual fixture channel, output will be relayed to the assigned node in addition to the associated virtual fixture external input in VenueMagic.
6. [Input Channel Settings](#) are ignored by nodes.
7. [Input Channel Data Processing](#) is used only by [Channel Routing](#).

## ShowNodes Output Calibration

Calibration settings in the [Calibrate Fixtures](#) window can be exported to ShowNodes for nodes that support this feature you must first enable it in the [Settings Tab](#) of the [ShowNodes Manager](#).

Calibration settings that pertain to the node must be exported to the node before they take affect. A normal upload to the node (see [Build & Upload Project Files](#)) will take care of this.

The **Output calibration enabled** checked in the [Status Tab](#) allows you to enable or temporarily disable output calibration on the node. In addition to enabling calibration on the node, checking this box also disables calibration in VenueMagic for the node's output channels. This prevents calibration from being applied twice—once by VenueMagic and then again by the node. Similarly, then **Output calibration enabled** is unchecked, calibration is disabled on the node and re-enabled in VenueMagic for the node's channels. This ensures that proper calibration is being applied to the channels regardless of the status of the checkbox.

Prior to opening the [Calibrate Fixtures](#) window, it is recommended that you disable calibration on the node in the [Status Tab](#) (but not in the [Settings Tab](#)), otherwise adjustments to node channels in the **Calibrate Fixtures** window will not affect the desired channels. After closing the Calibrate Fixtures window, you should first [upload](#) the changes to the node and then re-enable calibration on the node in the **Status Tab**. In summary, you should follow these steps when making calibration changes to node outputs:

1. Temporarily disable calibration on the node by un-checking **Output calibration enabled** in the [Status Tab](#) of the [ShowNodes Manager](#).
2. Make the desired calibration changes in the [Calibrate Fixtures](#) window.
3. After closing the Calibrate Fixtures window, perform a [build and upload](#) for the node.
4. After changes to the node have been successfully uploaded, re-enable calibration for the node by checking the **Output calibration enabled** box in the [Status Tab](#).

### Fixture Calibration and Exported Timelines

If **Output Calibration** is enabled for a specific node in the ShowNodes Manager [Settings Tab](#), VenueMagic will not apply calibration settings to channel control for that node when a timeline is exported. This is because VenueMagic expects that the node will handle its own output calibration. If **Output Calibration** is not enabled, then calibration will be applied to output channels during timeline export. *Important:* the **Output calibration enabled** box in the [Status Tab](#) has **no** affect on whether or not calibration is applied during timeline exporting.

## Weigl WEMC1 Operation

(VenueMagic SC+ only)

VenueMagic SC+ supports the Weigl WEMC1 show control device. Communications with the device is over Ethernet only, and can be setup in the Supported Devices Setup window as described in Setting-up VenueMagic for the WEMC1.

VenueMagic SC+ supports the following functions of the WEMC1:

- DMX output
- Analog/digital/servo/PWM output
- Digital input
- Exporting playlists for standalone operation

### ***DMX output***

When installed, a WEMC1 looks like a regular DMX output in the [DMX Device Setup](#) screen. Only a single universe is supported.

### ***Analog/Digital/Servo/PWM Output***

When a WEMC1 is selected for use, VenueMagic automatically creates a WEMC1 fixture for the device and adds it to the Fixtures folder in the [Project Window](#). This fixture gives you access to all analog, digital, servo and PWM channels. You can add them to tracks, groups, channel routing, etc... just as you would any other fixture. A digital output is considered OFF if its level is below 50%, and ON if its level is 50% or higher.

### ***Digital Input***

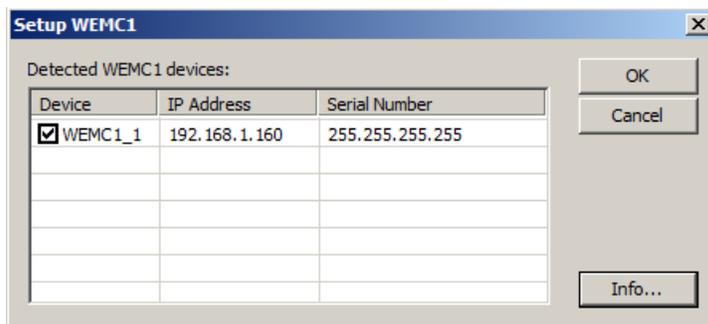
An installed WEMC1 device will appear in the Select External Control window, providing access to 16 digital input channels. When the input is OFF, the value for that input is 0%. When the input is ON, its value is 100%.

### ***Exporting Playlists for Standalone Operation***

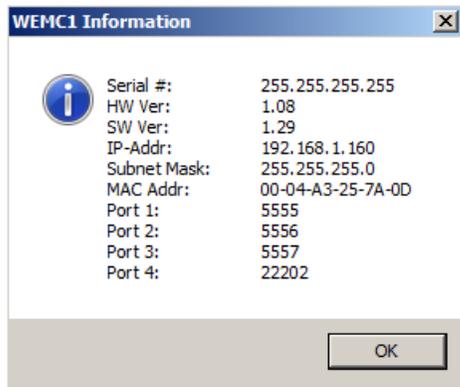
VenueMagic can export a playlist to the WEMC1 for standalone operation. See [Exporting VenueMagic Playlists to the Weigl WEMC1](#).

## ***Setting-up VenueMagic for the WEMC1***

To setup VenueMagic to use the WEMC1, you must first check the Weigl WEMC1 box in the [Supported Devices Setup](#) window. Then click on *Properties...* to bring up the Set up WEMC1 window.



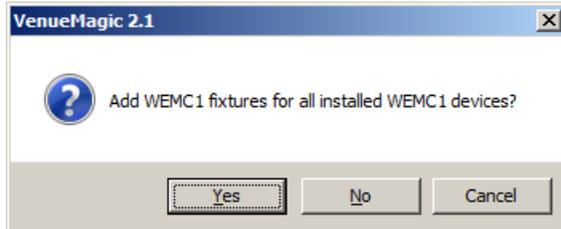
This window lists all WEMC1 devices that have been detected on the Ethernet connection. Check the WEMC1 you wish to install for use. You can also select a WEMC1 on the list and click *Info...*



Please consult the WEMC1 manual for the meaning of this information.

### **Creating a WEMC1 Fixture**

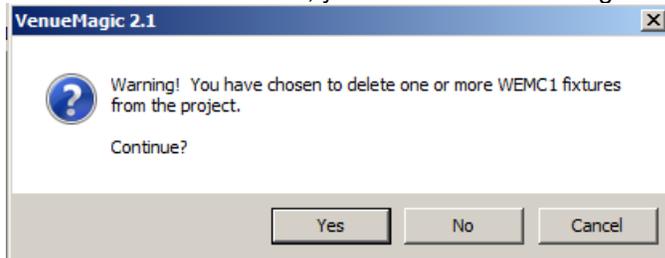
After you have selected a WEMC1 device, close the Setup Devices window by clicking OK. If there does not yet exist a fixture for that WEMC1, VenueMagic will show the message:



Click Yes, and a Fixture will be created for the WEMC1 device that was installed in the Setup WEMC1 screen. This fixture will then be added to the Fixture folder of the [Project Window](#).

### **Uninstalling a WEMC1**

You can uninstall a WEMC1 by un-checking it in the *Setup WEMC1* window. When the *Setup Devices* window is closed, you will see the following message:



Click Yes to remove the fixture. Clicking No or Cancel will return you to the *Setup WEMC1* window.

## **Exporting VenueMagic Playlists to the Weigl ProCommander**

*(VenueMagic SC+ only)*

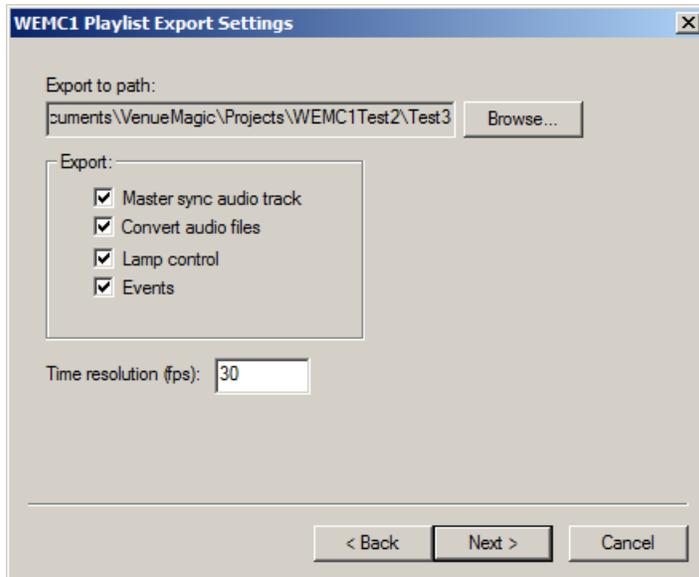
VenueMagic SC+ will let you export VenueMagic Playlist's to show files that can be uploaded to the Weigl WEMC1 show control device for standalone operation. The Playlist and all associated timelines and audio files are converted into WEMC1-compatible files. All files are put into a single

folder that can be copied or uploaded to the WEMC1. For more information about WEMC1 show files and standalone operation, please consult the WEMC1 manual.

## Weigl ProCommander Playlist Export Settings

(VenueMagic SC+ only)

Sets where and what will be exported.



### Export to path

Click Browse and select the folder that all files will be exported to. All additional folders will be automatically inside the selected folder.

### Export

Select which items are to be exported:

- **Master sync audio track:** Check this box to export audio from all timelines in playlist. Only audio on the [master sync audio track](#) will be exported. Audio files added directly to the Playlist are always exported. (see [Important Limitations on Exporting VenueMagic Audio](#))
- **Convert audio files:** Audio files must be converted into the OGG format to run on the WEMC1. This takes time to do and it doesn't make sense to convert them every time you export if the audio files haven't changed. You can uncheck this box to suppress re-conversion *only if there have been no audio changes in the Playlist or any of the Playlists timelines.*
- **Lamp control:** Check this box to export all control tracks in all timelines in the Playlist.
- **Events:** Check this box to export all timeline Event tracks. Only *Run Timeline* and *WEMC1 Control* events are exported. All others are ignored.

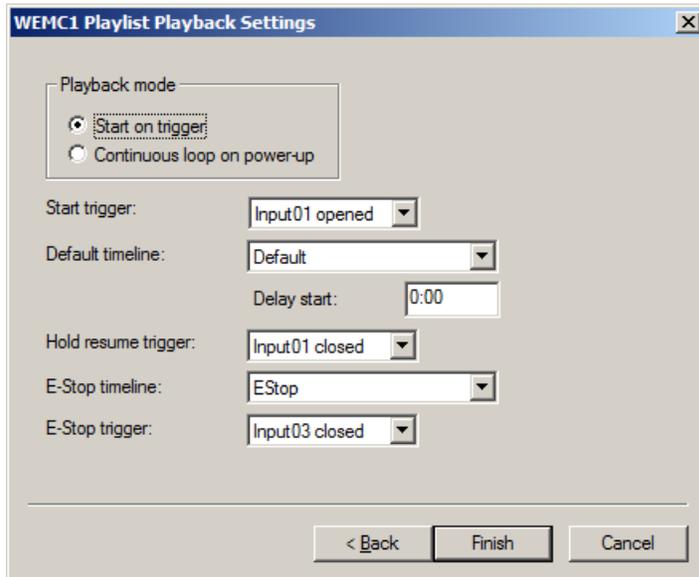
### Time resolution (fps)

Enter the desired time resolution in frames-per-second. Will accept any value between 0.1 and 100. The default of 30 fps is sufficient for nearly all applications.

Click *Next* to bring up the WEMC1 Playlist Playback Settings window.

## Weigl ProCommander Playlist Playback Settings

(VenueMagic SC+ only)



### **Playback Mode**

There are two ways that the WEMC1 can run the exported playlist:

- **Start on trigger mode:** WEMC1 waits for the specified trigger to start playing the playlist. A default timeline can be setup to play continuously in a loop until the trigger is activated.
- **Continuous loop on power-up mode:** On power-up WEMC1-1 runs the playlist continuously in a loop at a specified time interval.

### **Start on Trigger Mode**

The following settings apply when *Start on trigger* mode is selected:

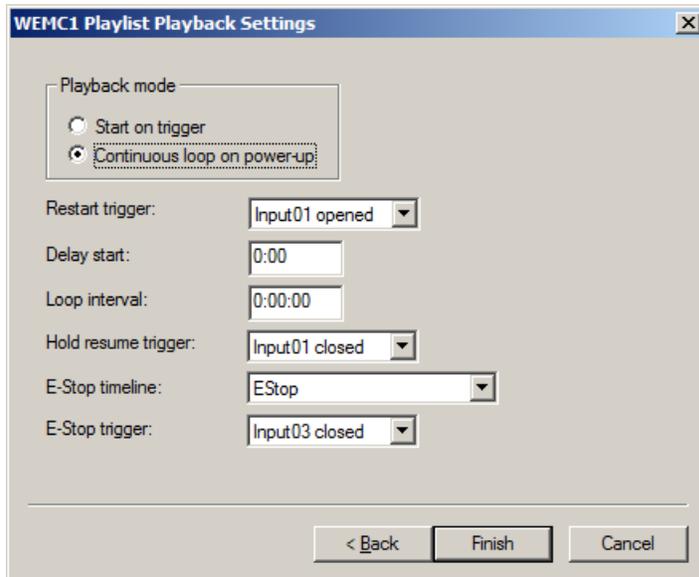
- Start trigger** Select the condition that will trigger execution of the playlist. Available are the 16 WEMC1 input bits (input01-input16, either opened or close), and the remote-control number keys (0-0).
- Default timeline** Select the timeline that will run continuously in a loop until the start trigger is activated. When the playlist has finished execution, the default timeline will restart. Any timeline in the current project can be selected. If a default timeline is not desired, select *None*.
- Delay start** Specify how many seconds after power-up the WEMC1 should wait before starting the default timeline (if specified). This can be specified in seconds or minutes:seconds (note ':' used to separate minutes from seconds).
- Hold resume trigger** Select the trigger that will resume playback of a playlist that has encountered a [Wait block](#).
- E-Stop timeline** Select the timeline that should run in an "emergency stop" condition or *None* if

not required. For example, this is timeline could turn on the house lights and stop the audio playback.

**E-Stop trigger** Select the condition that will trigger an E-Stop (see *Start trigger* for available trigger selections).

### **Continuous Loop Mode**

If *Continuous loop on power-up* mode is selected, the available settings change:



The screenshot shows a dialog box titled "WEMC1 Playlist Playback Settings". It contains several configuration options:

- Playback mode:** Two radio buttons are present. "Start on trigger" is unselected, and "Continuous loop on power-up" is selected.
- Restart trigger:** A dropdown menu showing "Input01 opened".
- Delay start:** A text input field containing "0:00".
- Loop interval:** A text input field containing "0:00:00".
- Hold resume trigger:** A dropdown menu showing "Input01 closed".
- E-Stop timeline:** A dropdown menu showing "EStop".
- E-Stop trigger:** A dropdown menu showing "Input03 closed".

At the bottom of the dialog, there are three buttons: "< Back", "Finish", and "Cancel".

**Restart trigger** Select the condition that will restart execution of a playlist following an E-Stop. See *Start trigger* above for available settings.

**Delay start** Specify how many seconds after power-up the WEMC1 should wait before starting playback of the playlist. This can be specified in seconds or minutes:seconds (note ':' used to separate minutes from seconds).

**Loop interval** Specify the interval at which the playlist is repeated. If this value is less than the length of the playlist, then playlist will restart immediately after playback. Specify time in seconds, minutes:seconds or hours:minutes:seconds (note ':' used to separate values).

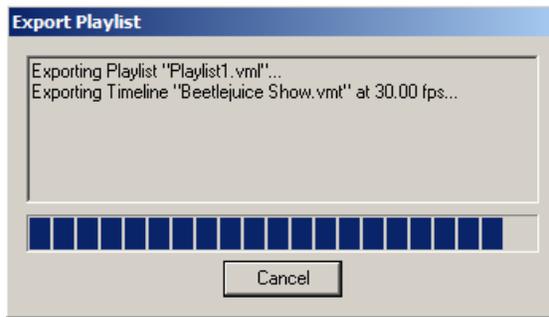
**Hold resume trigger** Select the trigger that will resume playback of a playlist that has encountered a [Wait block](#).

**E-Stop timeline** Select the timeline that should run in an "emergency stop" condition or *None* if not required. For example, this is timeline could turn on the house lights and stop the audio playback.

**E-Stop trigger** Select the condition that will trigger an E-Stop (see *Start trigger* for available trigger selections).

### **Starting Export**

Click on **Finish** and exporting will begin immediately. A window will pop up to report the progress of the export function.



**Important Note:** Several Windows command windows may appear if you have selected the Convert audio files option to in the [Weigl ProCommander Export Settings](#) window. This is normal.

## Important Limitations on Exporting VenueMagic Audio

Exporting audio from VenueMagic timeline tracks has the following limitations:

1. Only audio clips on the master sync track will be exported.
2. Clips can be trimmed at the end but not the beginning. Any trimming at the beginning of the clip will be ignored, resulting in improper playback on the WEMC1.
3. Any audio effects (echo, etc...), envelopes and level settings will be ignored.
4. Audio clips with cross-fade back applied should not be used.

## Using VenueMagic with X-Keys

*(VenueMagic Classic and above only)*

VenueMagic supports the following P.I. Engineering X-Keys USB input devices:

XK-3, XK-4, XK-8, XK-12, XK-16, XK-24, XK-60, XK-80,  
XKE-128, XK-USB3, XC-DMX512T-RJ45, XC-DMX512T-ST.

### **X-Keys Input**

When properly installed and configured, X-Keys devices are available in the [Select External Control](#) window.

To use an X-Keys device, follow these steps:

1. Plug-in one or more X-Keys USB devices.
2. In the [Supported Devices](#) tab of the [Setup Devices](#) window, select and check the *X-Keys Input Interface* device, then click on the *Properties* button to bring up Set up X-Keys Devices window.
3. Set each installed device's Unit ID number to a different value.
4. Use the X-Keys devices just as you would use any [external control](#).

### **X-Keys DMX Output**

The XC-DMX512T-RJ45 and XC-DMX512T-ST models support DMX outputs. Enable this function by following these steps.

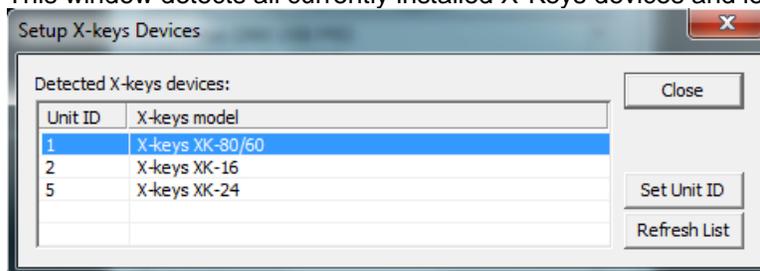
1. Plug-in one or more X-Keys USB DMX devices.

2. In the [Supported Devices](#) tab of the [Setup Devices](#) window, select and check the X-Keys *DMX Interface* device, then click on the *Properties* button to bring up Set up X-Keys Devices window.
3. Set each installed device's Unit ID number to a different value.
4. Click on the [DMX Tab](#) of the **Setup Devices** window. Select a universe and click **Assign**. You will notice that all connected X-Keys DMX devices are included in the **Assign DMX Universe** window.

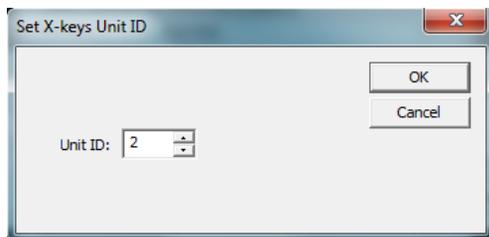
You will notice that checking the X-Keys *DMX Interface* device in the Supported Devices window automatically checks the X-Keys *Input Interface* device box as well. Likewise, un-checking the X-Keys *Input Interface* device box also un-checks the X-Keys *DMX Interface* box. This is because the X-Keys DMX operation is dependent on functions associated with the Input feature.

## Setup X-Keys Devices Window

This window detects all currently installed X-Keys devices and lets you set their Unit ID's.



By default, all X-Keys devices are shipped with a Unit ID of 0. To program a new Unit ID, select the desired X-keys device and click on the *Set Unit ID* button to bring up the *Set X-Keys Unit ID* window.



Enter a new Unit ID and click *OK*.

If you plug-in additional X-Keys devices while the Setup X-Keys Devices window is opened, you must click on *Refresh List* to display the new devices.

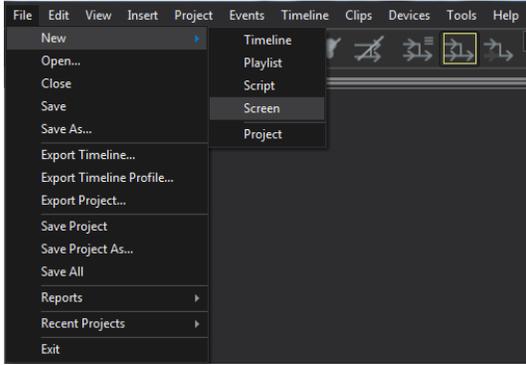
## VenueMagic Screens

(Requires purchase of VM Screens Plugin at [www.venuemagic.com](http://www.venuemagic.com))

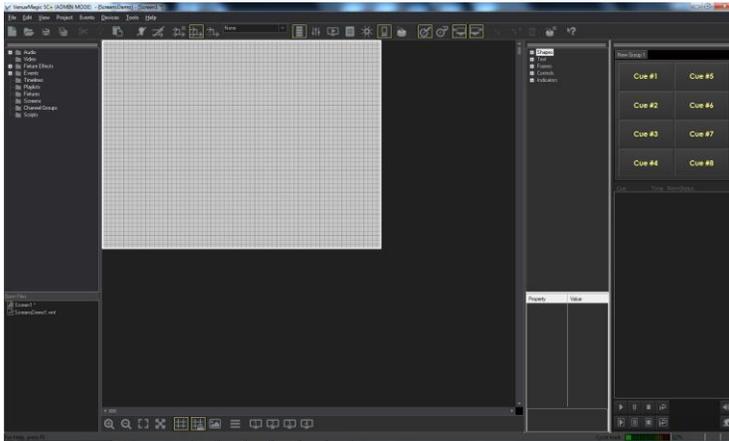
VenueMagic Screens is a powerful tool for creating user interface screens that work with your VenueMagic show. VenueMagic Screens uses a graphical, drag-and-drop approach to screen design and is fully integrated into the VenueMagic application, giving it access to all of the elements of a VenueMagic project. This includes [timelines](#), [events](#), [external inputs](#), [variables](#) and more.

### VenueMagic Screens Designer

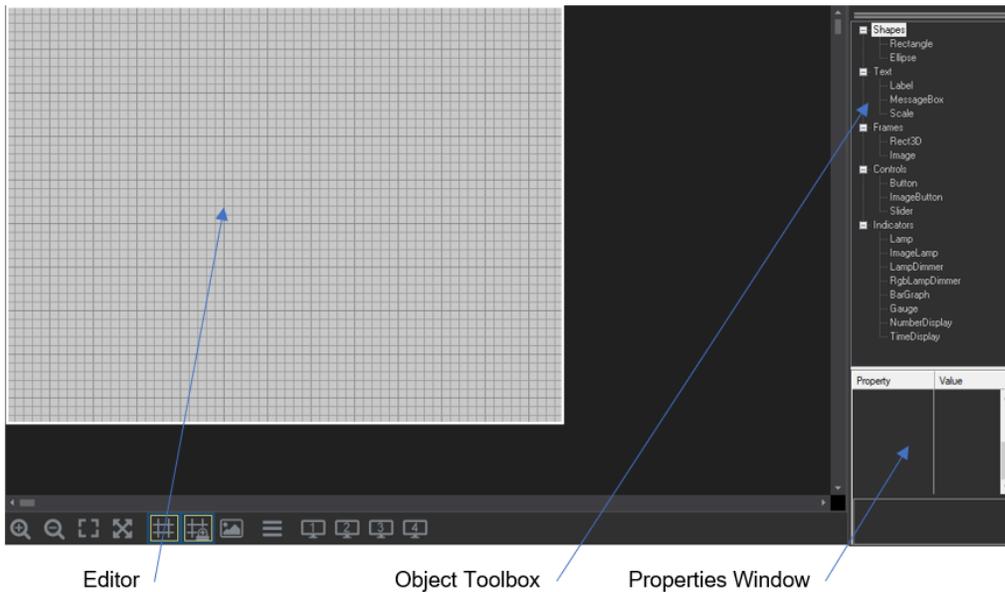
Create a new screen from the VenueMagic main menu by selecting *Files* → *New* → *Screen*.



This will open a new *screen* for editing, which should look something like this:



## Screen Designer Window



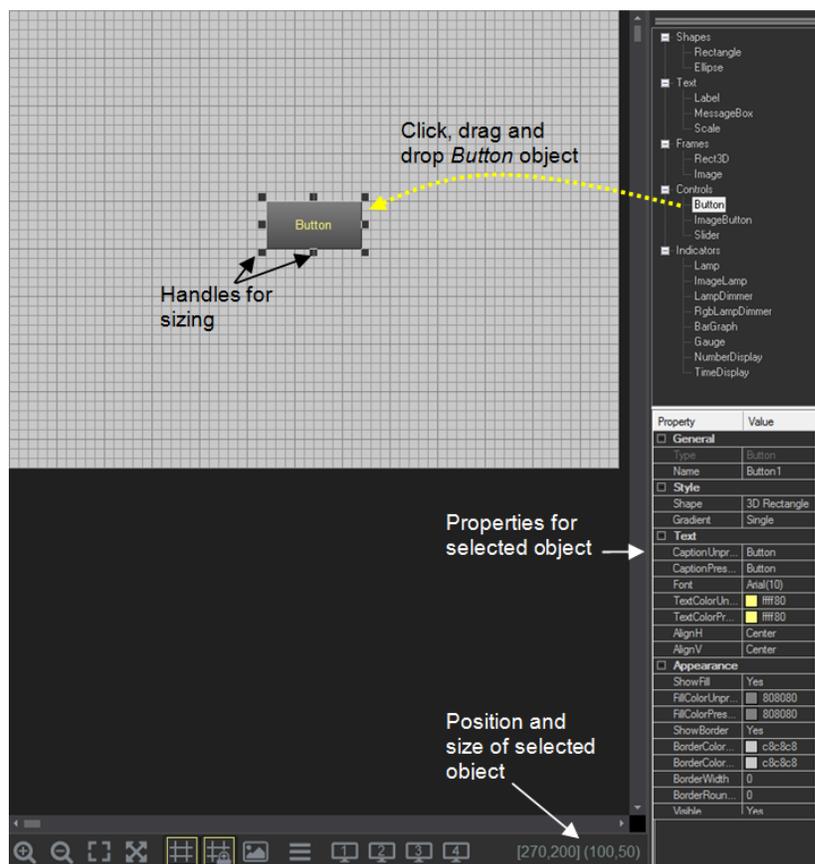
The above image shows the elements of the VenueMagic Screens (hereafter referred to as *VM Screens*) designer window. It includes the *Editor*, where the screen is constructed, the *Object Toolbox*, which contains objects from which screens are built and the *Properties Window*, which

allows you to change appearance and behavior attributes or *properties* for objects that are added to the *Editor*. The *Object Toolbar* is only present when a VM Screen is open in the editor. At the very bottom is a toolbar with buttons to change *Editor* settings and open *Preview Windows* (to be discussed later).

There are a number of different types of objects available in the *Object Toolbox*, including buttons, indicator lamps, gauges, number displays, etc... that can be customized to appear and behave in various ways to give you, the designer, many options for the look and feel of your screen.

Constructing screens is accomplished primarily by dragging objects from the *Object Toolbox* to the *Editor*, sizing and placing the objects, and then modifying the objects properties in the *Property Window*.

Let's start by dragging on a simple *Button* object.



### **Sizing Objects**

After you have dragged over the *Button* object into the *Editor*, click and drag the handles to resize the object. The position and size of the object, in pixels, is displayed at the bottom of the screen. Hold down the SHIFT key on the keyboard while sizing to lock the width and height together. Objects can only be sized one at a time. If more than one object is selected, sizing is not allowed.

The *Properties* window shows all of the properties of the button and allows you to change them. We'll get back to that shortly.

### **Editor Grid**

Inside the Screens Editor is a grid that helps you align objects within the screen. As you move and size objects, they will automatically snap to the grid. This makes it easier to line things up. Both the grid and the snapping function can be disabled/enabled in the [Screen Designer Editor](#)

[Settings Window](#) or by clicking the   icons on the bottom toolbar.

### **Sizing the Editor Window**

The following toolbar buttons are provided for sizing the editor:

	Zoom in view of the screen.
	Zoom out view of the screen.
	Set to actual size (100%)
	Zoom so that entire screen fits in editor area

You can also zoom in and out about a specific point by placing the mouse cursor at the point of interest, holding down the CTRL key on the keyboard, and then adjusting the scroll wheel on the mouse.

### **Object Properties**

All of the user-changeable properties that make up an object's appearance and behavior are set in the *Object Properties* window. This window always displays the properties for the currently selected object. If more than one object is selected then only those properties that all of the selected objects have in common are displayed. Changing the property in the *Properties window* changes that property for all selected objects.

Property	Value
<input type="checkbox"/> <b>General</b>	
Type	Button
Name	Button1
<input type="checkbox"/> <b>Style</b>	
Shape	3D Rectangle
Gradient	Single
<input type="checkbox"/> <b>Text</b>	
<b>CaptionUnpressed</b>	<b>MyButton</b>
CaptionPressed	Button
Font	Arial(10)
TextColorUnpressed	■ #ffff80
TextColorPressed	■ #ffff80
AlignH	Center
AlignV	Center
<input type="checkbox"/> <b>Appearance</b>	
ShowFill	Yes
FillColorUnpressed	■ #808080
FillColorPressed	■ #808080
ShowBorder	Yes
BorderColorUnpressed	■ #c8c8c8
BorderColorPressed	■ #c8c8c8
BorderWidth	0
BorderRounding	0
Visible	Yes
<input type="checkbox"/> <b>Action</b>	
OnPressed	
OnRelease	
Behavior	Normal
InitState	Unpressed
RadioBtnGroup	0
<input type="checkbox"/> <b>Source</b>	
PressedState	None
Threshold	50.000000
<b>CaptionUnpressed</b> Text displayed when button is unpressed	

Description of selected property shown at the bottom of the window.

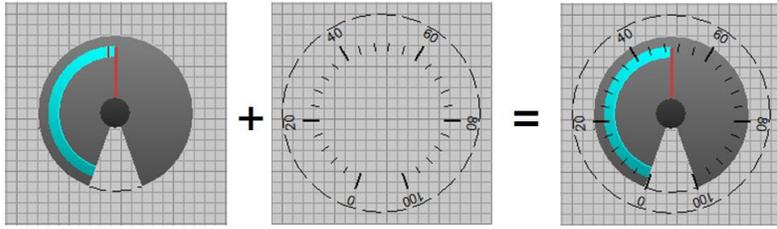
At the bottom of the *Property* window is a small section that briefly describes the purpose or function of the currently selected property. Accounting for all available object types, there are a lot of properties. This manual will not cover all properties of all objects as they should, for the most part, be self explanatory. The best (and recommended) way to learn what all of the properties do is to experiment with them for each of the different objects. The description section on the bottom of the *Properties window* will help along the way.

### **Selecting Multiple Objects**

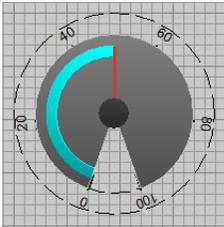
If you have multiple objects in the editor that you would like to select at once, hold down the *Ctrl* key on the keyboard while selecting objects. Or you can click on empty editor area and drag a selector box that selects anything inside of it. The *Object Properties* window will display only those properties that are common across all selected objects. Changes made to those properties will affect all selected objects.

### **Overlapping Objects**

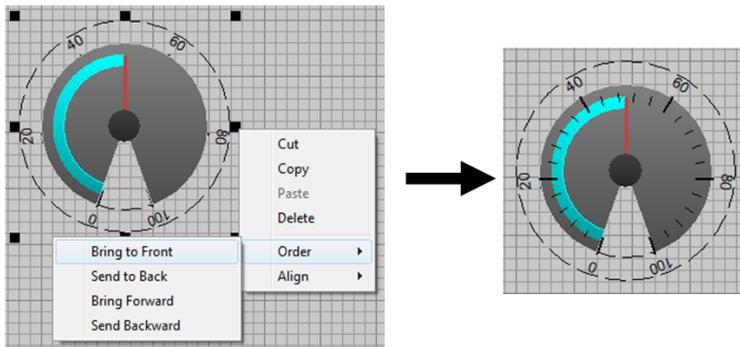
Occasionally the user may desire to overlap objects, such as a *Gauge* and a *Scale*, for example.



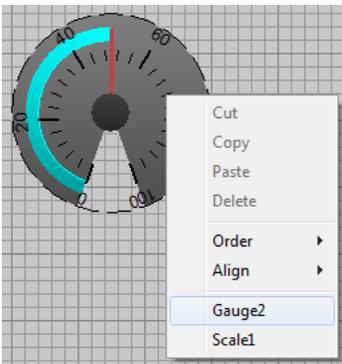
But suppose that they overlap in the wrong order and you end up with the *Gauge* object covering up part of the *Scale* object, like this:



This can be adjusted by right-clicking on the edge of the *Scale* object (which is larger than the *Gauge* object) and selecting *Order* → *Bring to Front*. Use the other options *Send to Back*, *Bring Forward* and *Send Backward* to similarly adjust object drawing order.

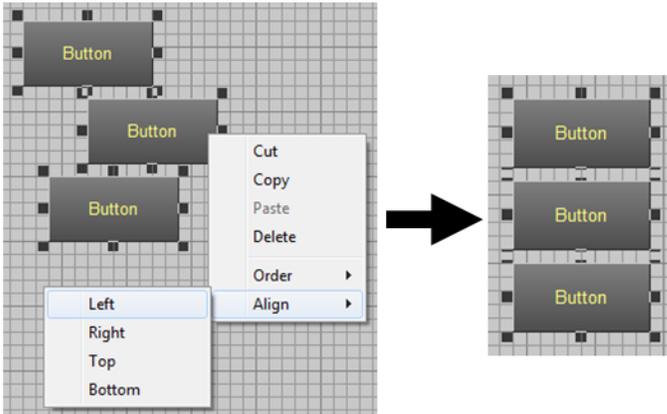


If two objects or more objects overlap in a way that makes it difficult to select (such as when both are the same size and at the same position), right-click within the boundaries of the object and select which object you wish to select from the list.



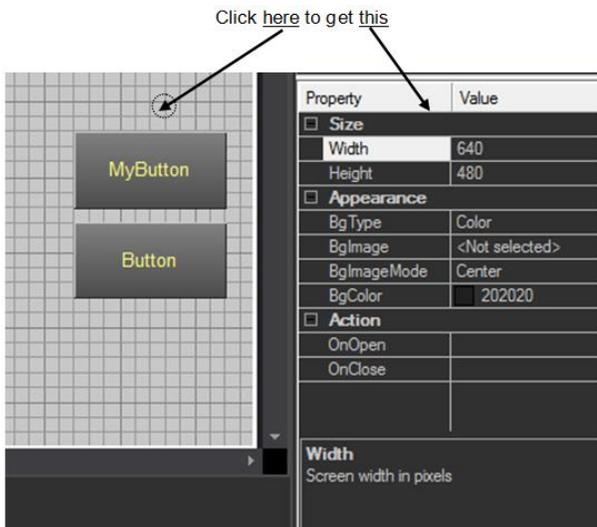
### ***Aligning Objects***

When you select multiple objects, you can align them all to the last object selected by right-clicking on one of the selected objects and selecting one of the *Align* options.



## Screen Display Properties

If you click anywhere in empty space on the screens editor, the Object Properties window will display properties associated with the screen area itself.



These properties apply to the screen background when a screen is in Run Mode:

### **Width** **Height**

Specifies the width and height of the screen in pixels. See [Setting-up Screen Window Sizes](#) for details on how to determine the *Width* and *Height* settings.

### **BgType**

The background type of the screen. Selecting this property displays a list box button. Click the button to open the list.



The choices are:

**No Fill** – background is blank

**Color** – background is a color specified in *BgColor*

**Image** – background is an image specified by *BgImage*

### **BgImage**

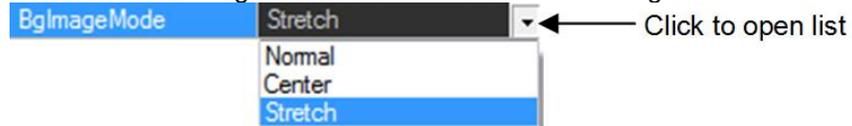
If *BgType=Image* then this property is used to specify the image that will be used as the background. Selecting this property displays a button that will open the [Image Manager](#) window.



From this window, you can select the image that will be the background for the screen.

### **BgImageMode**

Select how the image will be drawn in the screen background.



The choices are:

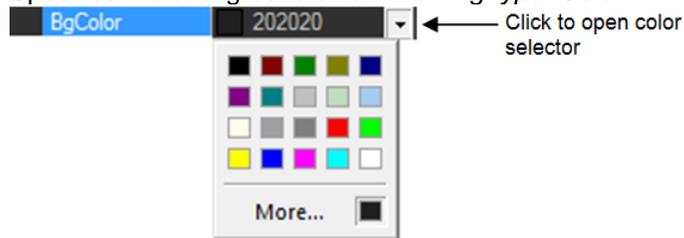
**Normal** – image is placed in the upper left corner of the screen showing in its actual size.

**Center** – image is centered in the screen showing in its actual size.

**Stretched** – image is stretched, both horizontally and vertically, to fill the screen area as defined by *Width* and *Height*.

### **BgColor**

Specifies the background color when *BgType=Color*.



### **OnOpen**

This property specifies a VenueMagic event that is executed when the screen is opened in *Run Mode*.



Click on the property button to open the [Setup Event](#) window where you can setup the event that is executed when the button is pressed.

### **OnClose**

This property specifies a VenueMagic event that is executed when the screen is closed while in *Run Mode*. It is setup identically to *OnOpen*.

### **Showing Screen Background in the Editor**

By default, the editor window does not show the background on the screen (as setup using the *BgType*, *BgImage*, *BgImageMode* and *BgColor* properties). What is shown is the grid (if it is on) and the background color set in the [Screen Designer Editor Settings Window](#). This usually

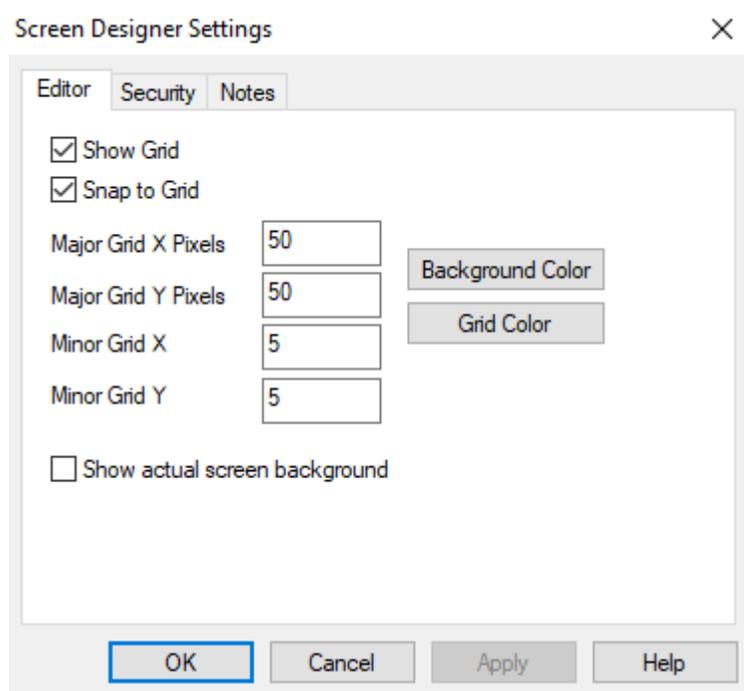
makes it easier to move and size objects. To see the actual background, click the  button on the editor toolbar. You will notice that the grid is drawn on top of the background. To get a pure background, just turn off the grid by clicking the  button.

## Screen Designer Settings Window

Here you can change basic properties of the VenueMagic Screens editor area. It is opened by clicking on the  button on the [Screen Editor](#) toolbar or by selecting View→Properties from the [Main Menu](#) when a VenueMagic Screen is loaded into the editor.

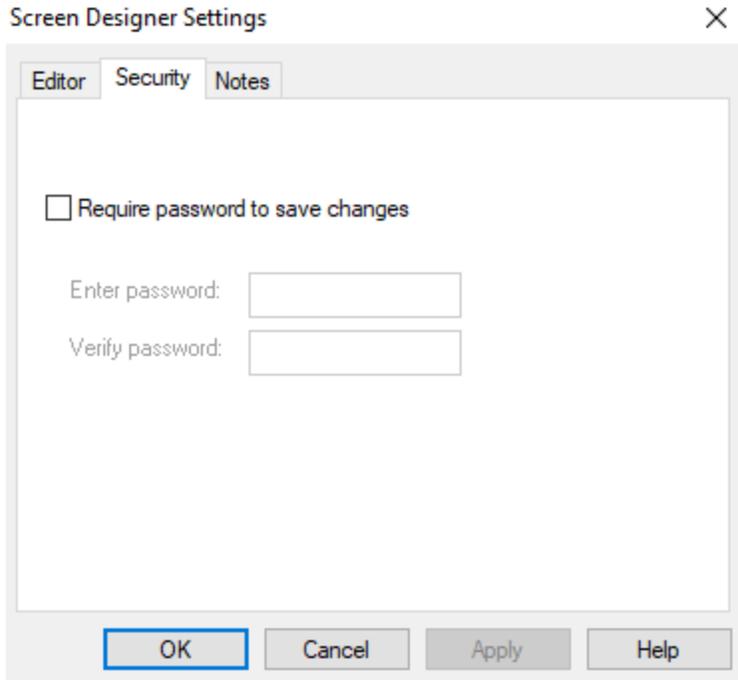
### **Screen Designer Editor Settings Window**

This window lets you adjust VM Screens editor settings.



<b>Show grid</b>	Toggle the grid on/off. (Same function as corresponding toolbar item)
<b>Snap to grid</b>	Toggle snap to minor grid function on/off. (Same function as toolbar item)
<b>Major grid X pixels</b>	Set the length of the major grid in pixels.
<b>Major grid Y pixels</b>	Set the height of the major grid in pixels.
<b>Minor grid X</b>	Set the length of the minor grid in pixels.
<b>Minor grid Y</b>	Set the height of the minor grid in pixels.
<b>Show actual screen background</b>	Toggle on/off the chosen background of the Screen.
<b>Background color</b>	Change color of the background.
<b>Grid color</b>	Change color of the major and minor grid lines.

### **Screen Designer Security Settings Window**

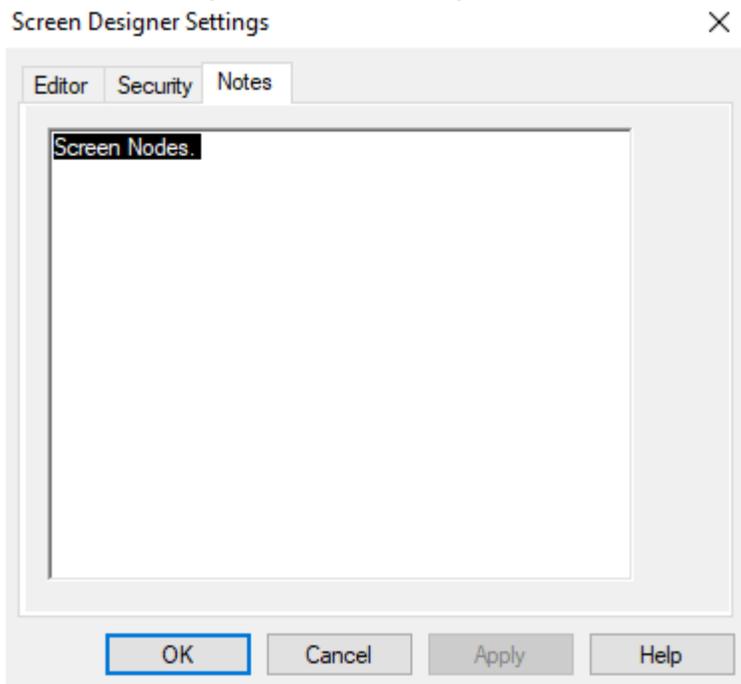


You can require that a password be used if someone desires to alter and then save this file. Check the *Require password to save changes* box to require a password, then enter and re-enter the password in the fields below.

If anyone attempts to save this Screen, or to select the *Security* tab in the Screen Designer Settings, a window will appear requiring the user to enter a password to save the file or enable the Security tab.

### **Screen Designer Notes**

This window lets you add notes about your Screen.



## Certain Object Properties Explained

We will take some time here to discuss a few of the properties of select objects so that certain features common to other objects can be explained. It would be useful to review these object property sections below in order, as similar properties described in object sections will not be covered again in subsequent sections. Again, not all of the object types and properties will be discussed here. Only those that we feel may require additional explanation.

### ***New Line in Text***

Wherever there is a property that contains text that will be shown on the screen, such as a *Button* or *Label* caption or a you can use the “\” character to advance to a new line. For example, entering “My Text” into the *Caption* property of a *Label* object would display as:



If you place a “\” character between words, like “My\Text”, then this would be displayed:

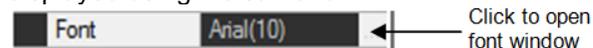


### ***Button Object Selected Properties***

Below are some select Button object properties that require some exploration. The use of other properties can be discovered by experimentation.

**Name** Every object on a screen must have a unique name. By default, a name is automatically generated that includes the type of the object followed by a number to ensure uniqueness.

**Font** This property sets the font for the object text. For buttons there are two text captions, *CaptionUnpressed*, which is the text displayed on the button when it is in the un-pressed (normal) state and *CaptionPressed* which is displayed in the pressed state (see *Behavior* below). Both of these captions is displayed using the same font.



Selecting this property will show a small button on the left side that, when pressed, opens up a font setup window.

**OnPressed** This defines action taken when the button is pressed. The action is always in the form of a VenueMagic event.



Click on the property button to open the [Setup Event](#) window where you can setup the event that is executed when the button is pressed.

**OnRelease** This defines action taken when the button is released (only for *Behavior = Momentary or Toggle*). The event is set identically to *OnPressed*.

**Behavior** Specify the behavior of the button.



The choices are:

**Normal** – Button responds to clicks by triggering the *OnPressed* event. The *CaptionPressed*, *TextColorPressed*, *FillColorPressed* and *BorderColorPressed* properties are ignored in this behavior mode.

**Momentary** – Button responds to a click by executing the *OnPressed* event. When the mouse button is released the *OnRelease* event is executed. The *CaptionPressed*, *TextColorPressed*, *FillColorPressed* and *BorderColorPressed* properties are applied when the button is pressed in this behavior mode.

**Toggle** – Button responds to click by alternating between pressed and unpressed state. The *Pressed* and *Unpressed* versions of *Caption*, *TextColor*, *FillColor* and *BorderColor* are applied based on the state of the button.

**RadioButton** – Buttons assigned to the same *RadioBtnGroup* work together to behave like radio buttons. When one button in a group is clicked, it is placed in a *pressed* state and the *OnPressed* event for that button is executed. Simultaneously, all other buttons in the group are placed in the *unpressed* state. The *OnRelease* event is not executed. The *Pressed* and *Unpressed* versions of *Caption*, *TextColor*, *FillColor* and *BorderColor* are applied based on the state of the button.

**InitButtonState** Specifies the state of the button when the screen is first opened. The list choices are *Pressed* and *Unpressed*.

**RadioBtnGroup** A numeric value that specifies a radio button group for a button with *Behavior=RadioButton* (See Behavior).

**PressedState** This property lets you setup a condition that actively determines the state of the button based on the value of an [external input](#), [channel output](#) or VenueMagic CLI command response.



Click the property button to open the [Setup Screen Input](#). After the input is selected, the *Threshold* property uses the current value of the specified input to determine the buttons state.

**Threshold** Enter a value between 0 and 100 to specify the threshold used to evaluate the input setup in *PressedState* to determine the current state of the button. If the input source is greater than that number then the button state is *pressed*. If the source value is less than the threshold the button state is *unpressed*. Changes in the button state in this manner do not execute *OnPressed* or *OnRelease* events.

### MessageBox Object Selected Properties

**Messages** A list of text strings separated by semicolons. In Run mode, one of those messages is displayed based on the current value of the input source specified in the *MessageSelector* property. Each semicolon-separated string is assigned an index value that starts with zero and increments with

each string. For example, in the message string:

*Good Morning;Good Afternoon;Good Evening*

“Good Morning” is assigned an index value of 0, “Good Afternoon” is assigned 1 and “Good Evening” a value of 2.

Suppose that *MessageSelector* is setup to receive values from *Var1*, a variable in the variable table. If *Var1* is set to a value of 0, then the message box object will display “Good Morning”. If the value of *Var1* changes to 1, the message box updates to display “Good Afternoon”. Similarly, A *Var1* value of 2 will display “Good Evening”.

This feature also supports ranges of values instead of single index values by adding ranges to the *Messages* string in square brackets before the text:

*[0,20]Good Morning;[21,40]Good Afternoon;[41,100]Good Evening*

In the above example, if *Var1* is set to a value between 0 and 20, then “Good Morning” is displayed. The pattern holds for the other range values as well.

**MessageSelector** Click the property button to open the [Setup Screen Input](#) window from where you can select an input source to control which message is displayed as setup in the *Messages* property.

### **TimeDisplay Object Selected Properties**

**Time** Click the property button to open the [Setup Screen Input](#) window from where you can select an input source for time. The *TimeDisplay* Object is mainly for displaying the playback time of a timeline. Since there is no external input or channel output that provides this information, it will be necessary to select a *VM CLI Response* as the *Input type* and enter the following query text:

*Project.CueList:GetPlayTime("MyTimeline")*

Where *MyTimeline* can be replaced by the *cuelist* name of a timeline currently running in the [Cue List](#). This query returns the current play time in seconds. Similarly, the following query responds with the remaining playback time in *MyTimeline*:

*Project.CueList:GetRemPlayTime("MyTimeline")*

### **TimeDisplay Object Selected Properties**

**ScalePercent** This property allow a selection of “Yes” and “No”. Select “Yes” to convert number with a range from 0 to 65535 into a range of 0.0 to 100.0. Selecting “No” causes the raw data to be displayed.

VenueMagic Screens handles level values of 0.0 to 100.0 internally as 0 to 65535. This is done to maintain compatibility with how [ShowNodes](#) does its value scaling.

### **BarGraph Object Selected Properties**

### Value

This property specifies the source of the bargraph's display level. Click on the property button to open the [Setup Screen Input](#) window and select a source. It is often useful to have a bargraph display the progress of a timeline playback. This can be done by selecting VM CLI Response for the Input type and then entering the query:

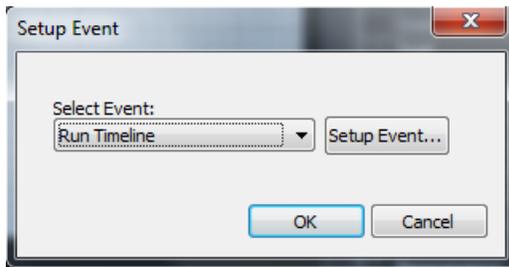
```
Project.CueList:GetPlayPercent("MyTimeline")
```

This query returns the play position of *MyTimeline* as a value between 0 and 100 which is used by the BarGraph to display the playback progress.

### OnClick Property

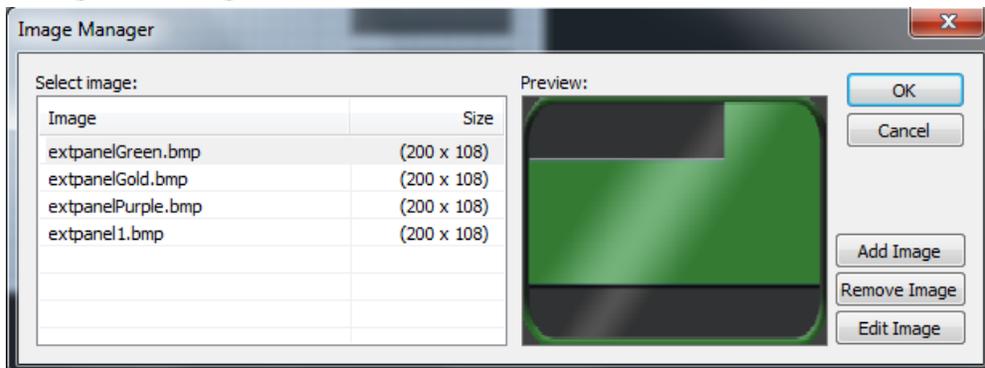
Most of the objects (excluding Button objects and a few others) have a property called *OnClick*. Its function and setup are identical to the OnPressed property (when *Behavior=Normal*) in the [Button Object Properties](#).

## Screens Setup Event Window



This window is opened from the [VenueMagic Screens Designer Object Properties](#) window. For properties that trigger events, this window allows you setup the event that will be executed by the property. First, select the desired event in the *Select Event* list. You can also select None to disable the event. Then click Setup Event to open the setup window for the selected event.

## Image Manager Window



This window has two purposes. It provides an interface for selecting images for screen objects that require them. It also manages a list of all of images available to screen objects.

The *Select image* list contains a list of all of the images that are available to a screen object. The *Image* column shows filename of the image file. The *Size* column displays the width and height of the image in pixels. Select the desired image and click OK to apply it to the property in the [Object Property window](#) that opened this window. The *Preview* panel shows the currently selected image, stretched to fill the panel.

### ***Adding Images to Manager***

If the list does not contain the desired image, click **Add Image** to bring up a browser for selecting images. The following image types are supported:

- BMP
- JPEG
- GIF
- TIFF
- PNG

It is strongly recommended that all project images be placed in the project folder for the loaded project. This will make it easier when transferring project files to a different computer. If you place image files in other folder, they will have to be found and re-linked when moved to a different computer.

### ***Removing Images from Manager***

Remove selected images from the list by clicking on **Remove Image**. This will unlink any object image properties that used that image.

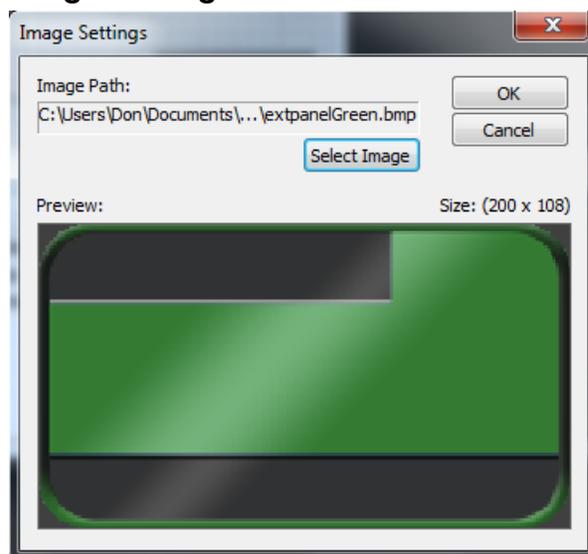
### ***Globally Replacing an Image***

You can change an image by selecting the image and clicking on *Edit Image* to open the [Image Settings Window](#). If a new image is selected the change will be carried over into all object images that used the original.

### ***Replacing Missing Images***

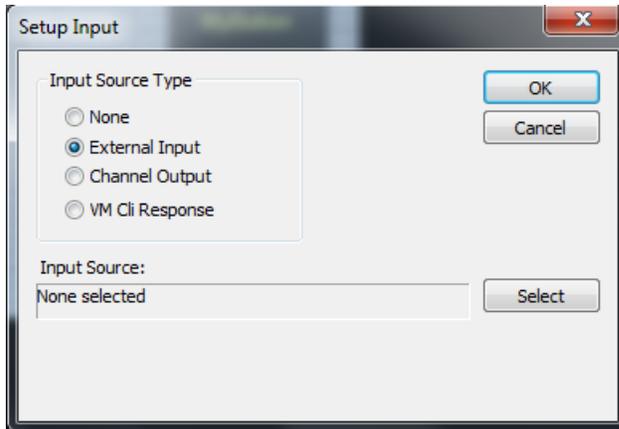
If an image in the list cannot be found at the designated path location, the *Size* column of the Select image list will contain "<file missing>" in the place of the image size. Replace a missing file by clicking *Edit Image* to open the [Image Settings Window](#) and select the image from the correct location.

### ***Image Settings Window***



From this window you can select a new image to replace an image entry in the [Image Manager Window](#). Click on Select Image to open a browser to select a single image file. The *Preview* panel shows the image, stretched to fill the panel.

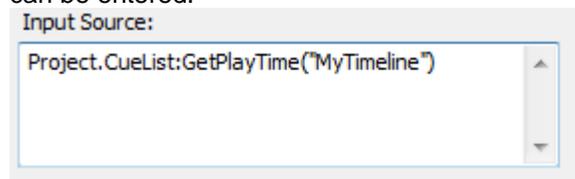
## Setup Screen Input



Use this window to select the source property for a screen object that requires external numerical data to affect its appearance.

Select one of the following options from the Input Source Type selector:

<b>None</b>	No input is selected. The object property is disabled
<b>External Input</b>	An external input is selected. Click <i>Select</i> to open the <a href="#">Select External Input</a> window and select the desired source.
<b>Channel Output</b>	A channel output is selected. Click <i>Select</i> to open the <a href="#">Select Channels</a> window and select the desired source.
<b>VM Cli Response</b>	Internal to VenueMagic is a framework for controlling and querying subsystems throughout VenueMagic. This allows access to functions and information inside VenueMagic that are not available through the normal user interfaces. This <i>Command Line Interface</i> (or CLI) capability is not publicly available to users at this time. However there are some queries that are very important to certain VM Screens objects so access to the CLI is provided in this instance. When this option is selected, a small editor window is provided into which a CLI query can be entered.



This query is sent periodically into the CLI framework and the resulting response is sent to the Screens object that

requested it. Specific CLI queries are described in the [Certain Object Properties Explained](#) section.

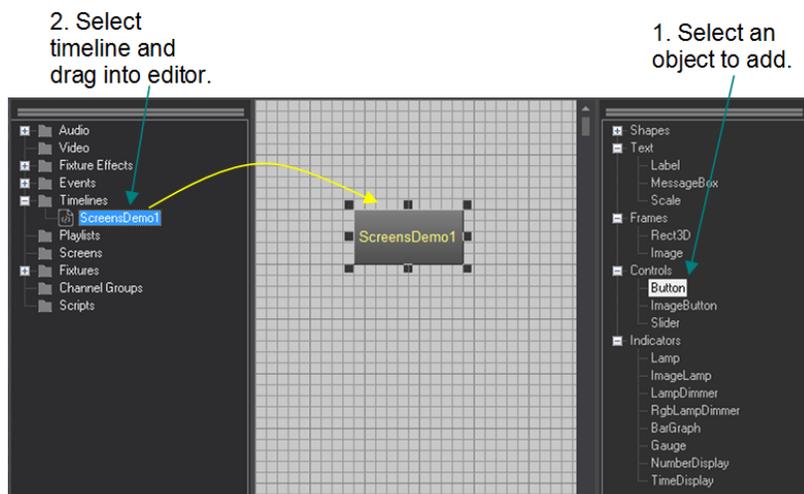
## Smart Object Shortcuts

A number of shortcuts are provided to help make creating VenueMagic Screens much faster. Called *Smart Object Shortcuts*, these allow you to drag on objects and assign their functionality in fewer steps.

### Objects that Run Timelines

You can quickly add an object to run a timeline in two steps:

1. Select the type of object you would like to add in the [Object Toolbox](#).
2. Select a timeline in the Timelines folder of the [Project window](#) and drag it onto the screen.



In the above example, a button was created with the *OnPressed* property set to execute a timeline that runs the *ScreenDemo1* timeline. It also sets the *CaptionUnpressed* and *CaptionPressed* properties to the name of the timeline, "ScreenDemo1". For other objects besides *Buttons* selected on the *Object Toolbox*, the *OnClick* property (if it has one) is setup to run the timeline. If no object is selected in the *Object Toolbox* then dragging over a timeline will create a *Button* by default.

Dragging a timeline onto an object already created in the editor will modify the object to run the timeline when clicked.

### Objects with Input Sources

If an object already in the editor has an input source property associated with it, you can drag a fixture channel onto it and the source property will be setup to be that fixture channel output.

### Double-clicking on an Object

Double-clicking on an object in the Screen Editor will automatically open either the *OnClick/OnPressed Screens Setup Event Window* or the *Setup Screen Input* window to setup a source, depending on which is more appropriate for the type of the object double-clicked on.

### Special Case for TimeDisplay and Bargraph Objects.

If a timeline is dragged into the editor with a *TimeDisplay* or *Bargraph* object selected in the *Object Toolbox*, or if a timeline is dragged onto an already existing *TimeDisplay* or *Bargraph* object, then two things will happen. First, the *OnClick* property will be setup to display the timeline. Second, the input source property of the object will be setup to receive the playback time of the timeline. This will make a *TimeDisplay* object display the playback time, in the format specified by the *TimeFormat* property, whenever the timeline is running. A *Bargraph* object will show the progress of the timeline playback reflected in the bargraph level.

### **Dragging Other Project Window Items onto Screen**

Below is a summary of the effect of dragging specific [Project window](#) objects into the *Screens Editor*.

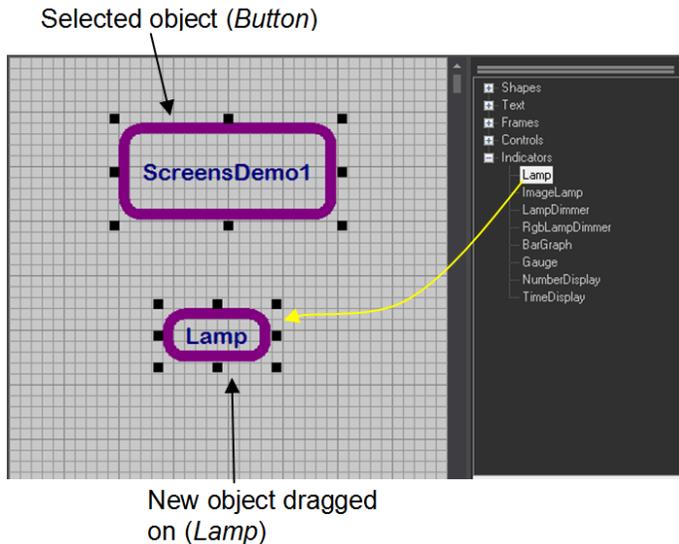
<b>Project window item</b>	<b>Affect on object (new or existing)</b>
<b>Audio Clip</b>	An Play Audio event is created to play the audio file and assigned to the <i>OnClick</i> or <i>OnPressed</i> property of the object
<b>Event</b>	<i>OnClick</i> or <i>OnPressed</i> property is setup to execute the event. It is up to the user to setup the event first.
<b>Timeline</b>	<i>OnClick</i> or <i>OnPressed</i> property is setup to run timeline. <i>TimeDisplay</i> and <i>Bargraph</i> source inputs are setup to display playback time of the timeline.
<b>Screen</b>	<i>OnClick</i> or <i>OnPressed</i> property is setup to open the screen in Monitor 1.
<b>Fixture Channels</b>	Normal fixture channels are assigned as input sources for the object's source property. If a compound RGB channel is dragged over, an <i>RGBLampDimmer</i> object is created regardless of which object is selected in the <i>Object Toolbar</i> .
<b>Script</b>	<i>OnClick</i> or <i>OnPressed</i> property is setup to execute a function in the script. The user will need to setup which script function first.

### **Dragging on Cue Buttons**

Assigned [Cue Buttons](#) can also be dragged into the *Screen Editor*. This will create a new object (of the type selected in the *Object Toolbox*) and setup the *OnClick* or *OnPressed* property to duplicate the function of the *Cue Button*.

### **Smart Object Styles**

The user can vary the appearance properties of an object in the editor to create a preferred look. Then, if that object is selected when a new object is dragged into the editor, the new object's appearance settings will match (as close as possible) the appearance of the selected object.



The same will occur if an object is dragged over from the [Project window](#).

## Previewing Screens

VM Screens [Monitor Windows](#) are used to preview screens created in the [VenueMagic Screens Designer](#). On the [Screen Designer Editor](#) toolbar are four monitor window buttons.



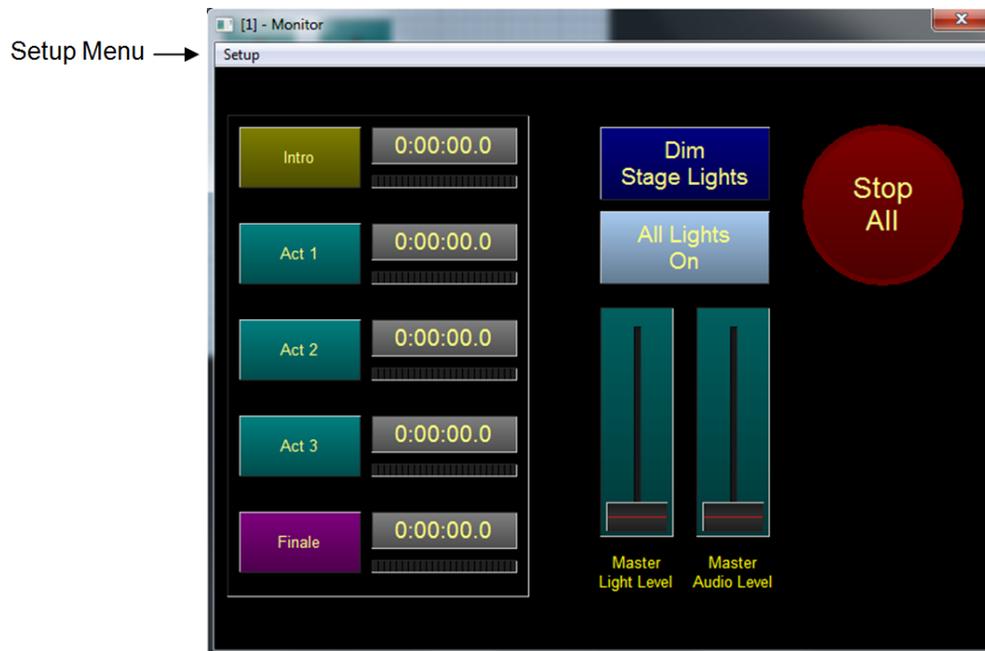
Clicking on one of them will open the corresponding *Monitor Window* and load the screen currently open in the editor. All objects in the window will be fully functional in [Run Mode](#). If any design changes are made to the screen while the *Monitor Window* is open, clicking the monitor window button in the toolbar again will refresh the window with the changes.

## VM Screens Run Mode

VM Screens *Run Mode* is where Screens function fully as user interfaces, as opposed to [Design Mode](#) which is for designing screen layouts and setting up objects. Run Mode is achieved by loading one or more screens into a [Monitor Window](#).

## Monitor Windows

A Monitor Window is an area where one or more screens are displayed. There are four monitor windows into which you can load one or more screens for [Run Mode](#) operation. One way to do this is using the [preview buttons](#) in the Screen Designer Editor toolbar.



Whereas this approach is good for testing a screen, the proper way is to use a [Screen Command Event](#), which offers much more control and flexibility.

Each of the four *Monitor Windows* has its own settings that configure how it is to be displayed when opened as a preview or using the *Screen Command Event*. When opened for [preview](#) (and not as full screen) the *Setup* menu is available at the top of the window. Click on the Setup menu and select *Settings...* to open the [Monitor Window Settings](#) window. The Setup menu is not available when the Monitor Window is opened in full-screen mode. Also, this menu is not available when the window has been opened using a [Screen Command Event](#).

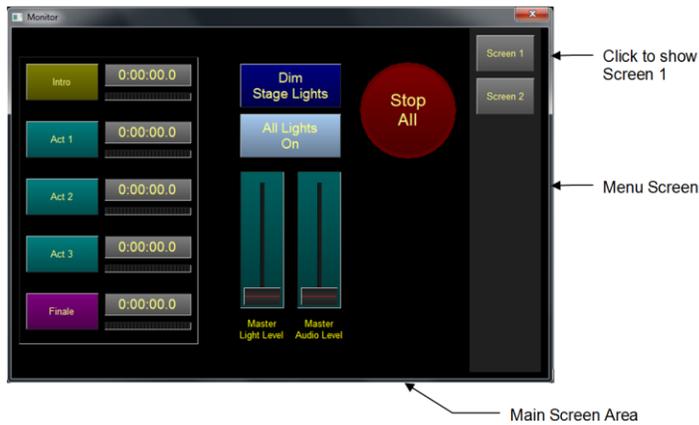
### **Setting-up Screen Window Sizes**

There are two size settings you need to consider when setting up screens and monitor windows. The first is the screen size, which is set for each screen in the [Screen Display Properties](#). Here you can fill in the *Width* and *Height* properties for a specific screen. These values are in pixels. The second is the *Width* and *Height* settings in the [Monitor Window Settings](#). If you wish only to show one screen at a time in a monitor, you will probably want these values to be the same as those in the *Screen Display Properties*. However, if you would like to show multiple screens side-by-side in the same window, you will need to setup a monitor *Width* and *Height* that is large enough to contain all of the panels (see [Multiple Screens in a Monitor Window](#)). If you want a screen (or multiple screens together) to fill your computer monitor, you should select *Width* and *Height* values for your Monitor Window to be the same as your computer monitor's resolution.

### **Multiple Screens in a Monitor Window**

You can arrange multiple screens side-by-side within a monitor window. This is useful in cases such as when you would like a "menu screen" area with buttons that let you select which screens you would like to show in a "main screen" area.

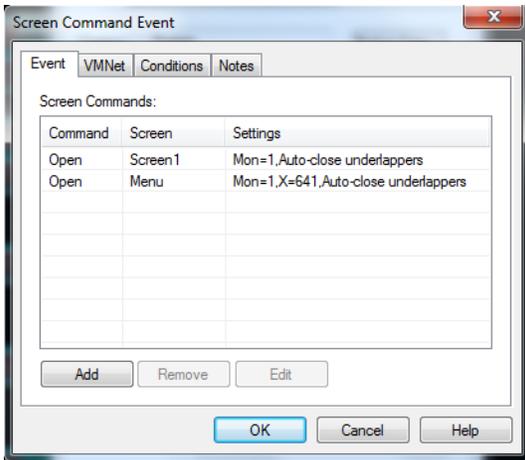
The example below has 3 screens, a menu screen and two selectable screens *Screen1* and *Screen2*.



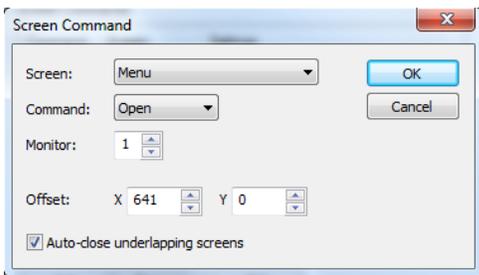
The menu screen on the right includes two buttons that have been setup to open either *Screen1* or *Screen2* into the *main screen area*. The menu screen size is *Width=99*, *Height=480*. *Screen1* and *Screen2* are both the same size, *Width=640*, *Height=480*. To accommodate both screens, the associated [Monitor Window](#) *Screen area size* is set to be:

*Width* = 640 (width of *Screen1/2*) + 1 (space between screens) + 99 (menu screen width) = **740**  
*Height* = **480** (same for all screens)

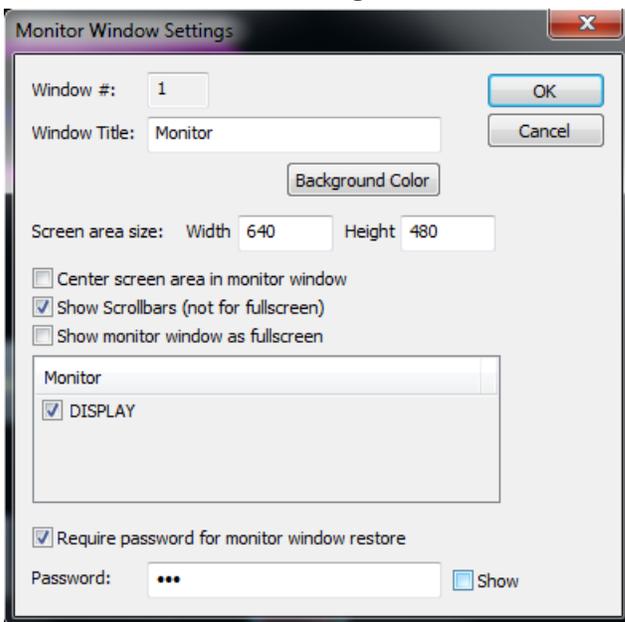
You must use a [Screen Command Event](#) (attached to a [Cue Button](#), etc...) to open multiple screens at once in this manner. Setup the event to open *Screen1* and the *Menu* screen.



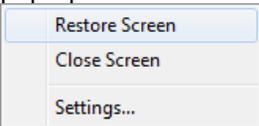
For the *Menu* screen, be sure to set the *Offset X* to 641 (width of *Screen1* + 1), so that the menu is displayed to the right of the main screen area.



### Monitor Window Settings



<b>Window #</b>	Indicates which of the four monitor windows these properties are for.
<b>Window Title</b>	Enter the text that will be displayed at the top of the

	Monitor Window (not available in full-screen mode).
<b>Background color</b>	Choose the background color. This color is applied to the <i>Screen area</i> only. <i>Monitor Window</i> space outside of the <i>Screen area</i> will be black.
<b>Screen area size</b>	Set the width and height of the display area in pixels.
<b>Center screen area in monitor window</b>	Place the display area in the middle of the window. When this box is unchecked, the area will be put in the top left corner.
<b>Show scrollbars</b>	Toggle the presence of the scrollbars when in normal display mode (not full screen).
<b>Show monitor window as full screen</b>	<p>When this box is checked, the <i>Monitor Window</i> will open into full screen mode. The <i>Monitor Window</i> can be restored to normal by right-clicking on the monitor and selecting <i>Restore Screen</i> from the pop-up window.</p>  <p>If a password is required for this <i>Monitor Window</i>, selecting <i>Restore Screen</i> will prompt the user to enter the password before it will restore.</p>
<b>Monitor</b>	Choose what physical monitor the window will be shown on.
<b>Require password for monitor window</b>	When check, a password (entered into <i>Password</i> field) is required when you wish to <i>Restore</i> or <i>Close</i> a full-screen <i>Monitor Window</i> . To close or restore the window, right-click anywhere in the window to open the <i>Monitor Window</i> pop-up menu (as mentioned above).