vMix User Guide

Copyright © StudioCoast Pty Ltd

Table of contents

Introduction and Features 7
Getting Started 11
Presets 13
  New Preset 13
  Open Preset 14
  Save/Save As Preset 15
  Last Preset 15
  Preset Bundles 15
Video Controls 17
Fullscreen 18
Transitions 20
  Quick Play 20
  Cut 20
  Fade/Transition Buttons 20
  Merge Effect 21
  Stinger Transitions 22
  FTB (Fade To Black) 23
Production Clocks 24
Categories 27
Fade Bar 31
Pause Inputs 32
Overlays 33
Overlay Settings 34
Right Click Menus 36
  Cog Icon Menu 37
  SlideShow Settings 37
Settings 39
  Import/Export/Default 39
  Display 39
  Outputs / NDI / OMT / SRT 40
  Options 43
  Performance 45
  Decoders 46
  Recording 47
  External Output 48
  Audio 49
  Audio Outputs 51
  Web Controller 52
  Tally Lights 52
  Shortcuts 52
  Activators 53
  Scripting 53
  Alerts 53
  About 54
  Advanced Settings 54
Inputs 57
  Add Input 58

Video 58
DVD 60
List 60
Camera 63
NDI / OMT / Desktop Capture 64
NDI / OMT 64
Local Desktop Capture 66
Desktop Capture 67
Stream / SRT 67
SRT 69
Instant Replay 70
Image Sequence / Stinger 70
Video Delay 71
Image 72
Photos 72
PowerPoint 72
Colour 73
Audio 73
Audio Input 73
Title 73
Virtual Set 76
Web Browser 77
Video Call 78
Mix 78
Output 81
Preview 82
Zoom 82
Telestrator 82
Input Buttons 82
Close 82
Cut 82
Loop 82
1,2,3,4,5,6,7,8 (Overlay) 82
GO 83
Audio 83
Preview (TV Icon) 83
Settings (Cog Icon) 83
Live Pause 83
Input Settings 84
General 84
Colour Adjust 85
Colour Key 86
Colour Correction 87
Effects 92
Layers 93
Layer Designer 95
Position 98
Triggers 99
Tally Lights 101
PTZ 101

Advanced 101
Copy From 102
Audio 103
Audio Mixer 103
Audio Settings 106
Audio Plugins 111
Recording Audio 113
Audio Meters 117
Output Audio Channels 119
Audio Bus Manager 120
Audio Flow Diagram 122
Master Audio Settings 122
Recording 124
Recommended Recording Settings 124
Setup 125
Record 128
Second Recorder 128
Fault Tolerant Recordings 128
vMix Video Codec 129
WAV File Record 130
Live Streaming 131
Getting Started 131
Settings 134
Streaming Quality 136
Multi Bitrate Support 139
Using Multiple Destinations 140
Independent Stream Control 141
LiveLAN 143
Advanced 144
SRT Streaming 144
External Output 146
External Output with AJA, Blackmagic or Bluefish444 cards 146
Key and Fill output support 148
Keyboard, MIDI and Controller Shortcuts 150
Controller Options 150
How to add a Shortcut 151
Templates 154
Local and Global Shortcuts 155
Assigning Multiple Functions to a single Shortcut 155
Advanced MIDI Shortcuts 155
Dynamic Input and Value Shortcuts 156
Activators - MIDI Lights and Faders 158
Getting Started 158
Add/Edit Activator 159
Activator Examples 161
vMix Control Surface 164
Web Controller 167
Shortcuts 168
Switcher 169
Tally Lights 169

Title Editor 170
LiveLAN 171
Telestrator 171
Instant Replay 174
System Requirements 174
Workflow changes since version 23 176
Getting Started 177
Workflow Overview 179
Live and Recorded modes 180
Creating and Editing events 180
User Interface Overview 181
Control Options 182
Shortcut Reference 183
MultiView 185
Settings 186
Quad View 188
Import Clips 189
Camera Sync 192
PTZ - Pan Tilt Zoom 194
PTZ control using Virtual Inputs 195
PTZ control using the mouse 197
PTZ control using shortcuts and joysticks 198
NDI and Open Media Transport (OMT) 199
Alpha Channel Support 200
SRT - Secure Reliable Transport 201
Data Sources 205
Types of Data Sources 205
Setting up a new Data Source 206
Mapping a Data Source to a Title 208
Controlling Data Sources 210
Using Images in Data Sources 211
How to create a Google API Key for Google Sheets 211
Formatting Data Sources 213
vMix Call 216
Setting up a Call 216
Call Manager / Chat 218
Audio and Talkback 220
Troubleshooting / FAQ 220
Right click menu settings 222
GT Title Designer 224
PlayList 226
MultiCorder 228
Tally Lights 231
Interlaced Support 232
Statistics 234
Snapshot 236
Padlock 237
Scripting and Automation 238
VB.NET Scripting 238
Web Scripting 240

Developer Information 242
HTTP WEB API 242
TCP API 244
Custom XAML 247
Replay API 248
Shortcut Function Reference 249
Safe Areas 295
Undo Button 296
Waveform and Vectorscope Monitor 297
Vertical Video Production 301
Zoom 302
Getting Started 302
Setting up Zoom Input 304
Multiple Zoom Participants 307
Meeting Settings 308
Screen Sharing of Participants 308
Zoom Manager / Chat 309
Removing vMix From Zoom 310
Troubleshooting 310
Training Videos 312

Introduction and Features

Click here to Download this User Guide as a PDF

vMix is feature rich live production software that allows you to record and stream professional productions all from a single PC or Laptop.
vMix supports SD, HD and 4K productions.

System requirements can be found on the **Supported Hardware** page on our web site.

http://www.vmix.com/

Below is an overview of the features available in vMix. This User Guide will provide you with some in depth knowledge
of each of these features and enable you to create the best possible production in the least amount of time!

Features

Input Sources

- Video Capture from HDMI, HD-SDI, SDI, Component, S-Video, Composite as supported by source from SD up to 4K
- NDI and Open Media Transport (OMT) Sources
- AVI, WMV, MPEG, MXF, MP4 and QuickTime files
- Virtual Sets - Use live chroma keying to place talent in animated 3D virtual sets
- List (load multiple video or audio files as a single input)
- DVDs including menu navigation
- CGI Titles - High Quality CGI Titles with customisable text including Headline (lower two-thirds) and ScoreBoard templates
- PowerPoint (static slides only)
- Audio Files (MP3, WAV)
- Audio Devices
- Photos
- Remote computer screen capture via Ethernet
- Flash (SWF) and Flash Video (FLV)
- RTSP and TS (Transport Stream) Sources (H264 Video / AAC Audio), Teradek Cube
- RTMP Sources
- SRT Sources
- WPF (Xaml)
- Video Delay /Replay - Create a looping delay feed of any camera and save short video clips in real time
- Solid Colour and Colour Bars
- Web Browser
- Video Call / Remote Guests

- Zoom Meetings

Live Video Mixing Effects

- Cross Fade
- Cut
- 3D Zoom
- Slide Effect
- Wipe Effect
- Cube Effect
- FlyRotate Effect
- Fly Effect
- CrossZoom Effect
- **Merge Effect**
- Colour Keying and Chroma Keying with Auto Green or Blue Screen
- Stinger Transitions

Live Video Filters

- Colour Correction
- Black/White Level Adjustments
- Colour Keying and Chroma Keying (Blue or Green screen)
- Luma Key
- Key and Fill sources
- Deinterlacing and Sharpen
- Zoom, Rotate, Pan and Crop

Web/Tablet Interface

- Customisable grid of buttons for easy touch screen control of vMix
- Edit titles via any Smart Phone
- Turn any Smart Phone into a Tally Light

Layer Designer

- Combine eleven (11) inputs (1 background and 10 foreground) to create layouts in many configurations including split-screen and picture-in-picture.

Overlay

- Overlay any Input with alpha channel transparency as either a full overlay or PIP (Picture In Picture)
- Eight (8) Overlay Inputs supported at a time in HD, 4K, Pro and Max Editions

PlayList

- Automate playback of multiple inputs with the PlayList feature

- Set start time, duration and transition effect for each item in the PlayList

Output

- Output 4 formats simultaneously (Screen, Recording, External Output, Streaming)
- Default output to secondary computer display or projector
- Output to web sites such as Facebook and YouTube Live
- Output over NDI to other devices on the same network
- Output over OMT to other devices on the same network
- Output over SRT - Secure Reliable Transport to other devices over the internet or local network.
- Optional output to compatible rendering device such as from *AJA, BlueFish and Blackmagic Design*
- Output to streaming applications such as the Adobe Flash Media Live Encoder and Skype

Live Streaming

- Built in RTMP live streaming to three providers simultaneously such as Facebook, YouTube Live and more.

Recording

- Live Recording in MP4 in SD, HD or 4K.
- Live Recording in up to 4K in vMix AVI format.
- Live Recording or Streaming in Windows Media format.
- Live Recording in FFMPEG to a number of formats including MPEG-2, MP4 and VC-3

MultiCorder (4K, Pro and Max Editions)

- Record the raw output from multiple capture inputs simultaneously to AVI, MKV, MP4, FFMPEG or MPEG-2.

Instant Replay (4K, Pro and Max Editions)

Audio

- Full Audio Mixer for each input with configurable Master Audio Meter.
- Audio can be included with Video Recording using any available audio capture sources.
- vMix Audio device available for easy audio recording with 3rd party applications
- Up to eight independent Audio Mixes can be created and sent out to Windows and ASIO compatible devices
- Support for multi-channel audio inputs from ASIO devices
- Supports VST3 audio plugins for flexible audio processing across all audio sources and output buses.

PTZ - Pan Tilt Zoom camera control

Video Call / Remote Guests

- vMix Call allows you to add remote guests to your vMix production with high quality audio and up to HD video.

Delay

- vMix introduces approximately 2 frames of delay between input and output. This is similar in performance to standard HD switchers. Other factors that will influence delay include delays in video cameras and video capture hardware and delays causing by video scaling of the output (such as by a projector)

Shortcuts and Macros

- Custom shortcuts to do everything from transitions to changing Title text
- An unlimited number of functions can be assigned to Keyboard, MIDI, Control Surface, X-Keys and ShuttlePROv2 buttons, faders and knobs.

Activators

- Setup lights and faders in MIDI and X-Keys controllers to respond to changes in vMix

Scripting (4K, Pro and Max Editions)

- Create advanced code in VB.NET and assign it to a Shortcut

Data Sources

Languages

- Support for multiple translations such as Spanish and Korean from Google Translate

Getting Started

A screenshot of the vMix user interface below.

This main window is where all the video mixing takes place.
If you have used traditional video switchers before, the main window might look familiar.

There are four main elements:

1. Output Window
(Top-Right hand corner with the Green Title Bar)

This is the Live or Program video output window. This output is also displayed in a **Fullscreen** window that defaults to the computer's secondary display.
This output is also what is used when setting up a recording.

2. Preview Window
(Top-Left hand corner with the Orange Title Bar)

Just like a traditional video mixer, an input you wish to display should be placed in this preview window first. The **Preview Window** swaps with the **Output Window** whenever you select the Cut, Fade or Transition buttons, located along the center.

3. Tabs



Colour coded tabs on the left hand side can be used to **organise Inputs into categories** and tabs on the right hand side can be used to dock features such as the **Audio Mixer** and **Instant Replay Controller**

3. Input Bar
(Bottom row)

Each source such as Camera, Video and all other types of Inputs are loaded into this Input Bar.
A small real-time preview window is shown for each of these inputs.

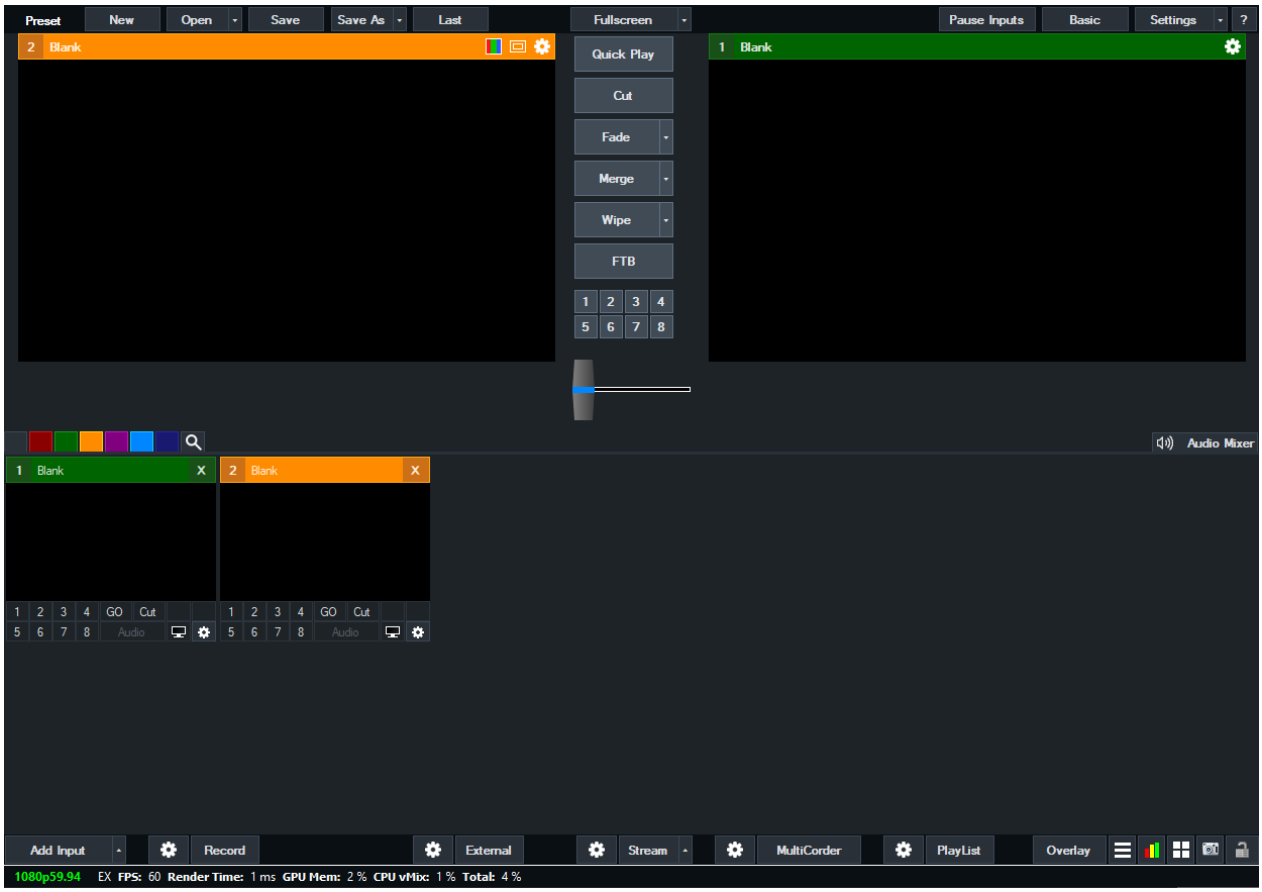
If you click any of these items they will be queued in the **Preview Window** ready to go.

If you double click any of these items the **Input Settings** window will be displayed.

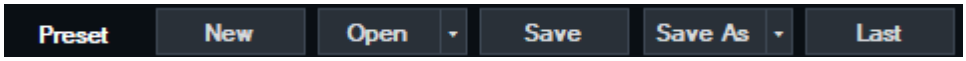
Multiple rows of inputs can also be displayed at a time. See **Inputs** to find out more.

4. Footer Bar
(Bottom)

Along the bottom are buttons to **Add Input** and buttons to configure and start features such as **Recordings**, **Streams** and **External Output**.


Preset
New
Open
Save
Save As
Last
Fullscreen
Pause Inputs
Basic
Settings
?
2 Blank
Quick Play
Cut
Fade
Merge
Wipe
FTB
1 2 3 4
5 6 7 8
1 Blank
Audio Mixer
1 Blank
2 Blank
1 2 3 4 GO Cut
5 6 7 8 Audio
Add Input
Record
External
Stream
MultiCorder
PlayList
Overlay
1080p59.94 EX FPS: 60 Render Time: 1 ms GPU Mem: 2 % CPU vMix: 1 % Total: 4 %

Presets



The Preset bar at the top left hand corner of vMix is where you can quickly save your production, including Inputs, recording and streaming settings to file.
This Preset can then be recalled again at a moments notice.

Each Preset contains the following information:

- Each input and it's associated input settings (including positions, colour adjustments, chroma key, multiview etc)
- Recording settings
- Overlay settings
- Any shortcut keys assigned as local
- Any activators assigned as local
- Audio settings for each input and all three audio buses (Master, A and B)
- All PlayLists, including the active PlayList if applicable
- Category labels and settings
- Streaming settings. All existing streaming profiles and settings will be replaced with the settings from when the Preset was last saved
- External Output settings including Size, Frame Rate and Device, as per corresponding tab in Settings
- Outputs configuration (for example if MultiView is selected for Fullscreen) as per corresponding tab in Settings
- Data Sources and related settings

In addition to the above, if the Preset was saved with a different Master Frame Rate or Output Size then what is currently configured (1920x1080 29.97p for example)
then a message will appear asking to confirm these changes.

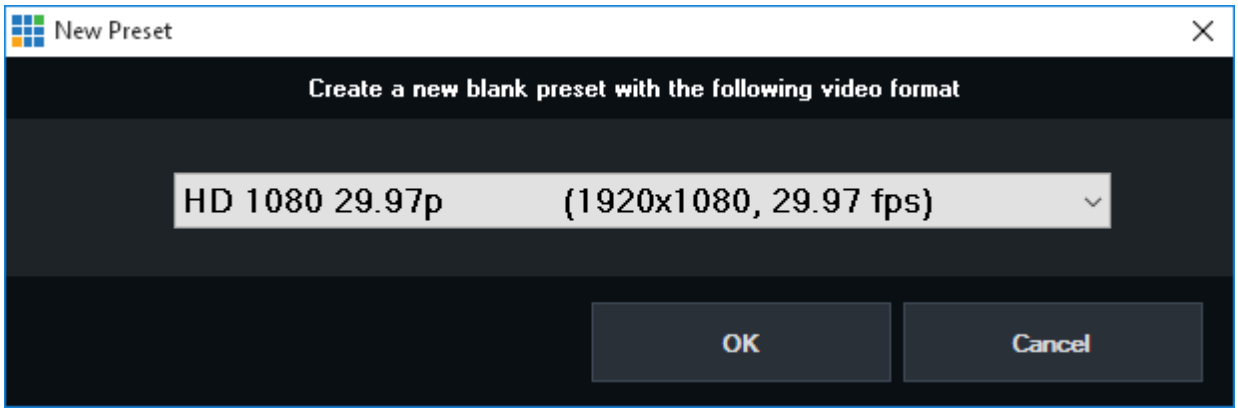
Any media used by inputs including Videos, Images, Photos, Title templates etc will be referred to by filename only.
So if the Preset is used on a different system, be sure to copy any media assets and place them in the same folder locations.
The exception to this is the special **vMix Preset Bundle** file which is described in more detail in the Preset Bundle section.

All other settings can be saved and recalled from the **Settings Import/Export buttons**

NOTE: In the Open Preset window, the Append button will add the selected inputs only, ignoring all other settings.

New Preset

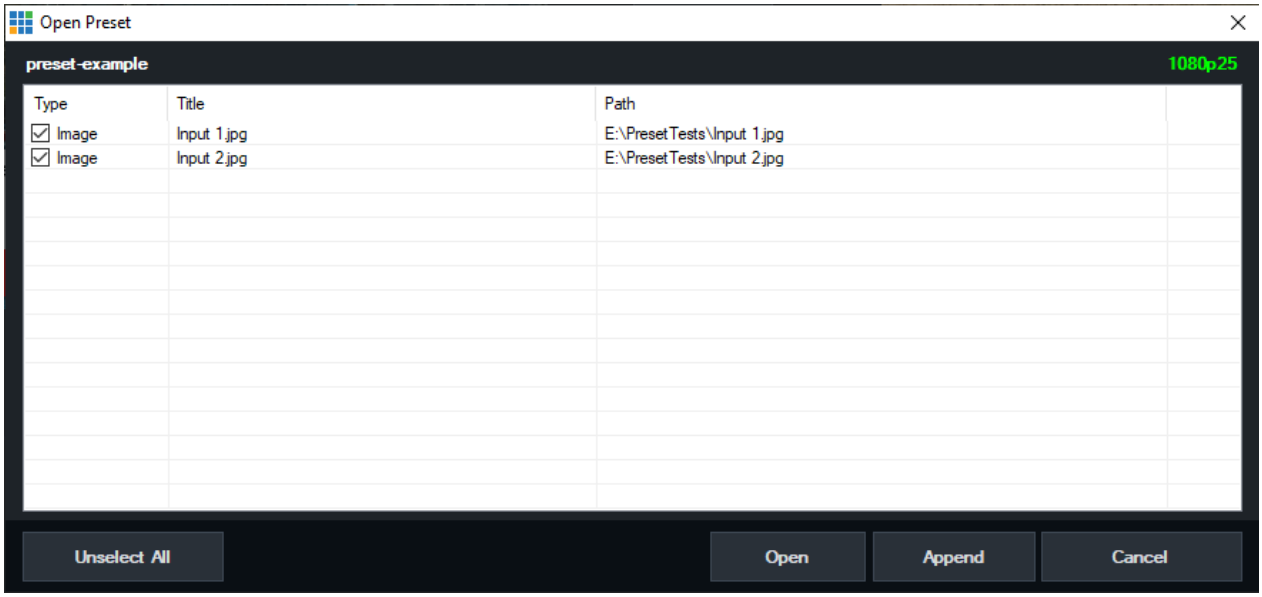
Creates a new blank Preset and optionally changes the current output video format.



Open Preset

Open Preset opens up a file open dialog where you can select an existing Preset.

Once a Preset has been selected the Open Preset window will appear.



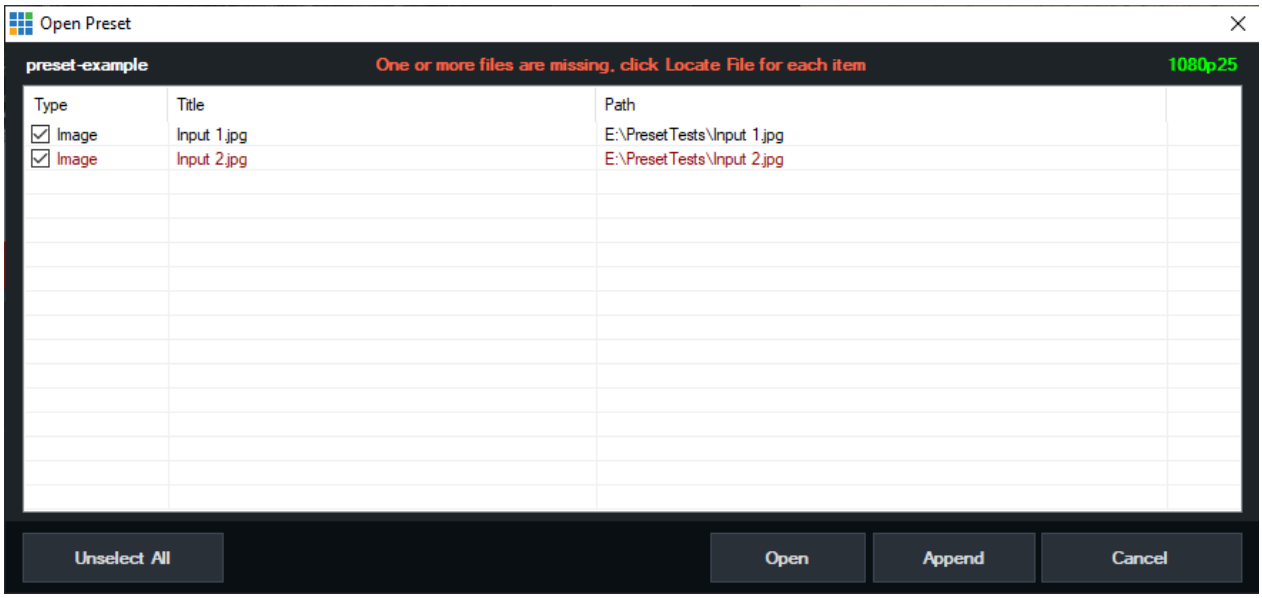
Click **Open** to close all open inputs and replace them with this Preset.
Any settings included with the Preset will also be applied (See here for more information)

Click **Append** to add the inputs in this Preset to the existing session.
Any settings included with the Preset will be ignored.

Each input can be unticked if you want to exclude it from being added

Missing Files

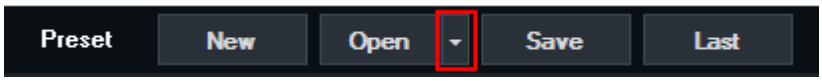
If a preset is opened with one or more files missing, the following will appear:



High light each item in red and a Locate File button will appear. Click this button to browser for the file. If the file cannot be found, it will be added to vMix in offline mode and can't be used until the file is located manually by right clicking the input and selecting Change.

Recent Presets

Quickly open a recent preset by clicking the arrow button next to the **Open** button.



Save/Save As Preset

Click Save to immediately overwrite the currently open preset with the latest settings and inputs.
Save As can be used to save the current settings into a new separate file.

Last Preset

Periodically, vMix automatically saves the current Preset to a separate file. Click **Last** to load this Preset

Preset Bundles

A Preset Bundle can be saved by clicking the arrow next to the Save As button and selecting Save As Bundle.



This creates a .vmixZip file that bundles most of the files needed by the preset into a single file including:

- Video files
- Audio files
- Images
- Photos
- PowerPoint

- Titles (.gtzip files)
- Image Sequences

Note that due to the large file sizes, replay files are not included in a preset bundle.

Video Controls

The Preview Window and Output Window have various video controls available:

Position Control

For non-live inputs (such as Video and DVD) the position control allows you to skip to any point.

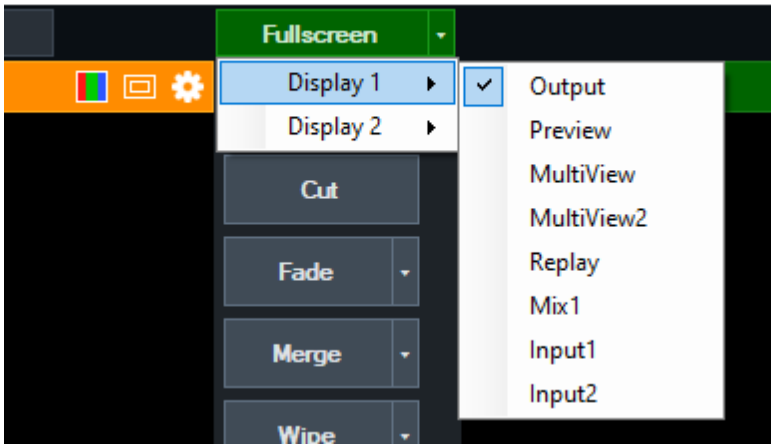
Restart Button

Restarts a non-live input (such as Video or DVD) from the beginning.

Play/Pause Button

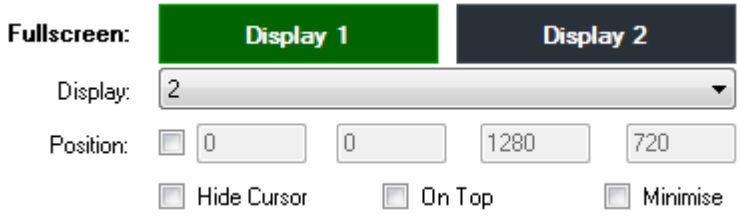
Fullscreen

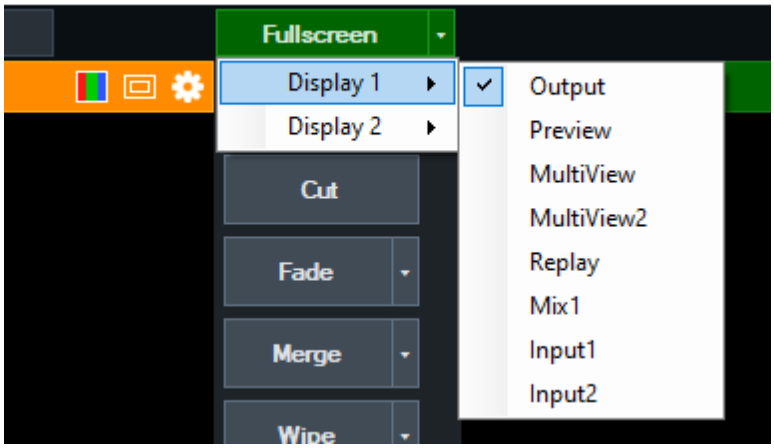
The **Fullscreen** button can be used to display video through one of the video outputs on your computer Graphics Card.
These can be connected to displays such as Monitors, Projectors and TVs.



First, connect these displays to your computer prior to opening vMix and make sure they are configured as **"Extend these displays"** in the Screen Resolution control panel in Windows.
See **Windows 10 Display Instructions** on the Microsoft web site for further instructions.

Second, select the display from **Settings under the Display tab** as shown below:





By default the Fullscreen will display the final mixed output of vMix. Click the arrow to the right of the **Fullscreen** button to select a different output option:

Output

The final mixed output of vMix, this is also shown on the right hand side of vMix.

Preview

Display the input currently selected in the "Preview" area of vMix (left hand side).

MultiView/MultiView2

Display Preview, Output and/or multiple Inputs in one of the available configurations.
All configurations with the exception of **Legacy** include audio meters and titles.

Preview / Output + 8 Inputs



Preview / Output + 14 Inputs



Preview / Output + 2 Inputs



Legacy

Preview / Output + 8 Inputs without titles and audio meters.
The Preview and Output inputs will be identified by a coloured border.

More information available in the **Outputs / NDI** help section.

Replay

Display the replay MultiView. (see **Replay MultiView**)

Mix X

Display the Output of the specified Mix. When this is set to Mix1. The result is the same as setting it to Output.

Input X

Display the input at position X

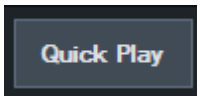
Multiple Outputs

vMix 4K, Pro and Max support up to two Fullscreen outputs.
The second Fullscreen output is available on graphics cards that support three simultaneous displays.

Transitions

[Quick Play](#)
[Cut](#)
[Fade / Transition Buttons](#)
[Merge Effect](#)
[Stinger Transitions](#)
[FTB (Fade To Black)](#)

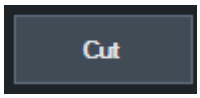
Quick Play



The **Quick Play** button automatically transitions the Preview Window to the Output Window and for video inputs, starts playing input from current position.
There is also a **GO** button for each input is assigned to **Quick Play** by default.

By default **Quick Play** is set to a half second fade. This can be customised in **Settings - Options**

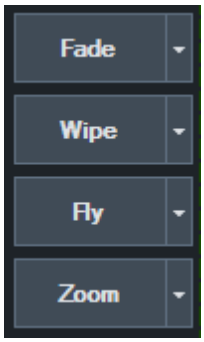
Cut



The Cut button instantly swaps the Preview Window with the Output Window without any delay or transition effect.

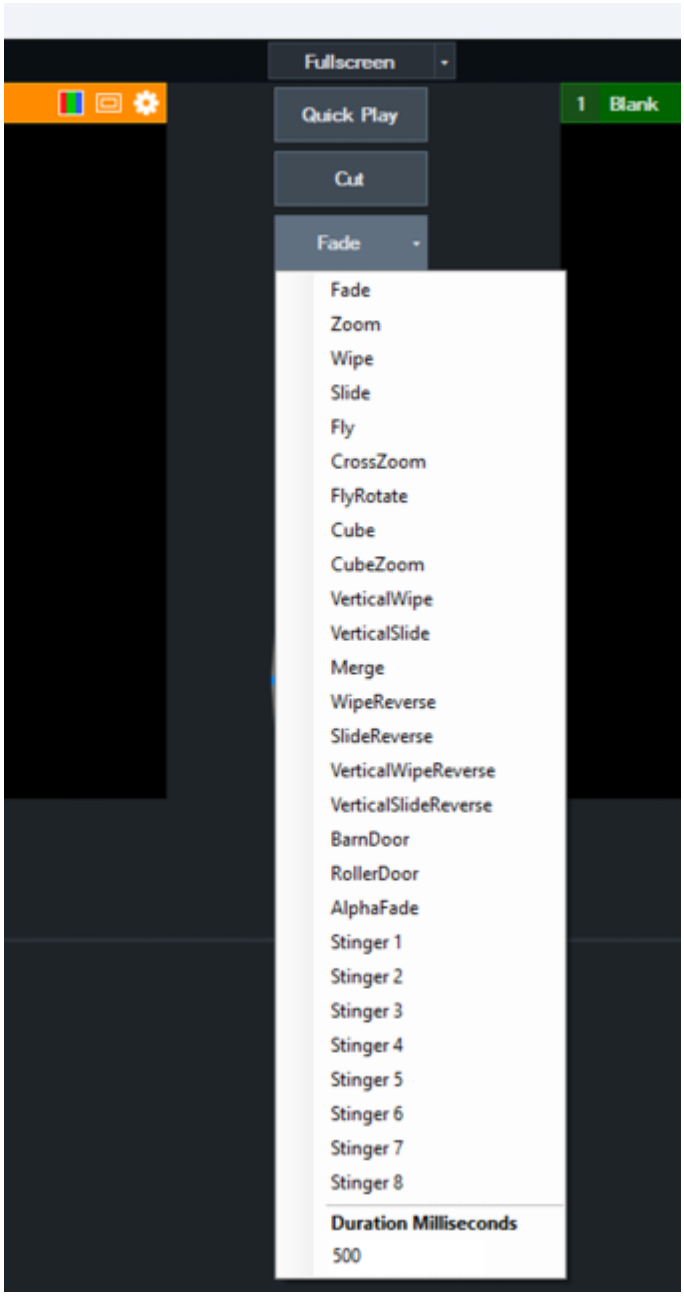
Fade/Transition Buttons

vMix provides four customisable buttons that can be used to set the transition effect when switching from Preview to Output



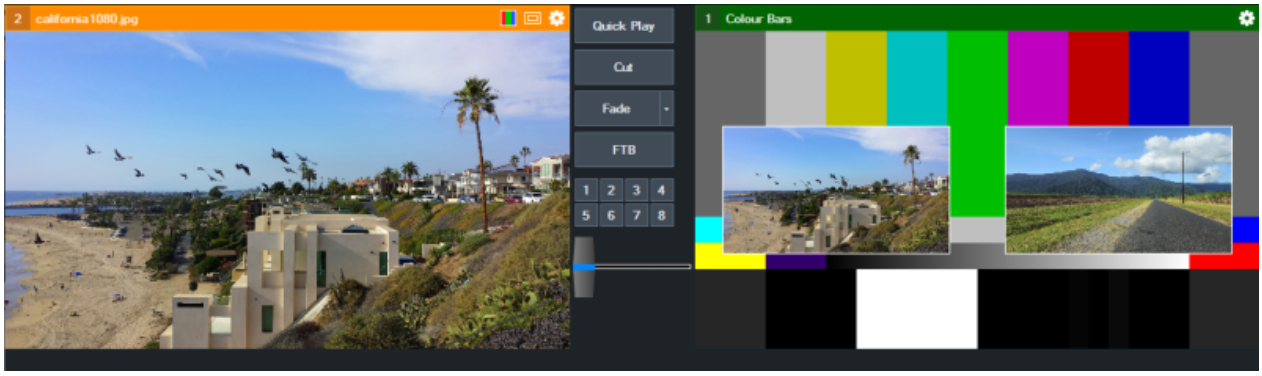
Click the arrow next to each button to customise the transition effect and the duration.
The Stinger 1 and Stinger 2 can be configured in the **Overlay** settings. See **Stinger Transitions**

The first effect button also determines the transition used by the **Fade Bar / T-Bar**.



Merge Effect

The Merge effect is a unique transition effect that seamlessly animates matching Inputs between Preview and Output.



In the above example, clicking the Merge transition will zoom the california1080 graphic out of the double

box until it fills the screen.
Any other layers or inputs that do not appear in both Preview and Output will transition using the Fade transition effect.

Stinger Transitions

Note: Stinger Transitions are only supported on vMix editions with more than one Overlay channel such as vMix HD.

Stinger Transitions allow the use of an animation instead of a fade or cut when transition between Preview and Output.

Configuration

1. Add the animation you wish to use as an Input. The Image Sequence option is recommended as it supports high quality animations with full alpha transparency.
2. In the **Overlay** settings window, select **Stinger 1** from the **Number** dropdown box.
3. Configure the following settings:

Effect: This specifies an additional effect when transitioning to and from the stinger transition. In most cases this will be set to **Cut**
Duration: Specify the total duration of the animation in milliseconds or frames. This will usually be the length of the animation.
Stinger Input: Select the Input added in step 1
Stinger Cut Point: Specify the point in time when the transition will cut between the Preview and Output inputs. If your animation has alpha channel, this will usually be the point where the animation covers the entire screen.
Display underneath overlays: Tick this box if the stinger transition should appear underneath any overlays (1-8) currently on screen.

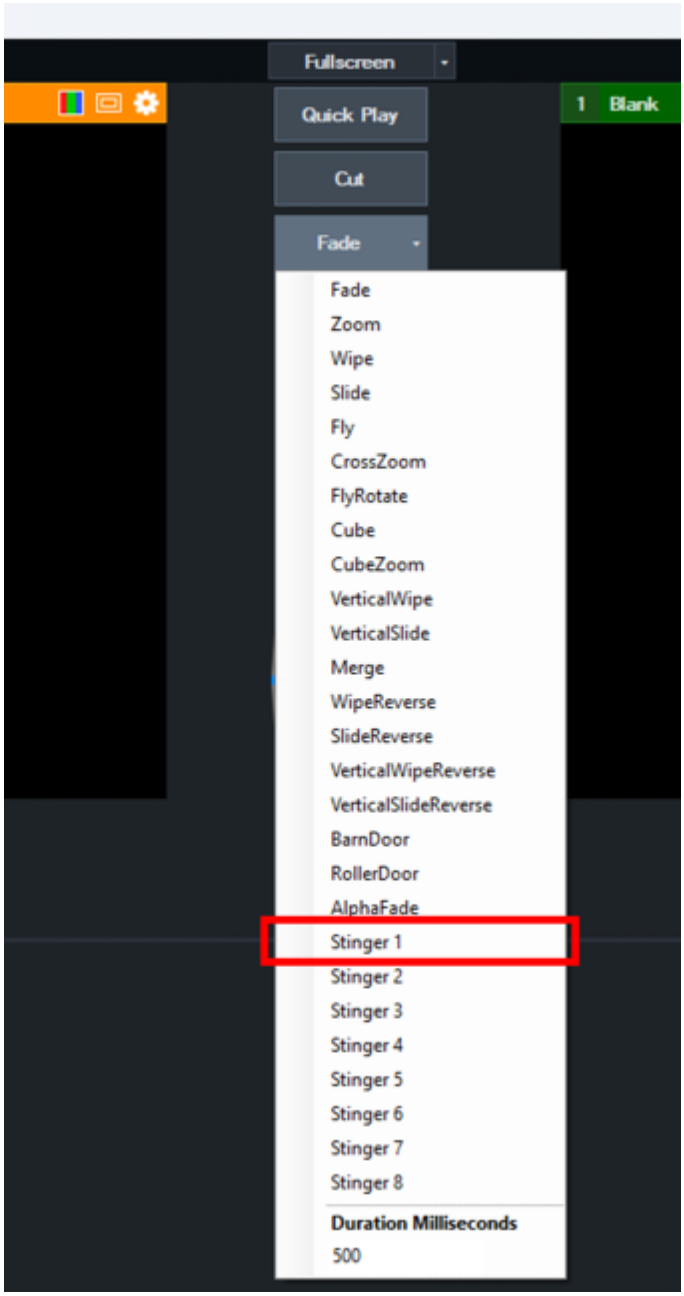
4. Once all your settings have been configured click OK.

GT Stinger Transitions

When selecting a GT title as a Stinger Input (see **Configuration** section above), both the **Stinger Cut Point** and **Duration** will be set according to the **TransitionIn** and **TransitionOut** times configured within that title. For this reason it is not possible to change the Duration and Stinger Cut Point settings when a GT title is selected.

Using the Stinger Transition

In the main window, select Stinger 1 as one of the four transition buttons in the middle of the screen.



When the stinger transition is required, simply click the transition button as you would any other effect

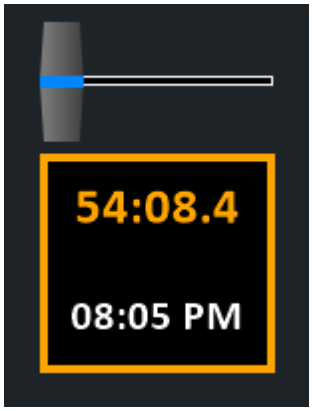
FTB (Fade To Black)

Fade to black the following:

- Recordings
- External Output
- Fullscreen

The Output window will not be affected by the Fade to black in order to make it easier to queue up a source for later.

Production Clocks



Getting Started

Two production clocks are available which can enabled by ticking the Production Clocks checkbox in **Settings -> Options**
A 1920x1080 display or higher is recommended, as the Production Clocks will be hidden if there is no space available below the T-Bar.
Other elements above the Production Clocks can be disabled from **Settings -> Options** as well in order to free up space.

Note: Both production clocks display within the same square interface as shown above. These clocks cannot be separated into multiple inputs or displays.

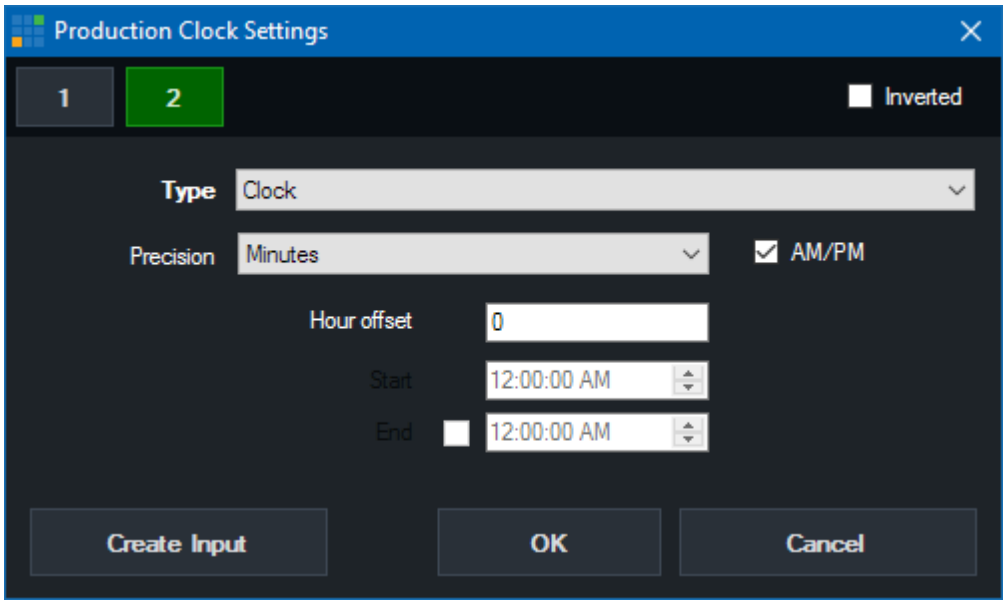
Overview

Two production clocks can be configured to independently display two of the following options:

Clock: The current time with an optional hour offset to show a different time zone.
Event: The remaining time before, during and after predetermined event times.
Recording: The total duration so far of any active recording.
Streaming: The total duration so far of any active streams.
Time Remaining: The total playback time remaining of the input currently in Output.
Message: Display a text message with configurable colour and blink mode

Settings

Double click the Production Clocks display below the T-Bar to open the Settings window.



The two clocks available can be configured from the 1 and 2 buttons which represent the Top and Bottom clocks on the display respectively.

Inverted: By default the display will have a black background. Click the Inverted button to switch this to white.

Type: Select the type of time to display out of Clock, Event, Recording and Streaming.

Precision: Determine how accurate the time is that is displayed out of Minutes, Seconds and Fractions. The font size will automatically decrease at higher accuracies so the entire time will still be displayed, so if a bigger font
is desirable select Minutes here.

Clock Settings

Hour offset: Select an offset, positive or negative in hours, to add to the current system time before display.
AM/PM: Tick to show the time in 12 hour format with AM or PM next to the time on the display, otherwise display in 24 hour format.

Event Settings

Start/End: Select a start time and optionally an end time for the event.

Before the Start time, the clock will show a countdown in amber.

With End Time

During the event, the clock will show a green countdown.
After the End Time, the clock will show a red of the duration since the event ended.

Without End Time

After the Start time, the clock will show a green duration.

Create Input

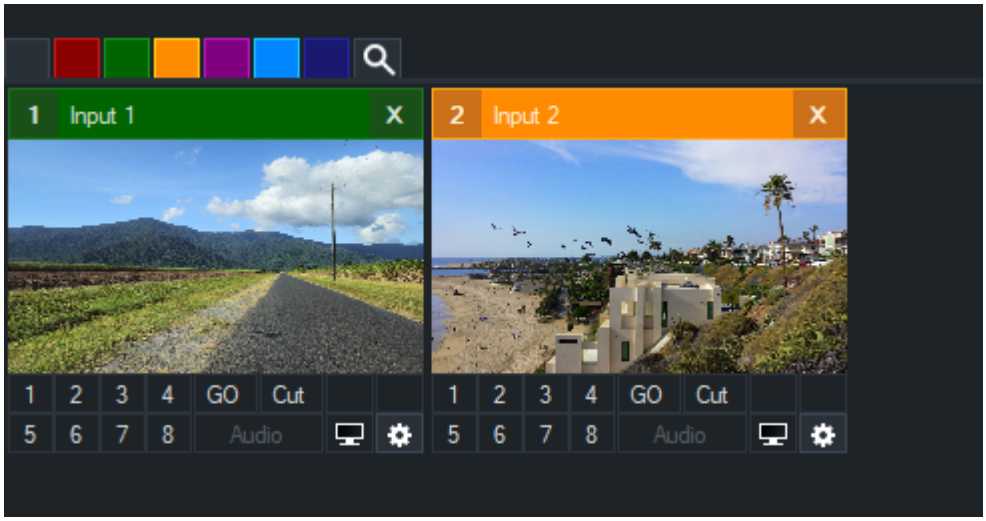
Create Input will create a high resolution version of all clocks as a single vMix input, allowing it to be displayed
on the MultiView Output or on outputs such as Fullscreen.

If the **"Cameras / Calls / Audio Inputs"** tickbox is enabled in **Settings -> Outputs / NDI / OMT / SRT** this input will also be available
via NDI and OMT for display anywhere on the local network.

Note: Only one Production Clocks input can be created at a time.

Categories

Inputs can be placed into up to six (6) built-in colour coded categories and up to sixteen (16) custom categories.
These categories can be selected from the left hand side of the Inputs Row

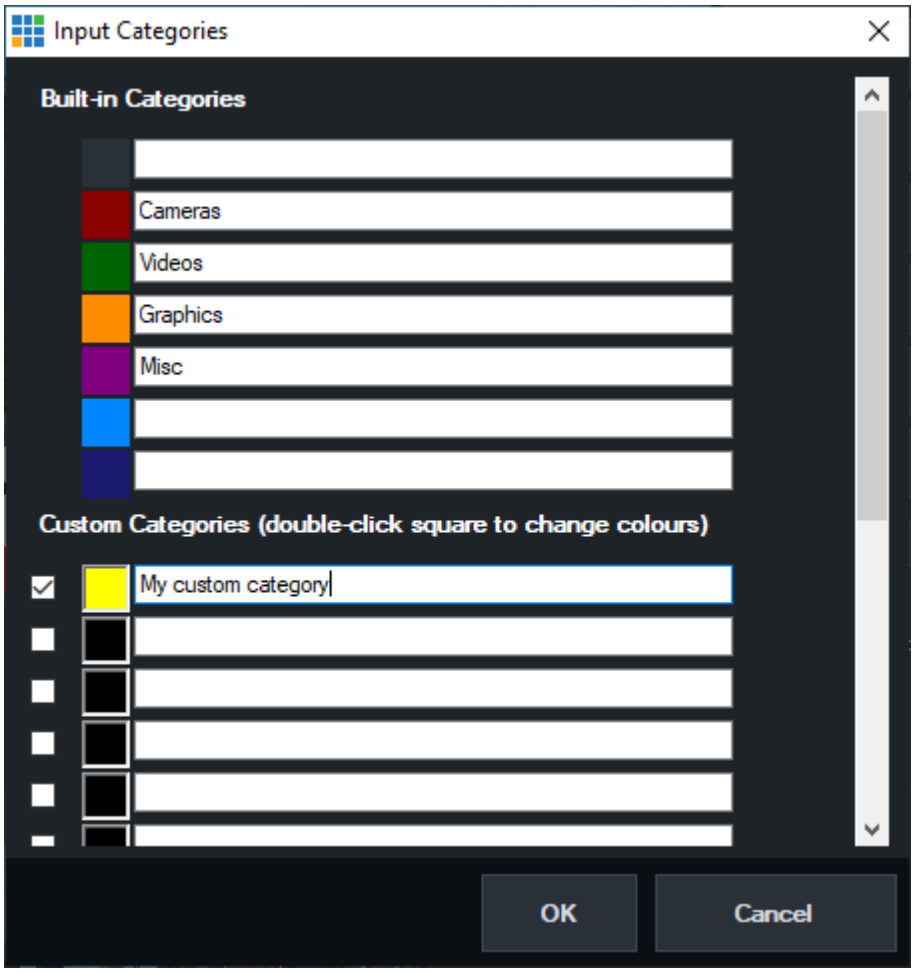


The six built-in categories are RED, GREEN, ORANGE, PURPLE, AQUA and BLUE
Each colour has no special significance and can be used for any purpose that suits your production.
For example, Titles could be placed in the PURPLE category and Video Clips in the ORANGE category.

The additional custom categories will appear when enabled from the Input Categories settings window which is described below.

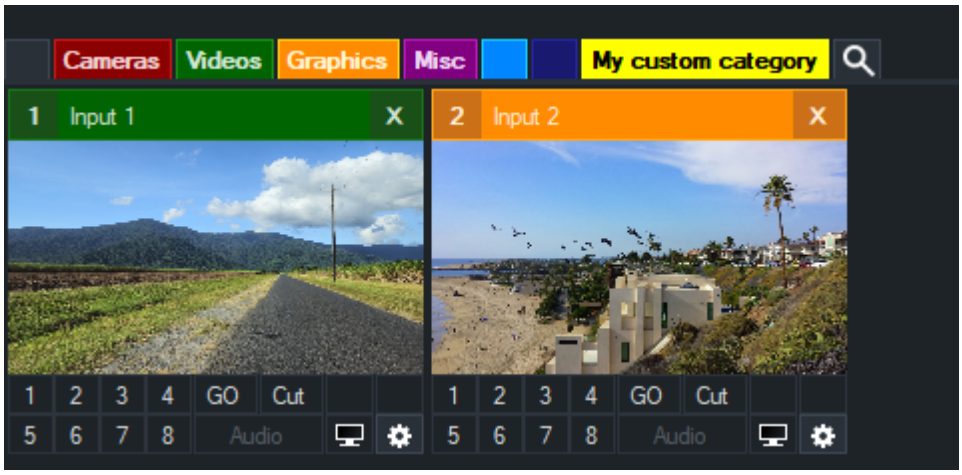
Input Categories Settings

Categories can be edited and text labels provided by right clicking any category button so the **Input Categories** window appears.



Labels can be given to any of the built-in or custom categories.
To enable a custom category, tick the box next to it. To select the colour for a custom category, double click the colour box next to the checkbox.

Once the categories have been edited as required, click OK and the the buttons will change as follows:



View All Inputs

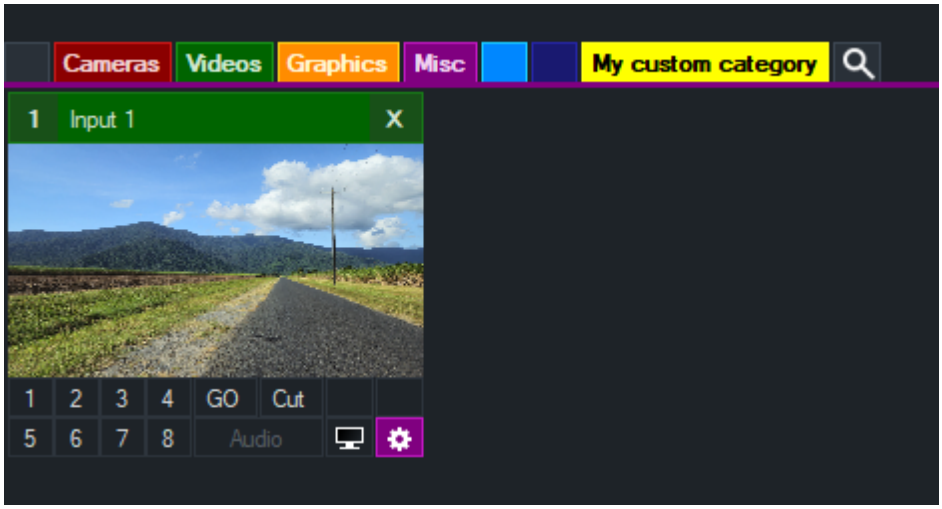
All inputs can be viewed at any time by clicking the left most button. This button is GREY under the default vMix theme.

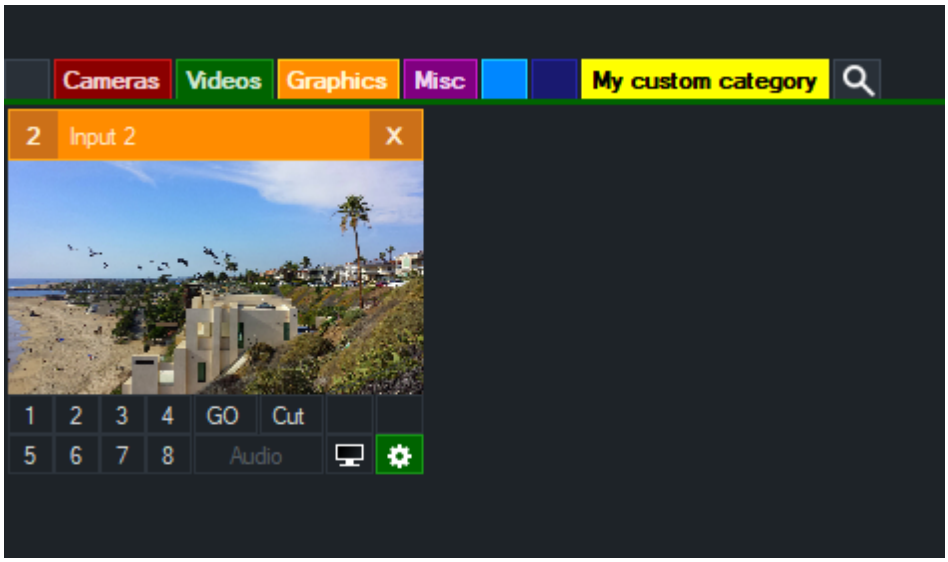
Search

The last button on the right is a special search category. When selected it will prompt for a search query. Only input titles that match the search query will be displayed in this category.
To change the search query, simply select the category button again.

Currently Selected Category

The currently selected category will be indicated by a matching coloured separating line between the category buttons and the inputs as shown below.



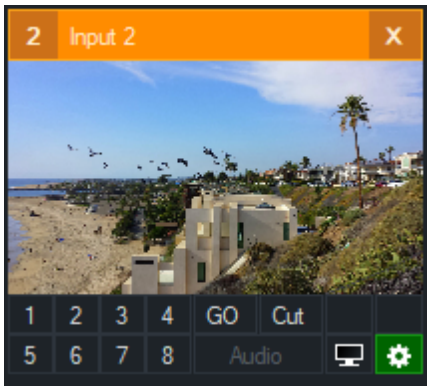


Changing An Input's Category

There are two ways to change an Input's category:

1. Drag and drop the inputs preview window (the video thumbnail square, not the title) over the top of the category button you wish to assign it to.
2. Select the Category from the Input Settings window.

When an Input has been assigned to a particular category, the Input Settings button will be changed to a matching colour.


2
Input 2
1
2
3
4
GO
Cut
5
6
7
8
Audio

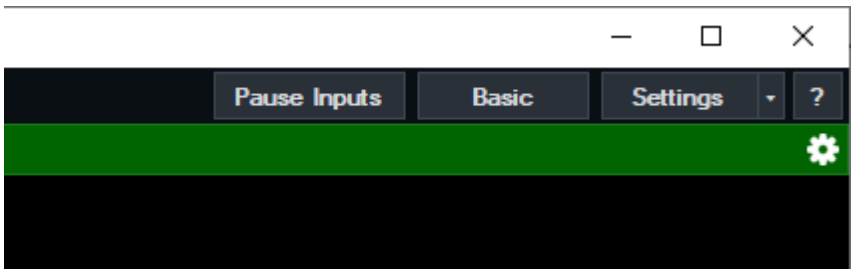
Fade Bar

The Fade Bar (also known as a T-Bar) just below the FTB button allows you to manually transition from the Preview Window and the Output Window.
The transition effect used is taken from the first Transition button. See **Fade/Transition Buttons**



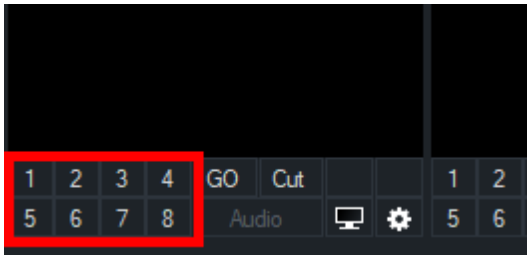
Pause Inputs

Pauses all currently playing Inputs



Overlays

The Overlay feature allows you to display an Input on top of the currently displayed Input.
An Overlay can be activated by clicking the Overlay (1,2,3,4,5,6,7,8) buttons from the Input Bar.



Alpha Channel and Colour Keys

If the Input contains an alpha channel. (for example a PNG image with a transparent background) then it will be taken into account when displaying the overlay.
A Colour Key can also be set for an Input from the Input Settings. When set, the selected colour will display as transparent.

Overlay Settings

See **Overlay Settings**

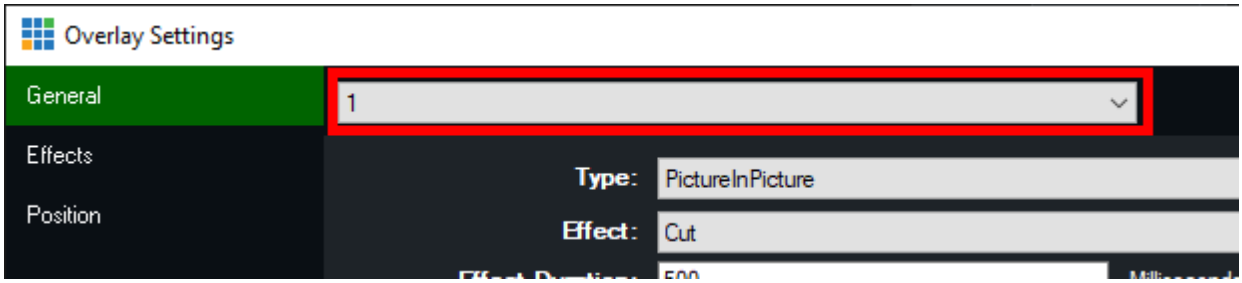
Overlay Settings

The Overlay Settings window specifies how an Overlay will display.
The window can be accessed by clicking the **Overlay** button in the bottom right hand corner of the main window.



Number

Select the overlay channel to configure. 8 Channels are supported in the HD, 4K, Pro and Max editions. 1 Channel is supported in Basic HD.



Type

There are two types of overlay available:

Fullscreen

Display on top of the currently selected Input.

Picture In Picture

Display on top of the currently selected Input using the specified Pan and Zoom settings..
See the **Picture In Picture** section below for more information.

Effect

Specify the transition effect to use when the Overlay is activated.
Animated transition effects will run forward when the overlay is activated and run in reverse when the overlay is closed.

Effect Duration

Specify how long the effect should last, in milliseconds.

Duration

Specify how long the overlay should appear before automatically closing. Set this to 0 to disable automatic

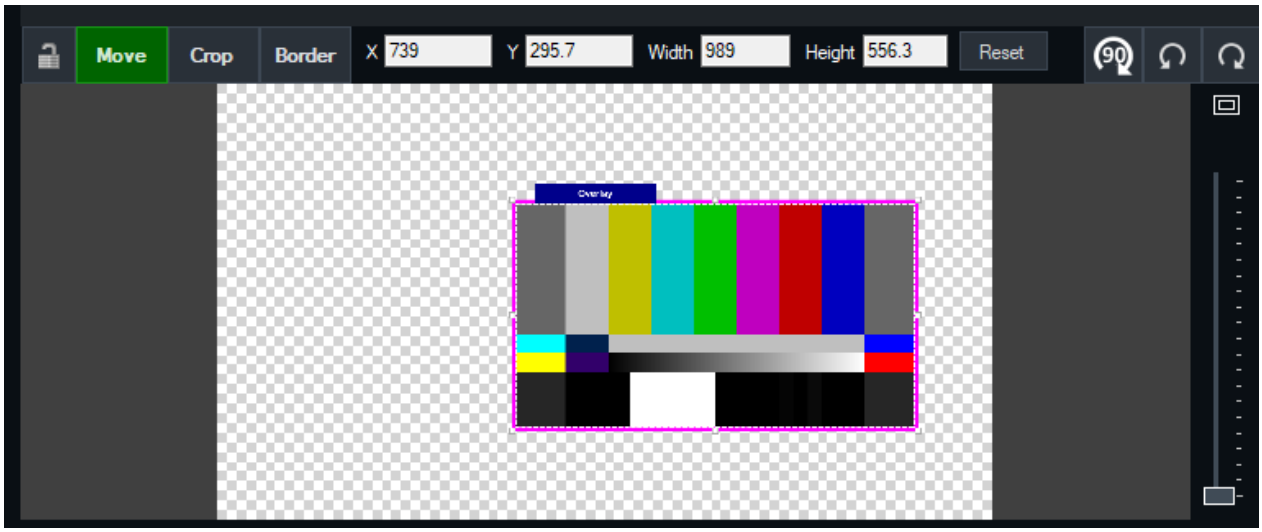
closing.

Stinger Cut Point / Stinger Input

See **Stinger Transitions**

Picture In Picture

When an Overlay is set to PictureInPicture, the designer can be used to configure its position, crop and border.



Border

A custom border can be specified for Picture In Picture overlays.

Colour: Click the colour box to set the border colour.
Thickness: Specify how large the border will appear
Radius: Specify how rounded the corners of the border will appear. Set to 0 for square borders.

Effects

NOTE: Overlay Effects are not available in the Basic HD edition.
Custom effects can be applied to the overlay before it is presented on screen.
These effects are the same as input effects. See **Inputs - Effects** for more information.

Right Click Menus

Different types of Inputs provide a right click menu to quickly access advanced settings associated with a particular input type.
The following is a list of some of the right click menus available

Video

Show/Hide PlayBack Speed: Displays a dropdown box next to the input to control the speed of video playback in real time.

Pictures/PowerPoint

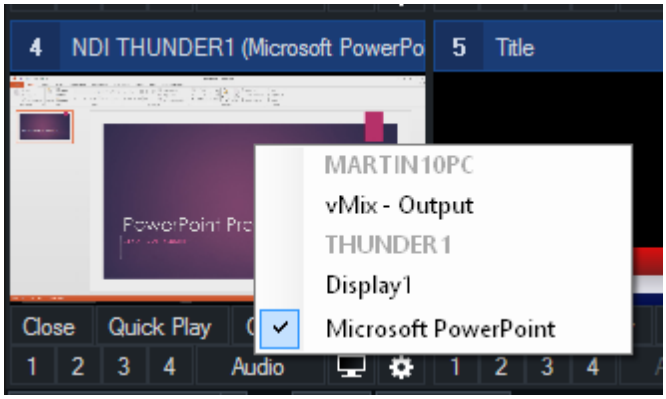
SlideShow Settings: Shows the **SlideShow settings** window.

DVD

DVD Menu, Next Chapter, Previous Chapter, Jump To Title

NDI / Desktop Capture

Change the NDI or desktop capture source on the fly using the right click menu



Titles

Title Editor: Show the **Title Editor** window.
Title Presets: The Titles right click menu will also show title presets if they have been configured.

List

Select a video or audio file to jump to in the List.
See List for more information.

Capture/Flash

Reset: Resets the input to the settings when it was first added.

Web Browser

Go Back / Go Forward
Properties: Displays a window to change the web site URL.

Cog Icon Menu

The cog icon underneath each input can be right clicked to access some commonly used tasks:

Create Virtual Input

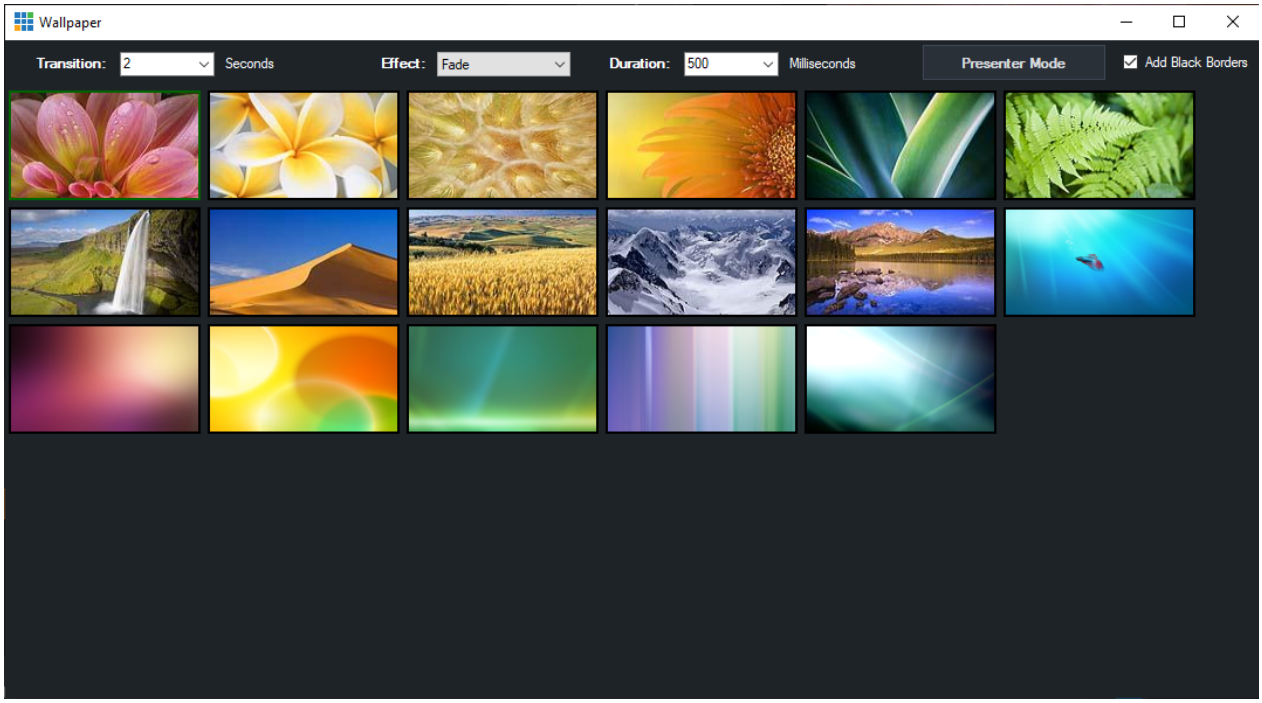
See the Create Virtual Input section of **Input Settings - General**

Create Snapshot

See **Snapshot** section of this help file.

SlideShow Settings

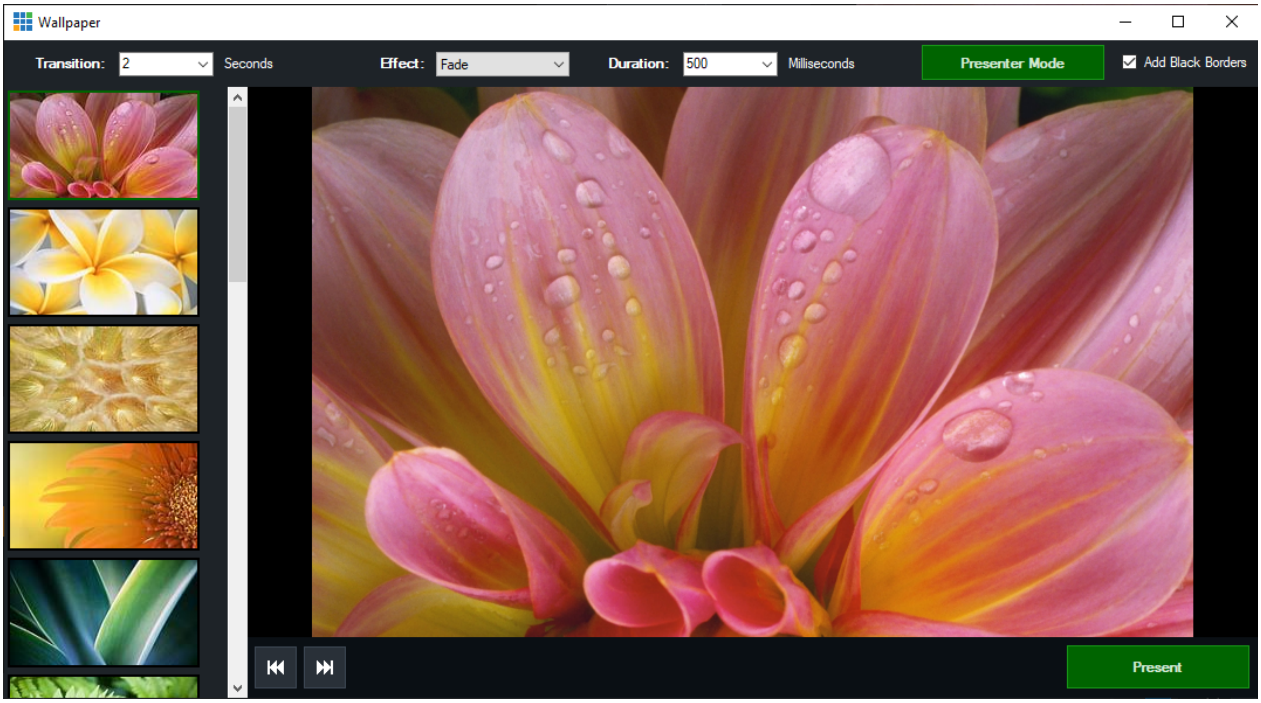
The SlideShow Settings window is available for Photos and PowerPoint inputs from a right-click menu.



This window can be resized and placed on a separate screen if required.

Presenter Mode

Click the **Presenter Mode** button to enable a presenter view which can be used to preview each slide before making it live.



Choose the slide to preview either from the left hand column or the forward/back buttons.
This slide will not be visible on the live input until the **Present** button is pressed.

Settings

The Settings window provides options within the following categories:

Import/Export
Display
Outputs
Options
Performance
Decoders
Recording
External Output
Audio
Audio Outputs
Web Controller
Tally Lights
Shortcuts
Scripting
About

Import/Export/Default

Import

Import all settings from file. This includes all settings configurable from the Settings window.

Export

Export all settings to file. These settings can be imported from any other vMix installation as long as the version is the same.

Default

Restores settings to when vMix was first installed.

Display

Theme

There are multiple themes available that change the colour scheme of the user interface.

Preview/Output Colour

Customise the colour to display for the input currently set as Preview or Output.

Master Frame Rate

All inputs will be converted to this Frame Rate. This should be set to match the frame rate of the Video Camera sources where possible.

Output Size

This is the master resolution all inputs are scaled to prior to being sent to Fullscreen, Recording, External Output or Streaming.

Output Aspect Ratio

Set the Aspect Ratio of the output display. For example, if you have a widescreen monitor or projector set this to Widescreen.

Fullscreen

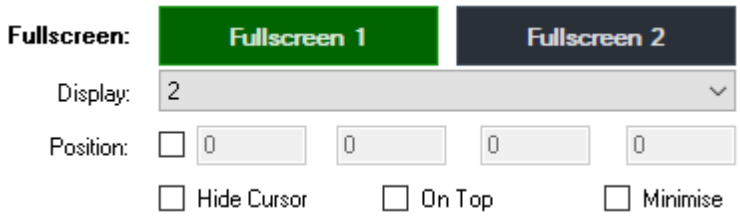
Display

Screen number to output Fullscreen to. By default this is set to the secondary display.
The numbering in vMix is defined as follows and may differ from the display numbering in Windows:

1 Always the primary display with the Windows desktop.
2-4 Secondary displays in order of their location on the Windows desktop, left to right, top to bottom.

Note: All monitors on the computer must be connected to the same Graphics Card. Multiple Graphics Cards are not supported.

Two output screens are supported in **vMix 4K** and can be configured here by clicking the Fullscreen 1 or Fullscreen 2 buttons.



Position

By default the Output Screen will be set to fill the entire screen. Output Position can be used to set a custom size if necessary.
The four boxes are **Top, Left, Width and Height.**

Hide Cursor: Hide cursor from Fullscreen window.
On Top: Fullscreen window will always be on top of other windows if displayed on a different display. If displayed on the same display as vMix this option will have no effect.
Minimise: Minimise Fullscreen window when vMix is minimised.

Input Size

Size of the Input previews. If you have a large screen this can be increased to be able to see each input more clearly.

Outputs / NDI / OMT / SRT

vMix supports a number of independently controllable outputs depending on the edition.
vMix 4K and higher supports 2x Fullscreen and 4x External outputs with all other editions supporting 1x Fullscreen and 1x External output.

Outputs can be configured show a different source out of the options described on the **Fullscreen** help page.
For example the Fullscreen output can be configured to show the MultiView Output without affecting what is sent to the Recording or Stream.

Outputs can be sent to Video Call, Instant Replay, SRT, Streaming, Zoom, OMT and NDI, for more information refer to the relevant topic for each feature.

Fullscreen 1 and 2

These outputs control the computer Display outputs configured under the Display tab and are only available from the output ports on the Graphics Card.

Output 1

This is the primary output in vMix, also known as "Program". This is the Output that is used by External 1 and is also the source for Streaming and Recording by default.

Note: The main "Output" must be assigned to either Fullscreen 1 or Output 1 at all times.
If neither of these is assigned to "Output" then vMix will automatically override the settings to enforce this. This is because all output processing in vMix relies on the main mix working. To overcome this, use the main mixer to select the desired source into Output instead of changing it here.

Output 2, 3, 4, 5, 6, 7, 8

These are additional outputs which are shared with the External 2-8 outputs respectively.
These can also be assigned to Video Call, Instant Replay, SRT, Streaming, Zoom, NDI and OMT in **vMix 4K** and higher editions.

See the **NDI and OMT** section for more information.

Cameras / Calls / Audio Inputs

This option can be enabled to automatically convert any cameras, calls and audio inputs in the current vMix session into live NDI outputs.
See the **NDI and OMT** section for more information.

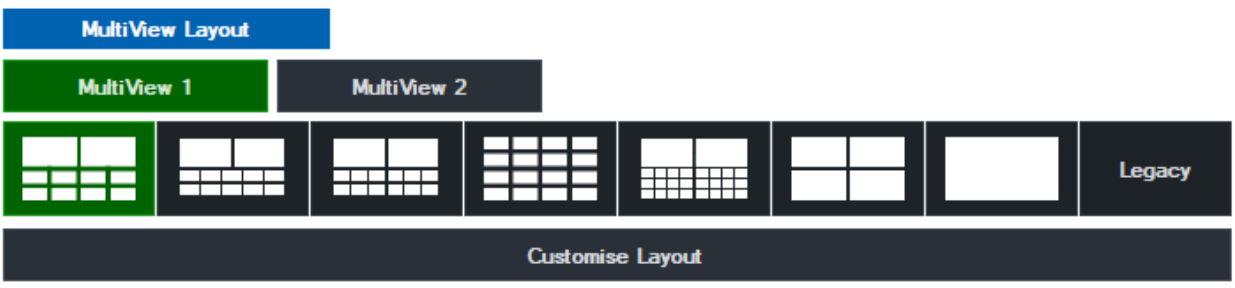
Audio Outputs

This option can be enabled to convert all enabled audio buses under the Audio Outputs tab into live audio-only NDI outputs.
See the **NDI and OMT** section for more information.

Overlays

If the Source option set to "Output" the Overlay check boxes can be used to customise which overlays are displayed on that particular Output.
For example a "clean feed" can be set for the recording with all overlays turned off, while all the overlays can be retained on Fullscreen.

MultiView

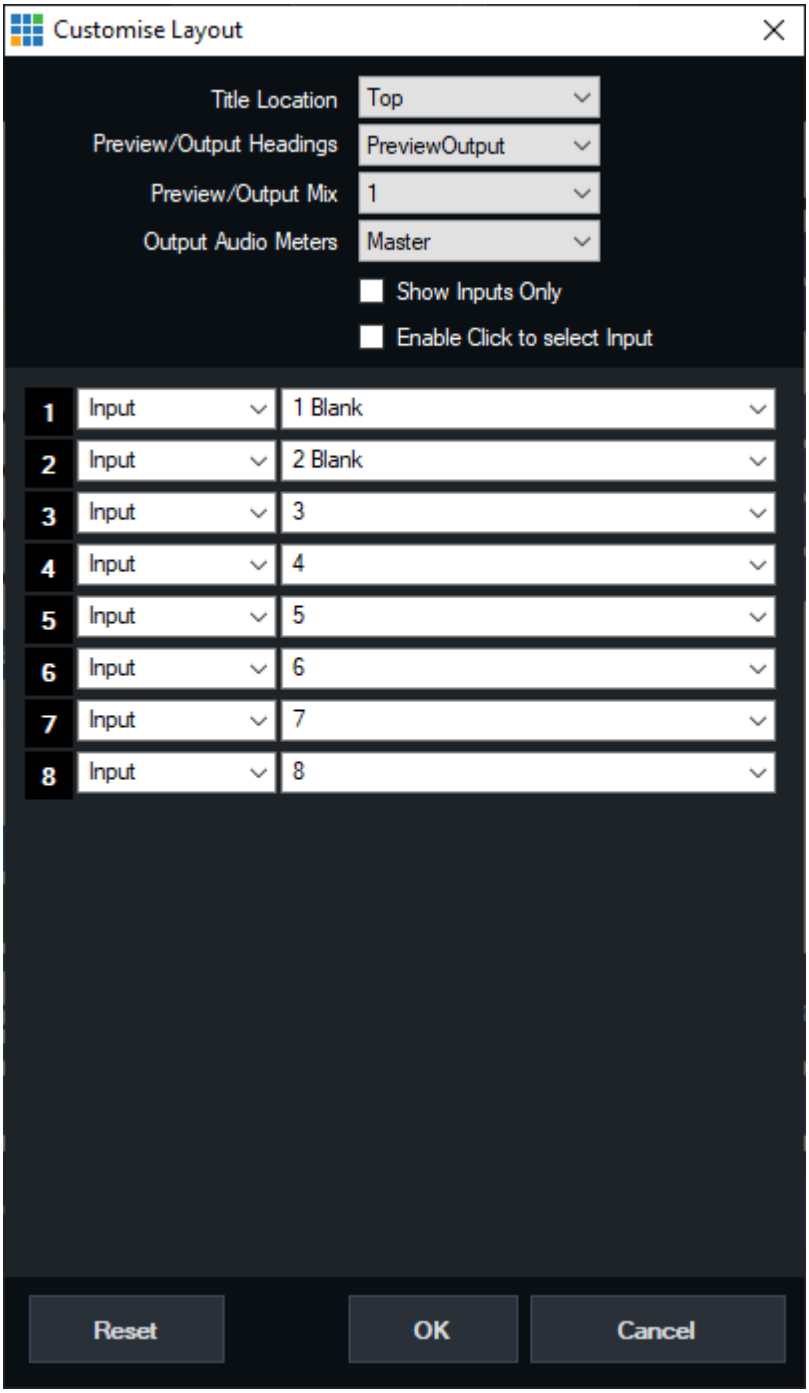


Two MultiView outputs are available simultaneously. These are called MultiView and MultiView2 in the various dropdown options and shortcuts.
Each can have its own unique layout.

MultiView - Customise Layout

Click Customise Layout to change the order inputs appear in the MultiView monitor.
The order of inputs can be changed according to their number.

Additionally they can be ordered by type.
In the example below the first two cameras in a production will be shown in the first two MultiView input slots regardless of where those cameras actually appear in your production.



Title Location

The headings for each item in the MultiView can be placed either above or below the preview.

Preview/Output Headings

The headings on the Preview/Output windows is set to display "Preview" and "Output" by default but can be changed
here to display the actual input title.

Preview/Output Mix

Select the Mix to display. This refers to the Mix inputs when 2+, and will display as blank when no Mix input matching the number is available.

Output Audio Meters

Set the Audio Meter source that displays on the Output in the MultiView. By default this is Master.

Show Inputs Only

Disable the Preview and Output displays and instead fill these with inputs instead.

Enable Click to select Input

Enable using the mouse or touchscreen to select inputs directly from within the MultiView output either in a Fullscreen window or the Telestrator feed.

Options

Select the language vMix will use for buttons, labels and messages.
These languages are provided by Google Translate and are not guaranteed to be accurate.

Start in Advanced mode

Automatically clicks the Advanced button on startup.

Start Fullscreen display

Ticking this open will automatically display the Fullscreen window on startup.

Start Maximised

Start External Output

Automatically start the External Output according to the settings under the External Output tab

Start SRT Output

When starting up vMix without a preset, any configured SRT outputs will be left in a disabled (stopped) status.
If you would like any enabled SRT outputs to always start, even when a preset has not yet been loaded, tick this box.

Remember Window Position

If the main vMix window is not maximised, this checkbox will remember the position this window and restore its position each time vMix is opened.

Display confirmation for ...

Checking this box will display a confirmation box before stopping certain tasks such as recording.

Automatically Play Active Input with Transition

If the input is a video clip it will be automatically started when a transition begins.
If the input is a title, the TransitionIn animation will play as the transition in.
When this is disabled, the title will use the standard Overlay transition instead.

Automatically Restart Active Input with Transition

If the input is a video clip it will be restarted automatically when a transition begins.

Automatically Pause Preview Input after Transition

If the input is a video clip it will be automatically paused when a transition to another input ends.
If this input is a title, the TransitionOut animation will play when the Overlay is turned off.
When this is disabled, the title will use the standard Overlay transition instead.

NOTE: The above Play/Pause options have no effect on the Live Pause feature on an input, if available.

Transition Display

This option allows turning off the Quick Play, Transitions 2-4, FTB, Overlay, T-Bar and Production Clocks from the main interface in order
to free up space. Production Clocks is turned off by default.

QuickPlay Transition

Customise the transition used when the Quick Play button is pressed.

QuickPlay Duration

Customise how long the QuickPlay transition lasts in milliseconds (default 500 milliseconds)

Activate QuickPlay by clicking Preview Window

Controller Plug And Play Enabled

When ticked, vMix supports detecting when MIDI and X-Keys controllers are plugged in / unplugged while vMix is running.

Save Data Sources in Global Settings

This saves and loads any data sources currently in vMix as global settings which will load up again each time vMix is opened.
When unchecked, vMix will start up with empty data sources each time, only loading data sources when opened as part of a previously saved preset.

Performance

Graphics Adapter

This displays the graphics card vMix is using systems with multiple graphics cards installed.
For best performance this should match the graphics card that monitor displaying the vMix interface is attached to.

For laptops with hybrid graphics (also known as NVIDIA Optimus), the graphics card shown here can only be changed from the NVIDIA control panel. It cannot be selected or changed from within vMix directly.

Low Latency Capture

This will reduce the latency of Camera inputs by approximately one frame.
This will substantially increase the load on the graphics card and may lead to dropped frames under heavy load, so it should used with caution.

High Input Performance Mode

If you plan on using a large number of cameras (typically > 8) and a large number of inputs, performance can be improved by ticking this checkbox.
Note that this only works on graphics cards with a large amount of built in memory (3GB+) and will result in poor performance if enabled on graphics cards with less memory, or Intel graphics.

Show preview thumbnails when browsing NDI sources

By default, thumbnails of NDI sources on the network will generated periodically while vMix is running.
This is via a background application called vMixNDIHelper. This may consume small amounts of CPU and network bandwidth while in progress
and can be disabled by unchecking this box if you have a large number of NDI sources on the network.

Disable Windows Update while vMix is running

Windows Update may automatically install updates to the computer in the background at any time.
This option will disable Windows Update while vMix is running in order to avoid any potential performance drops as a result of windows installing updates during a production.

Show GPU/CPU Alerts

When checked, an alert will appear at the bottom of vMix when resource usage exceed the following:
GPU > 30ms Render Time for 5+ seconds
CPU > 75% for 5+ seconds

Display Method

This option selects the method by which vMix presents video to the computer display (both for Preview/Output windows and the Fullscreen outputs).
Note that these options do not impact the recording / stream / external outputs in any way, and only apply to the outputs on the graphics card.

Auto Let vMix select the best option based on the current settings. This will usually be the same as selecting Low Latency for frame rates less than 30 and Smooth otherwise.
Low Latency Displays video as fast as possible to the computer display to ensure the lowest possibly latency. Video playback may be less than smooth as a result.

Smooth vMix will make every effort to ensure the video playback is as smooth as possible on the display but may add a couple of frames of delay as a result.
Legacy Use the display method employed by vMix 20 and earlier. **WARNING: This option will substantially reduce performance and should never be used.**

Clock Adjustment (Advanced settings only)

Audio and Video timing in vMix runs based on a single master clock running on the computer.
This clock may run slightly faster or slower than external equipment such as cameras and displays.
If this difference is significant, the Clock Adjustment setting can be used to compensate.

How to calculate the adjustment needed:

1. Add a Camera input to vMix from a capture card as either SDI or HDMI (not from a network source).
2. Open up Statistics and check the results for the Camera after **exactly one hour**.
3. Calculate the adjustment as follows:

Source Dropped only, (both Renderer Dropped or Resync must be 0)

Adjustment = -(SourceDropped * (1000 / CameraFPS))

For example a SourceDropped of 5 at 29.97fps would be -(5 * (1000 / 29.97)) = -167ms

Resync only (both Source Dropped and Renderer Dropped must be 0)

Adjustment = (Resync * (1000 / CameraFPS))

For example a Resync of 5 at 29.97fps would be (5 * (1000 / 29.97)) = 167ms

All other results

No clock adjustment required. Drops likely the result of other causes other than the clock (overloaded system, faulty devices etc)

Decoders

Preferred Deinterlacing

Select the preferred deinterlacing method, when using Progressive output formats in vMix.
For example, if you have a camera set to 59.94i and the **Master Frame Rate** is set to 29.97p, then vMix will deinterlace the camera according to the settings here.

Blend: Blends the two fields together to form a single progressive frame. Motion blur may be seen on fast movement.
Discard: Uses the first field for each frame and discards the second. No motion blur during fast movement, lower vertical resolution than Blend.

Use high quality deinterlacing where available: When ticked, vMix will use higher quality algorithms where possible, at the expense of higher CPU and/or GPU usage.
On modern systems the performance impact is not significant and it is therefore always recommended to keep this option ticked.

NOTE: When Master Frame Rate is set to 50i/59.94i or 59.94p/50p, Bob Deinterlacing will be used instead of Blend/Discard.
Setting this setting to None will result in interlaced artefacts and scaling issues and is not supported or recommended.

FFMPEG

Select the file formats that will be played using the built in FFMPEG decoder.
QuickTime files and MXF files are enabled by default.

Note: This option is only available under the 64bit version of vMix.

DirectShow

Select custom decoders to be used for various video formats. It is recommended that these be set to Auto.

MPEG 2 Video

Select a custom MPEG 2 codec to use when playing DVDs and MPG files.

Use vMix Deinterlacing

Tick this box to automatically set deinterlacing in vMix for DVD/MPG sources.
Set this option only if the selected MPEG 2 codec does not support deinterlacing. (such as the codec included with Windows 7)

MPEG Audio

Select a custom MPEG audio codec to use when playing DVDs and MPG files.

x264 Video

Select a custom video codec to use when playing x264, (h264) sources.

Filters - Blocked Filter List

This feature can be used to enable/disable problematic directshow filters from use within vMix. By default ffdshow is disabled.

Recording

Default Folder for Recordings

Select a default folder to use when storing recorded videos.

Filename Format

The filename format is for advanced users that need to change the way video recordings are named.
The default is ***{0} - {1:dd MMMM yyyy - hh-mm-ss tt}***

Recording Memory Buffer

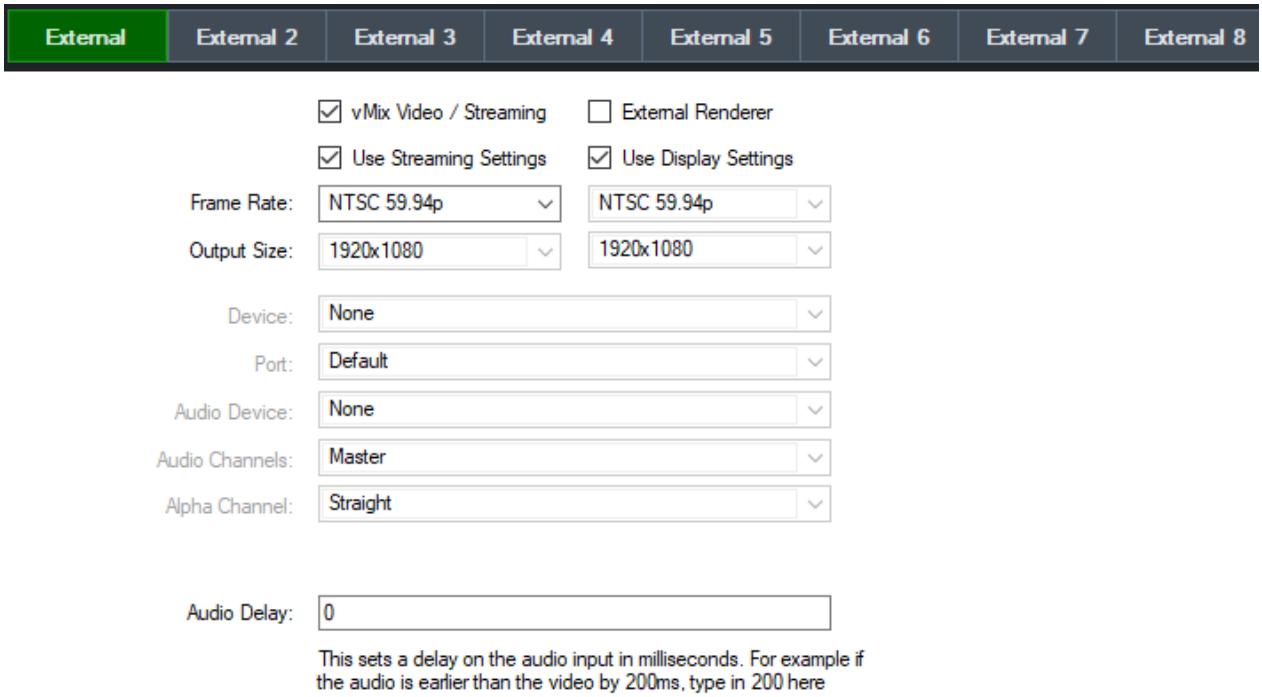
Set the memory buffer to use when recording video. This can be used to reduce dropped frames on systems with slow hard drives.

The recommended value is 10.

Automatically Setup Recording With Previous Settings

This will automatically configure the recording using the last known settings when clicking Start in the main vMix window.

External Output



vMix Video / Streaming

Select this option to output to the **vMix Video** device when **External Output** is running.

vMix Video is a device that appears in 3rd party applications such as **Adobe Flash Media Live Encoder** and **Skype** and is also used for the built in Streaming feature.

Use Streaming Settings: When ticked this option will match the streaming quality settings and should remain ticked for the best results when streaming.

See **Streaming**

External Renderer

Select this option to send video and audio out to compatible output devices.
Some examples of hardware that support output including most AJA, Blackmagic Design and BlueFish devices.

Use Display Settings: When ticked this option will match the Frame Rate and Output Size settings under the Display tab at all times.

See **External Output** for more information.

External 2,3,4,5,6,7 and 8

In **vMix 4K and Pro and Max** an additional three independent outputs can be configured for both **vMix Video** and **External Renderer**.
This vMix Video device is called **vMix Video External 2, External 3 etc** in 3rd party applications.

Frame Rate

Select the Frame Rate for the External Output. When using the External Renderer this should be set to the frame rate required by the device's output.
For vMix Video / Streaming, this should be set to the **Master Frame Rate** set under the **Display** tab for optimal performance.

Output Size

Resolution for the External Output. This must be set to the output format when using the **External Renderer**. For example if using the Composite/S-Video output this will usually be 720x576 for PAL and 720x480 for NTSC.

Device (External only)

Select the output device to use. (Such as the AJA Kona 4)

Port (External only)

Select the Port to use on the output device, for example HDMI or SDI.

Audio Device (External only)

Some output devices require selecting an Audio Device as well which can be selected here.
If this option is not visible, then the audio will automatically be included.

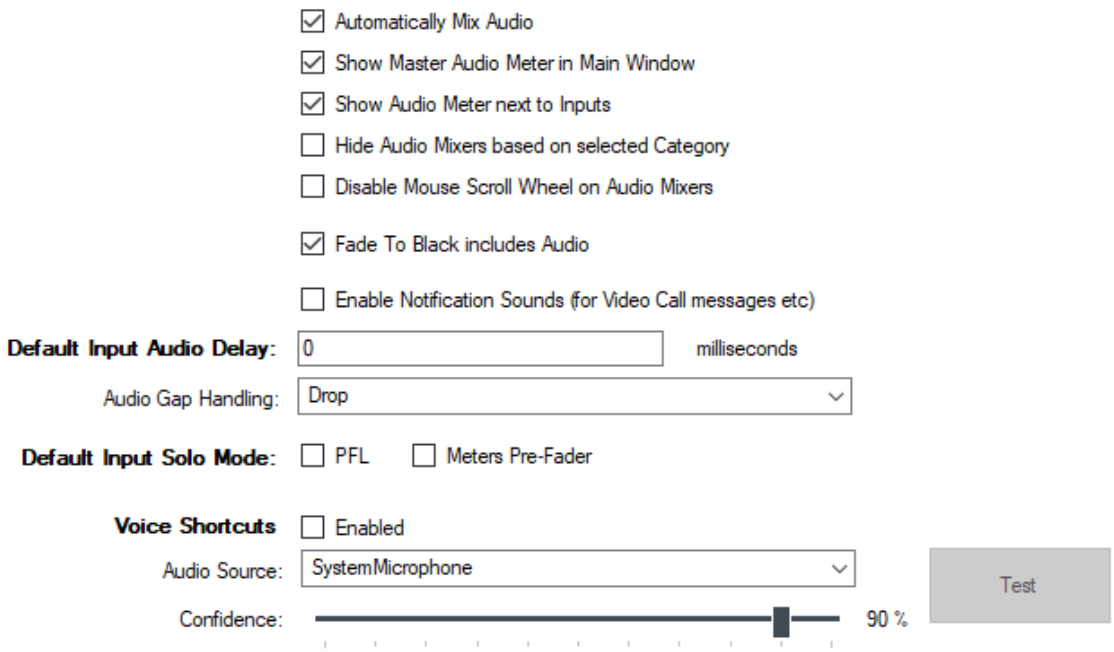
Audio Channels (External only)

See **Output Audio Channels**

Audio Delay

This sets a delay on the audio input in milliseconds. For example if the audio is earlier than the video by 200ms, type in 200 here.

Audio



Automatically mix audio

By default vMix will automatically swap the active audio to match the active input.
If this box is unticked, vMix will leave the audio as is and any changes will need to be done manually.

Show Master Audio Meter in Main Window

Display a master audio meter in the middle of the main window.

Show Audio Meter next to Inputs

Each input with an audio source can have a stereo audio meter displayed beside it.

Hide Audio Mixers based on selected Category

Disable Mouse Scroll Wheel on Audio Mixers

Fade To Black includes Audio

When selecting the FTB (Fade To Black) option in vMix, the audio will fade in or out if this option is ticked.

Enable Notification sounds (for Video Call messages etc)

Default Input Audio Delay

Set an audio delay value in milliseconds to apply to all inputs added to vMix by default.
This can be useful to offset an audio delay of an audio mixer. See **Recording Audio**.

Audio Gap Handling

Audio clocks from various sources can run at slightly different rates. For example an audio source running only 0.5% slower than vMix will be missing 5ms of audio every second.
This setting defines how vMix handles these gaps in audio from the source.

Drop: This is the default and involves vMix placing a gap of silence to make up time. This results in a short usually inaudible "drop" in the audio.
Resample: Audio will be stretched over time to compensate for the different timing. The side effect of this is a very slight, imperceptible change in pitch.

Default Input Solo Mode

PFL/Meters Pre-Fader: Toggle these audio input settings options automatically for new inputs.

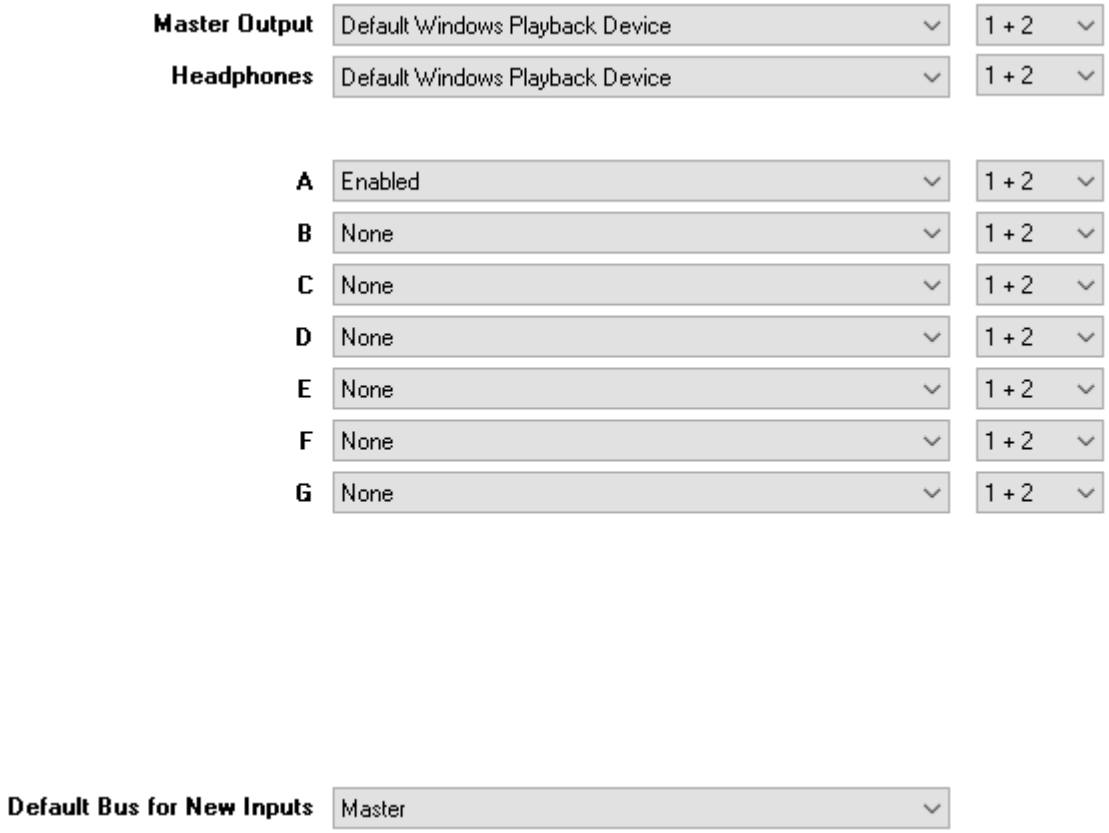
Voice Shortcuts

This is an experimental feature that uses the built in voice to text feature in Windows to enable shortcuts based on spoken phrases.
To use check Enabled select an audio source then restart vMix.

The **Test** button can then be used to test the detection of various phrases. If nothing is detected check the audio source is correct and restart.

Once configured, a phrase can be used as a shortcut by selecting the special Key called **Voice** in Shortcuts.

Audio Outputs



Audio Outputs allows up to eight independently controllable audio outputs (excluding Headphones output)
If both Master Output and Headphones are set to the same device, Headphones will take priority.

Master Output

Select the output to send the Master audio mix to. This is the default audio mix used for streaming, recording and external output.

Headphones

Select the output to send the Headphones audio mix to.

This mix is the same as Master Output except when Solo is enabled on an input.
When Solo is enabled on an input only that input will be heard.

A, B, C, D, E, F, G

These are optionally auxiliary audio buses that can be configured as an independent mix from the **Audio Mixer**.

For additional information about the audio buses feature, see the **Audio Mixer** documentation.

Audio Channels

Many sound cards provide 3 or more stereo outputs from a single device.
These are typically used to output surround sound, but can be used to output up to three independent stereo audio mixes in vMix.

1 + 2 The most common setting for standard stereo audio outputs
3 + 4 This will send a stereo mix out over the output usually used for Center-Subwoofer
5 + 6 This will send a stereo mix out over the output usually used for RearLeft-RearRight

VST devices may offer more than 3 outputs in mono or stereo (1+2) configurations which can also be selected here.
When selecting a mono output, the stereo mix in vMix will be mixed down to mono automatically.

Default Bus for New Inputs

Advanced audio scenarios may require inputs to be sent to an auxiliary bus such as A and B when they are added for the first time.
This default can be configured here.

Web Controller

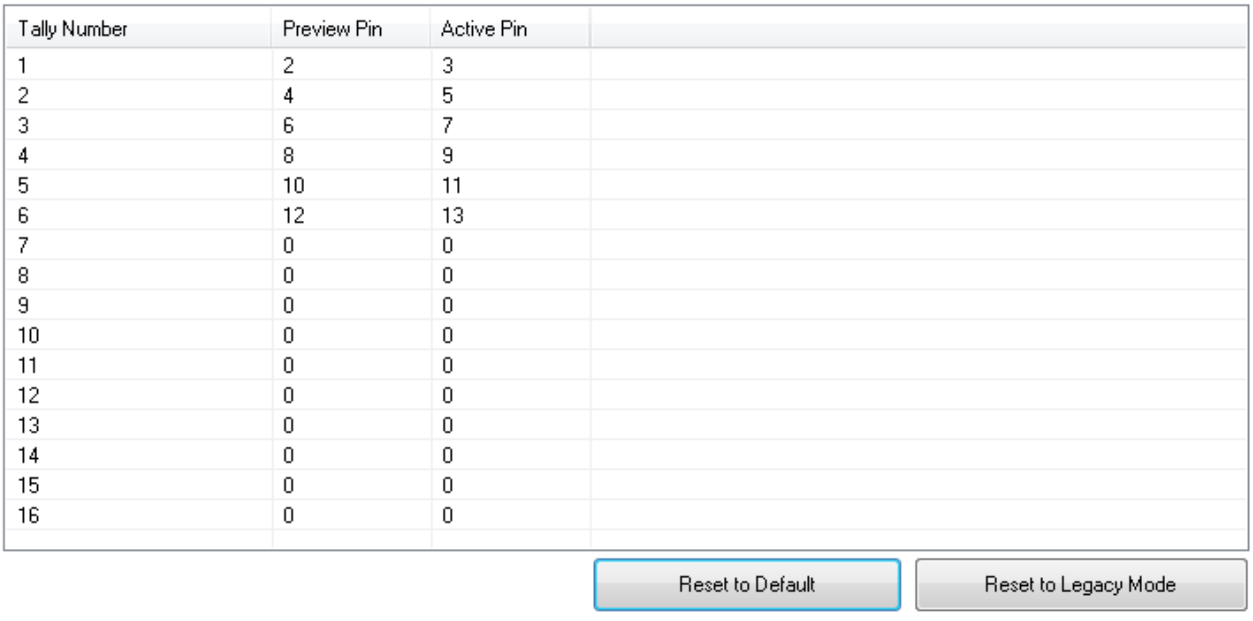
See the Web Controller section for information about this tab.

Tally Lights

This section will cover using Tally Lights with Arduino based hardware.
For other tally light options see Tally Lights

The Tally Lights settings can be used to specify the pin numbers for each tally light when using Arduino based hardware.

Reset to Default: Reset to the default pin order as of vMix 2012 v4.
Reset to Legacy Mode: Revert to the pin order used in all previous versions of vMix.



Tally Number	Preview Pin	Active Pin
1	2	3
2	4	5
3	6	7
4	8	9
5	10	11
6	12	13
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0

Shortcuts

Add and edit Shortcuts here.

[Click here to read the User Guide for Keyboard and Controller Shortcuts.]

Activators

See [Activators] for more information.

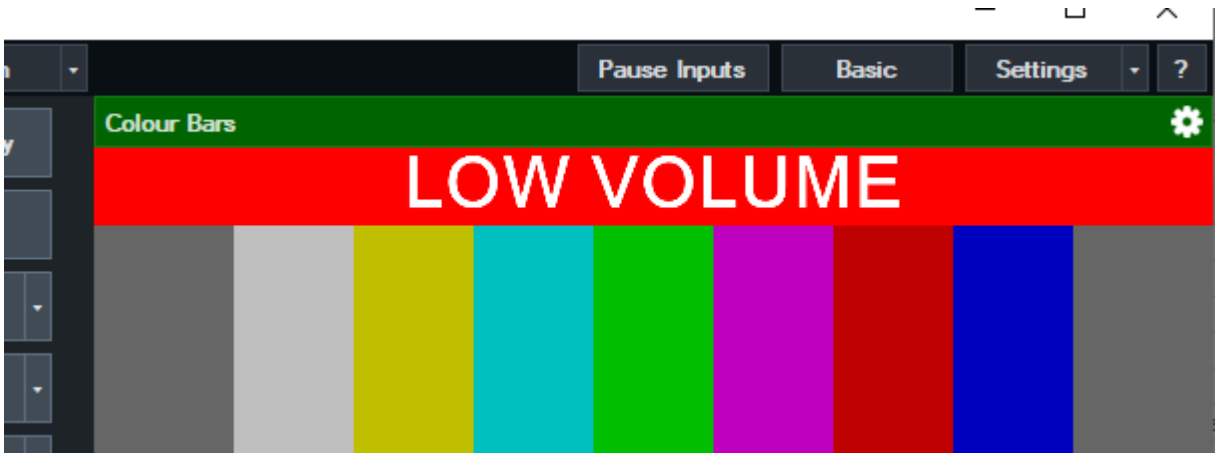
Scripting

Add and edit custom programming scripts here in 4K and Pro editions of vMix

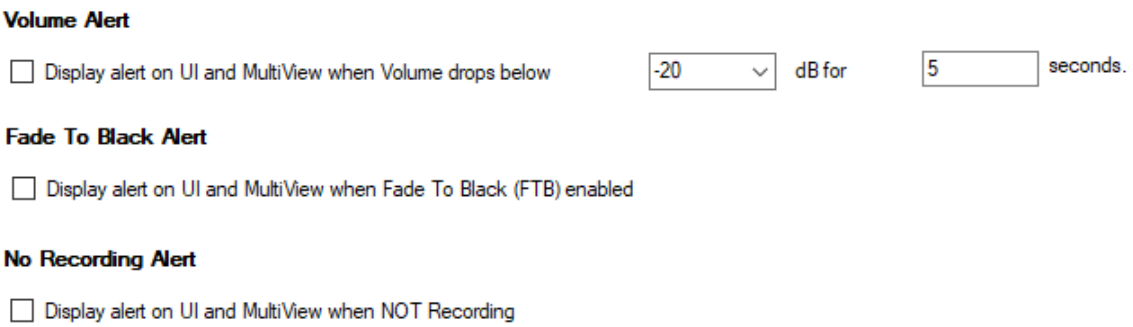
[See Scripting and Automation for more information]

Alerts

Alerts can be used to display various alerts over the top of the Output window in vMix as shown below.



NOTE: This alert will only display within the vMix Interface and MultiView output.
It is hidden in the Output used by Recording, Streaming etc.



Volume Alert

Show a "LOW VOLUME" alert when the audio drops below a certain dB for 5 seconds.
This volume is based on the Master audio levels.

Fade To Black Alert

Show a "FADE TO BLACK" alert when the Fade To Black (FTB) button is enabled.

No Recording Alert

Show a "NO RECORDING" alert when NOT Recording.

Multiple Alerts

When multiple alerts are checked, only one alert will display at a time. As soon as that alert no longer applies, the other alerts will display instead if applicable.

About

Change Registration Key

Upgrade your software license here.

Advanced Settings

The following are Advanced Settings that are only visible when the **Show Advanced Settings** tick box is enabled.

IMPORTANT: These settings should not be changed unless instructed to do so by vMix Support. Many of these settings can potentially have an adverse effect on performance and quality on most systems.

Performance

Output Format

Renders to recordings, vMix Virtual Capture and External Output in the specified format if supported by the graphics hardware.
This should be left at the default of UYVY in most cases.

Video Renderer

Some codecs such as H264 perform better under the new EVR renderer which can be selected here.
For reliability the VMR9 renderer should be selected if you are unsure.

Preview Skip

Tick this option to skip every x frames when rendering the preview.
For example if the output is rendering at 30fps and the Preview Skip is set to one, Preview windows will render at 15fps.
This is useful to improve performance on older Graphics Cards.

Application Priority

If you have other programs running alongside vMix, you can set a higher priority here to prevent dropped frames.

Automatically convert 16-235 to 0-255 for YUV inputs

Tick this box if the black level on inputs such as videos and cameras displays as dark grey.
This setting is automatically handled and detected by vMix internally and should not be changed under most circumstances.

Disable Effects on Input Windows

Disable render effects such as Deinterlacing and Colour Correction on the Input Windows.

Synchronise Output with Refresh Rate

Tick this option to eliminate tearing on the Fullscreen Output Window.
(Tearing looks like flickering lines in the middle of the video)

This option is not required and may actually reduce performance when using vMix with Windows 7 in Aero Glass mode or Windows 8 and higher

Enable FlipEx on Fullscreen / Previews

When enabled this setting improves video smoothness on the Fullscreen and/or Preview windows.
This may need to be disabled on some laptops with hybrid graphics.

Memory Lock

This option is not documented.

Recording

Interlaced Recording

Enables interlaced recording and external output under the following scenarios:

Master Frame Rate is 50p or higher and recording or external Frame Rate is interlaced
Master Frame Rate is interlaced and recording or external Frame Rate is interlaced

Note: NTSC 480i recordings are lower field first, all other recordings are upper field first.

See **Interlaced Support** for more information.

Audio

Master Sample Rate

Specify the master sampling rate to use for all audio mixes including the vMix Audio device.
Either 44.1khz or 48khz are supported.

Master Bit Rate

Specify the master bit rate to use for all audio mixes including the vMix Audio device.
Either 16bit or 32bit are supported.

NOTE: 32bit is not supported by most recording formats.

Recording Audio

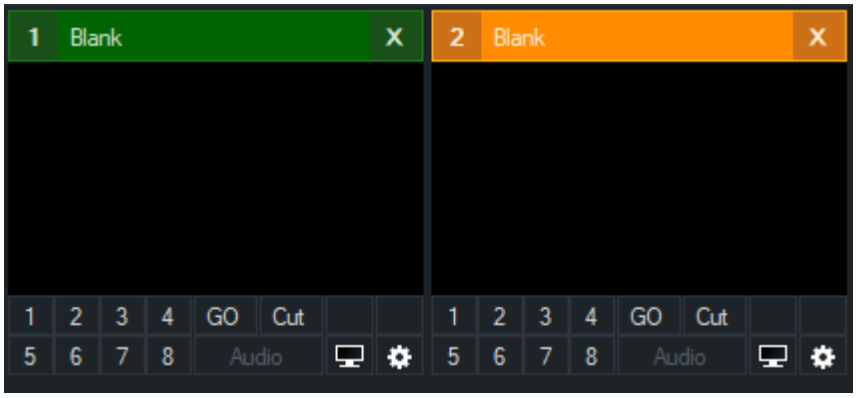
Select the audio source to use in recordings, external output and streaming.

This should be vMix Audio by default.

See **Recording Audio** for more information.

Inputs

Inputs are the various sources that can be loaded into vMix. For example Camera (Video Camera), Video or a Title.
They will appear along the Input Bar as shown in the screenshot below.

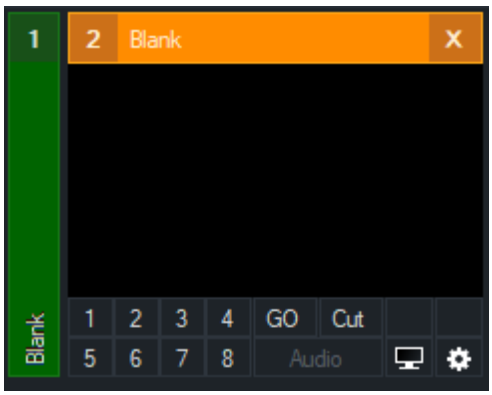


There are a couple of mouse shortcuts available:

1. Clicking an Input Window will set it as the current Preview Input.
2. Double Clicking the Title Bar will open up the Input Settings window.
3. Right clicking an Input Window for a Photos or PowerPoint source will display a list of slides and/or photos in a menu. Clicking one of these items will load it as the active image.
For example, this feature can be used to build a set of graphics in an image editing program and load them all into a single input.

Collapsing Inputs

Right click the title of an input to collapse it. This can be used to save space or hide blank inputs such as audio sources.



Moving and Dragging Inputs

Inputs can be placed in a different order via drag and drop.
To move an input, drag the preview area of the input (below the title bar) on top of another input.

Adding and Removing rows

Multiple rows of inputs can be displayed in the main vMix window by dragging up or down the dividing line as shown below:

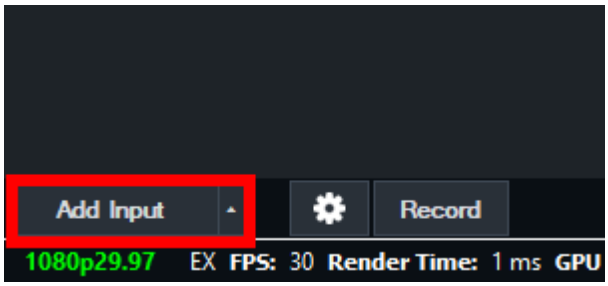


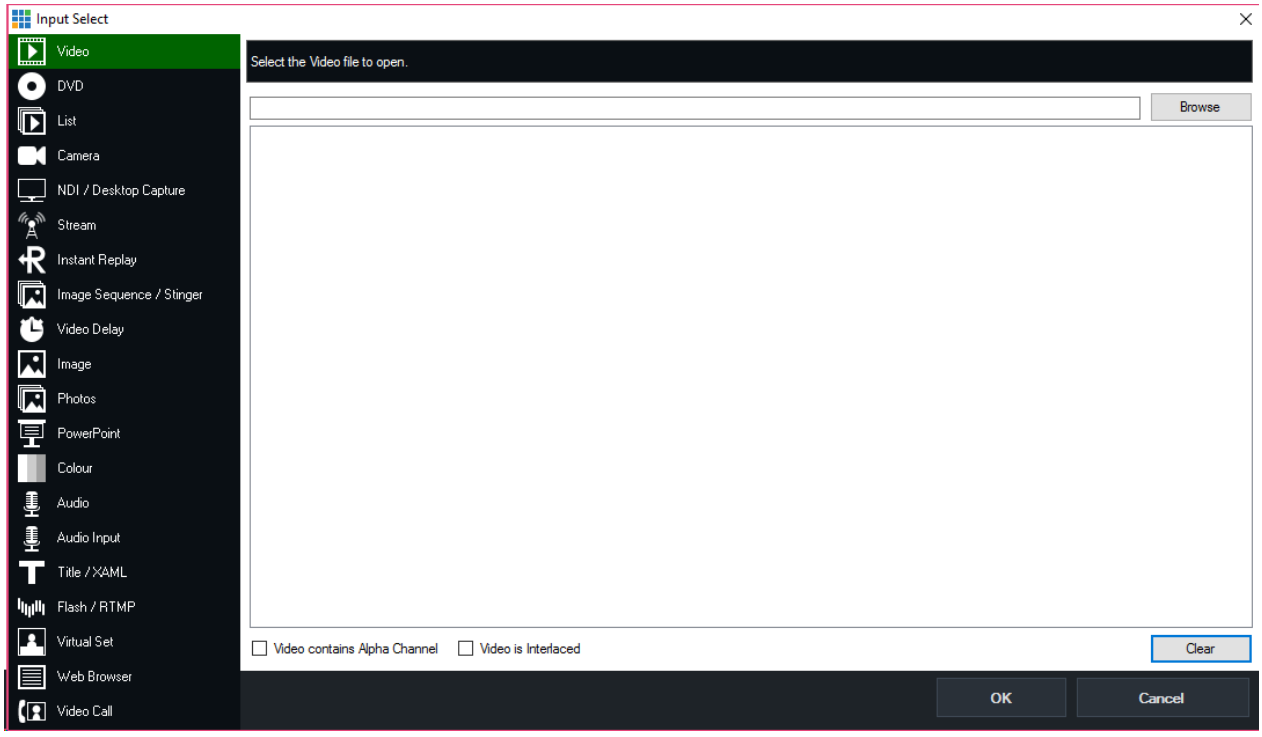
The number of rows that can be added or removed depends on the display resolution set in Windows. 1920x1080 is recommended and allows up to three rows of inputs to be displayed at a time.

If more inputs are added than can be displayed, a scroll bar will appear to the right of the inputs.

Add Input

Click this button from the Main Window to bring up the **Add Input** window.



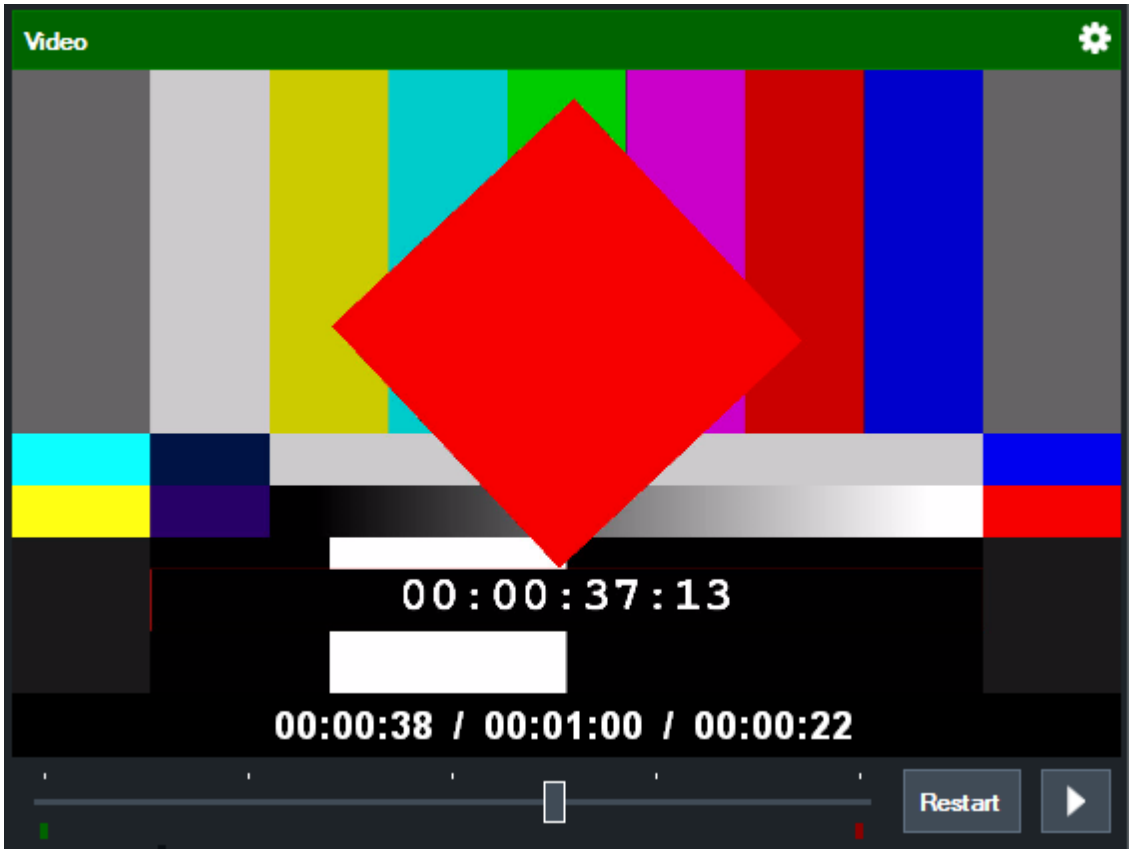


Video

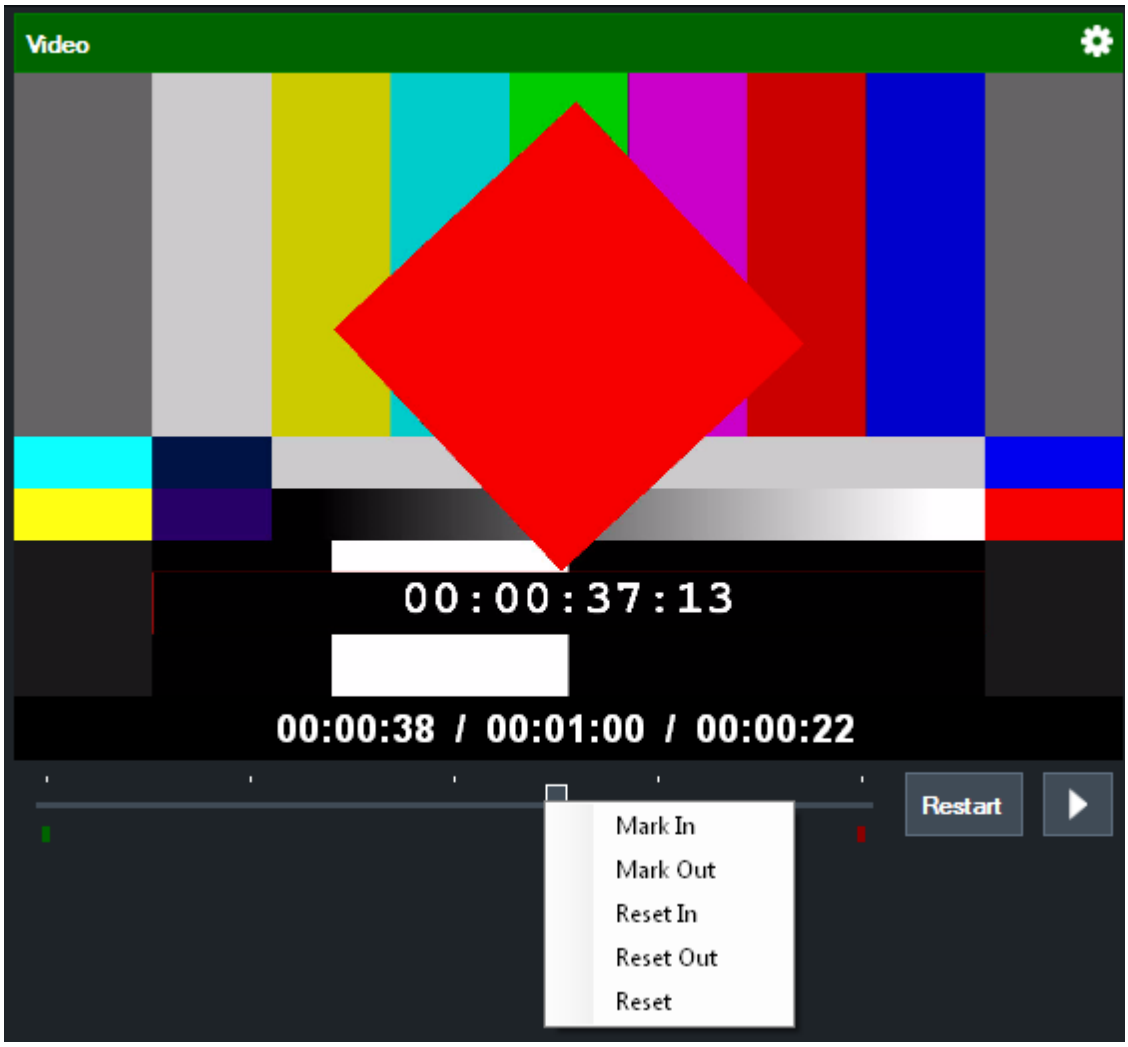
Use the Video Input to load video files such as AVI, MPG, MXF, MP4, WMV and QuickTime.
DVD files should be loaded through the DVD option instead.

Mark In/Out

The Video Input supports specifying custom Start (Mark In) and End (Mark Out) points for playback.



The Start and End points are marketed by a Green square for Start and a Red square for End.
To change the Start point, drag the bar to the chosen position and right click to select **Mark In** from the menu.



To change the End point, repeat these steps only select **Mark Out** from the menu instead.

DVD

Select a DVD drive or folder to load a DVD as an input.

Controlling DVD playback

vMix supports clicking on DVD menu items from the Preview or Output windows. You can also manually select chapters and go to the menu by right clicking the Input, Preview or Output window where a DVD is currently playing.

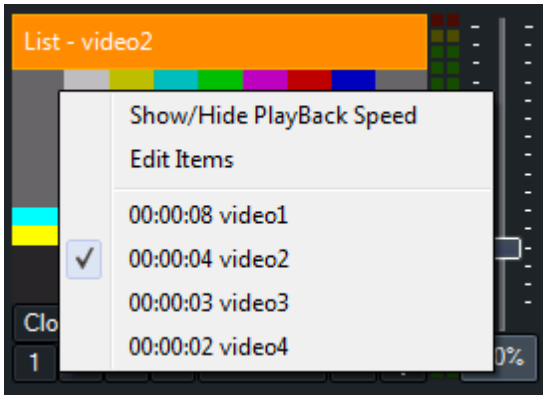
List

The List feature can be used to create a playlist of video and audio files.
The Randomise button can be used to shuffle the list (useful for example when playing a set of music videos for example)

M3U files are supported which can contain a combination of video and audio filenames.

List Control

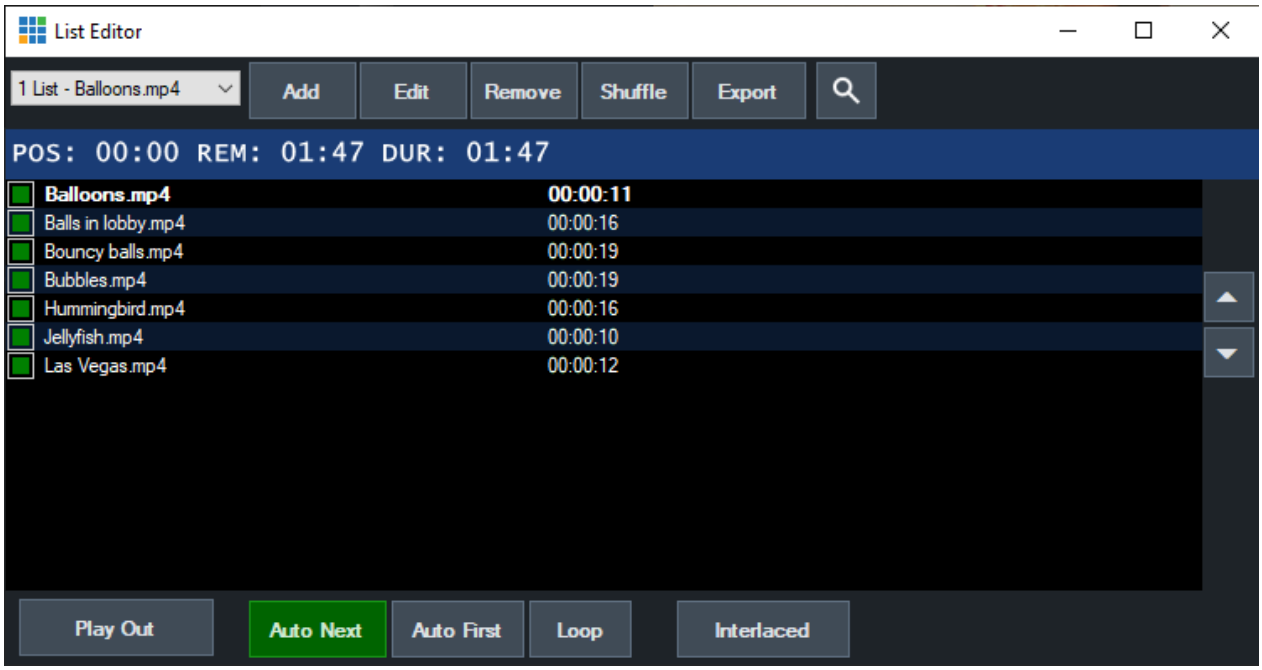
To switch between items with the playlist, right click the preview area of the input and left click the item from the dropdown list.



Edit Items

Click Edit Items in the right click menu to open up the List Editing Tab in the main vMix window.

This tab can be undocked and placed on a separate monitor by clicking the pin button at the top left hand corner.



Play Out

Play Out will load the highlighted video and transition the Input to the main vMix Output if it is not already.

Auto Next

Toggle the "Auto Next" button to enable/disable automatic playback of the next item in the list. This option is enabled by default.

Auto First

Toggle the "Auto First" button to enable/disable always playing from the first item in the list before a transition to output.

Loop

Toggle the "Loop" button to have the list play from the beginning when it reaches the end of the list.

Interlaced

Individual videos in the list may not be detected as Interlaced in some situations. Toggle this button to enable interlaced processing for a particular video.

Add

Click the **Add** button to add one or more items to the list.
Files can also be dragged and dropped into the **Edit - List** window

Edit/Remove

Click Edit to change the name of the selected item
Click Remove to remove one or more items from the list. There must be at least one active item in the List at all times

Note: These options do not change the underlying files, so files will not be deleted or renamed.

Shuffle

Randomise the order of items in the list

Export

Export the current List as an M3U file

Checkboxes

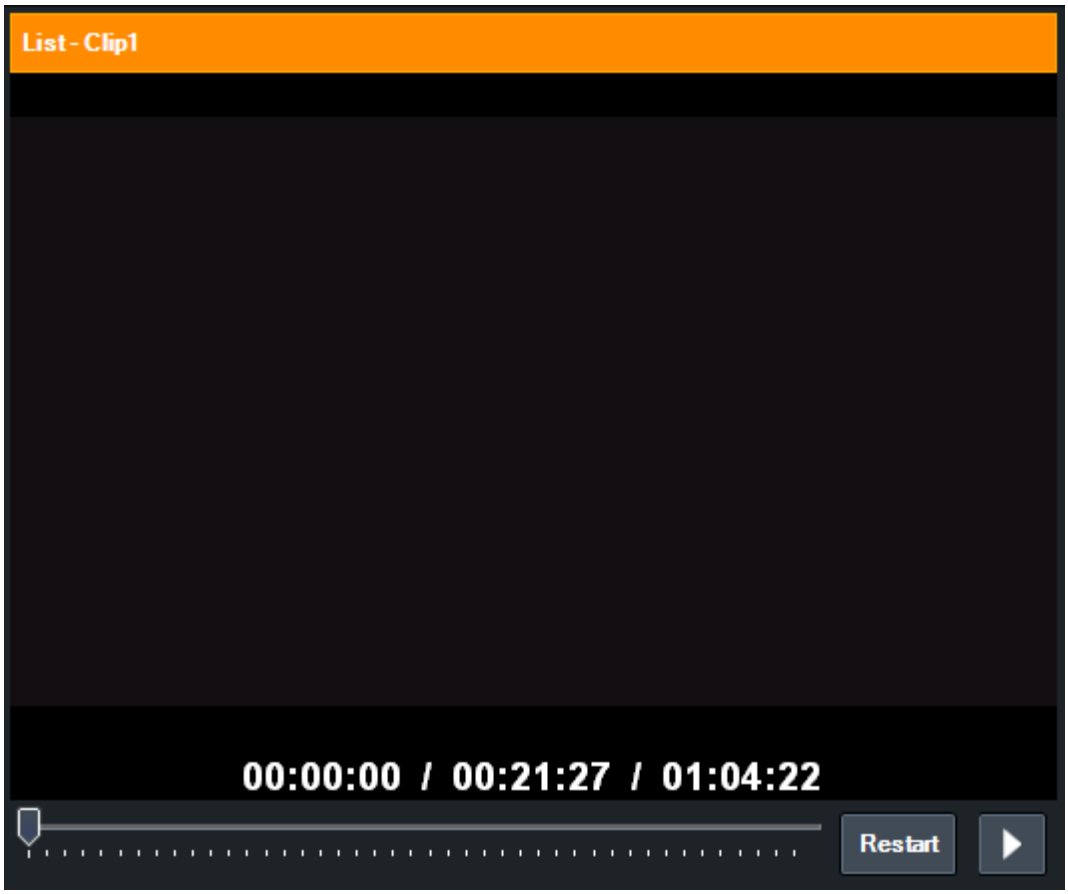
A list item can be disabled by clicking the checkbox. When disabled the item will be skipped during playback.

Up/Down Arrows

The up and down arrows can be used to move the selected item up or down in the list.

List Duration

If supported by the video or audio format, vMix will display a Total Time Remaining for the entire List.
In the screenshot below, Clip 1 is 21 minutes and 27 seconds in length and there is 1 hour, 4 minutes and 22 seconds remaining.



Camera

Camera is used to load in supported Video Capture Devices and Video Cameras.

Camera

Select the device to use here.

Input

Specify the capture input to select such as SDI or HDMI.

Resolution

Specify the capture resolution to use.

Frame Rate

Specify the frame rate to use.

Interlaced

Untick the interlaced Check Box if the source video is in PsF format. (Progressive segmented frame)

Video Format

If the selected Video Capture Device supports more than one video format (such as YUY2 and YV12), vMix will select one of these formats automatically.
If the automatically selected format is not suitable, a specific format can be enforced here.

Audio Input

Some cameras support selecting a particular audio input or channel here.
If using an AJA, Blackmagic or Magewell device, EmbeddedAllChannels can be selected to bring up to 8 channels of audio in at once.
These channels can be then be mixed from the **Channel Mixer**.

Audio Device

Select an Audio Device that matches the video capture device.

Audio Format

Select the Audio Format for the audio device above.

NDI / OMT / Desktop Capture

NDI / OMT / Desktop Capture is used to add three types of sources into vMix:

NDI / OMT

Easily add audio and video sources on the local network that support the NDI standard or the Open Media Transport (OMT) protocol.
This also includes capturing remote desktops on PCs and Macs using vMix Desktop Capture.

Local Desktop Capture

NDI / OMT

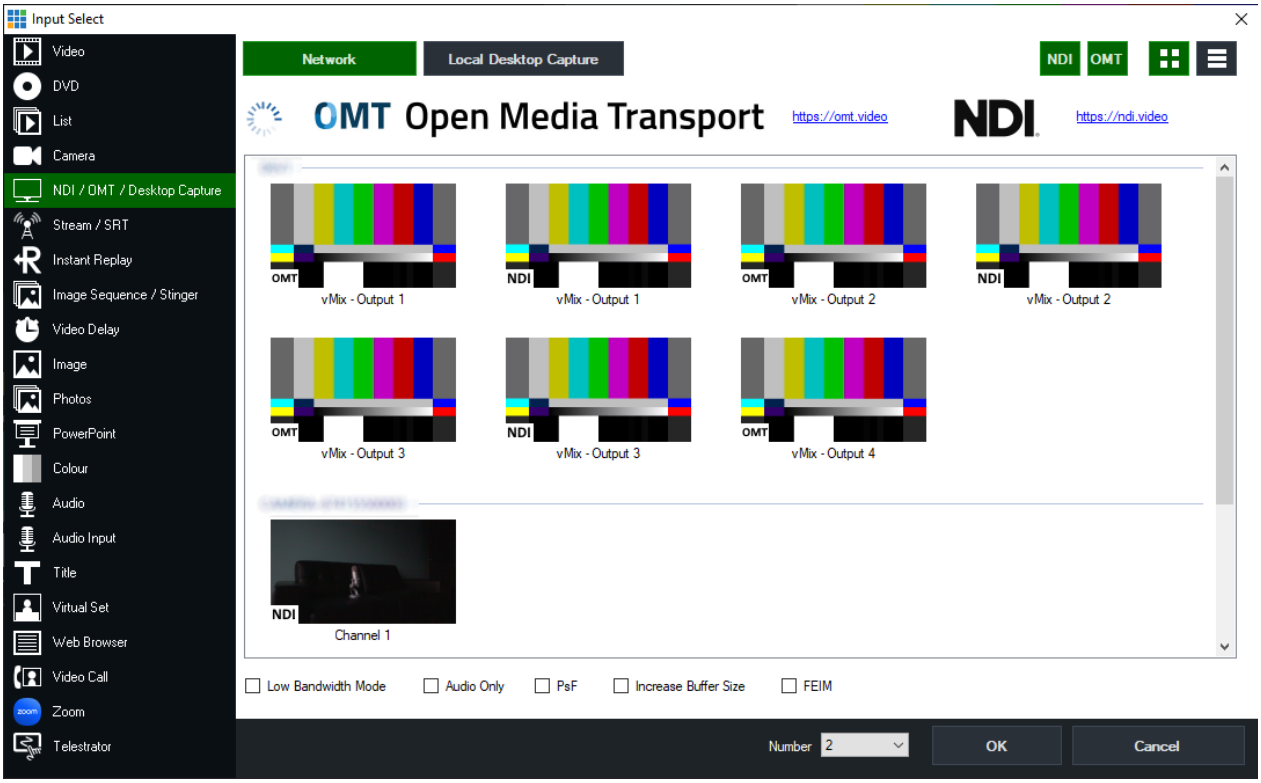


NDI and OMT are easy ways to send and receive high quality, low latency video and audio between supported devices using a standard Gigabit enabled network.
For example you can produce one aspect of your show on one computer and send the output to vMix running on another.

You can also add any NDI or OMT enabled source to vMix as long as it is on the same network. This might be a NDI or OMT enabled hardware device
or another computer or laptop running 3rd party software that supports the NDI or OMT protocols.

Adding Inputs

Sources detected on the network will appear automatically in the list with a preview thumbnail and organised by device or computer name as shown below.



In the screenshot above, there are five sources available across two different computers. Some sources such as vMix support both NDI and OMT at the same time.

Sources can be filtered and/or displayed differently by selecting from the following buttons in the top right hand corner:



To only show NDI sources for example. click the OMT button to turn it off.
The two right buttons switch between a thumbnail view and a list view.

Adding Remote Desktops

You can bring into vMix the desktop of a remote PC or Mac simply by downloading and running the free vMix Desktop Capture application from the vMix web site.
http://www.vmix.com/software/download.aspx

While the vMix Desktop Capture program is running, any windows open on that computer will appear in the NDI list.
In the screenshot above, Microsoft PowerPoint is running on a laptop called "THUNDER1" and can be added to vMix simply by double clicking it from the list.

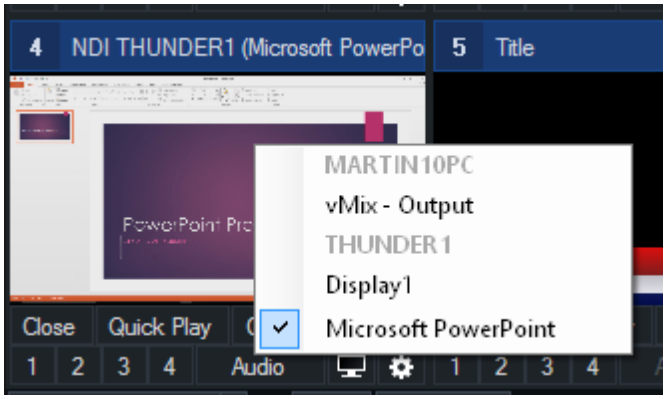
vMix Desktop Capture Features

- Capture multiple displays, windows at high quality and in full resolution
- Games can be captured including fullscreen games powered by Direct3D or OpenGL.
- Audio is captured automatically
- The mouse cursor is also captured

Changing NDI or OMT source through right click menu

Once the initial NDI, OMT or desktop capture has been added, a right click menu is available to change the

source at any time.



The following options are also available via the right click menu:

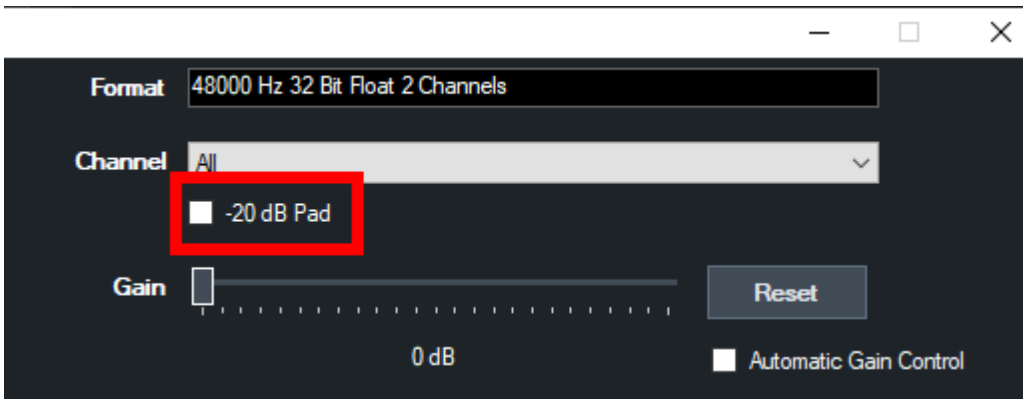
Low Bandwidth Mode (NDI) / Preview Mode (OMT): See Additional Settings below.
Audio Only: Disable video, only bring in audio from source.
Properties: Shows information about the source, such as manufacturer and model (if available), network information and video/audio format details.
Suggested Quality (OMT): Inform the source of the preferred quality for this input.
If the source is set to Default quality, then it will select the quality that is the highest amongst all receivers. This is usually Medium if all receivers are set to Default.
Note that this is a suggestion only and the source may opt to ignore this setting.

Additional Settings

Low Bandwidth Mode: This will switch the source to use a lower resolution / low bandwidth version of the source video.
Audio Only: Disable video, only bring in audio from source.
PsF: If source is a camera that sends progressive over interlaced video, tick this box to improve video quality.
Increase Buffer Size: On unstable/wireless networks, ticking this option can improve the smoothness of the video. Will increase latency by approximately 5 frames.

Audio Levels

Some sources may have audio that appears too loud in vMix.
To fix this, in the Audio Settings window for the input tick the -20dB Pad checkbox.

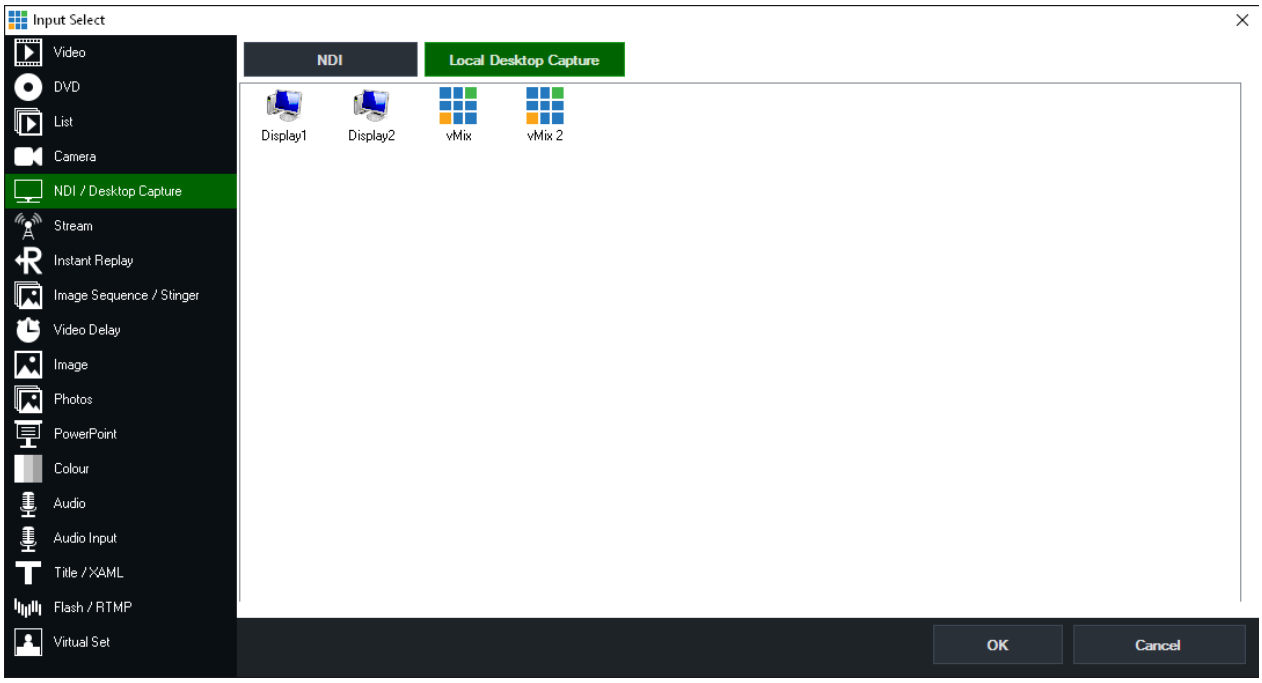


Local Desktop Capture

Adding Local Desktops

From the NDI / Desktop Capture tab, a tab called **Local Desktop Capture** can be selected to capture the screen or window from the same computer.
This enables high performance full frame rate capture of any active window, including windows hidden behind vMix or running on a separate display.

This is great for capturing programs like Skype.



Window Capture Method

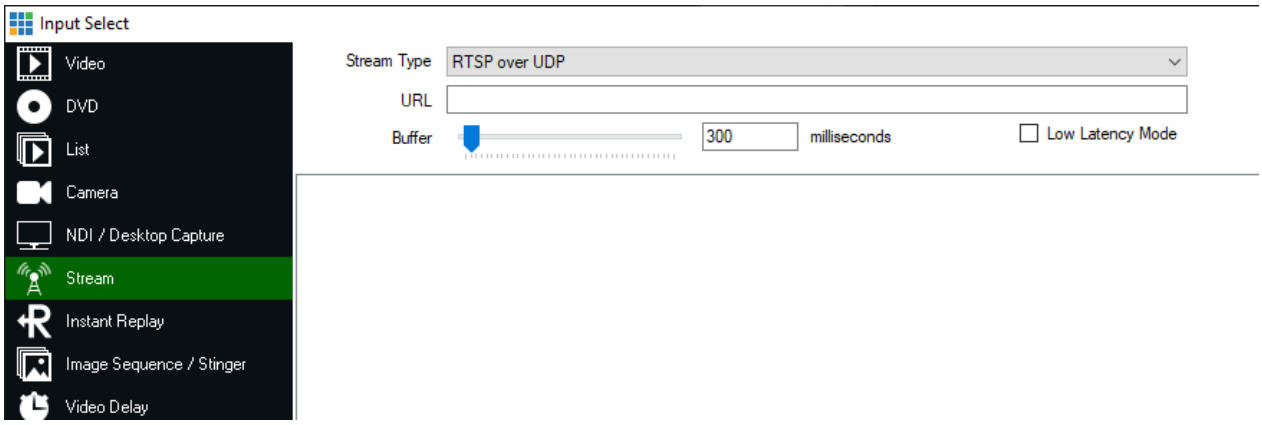
Select the method used to capture individual Windows.
GDI: This will work on the vast majority of systems with the exception of Windows Store apps and browsers such as FireFox and Chrome.
WindowsGraphicsCapture (Default): This is available on Windows 10 1809 or higher and captures most applications including browsers and Windows Store apps.
DWM: This is available on earlier versions of Windows 10 can capture the same windows as GDI but with slightly lower CPU/GPU resource usage.

Desktop Capture

For Desktop Capture support in vMix, see the **NDI / Desktop Capture** topic.

Stream / SRT

The Stream input supports adding IP Cameras and Streaming Servers that support the RTSP, Transport Stream or SRT protocols.



Stream Type

RTSP over UDP / RTSP over TCP

RTSP based sources such as the Teradek Cube and IP Cameras

Enter the URL in the following format: rtsp://0.0.0.0/stream1

Transport Stream over UDP

Select this option if a Transport Stream is being sent directly to the vMix machine over UDP

Enter the port number of the stream

Transport Stream over TCP

Selecting this option sets up vMix as a TCP server that can accept connections from remote streams
Enter the port to listen for connections

Transport Stream over TCP Pull

Select this option to connect to a remote Transport Stream server such as the Teradek Sputnik using the TCP protocol.
Enter the hostname and port of the remote Transport Stream server

VLC

The VLC option uses the free VLC Media Player software to connect to the stream.
This requires installing a special version of VLC which can be downloaded and installed from here:
http://www.vmix.com/vlcdownload

vMix currently supports only RTMP, UDP, RTP, RTSP and TS streams using this method.
Other stream types such as HLS and M3U8 are not supported.

SRT (Caller, Listener, Rendezvous)

See SRT Input for more information

Buffer

The network buffer in milliseconds can be configured to reduce jitter when receiving high latency network streams.
For local network streams, this should be set between 0 and 500 milliseconds or 1000 to 5000 milliseconds for Internet streams.

Low Latency Mode

Local streaming devices such as the Teradek cube support a delay of less than 5 frames in Low Latency Mode.
To use this mode, set the Buffer to 0 and tick the Low Latency Mode checkbox.

NOTE: If this option is enabled and the stream does not support Low Latency the video will show compression artefacts and will play back at a lower frame rate.

Video and Audio Formats

H264
AAC-HBR

Network Formats

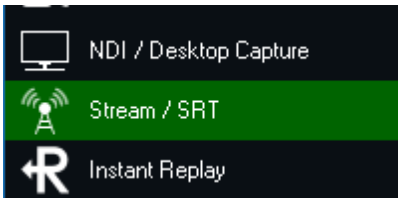
RTSP
RTP (UDP and TCP)
TS (UDP, TCP and TCP Pull)

Firewall

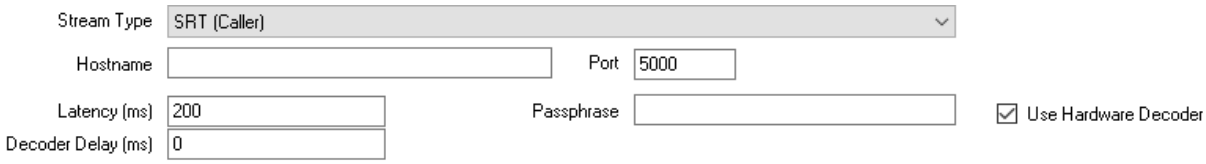
UDP ports 35000 to 35500 will need to be open on your Firewall in order to receive streams in vMix.

SRT

To connect to an SRT source, select the Stream / SRT option from the Add Input window and select either SRT (Caller), SRT (Listener) or SRT (Rendezvous) from the Stream Type dropdown.



The following settings are available:



Stream Type

Listener: Listen on the specified Port on all network adapters on the computer for connections. Hostname is ignored.
Caller: Connect to the specified Hostname and Port.
Rendezvous: Connect to the specified Hostname and Port. The other side must also be set to Rendezvous with an identical port number specified.
This mode allows connecting through most firewalls automatically.

Latency

Specify the latency of the connection in milliseconds to adapt to network congestion.
The higher this value, the better SRT can handle difficult network conditions.
As a general rule this should be set to at least 4x the ping time destination IP. So 20ms would require a latency setting of at least 80

This must be set to the same value on both ends.

Decoder Delay

Some encoders may not send evenly spaced frames, also known as jitter.
Encoders may also send audio long before or after the associated video frame.
To compensate for this, a Decoder Delay can be configured to allow for any potential jitter on the encoder side.
For example if frames may arrive 100ms apart, set the decoder delay here to at least 150.

Passphrase

Specify a password to encrypt the connection. This password must be used by both sides for the connection to be established.

Key Length

This is the encryption strength to use. Multiple by 8 to convert to bits, for example 32 = 256bit encryption.

Stream ID

Optional Stream ID that may be required by your streaming provider to uniquely identify the stream.

Use Hardware Decoder

Use accelerated decoding where available on the graphics card. The majority of modern graphics cards support both H264 and HEVC hardware decoding.
vMix will fall back to CPU decoding where available.

NOTE: To use an SRT source in Instant Replay, this option will need to be disabled so that CPU decoding is used only.

MultiCorder Recordings

Due to SRT using an already compressed video stream (in Transport Stream .ts format)
Any MultiCorder recordings of this input will save the stream directly to file without using the compression settings specified in the MultiCorder window.

Multi-Track Audio

Many SRT encoders will separate stereo pairs into separate audio tracks within the stream.
vMix will automatically combine these stereo pairs into a single multi-channel stream that can be controlled via the Audio Channel Matrix and Mixer features.

Instant Replay

Full documentation on Instant Replay can be found below:

Instant Replay User Guide

Image Sequence / Stinger

Image Sequence / Stinger can be used to automatically load a series of images as an animation.
This feature can be used to create animations with or without alpha channels that can be used as Overlays or Stingers in vMix.

vMix will automatically search for the next image in the list based on the filename of the selected file.
For example if the image is called image1.png then vMix will load image2.png, image3.png and so on, until no more files can be found.

Sound

Sound can be added to an image sequence by creating an MP3 or WAV file and naming it to match the first image in the sequence.
For example if the first image is image1.png then the sound file should be called image1.png.wav or image1.png.mp3
This sound file will need to be in the same folder as the rest of the images.

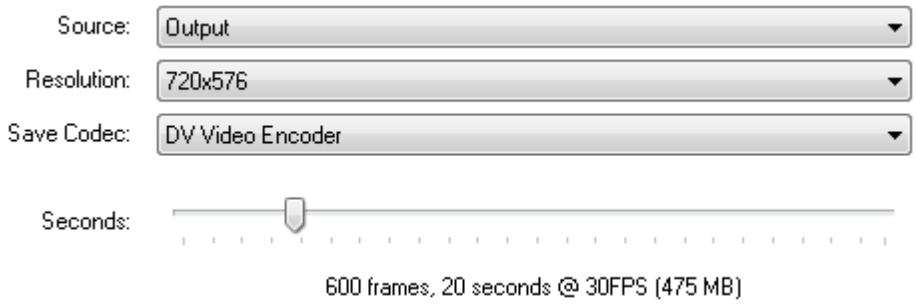
The sound will then start playing each time the Image Sequence is played.

NOTE: When adding sound to an existing image sequence, the input will need to be added to vMix again for it to be detected.

Video Delay

The Video Delay Input allows you to select a custom delay to the Output or a Capture Input.
This feature can be used to achieve many types of effects including slow motion replay.

Setup

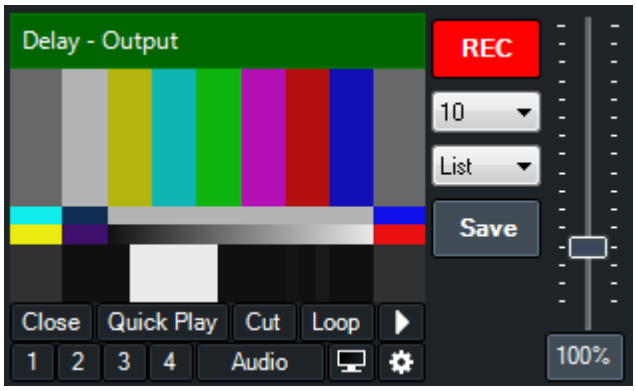


Source: Select either Output or an Input such as a Video Camera
Resolution: Select the quality of the Video Delay. If you select a video camera to delay, this option will be the same as the camera resolution.
Save Codec: Select the Video Codec to use when saving clips from the Video Delay to file.
NOTE: DV Video Encoder supports a maximum resolution of 720x576, choose a different codec if you wish to save video clips in HD

Seconds: Select the delay buffer size in seconds. This is an approximate value based on a 30FPS input.

Control

Record: Turn on or off the updating of the Video Delay.
Speed (100%): The delay can be played back at a variety of speeds including full speed and slow motion such as 50%.
Save Seconds (10): Select the number of seconds of the most recent Video Delay footage to save to file.
Save Location (List): Select the location to save the video delay clip once the Save button has been clicked. See **Saved Delay Clips** section below.
Save: Click this button to begin saving the Video Delay footage to file. This button will light up red while the save is in progress. The video delay will stop recording until the file has been completed.



Saved Delay Clips

Video clips of delay footage can be saved at any time by clicking the Save button (see Save in the **Control** section above)
There are two locations in vMix the delay clips can be saved to:

List

Each saved clip will automatically be added to a separate List Input when complete. This List Input is dedicated to holding all video delay clips in a vMix session regardless of source.

Category

Each saved clip will be added as a separate Input in the selected colour category. See Categories.

Image

Add an Image to vMix in PNG, JPEG, TIFF or BMP format.

Photos

Load all photos in a directory into a single Input in vMix using this option.

Selecting a Photo

Once the Input has been loaded you can right click the Input to select a photo to display from the SlideShow Settings window.
The controls on the Preview or Output windows can also be used to move backward and forward through the list of photos.

Selecting a Transition time

By default, the Photos input will remain on the first image until the backward and forward buttons are pressed.
You can automatically transition through the list by right clicking the Input and selecting a transition time from the SlideShow Settings window.

PowerPoint

Load a PowerPoint slideshow with this option.

vMix will attempt to load the file using Microsoft PowerPoint if it is installed.
If PowerPoint is not installed, vMix will fall back to a built in slide importing tool automatically.

A SlideShow Settings window is available for this input.

Colour

Select a solid colour to use as a separate input. This can be used with the Multi View feature as a background colour.

Audio

Play Audio Files such as MP3 and WAV.

Audio Input

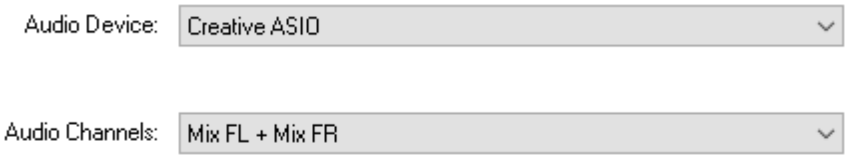
Audio Input can be used to add multiple audio sources to vMix such as Microphones, USB audio devices and any sources compatible with the ASIO drivers.
Each of these inputs can be independently controlled from the **vMix Audio Mixer**, turning vMix into a *fully fledged audio mixer* alongside your video production.

Audio Device

Select the Audio Device or Microphone to add.

Audio Channels

Some devices support multiple channels, you can select any stereo pair or a single mono channel here. To add more than two channels, add multiple inputs selecting a different channel each time.



System Audio

System Audio is a special audio device which contains all the audio on the system, except for vMix.

Application Audio

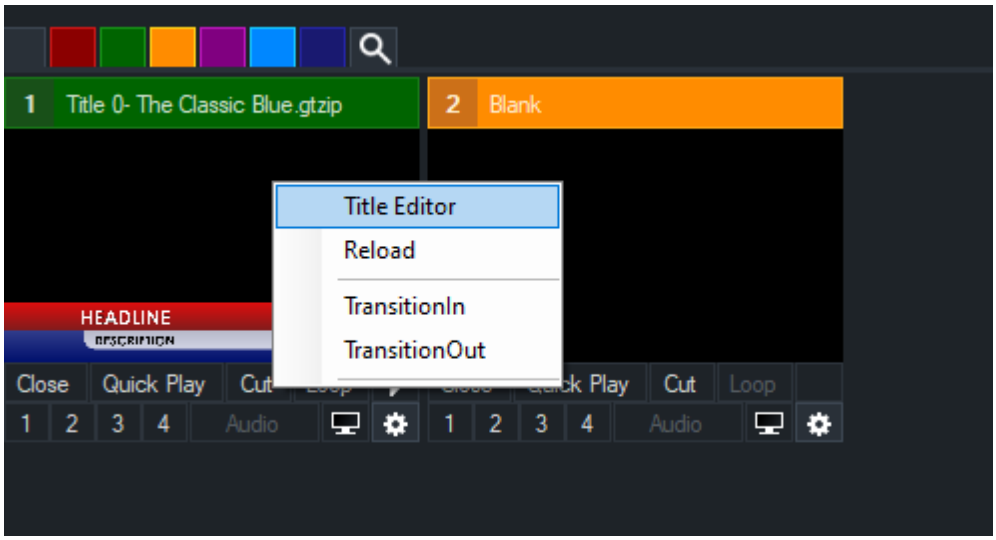
Application Audio is a special audio device that captures the audio of a single application.

Title

The Title input is a quick and easy way to bring in Titles and Lower Thirds into your production.
Each Title input can have its own customisation text and Title Presets can be created to make it easy to change the text of a title during a production.

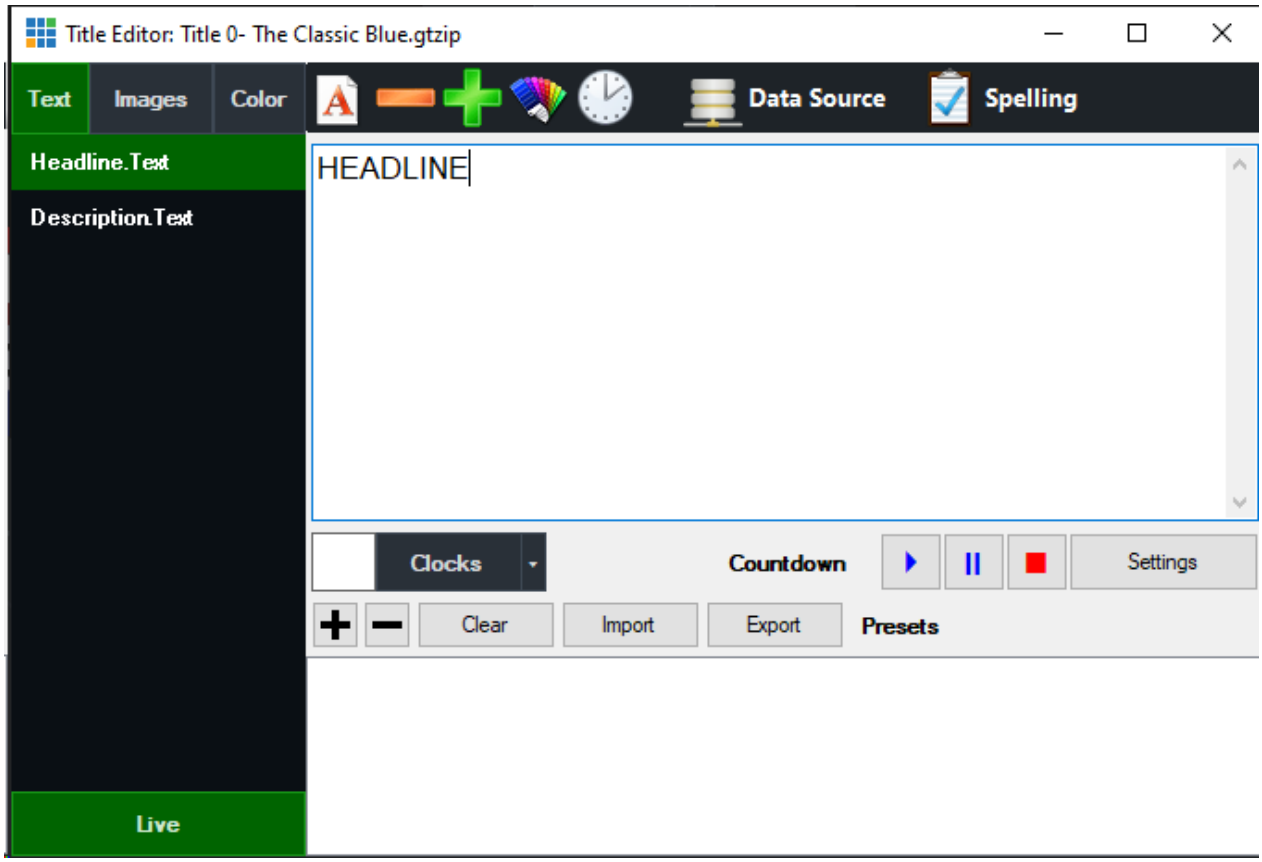
You can select one of the many built in Title Templates or build your own using the **GT Designer**.

The text in each template can be edited through a right click menu on the Input.



Editing Title Content (Text Editor)

Titles can be edited from the Text Editor right click menu (see above)
Objects in a title are organised into Text, Images and Color categories.



The six icons, from left to right are:

Font
Decrease Font Size
Increase Font Size
Font/Object Colour
Ticker Settings (To set Ticker duration/speed and other ticker related settings)
Data Source See Data Sources
Spelling

Editing Color Objects

Titles created in GT support the editing of solid color shapes/objects from within vMix.
To enable this feature, first edit the title in GT Designer and untick "Hidden" in the Data tab for each object you wish to edit.
These objects will then appear in the Color tab here and can be changed by using HTML colors or by clicking the **Font/Object Color** buttton in the toolbar.

Live Mode

While the Live button is green, all text typed into the Title Editor window will update the title in real time.
Click the Live button to display live updating and click it again once all changes have been made.

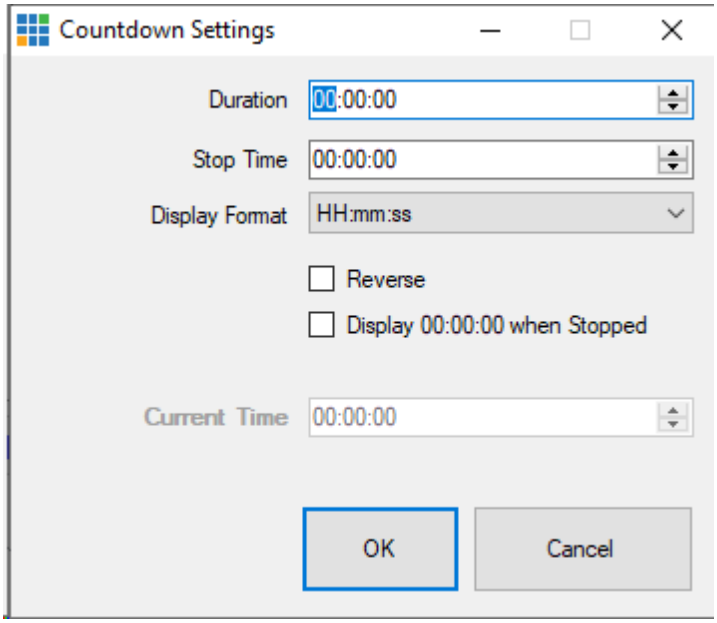
Title Presets

Click the + button to save the text from all the elements in the title as a preset.
This preset can be selected by right clicking the input in the main vMix window to recall these values at any time.

Title Presets can be Imported and Exported in CSV format using the **Import** and **Export** buttons

Countdown Timer

The countdown timer can be used to automatically update the title with a timer that runs either in reverse (countdown to 0) and optionally forward.
To specify the countdown parameters click the Settings button to bring up the Countdown Settings window.



Duration

Specify the duration in hours, minutes and seconds the timer will count. For example 00:15:00 for a 15 minute timer.

Stop Time (or Start Time when in Reverse mode)

Specify the to either begin or end with depending on the countdown direction.
For example, in countdown mode with a duration of 15 minutes, if the Stop Time is set as 00:05:00 (5 minutes) the countdown will run from 00:20:00 to 00:05:00 and then stop.

In reverse mode the countdown would run from 00:05:00 to 00:20:00.

Display Format

Specifies how the timer will be displayed within the title.
When the display format is set to mm:ss or mm, the hours remaining will be added to the minutes display, for example 120:30 for 2 hours and 30 seconds.

Reverse

Change the direction of the Countdown so it counts up instead.

Virtual Set

The Virtual Set features provides the ability to integrate a chroma keyed live camera and other graphic elements into a real-time 3D rendered virtual set.
This virtual set can then be smoothly zoomed and panned just like in a live television studio.

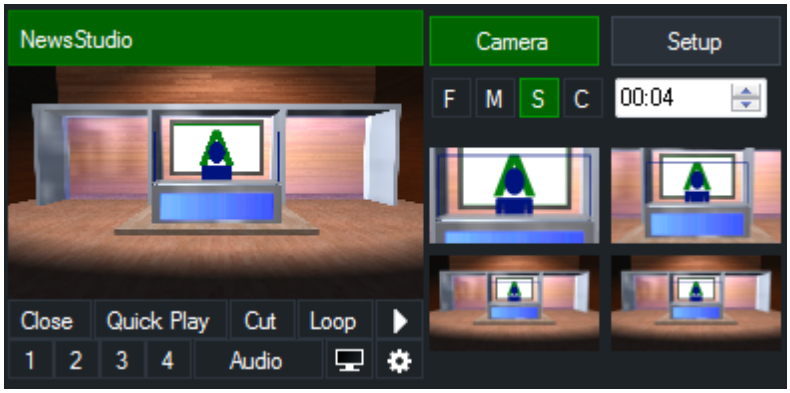
Setup

Choose from one of the built-in Virtual Set presets to add it to vMix.
Each will show a placeholder image giving an idea of where the camera and other elements will be located within the virtual set.

Control

Each Virtual Set has two tabs that can be used for customisation.

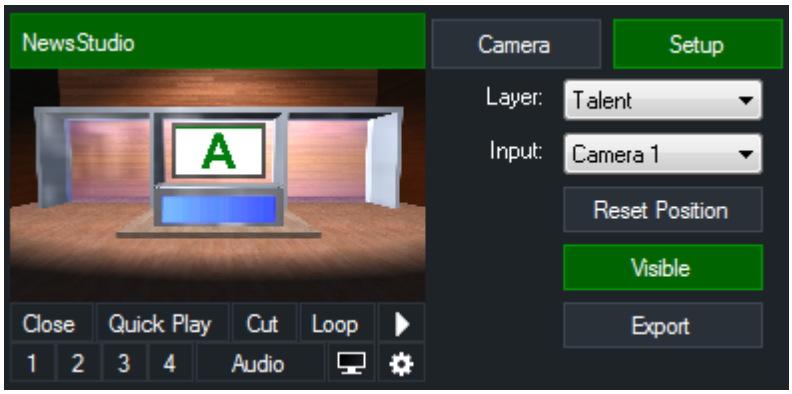
Camera



The Camera Tab provides thumbnail previews of the camera angles available within the Virtual Set.
To switch to a camera angle, simply click on the thumbnail.
To customise the camera angle, right click on the thumbnail.

The speed of the camera zoom is determined by the F (Fast), M (Medium), S (Slow) and C (Cut) buttons above the thumbnail previews.

Setup



The Setup Tab can be used to adjust the various layers that form a complete Virtual Set.

Layer: Select the layer, such as a background to adjust.
Input: If a layer supports cameras (such as the Talent layer) or video clips (such as the Screen layer), the input can be selected here.

While in the Setup Tab the mouse can be used to click and drag on the preview window to change the location of the layer.
Hold down the Shift key to resize the layer.

Reset Position: Revert the layers position and scale to the default setting.
Visible: Toggle on or off this layer. This can be used to hide desk in some Virtual Sets.

Web Browser

Use the Web Browser input to add any web page to vMix.

Settings

URL

Type in the full web page URL that you wish to display. For example: http://www.vmix.com/

Width, Height

Specify the Width and Height in pixels when rendering the web page.

If these are set to a size smaller than the vMix **Output Size**, the web page will initially be displayed centred and at the reduced size.
This is handy for HTML widgets you may wish to use as **Overlays** as they will show at the correct size and simply need to be moved into position
from **Input Settings - Position.**

CSS

Specify custom CSS to be applied when loading a page.
This is only available on browser version V115 or higher.

Mouse Control

Once added, the web page can be controlled by clicking and dragging the mouse on either the Input window or the Preview/Output within vMix.

Keyboard Control

Keyboard use within the web page can be enabled by right clicking the input and selecting the Keyboard Enabled option.
IMPORTANT: When this option is enabled, keyboard shortcuts in vMix will no longer be active. To enable the keyboard shortcuts again, right click the web page and disable the Keyboard Enabled option.

Transparency

The Web Browser input in vMix supports transparent backgrounds and alpha channel when used by sites such as TwitchAlerts.
To create your own page with transparent background, simply create a page where the background colour for the <body> element is not specified.

Right Click Menu

Right click on the Web Browser input to Go Back, Go Forward or change the web page from the Properties window.

Media

The Web Browser Input utilises the Chromium Embedded Framework (CEF) and has most of the features available in the Google Chrome browser.
This includes HTML5 video and audio playback and other media features such as WebRTC.

Audio

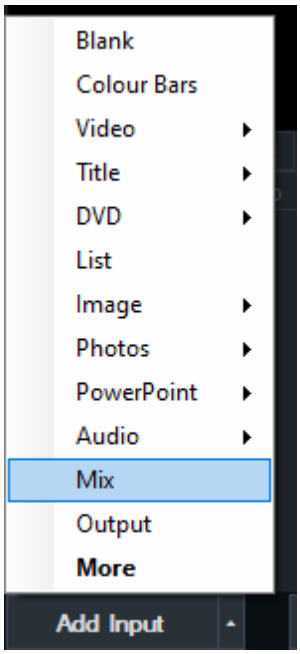
Audio is fully supported with the Web Browser input and can be independently mixed just like any other audio source in vMix, no desktop audio capture needed.

Video Call

See vMix Call

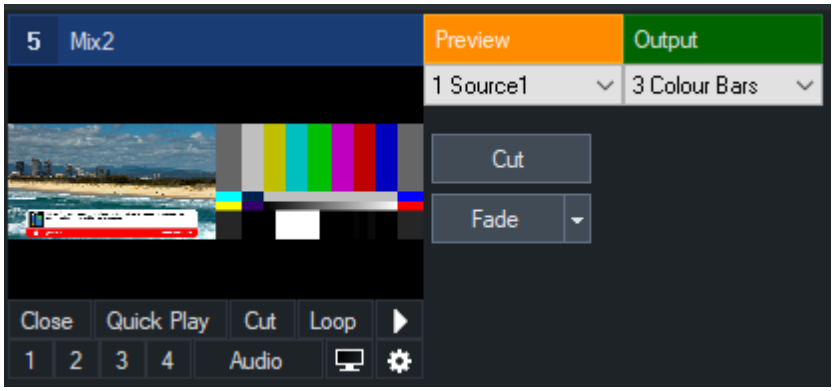
Mix

The Mix input allows adding up to 15 additional "mini mixers" that support basic transitions and cuts between two different inputs.
To add a Mix input, click the arrow next to Add Input in the main vMix window and click the Mix option.



Note: Mix is only available in 4K, Pro and Max editions of vMix.

Once added, the input looks like the following:



The Preview and Output dropdown boxes can be used to select the inputs you wish to mix.
Cut will cut between the inputs and Fade will transition between the inputs. Click the arrow next to Fade to customise the transition effect.

Input Preview

The input preview window will show both the Preview and Output window side by side in the vMix window and in the MultiView Output. (Except when in Output Only mode, see the relevant section below)
All other outputs will only show the mixed Output as expected, as demonstrated below:



Output Only Mode

To disable the Preview/Output and Transition controls, right click the Mix input window and turn on **Show Output Only**.
In this mode, the additional controls will be hidden and only the output will be displayed.
The Input source for this mix can still be controlled via the right click menu and shortcuts can still be used to transition between Input sources if required.

Shortcuts

The following shortcuts can be used with an optional **Mix** parameter, where 1 is equal to the main mix in vMix and 2 is equal to the first Mix input.

PreviewInput
ActiveInput
Fade, Zoom, Wipe etc

Overlays and Stingers

Overlays and Stingers can be used from the exiting 8 Overlay or 8 Stinger channels.
To display on one or more Mix inputs, set the **Mix** setting for a shortcut to those inputs required, where 1 = the main output.
Stingers will automatically cut all the Mix inputs the shortcut is assigned to at the stinger cut point.

Restrictions

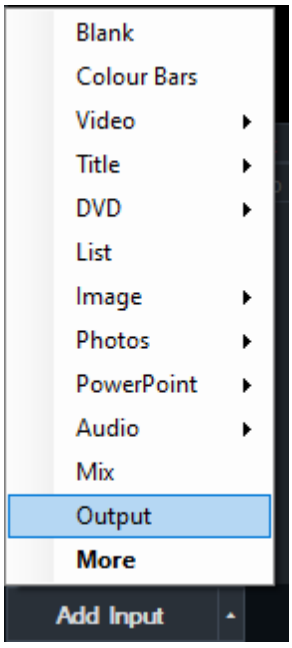
The Mix input is intended as a basic video mixer/switcher only, as a result the following features are not available:

- Auto play/pause/restart of inputs. (This is to prevent unexpected situations where inputs are used by both the main mix and an input mix)
- Audio auto mixing.
- T-Bar transitions
- Re-entrancy: You can use a Mix input as a source of another Mix input as long as they are done in order. For example using Mix 3 in Mix 4 is supported without a visible delay, but Mix 4 in 2 is will have at least 1 frame of delay.

Output

The Output input simply adds the current main vMix Output 1 (Program) as an input for use elsewhere. This is handy for situations where a different source is needed for Outputs 2-4 or for a Video Call, but with the Program feed still showing as a picture in picture.

To add the Output input, click the arrow next to Add Input in the main vMix window and click the Output option.



Note: This input is only available in 4K, Pro and Max editions of vMix.

Limitations

- Sending to output: Note that while sending this input to the main output is possible and won't cause any errors, it will simply show the last frame over and over as it will be referring to itself.
- Maximum 1 Output input at a time: For more copies, right click the input's clog icon to create virtual inputs as needed, or simply refer to input using a layer on another input.
- Only Output 1 is supported: This is a side effect of ensuring all outputs are available in real time and without infinite loops. (For example, Output 4 is rendered after all others outputs and therefore would not

be available for use)

Preview

The Preview input simply shows a copy of what is displayed in the Preview area of vMix.
This is useful for creating a custom MultiView Output when used in conjunction with the Output input.

To add the Preview input, click the arrow next to Add Input in the main vMix window and click the Preview option.

Note: This input is only available in 4K, Pro and Max editions of vMix.

Zoom

Adds a Zoom input that can be used as a part of a Zoom meeting.
See the Zoom section for more information.

Telestrator

See **Web Controller - Telestrator**

Input Buttons

Input Buttons are the buttons available underneath each input.

Close

Close the Input and remove it from the Input Bar.

Cut

Cuts directly to the Output Window and for video inputs, starts playing input from current position.

Loop

The input will automatically begin from the start again once it has finished playing.

1,2,3,4,5,6,7,8 (Overlay)

Click one of the numbered buttons to overlay this input on top of the currently displayed Input.
The input will display according to the **overlay settings**.

Click the button again to remove the overlay with the transition running in reverse.

Overlay Preview

Each overlay can be display in the Preview window by using a right click instead of a left click.
Use a right click again to remove the overlay.
When in preview mode the Picture In Picture Zoom feature described below is activated with a left click instead.

TIP: An Overlay that is being previewed will be sent to the Output automatically when the next transition or cut occurs

Picture In Picture Zoom

When an overlay is active and set to "Picture In Picture" mode you can right click the numbered button to expand it to fill the screen.
Right click again to reduce the size back to the Picture In Picture settings.

GO

The GO button is a custom action that can be assigned to each input.
By default this will be the **Quick Play** transition.

To change the action, select from the dropdown list in **Input Settings - General**

Audio

Mute/unmute Audio.

Preview (TV Icon)

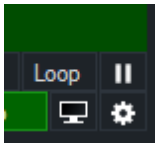
Displays a large preview of the Input. Click the preview window to close when done.

Settings (Cog Icon)

See the Input Settings section.

Live Pause

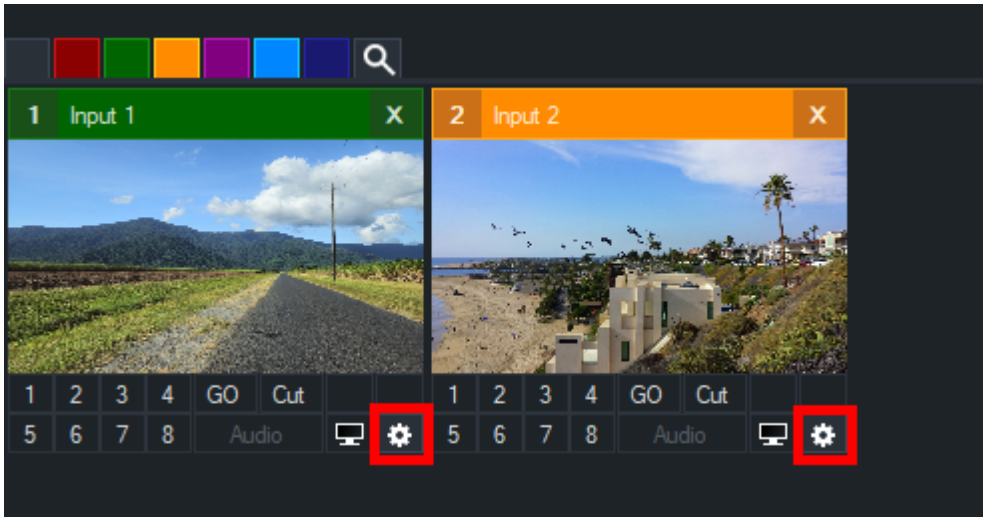
Live inputs such as Camera, NDI, OMT and Desktop Capture can be paused without turning off the underlying live feed.
Click the pause button under the input to activate this feature. To resume the live video click the button again to play.



NOTES:
1. This will not affect MultiCorder, Instant Replay or Video Delay. These will continue to receive the live feed from the inputs as normal while pause.
2. Audio is unaffected and will continue to be played/heard when unmuted.
3. Automatically Play/Pause with Transition options have no effect.

Input Settings

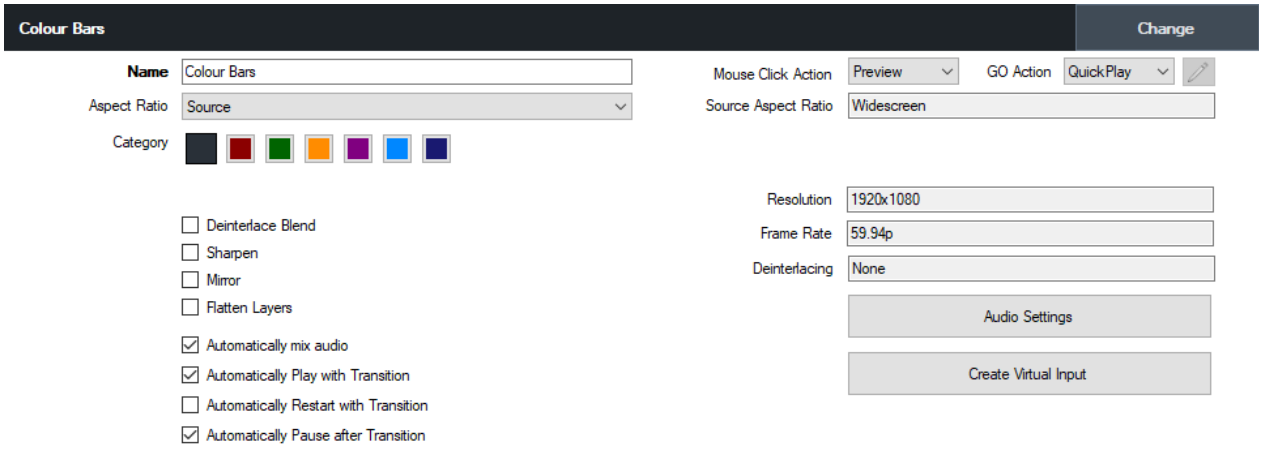
Input Settings are available by clicking the cog button underneath an input while in Advanced mode or by double clicking the thumbnail preview area below the title bar.



The Input Settings window has the following tabs:

General
Colour Adjust
Colour Key / Chroma Key
Colour Correction
Effects
Position
Layers / MultiView
Triggers
Tally Lights
PTZ
Advanced
Copy From

General



Change

Click Change to change the source of this input while preserving all settings including colour adjustments, chroma key, position and multi view.

Settings

Name: Change the name of the input as it displays in the title bar.

Mouse Click Action: Select the action to take when the preview window of this input is clicked. By default this is to send the Input to preview.

GO Action: Select the action to take when clicking the GO button under an input. When shortcut is selected, click the pencil button to select from any of the hundreds of available shortcuts.

Aspect Ratio: manually change the aspect ratio of the input.

Category: see **Categories**

Deinterlace Blend: Turn on blend deinterlacing
Sharpen: Sharpen blurry video. (This requires a high end Graphics Card)
Mirror: Horizontal mirror

Flatten Layers: This will pre-render this inputs layers to form a single layer when used in other inputs. (**4K, Pro and Max editions only**)
For example cropping this input within another input, all layers will crop together when this setting is enabled.
This setting uses a hidden Mix input behind the scenes, and therefore the result is the same.

This means any effects/colour correction/masks set on the input will still only apply to this input, as those settings do not apply to the hidden Mix input.
To apply effects over all inputs as one, use a Mix input separately so the effects can be configured directly.

Automatically mix audio
Automatically Play/Restart/Pause with Transition
Audio Settings

Create Virtual Input

Copies the settings and contents of this input into a new Input.

The Virtual Input depends on the original input in order to display video, so if a camera input is closed any virtual inputs created from that camera will become blank.

Colour Adjust

Black Stretch: Increase the black level of the video.

White Stretch: Increase the white level (or brightness) of the video.

Red / Green / Blue: Independently adjust the rgb channels of the video.

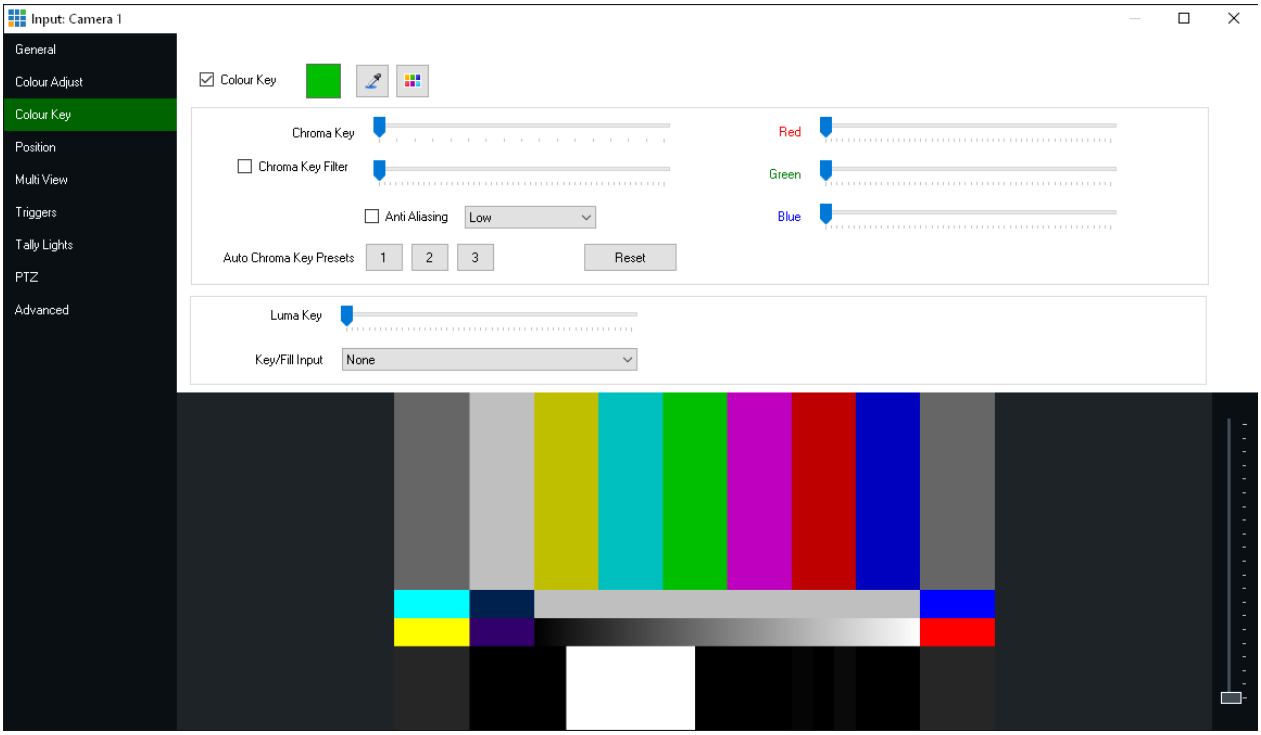
Alpha: Independently adjust the transparency of the video.

Saturation: Drag this bar to the right to increase colour saturation or drag it to the left to convert colours into black and white (greyscale).

Premultiplied Alpha: Tick this box if the source is using premultiplied alpha which is often the case with MOV and other video formats containing an alpha channel.

Colour Key

Colour Key can be used to select a transparent colour when using an input as an Overlay or inside a Virtual Set.



This option can also be used with a green screen, see the options below for more information.

Select: Manually select the colour that will be made transparent.
Auto Colour Key: Brings up a window a colour can be selected directly from the currently displaying input.
Tolerance: Set how close vMix should match to the Red/Green/Blue values in the colour key. The sliders all the way to the left represent an exact match.

Chroma Key: Move this slider slightly to the right to improve the colour key quality when a green/blue screen is being used.
Chroma Key Filter: Removes green/blue halos from an image when using a green screen. The scroll bar can also be used to increase the transparency of the green elements.

Auto Chroma Key Presets: Click the 1, 2 or 3 button presets to automatically select settings suitable for use with a green/blue screen.
Depending on your green screen setup some of these presets may work better than others.
The sliders can then be adjusted slightly to fine tune.

Advanced Chroma Key

To achieve a high quality chroma key:

1. Click Auto Colour Key at the top of the window and select a colour.
2. Click Auto Chroma Key towards the bottom of the window.
3. Drag the Chroma Key slider all the way to the right, this will initially appear to decrease the effectiveness of the colour key until step 4 is utilised below.
4. Drag the Chroma Key Filter slider towards the right to increase the transparency of the background.
5. If objects or actors appear transparent, try dragging back the Chroma Key slider and repeating step 4 until the most effective combination has been found.
6. Click Anti Aliasing if jagged edges appear.

Luma Key

Luma Key is used to key out the background based on brightness or luminance. For example white text on black background.

Key/Fill Input

Select another input to use as the Key channel for this input.
The input selected should be grey scale with black representing fully transparent (0) and white as opaque (255).

Colour Correction

vMix allows professional colour correction for every input in addition to the basic tools provided by the Colour Adjust tab.



Colour correction is achieved using the industry standard Lift, Gamma and Gain controls as described below:

Lift: adjusts the dark areas of the image the most (such as shadows)
Gamma: adjusts the colours half way between black and white the most (e.g mid-tones)
Gain: adjusts the bright areas of the image the most (such as highlights)

Basic Auto Correct

The **Basic Auto Correct** button will automatically adjust the **Lift** and **Gain** controls to their optimal levels.

Reset Button



Press the reset button to to reset the levels to default.

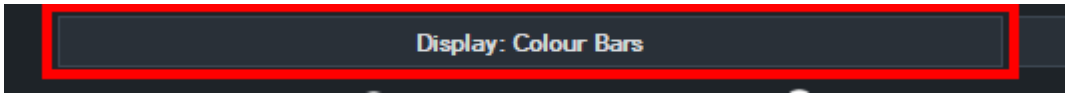
Colour Wheel / Luminance Bar

Drag the white circle in the direction of the colours you wish to boost in the image.



To adjust all colours equally, drag up or down the bar on the right of the colour wheel.

Colour Bars



Press the top button labelled "Display: Colour Wheels" to switch to colour bar mode.



Each of these three bars can be dragged up and down to adjust the Red, Green and Blue levels of the image respectively.

Hue / Saturation

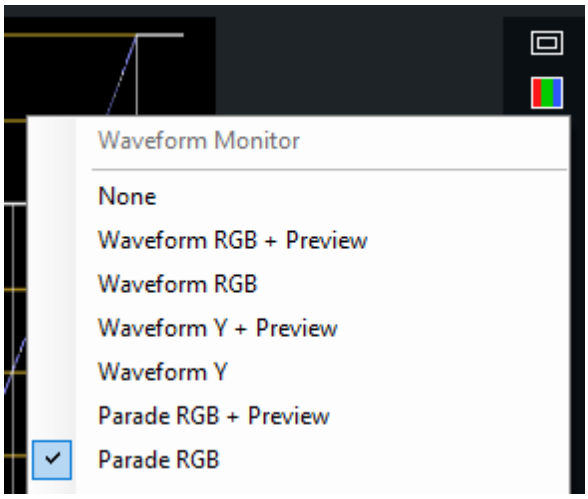
Drag these bars left or right to adjust the image Hue or Saturation respectively.

Presets

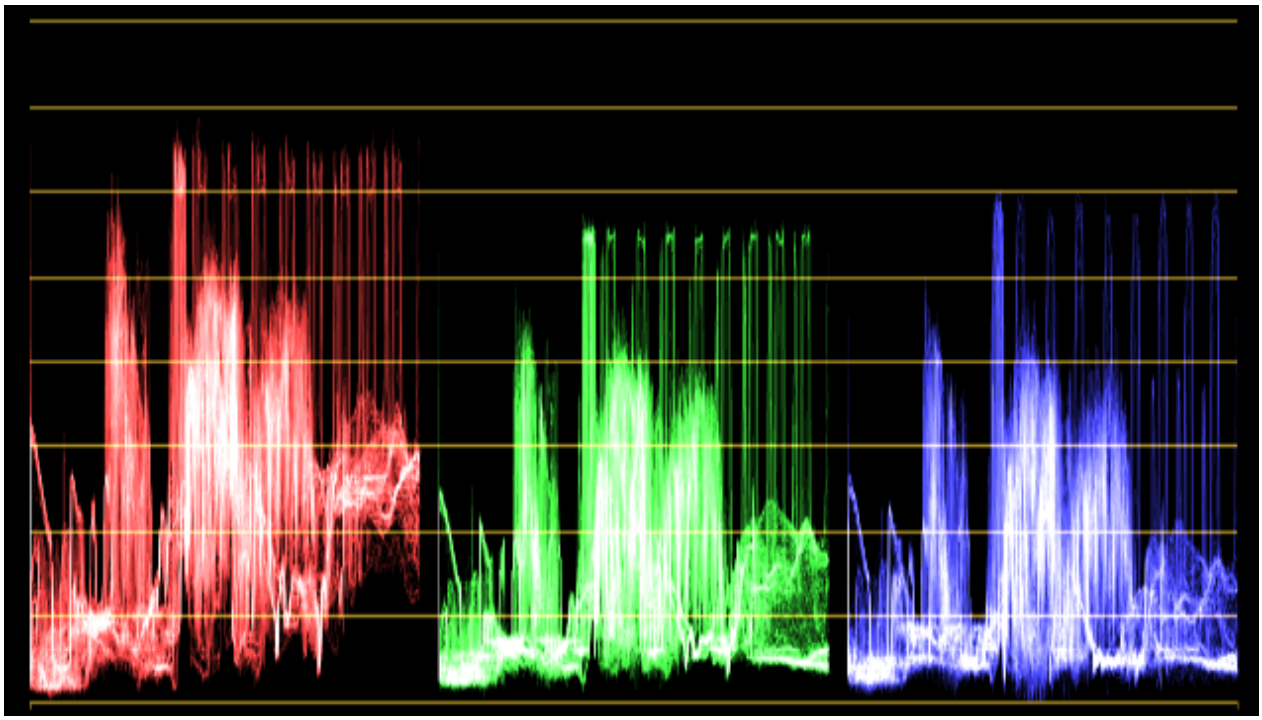
A file containing the Lift, Gamma, Gain, Hue and Saturation settings can be imported and exported from the Presets menu for use in other productions.

Colour Correction Tutorial

The easiest way to visualise how these controls work is to turn on the Parade RGB Waveform Monitor as shown below:

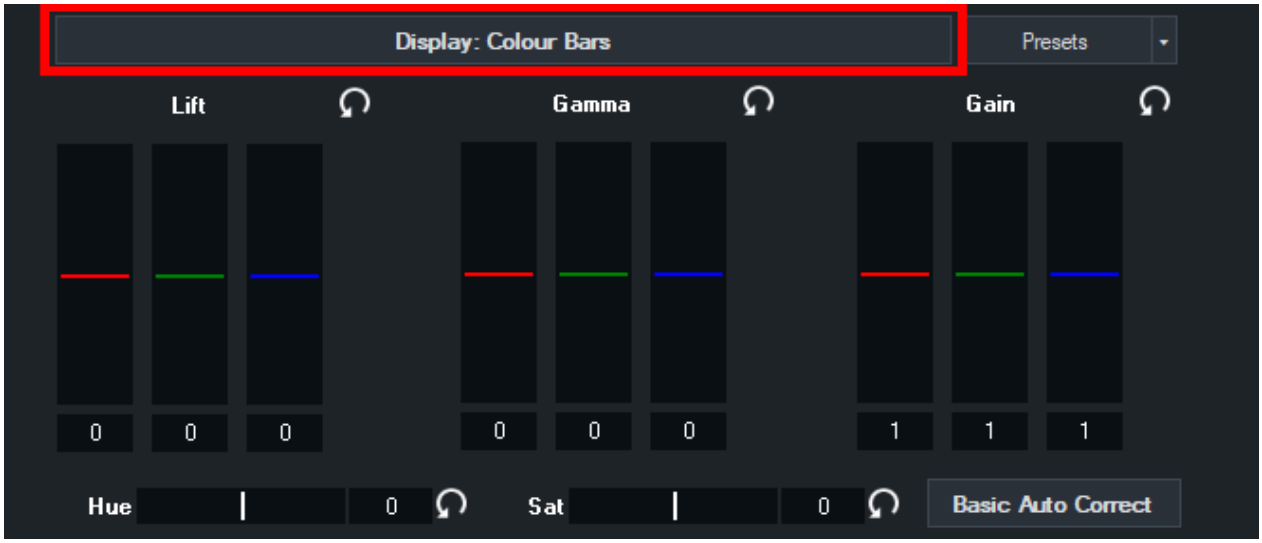


A typical video source in need of correction may look something like the following:

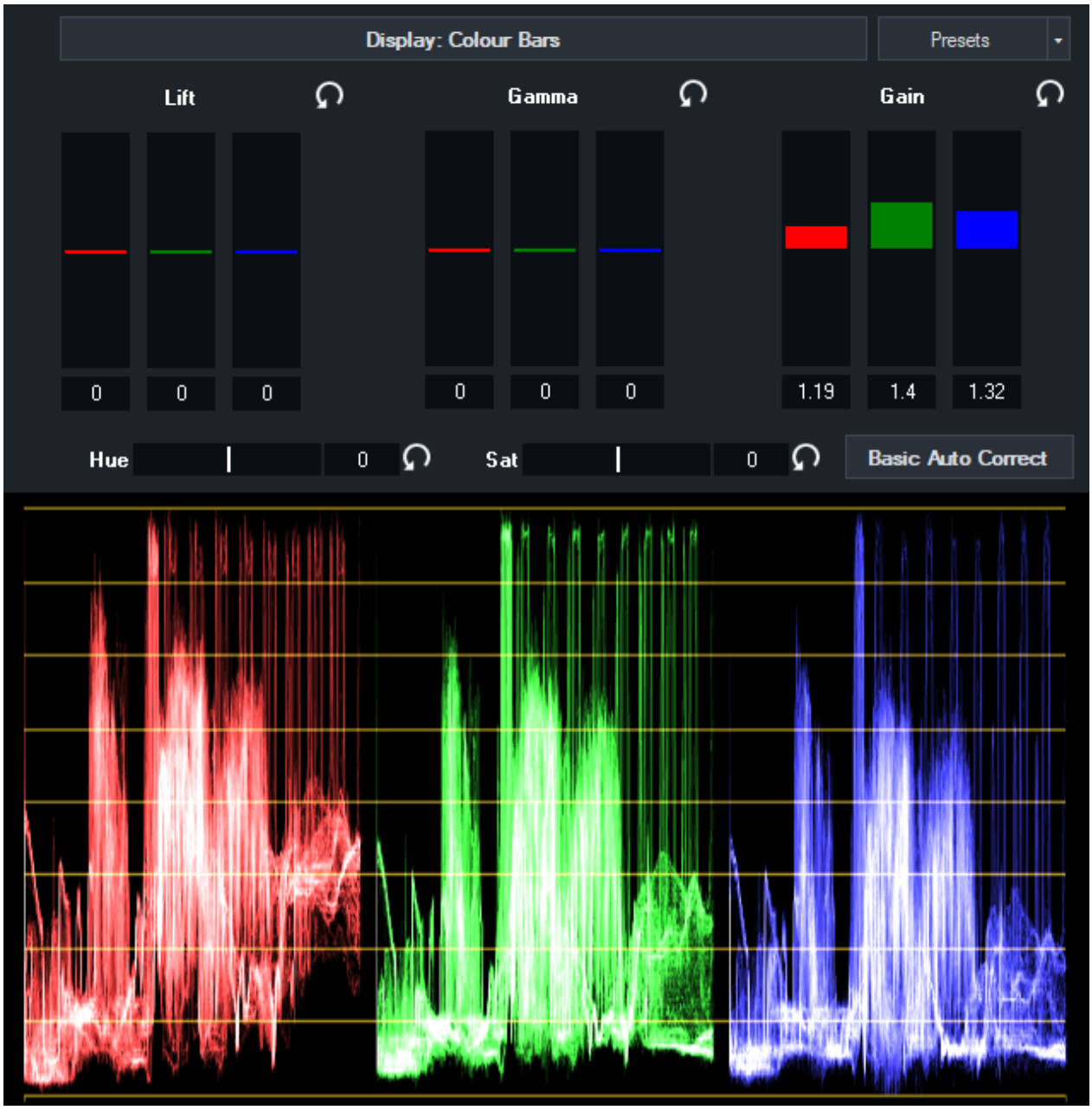


The red green and blue channels will typically look quite similar. In this example however, we can see the highlights (top of each waveform)
are well below optimal brightness.

To adjust these channels so they match, change the colour wheels to colour bars by pressing the "Display: Colour Wheels" button.



Next, slowly drag the red green and blue bars below the **Gain** heading upwards until the waveforms reach the top line.



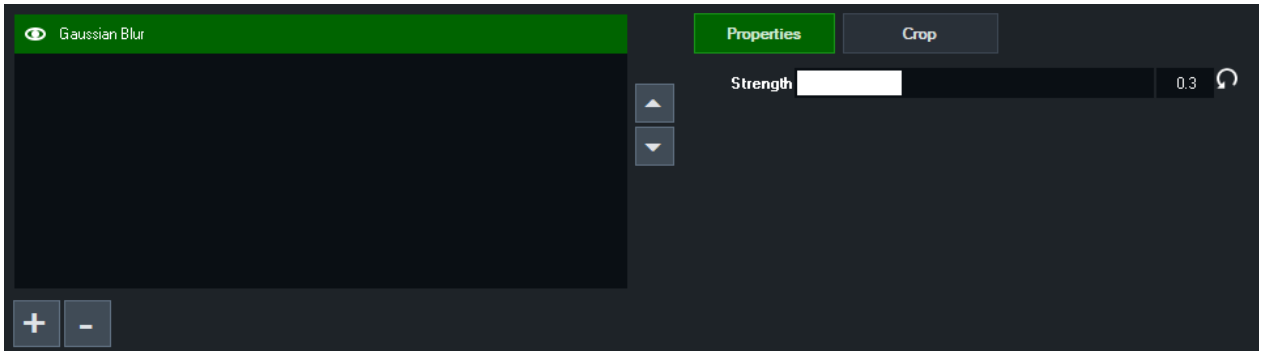
Lift can be used to drag the waveforms towards the bottom line, and finally **Gamma** can be used to adjust the waveform
around the middle of the image.

Switching back to **Colour Wheels** allows us to see how these adjustments look from a different perspective.



As you can see the colour has been shifted slightly towards the blue/green, with a small amount of overall brightness added to all colour channels.
(Black/White bar to the right of the colour wheel)

Effects



Input Effects allow multi-layered effects to be added to any input.

Add Effect

Click the + button to add one of the built in effects.

Order Effects

Multiple effects can be added to the list, with each processed in the order they are added from top to bottom.
Use the up and down arrows to the right of the list to change the order of effects.

Crop Effects

Each effect can have a crop applied that will limit it to a portion of the input only.
For example this could be used to blur just a portion of the screen.

Disable Effects

Effects can be temporarily disabled by clicking the eye icon next to the effect.

Rename Effect

Double click and item name in the list to rename it.

Effect Types

Gaussian Blur

This is a standard blur effect with a Strength property. The higher the strength the stronger the blur.
Note that blur effects are extremely GPU intensive, a blur may use a significant fraction of GPU resources even on a high end graphics card.

WARNING: Blur effects should **not be relied upon** for obscuring sensitive items or people's faces. Adjustments elsewhere in vMix may cause the blur effect to temporarily deactivate at any time, revealing whatever is underneath.

LUT

LUT, short for Look Up Table, is a special type of file that specifies a new colour to apply to every colour within the Red Green Blue 3D colour space.
vMix supports PNG style LUTs (64x64x64 8-bit PNGs as used by OBS) and CUBE style 3D LUTs (as exported by programs like DaVinci Resolve)

Click Browse to select a LUT file to apply and use the strength slider as required.
A strength of 1 replaces all colours with their equivalents in the LUT. A strength less than one blends the original colour with the new colour.

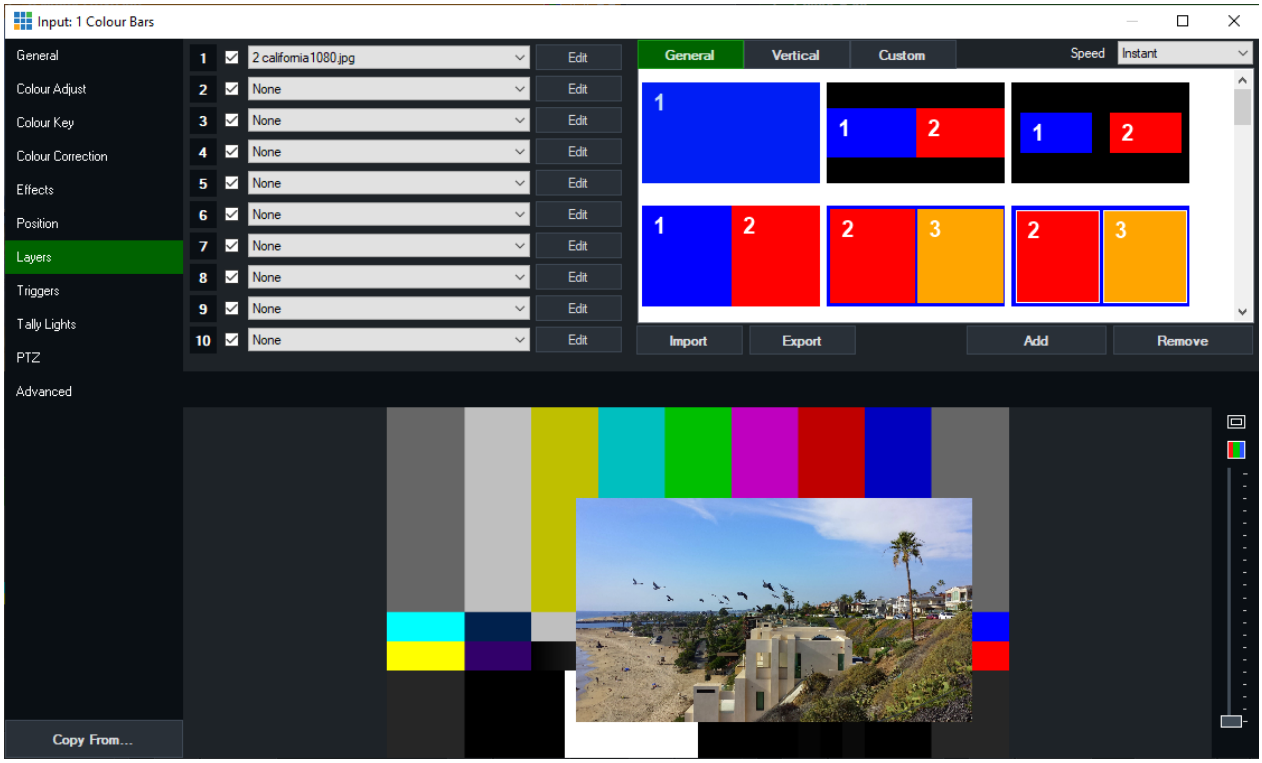
Exporting a LUT with DaVinci Resolve

1. Select the Color section from the tabs along the bottom
2. In the middle sources panel, right click the media with colour corrections you wish to export
3. Click Generate LUT from the menu then select 65 Point Cube.
4. Save the file
5. Go to vMix and add the LUT to an Input from the Effects tab as per the instructions in the LUT section above.

Alpha Mask

This effect uses a shape or transparency information in a PNG file to generate a mask.
All colour information is ignored.
For example a circle of any colour with a transparent background will mask the vMix input so that only the circle area is shown.
Blurring/anti-aliasing the edges of the PNG mask in photo editing software will also lead to a softened edge in vMix.

Layers



Overview

Select up to 10 inputs to display together in one of the selected configurations. For example, split screen and picture in picture.

Each of these inputs can be positioned by dragging the windows within the preview box at the bottom of the window.
Hold down shift while dragging to resize each input. Alternatively click one of the Edit buttons to adjust manually from the Position tab..

The **Layer Designer** can be used to adjust the layers in different ways. **Click here for more information on Layer Designer.**

NOTE: When selecting inputs that have layers of their own, only two layers deep will be rendered. E.G the input, it's layers, and the layers within those layers will be rendered only.

Templates

Once the positions have been configured, the **Add** button on the right hand side can be used to create a template.
This template will be saved outside of vMix presets and sessions allowing custom templates to be used in multiple productions.

Templates are separated into the categories General, Vertical and Custom.
General and Vertical are built-in templates covering widescreen and vertical based workflows.
Custom contains any templates imported via the Import button as described below.

Speed: When changing between templates and optional speed can be specified to move smoothly between then, similar to the **Merge** transition effect.

Import

Import from file a previously exported layout. This layout contains information such as the position, border and cropping of all 10 layers.

Export

Export the position, border and cropping of all 10 layers to file. This can then be imported on other systems as needed.

Add

Click Add to save the current position, border and cropping of all 10 layers to the list of templates.

Remove

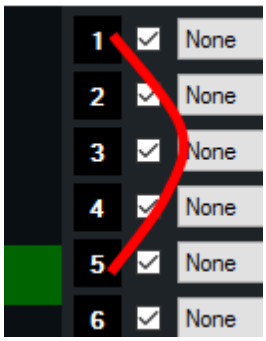
Click Remove to remove the current selected template from the list.

Show / Hide

It is possible to hide a Layer while keeping its settings by unchecking the checkbox

Move / Change Order

Layers can be moved to different numbers by dragging and dropping the number boxes.



Moving a Layer will change its order while preserving all position and cropping information.
This is useful in situations where you want to move an Input so that it appears "on top" of another where 10 is the top most layer.
(This is also known as the Z-Index, or Z-Order)

Layer 10 will always appear on top of Layer 9, Layer 9 on top of Layer 8 and so on.

Edit

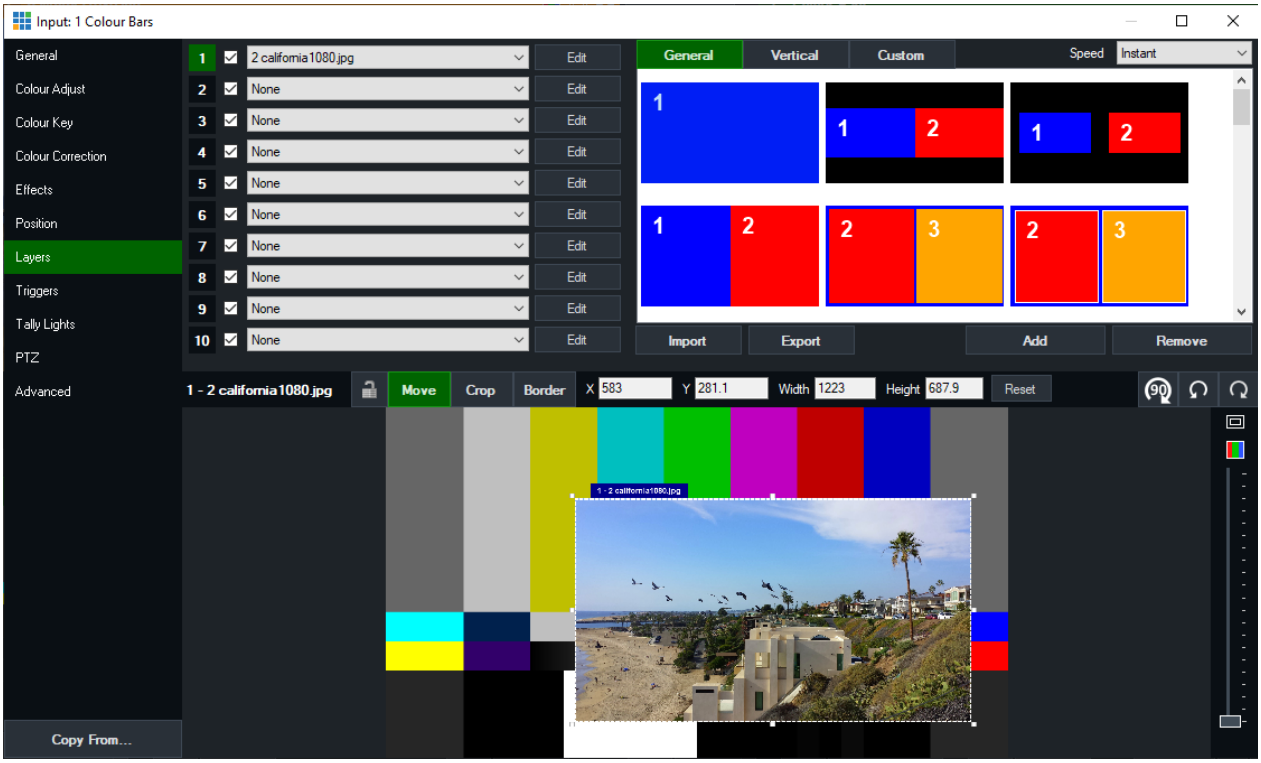
Click edit next to a layer to edit settings such as position, crop and border.

Layer Designer

Layer Designer is a feature found within the Layers tab of Input Settings and allows adjustment of layers in a way similar to the GT Designer for Titles.

Getting Started

In the Layers tab, select an input to use as a layer from one of the 1-10 dropdown boxes.
When at least one layer has been selected the Layer Designer will be displayed as shown below.



Toolbar

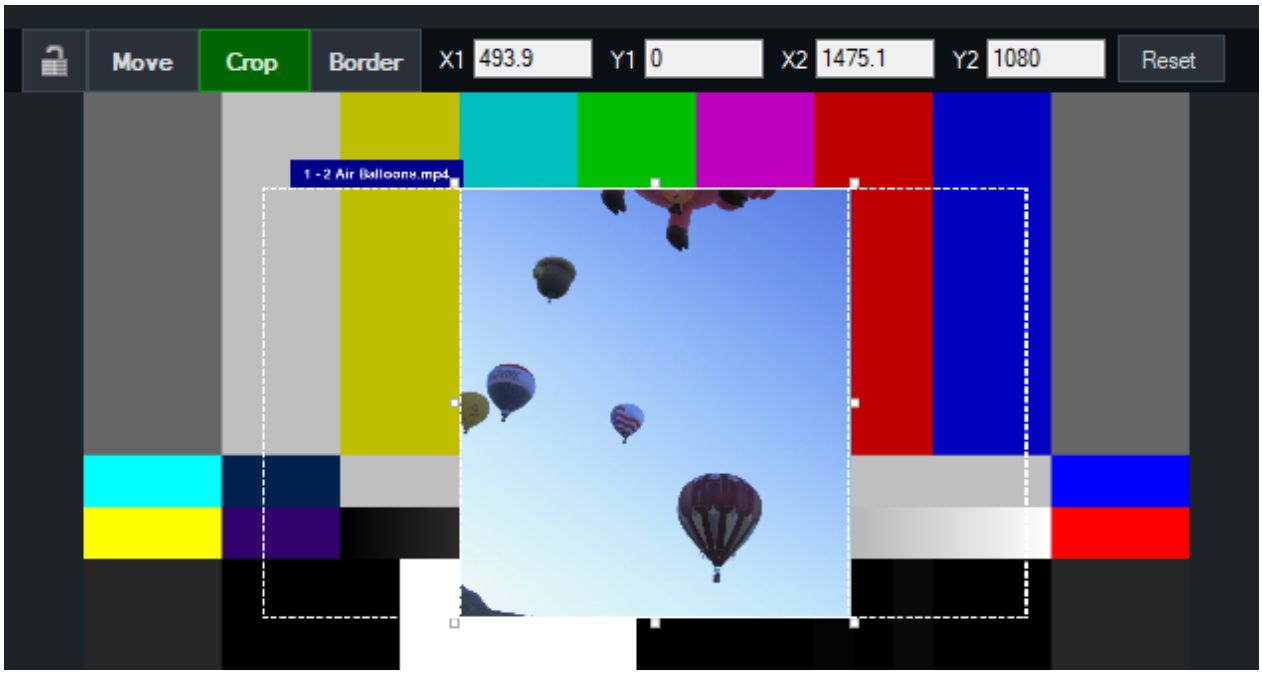
Three different "modes" can be selected from the toolbar: Move, Crop and Border.

Move

Allows moving and resizing of layers.
In addition to the standard drag and drop, and dragging of the corners, layers can also be resized by holding down Shift when dragging the mouse.
To select multiple layers to move at the same time, hold down Ctrl and click once on each layer to select it.

Toolbar values are all displayed in Pixels relative to the Output Size selected in Settings - Display

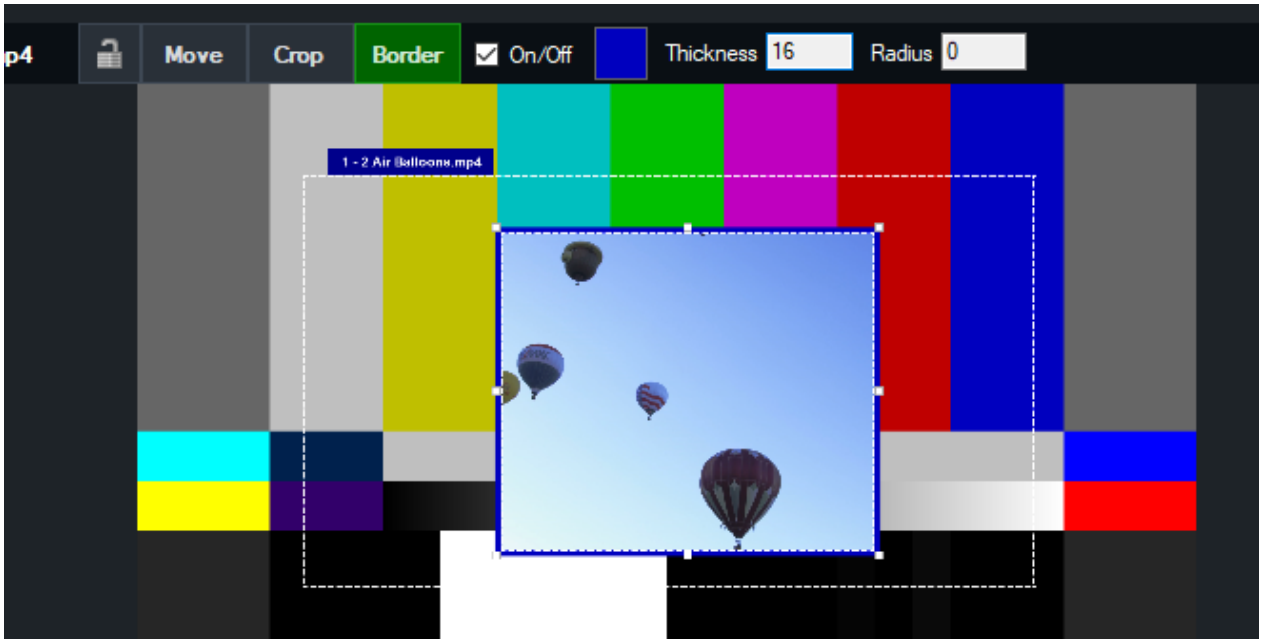
Crop



Crop allows adjusting the visible area of the input within its borders.
Hold down the **Alt** key when dragging to move the crop within the layer.
Hold down the **Shift** key when dragging the corners to move both sides at the same time.

Toolbar values are all displayed in Pixels relative to the Output Size selected in Settings - Display

Border



Border settings such as On/Off, Thickness and Radius can be configured from the toolbar.

Rotate



Click the Rotate 90 button to rotate the layer 90 degrees clockwise each time.

Undo/Redo

Click the Undo/Redo buttons to undo or redo the previous action taken within the layer designer.

Lock

Click the Lock icon in the toolbar to lock the currently selected layer so it can no longer be moved or adjusted with the mouse.
Note that even when locked, the toolbar values can still be adjusted.

Alignment

When dragging a layer with the mouse, green lines will appear to show alignment points the layer can be aligned to.
The layer will automatically "lock" to these lines and require a greater movement of the mouse to unlock again and continue movement.
Various alignment points are used including:

1. Other Layers
2. Lines in the currently selected Safe Areas.
3. The edges of the screen.
4. The centre point.

Position Values vs Layer Designer Values

Internally, vMix uses resolution-independent screen space values for all layers. For example a Zoom of 1= 100%, a Pan of 0 = centred, a Pan of 2 = all the way to the right side of the screen.

The Layer Designer converts in real time between these values and whatever the current Output Size (Preset Resolution) is in Settings - Display.

Additionally, while the Position tab works in 3D space, the Layer Designer is strictly 2D in designer, so any 3D rotations will be ignored.

Finally, the Layer Designer will be automatically disabled, reverting to the behaviour in previous releases whenever the "Main" positions of the input has been changed.

Position

Zoom: Zoom in or out.
Pan X: Pan from left to right
Pan Y: Pan from top to bottom
Rotate: Rotate image from right to left.
Crop X1: Crop from the left hand side
Crop X2: Crop from the right hand side
Crop Y1: Crop from the top
Crop Y2: Crop from the bottom

Each of these options can also be changed for one of the 10 layers through the dropdown menu.

Copy/Paste

The Copy and Paste buttons at the top of the Position window can be used to copy all position, crop and border settings from one layer and apply them to any other layer, evene on a different input. Simply click Copy on the layer to be copied, then go to the Input or Layer to copy to and click Paste.

Source Rotation Button



The source rotation button will adjust for the rotation of the source automatically zooming as appropriate to fit the newly rotated input in frame.
This is useful for inputs like vertical video.
Click the button to rotate 90 degrees each time, click multiple times to continue rotating in the clockwise direction.

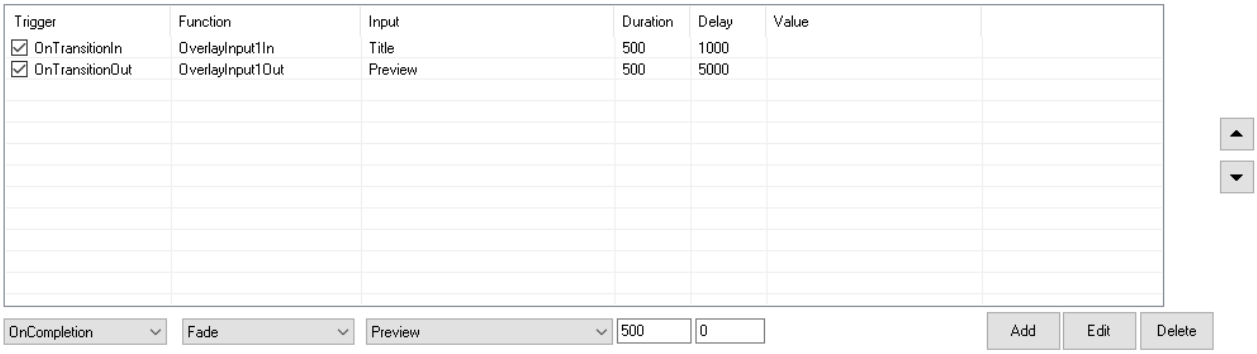
Layer Borders

Borders can be displayed around layers by selecting one of the layers (1-10) in the dropdown box, ticking the Border check box and adjusting the settings as required.

Restrictions and Limitations

- Setting a thickness of only a few pixels in size may not completely cover the edges of the layer. Increase the thickness until the edges are covered as expected.
- A large radius may not completely cover the layer's border. Increase the thickness and/or reduce the radius until the corners are covered.
- The thickness of the border is impacted by the Zoom, so if Zoom is set to 0.5 (50%), the thickness will need to be double that of a 1 (100%) zoom to look the same size.

Triggers



Triggers can be used to automate tasks when an Input either begins a transition (**OnTransitionIn**), begins a transition out (**OnTransitionOut**) or when a video completes playback (**OnCompletion**)
OnOverlayIn and **OnOverlayOut** can also be used when an Input is used as an Overlay
An unlimited number of tasks can be added, with each task running in the order it appears in the list.

In the example above the Title 1 input is turned on as an overlay 1 second after the current input begins a transition. After 5 seconds the overlay is turned off again.

Trigger

- OnTransitionIn
- OnTransitionOut
- OnOverlayIn
- OnOverlayOut
- OnCompletion (applies to video, list, photos and powerpoint inputs when they reach the end assuming

Loop is not enabled).

- OnCountdownCompleted (applies to the title input, when a configured countdown clock reaches 0)
- OnVideoCallConnected (applies to the vMix Call input, when the guest is successfully connected)
- OnVideoCallDisconnected (applies to the vMix Call input, when the guest disconnects from the call).
- OnZoomActiveSpeaker (applies to the Zoom input, when the selected participant becomes the "Active Speaker").
- OnZoomActiveSpeakerWhileInOutput (applies to the Zoom input, when the selected participant becomes the "Active Speaker" but only if the Zoom input is in the output by itself or as a layer of another input that is currently in Output).
- OnZoomActiveSpeakerSelf (applies to any Zoom input, triggers when the participant representing vMix in the meeting becomes the "Active Speaker").
- OnPlaybackTime (applies to videos and audio files, when they reach the specified time during playback, the trigger will run. Note: This trigger only occurs while the video is playing, and may still trigger if dragging the position bar rapidly over the trigger time in vMix while playing)
- OnPlaybackRemaining (same as OnPlaybackTime above, except it is based on the time remaining for the input. The time remaining for a List input for example, covers all videos left to play in the list, including the current video. If Loop is enabled then this trigger will not occur, due to effectively infinite time remaining).
- OnReplayEventsCompleted. Triggered when all events selected for playback have been completed. This will only trigger within the specific Replay input that started the events (such as the A or B input)

Function

Select a task or transition effect (such as Fade, Cut etc)
Note that in order to prevent loops, transition effects have no effect for OnTransitionIn or OnTransitionOut.

Input

Select the Input the Function applies to (if applicable)

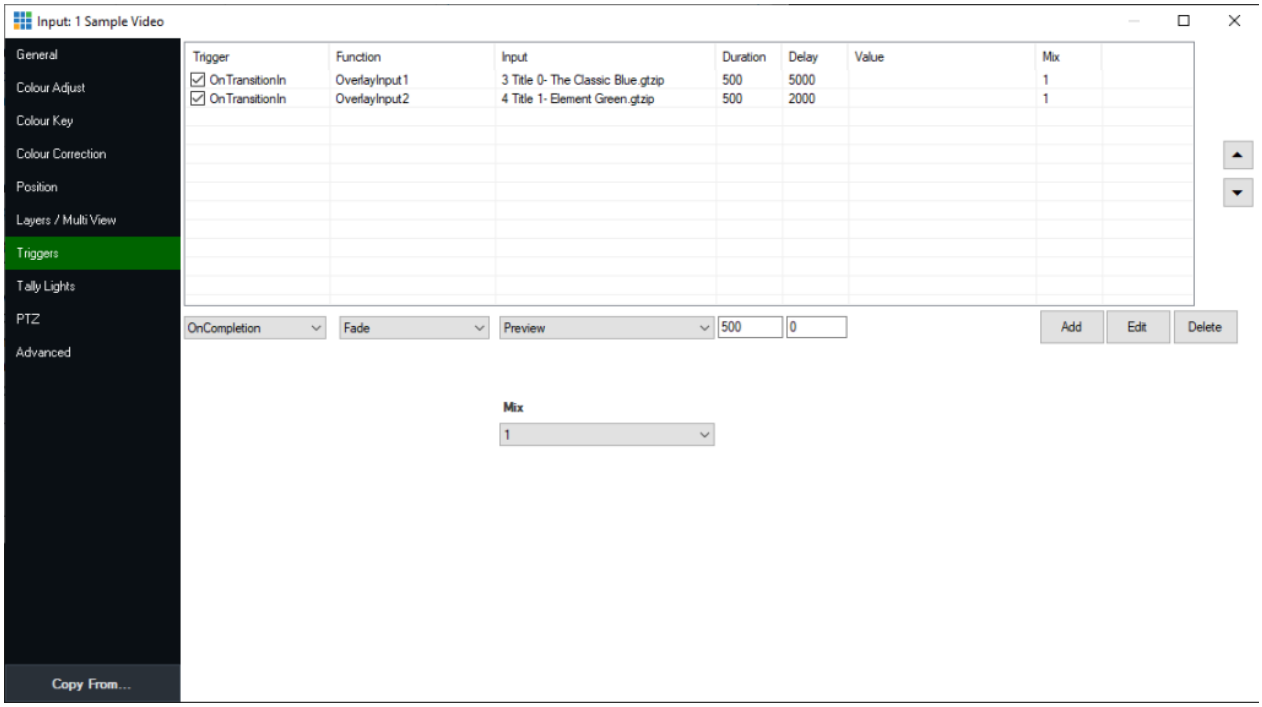
Duration

Select the duration of the transition effect (if applicable)

Delay

This trigger will wait for the selected amount of time (in milliseconds) before completing the selected **Function** and moving on to the next item in the list.

Triggers that use the same triggering name (such as OnTransitionIn) will run one after the other in the order that they are listed. In the example below, the OverlayInput1 function will be triggered 5 seconds after the ‘Input 1: Sample Video’ has transitioned to the main screen, and then an additional 2 seconds after this, the OverlayInput2 function will be triggered.



Important Note: Delay is limited to 30 seconds maximum (30000 ms). Any delay higher than this will be limited to 30 seconds by vMix, to prevent triggers occurring later in a production unexpectedly. Therefore, Triggers should not be used for long running operations, instead look at thePlayList or Scripting features.

Triggers, Layers and Overlays

Triggers will only be activated on the primary input. For example if Input A is setup with Input B and C as Layers, only the Input A trigger will be used.

The exceptions to this are as follows:

OnCountdownCompleted: This always triggers regardless, even if the Input is not currently in any Output.
OnCompleted: This will also trigger if the Input in question is a Layer of the Input currently in Output or is being used as a separate Overlay.
OnPlaybackTime: This always triggers regardless, even if the Input is not currently in any Output.

Tally Lights

See Tally Lights

PTZ

See **PTZ - Pan Tilt Zoom**

Advanced

Filters

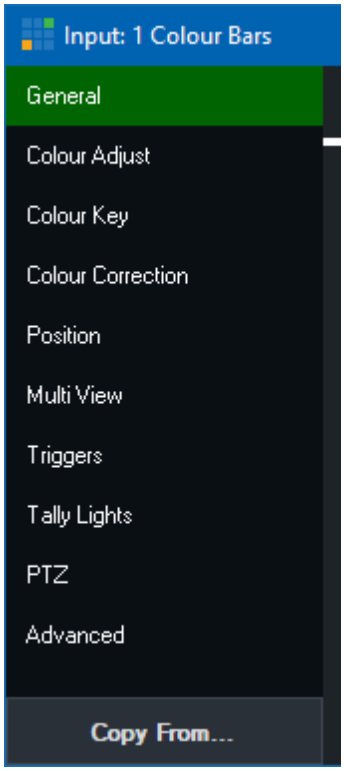
View and change properties for the DirectShow filters used to display this input.

Delay (Capture inputs only)

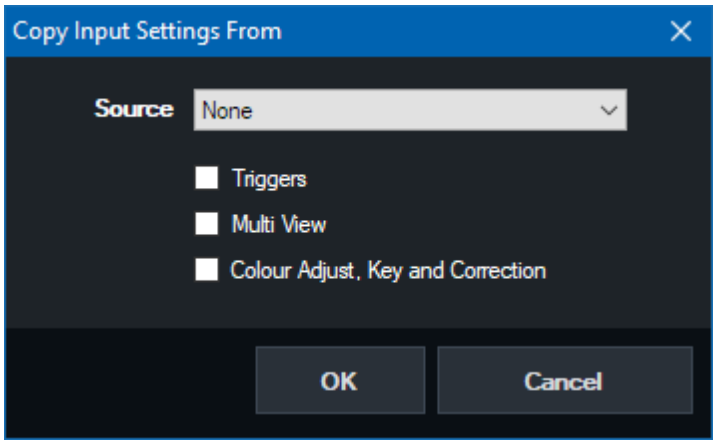
Set a fixed video delay in frames. For example if the capture input is 25p and a delay of 4 is set, this equals a delay of 160ms

Copy From

The Copy From button can be found at the bottom of the left hand side of the input settings window and allows copying settings from another input.



Clicking the button will display a window of multiple settings that can be copied at the same time:



NOTE: To copy settings from one Layer to another, use the Copy and Paste buttons in the **Position** tab instead.

Audio

Audio Mixer

Audio Settings

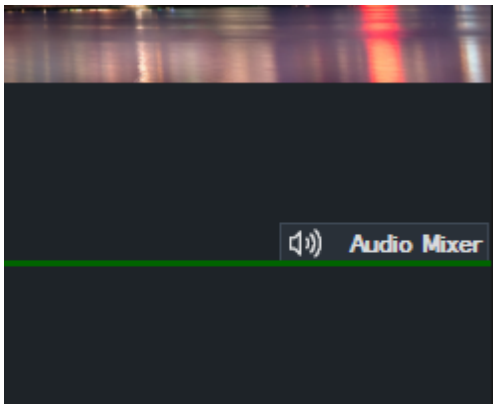
Control settings such as Gain and add effects including Compression, EQ and Noise Gate here

Audio Plugins

Recording Audio

Audio Meters

Audio Mixer



Click the **Audio Mixer** button on the right hand side of the main interface to bring up the Audio Mixer tab as shown below.

Each fader also includes an Audio Level Meter for the Left and Right channels respectively.



Detach Button



The Audio Mixer can be detached from the main vMix window by clicking the **Pin** button.
To dock the Audio Mixer back again, click the **Minimise** button of the detached Audio Mixer window.

Outputs

The **Master** audio mix is displayed here alongside Bus A and B if they have been configured.

Headphones volume can be configured independently by spinning the Headphone volume control knob.



Inputs

Each Input that contains audio will be displayed here.

Audio Settings



Click the cog button to display the **Audio Settings** window.

Solo



Click the Solo (S) button to preview Input audio in the Headphones without affecting the mix.

AFL Mode (After-Fader Listen)

AFL is the default for the Solo button and includes the post-effects post-fader volume and will be audible even if the Input is muted.

PFL Mode (Pre-Fader Listen)

PFL can be enabled via the Audio Settings window.
This monitors audio prior to the fader being applied, but otherwise is the same as AFL.

Note: Solo is non-destructive regardless of mode, it will never impact the level of audio of any Inputs in the Master bus.

Right click the Solo button to Solo multiple inputs at the same time.

Mute



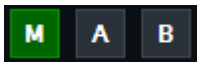
Click the speaker icon to Mute/Unmute an audio input.

Automatically Mix Audio



Click the Green and Orange Arrow button to enable/disable automatic mixing of audio.
This option is also known as "Follow" on traditional video switchers.

Audio Buses



vMix allows for up to eight independent audio buses (including Master) to allow for complex audio routing scenarios including mix minus.

M

M is the Master or Default audio mix and is sent to Recording, Streaming and External Output.

A, B, C, D, E, F, G

These are seven additional audio mixes that are sent to the respective Audio Output devices configured in the **Audio Outputs** settings window.

Click the M, A or B buttons underneath each input to configure each independent each mix. By default all new inputs will be sent to the Master mix only.
To enable or disable mixes C-G right click the A or B buttons to display a selection menu.
The selection menu also has an option to "Show all Bus Buttons" within an audio mixer using smaller buttons.

Sending Audio Bus to Master

Click the M button underneath buses A-G to include the audio in Master and Headphones.
Note: vMix Call Master/Headphones audio excludes any buses sent to master using this method as doing so would prevent mix minus from working correctly.

Bus Mixer

Each input includes a bus mixer to independently control the volume sent to each bus independently.
This can be found in the **Audio Settings** window.

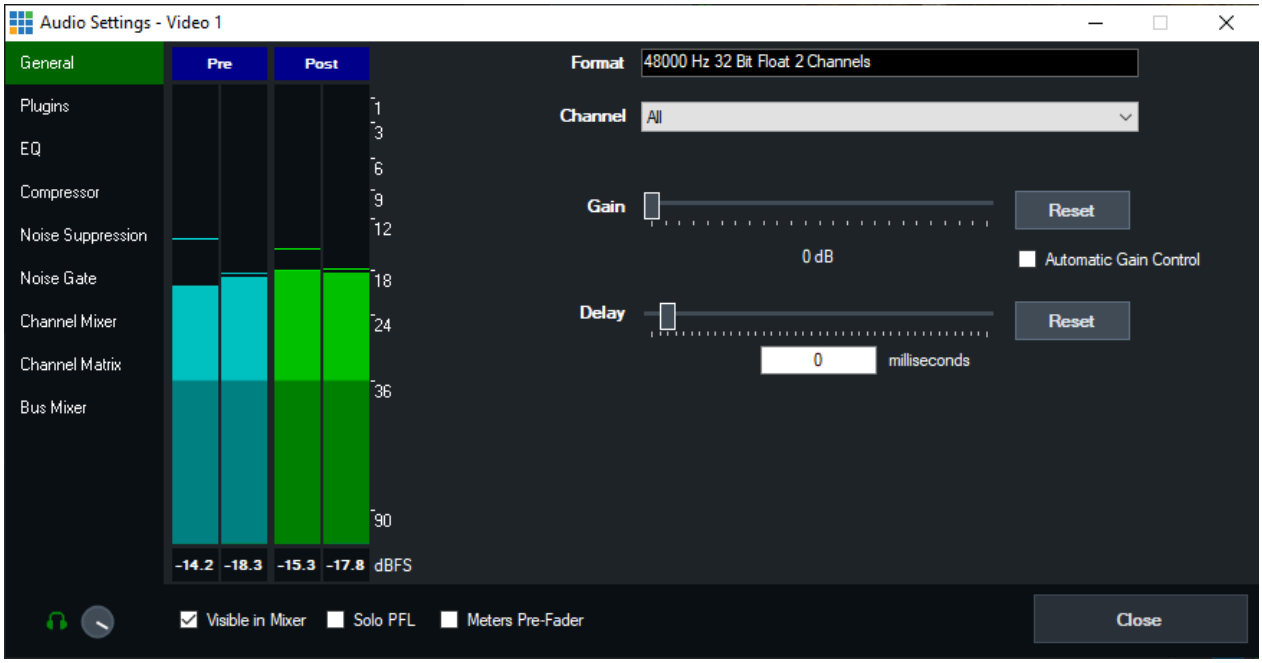
Note: The Speaker/Mute  **button controls the audio for all audio buses not just the Master or M bus.**

Collapsing Mixers

All mixers can be collapsed and restored by right clicking the Title of the mixer.



Audio Settings



General

Headphones Volume



Each audio input can have its own independent headphones volume set.
This is great for situations where you want an audio source such as a microphone audible on the final recording or stream but do not want to hear
it in your own headphones as the slight audio delay coming from your own microphone can be disorienting.

The headphones volume circle can be dragged up to move to the right (more volume) or dragged down to move to the left (less volume).
Or the headphones icon can be clicked to toggle between full volume (green) and muted (grey).

Headphones Post Master Fader: This checkbox is available in the Master audio settings. When ticked the Master volume level will contribute to the headphones level as well.

Pre / Post

These audio meters can be used to monitor the audio audio at the pre-effects stage (for any effects, volume or gain, including delay)
and the post-effects stage (after all effects, volume, gain and delay have been applied)

Format

Displays the current audio format of the input

Channel

Select the audio channel to use for this input.

If you have a Microphone plugged into the left channel or right channel independently. Select **SeparateMono** here.
Separate mono allows you to adjust the volume of both mono channels independently from the Audio Mixer. The audio from each microphone will be audible on both the left and right channels simultaneously.

For finer control of how different channels are mixed. See **Channel Mixer and Channel Matrix** below.

Gain

Select the gain (or amplification) in decibels.
Gain is added after the compressor. (See below)

Delay

Delay the audio source in milliseconds

Visible in Mixer

Untick this box to hide this Input from being displayed in the Audio Mixer.

Solo PFL

Enable PFL when using the Solo button.
[See the Solo section under Audio Mixer for more information.]

Meters Pre-Fader

Set the audio meters for this Input to be pre-fader. These are the meters displayed in the main user interface, multiview output and the Post meter in this window.

Plugins

See **Audio Plugins**

EQ



Compressor

Compressor is a standard dynamic audio compressor.



Ratio: Specify a Ratio other than 1:1 to turn on the compressor.
Threshold: Specify the sound level for compression. Any audio above the threshold will be compressed (volume reduced) according to the ratio above.

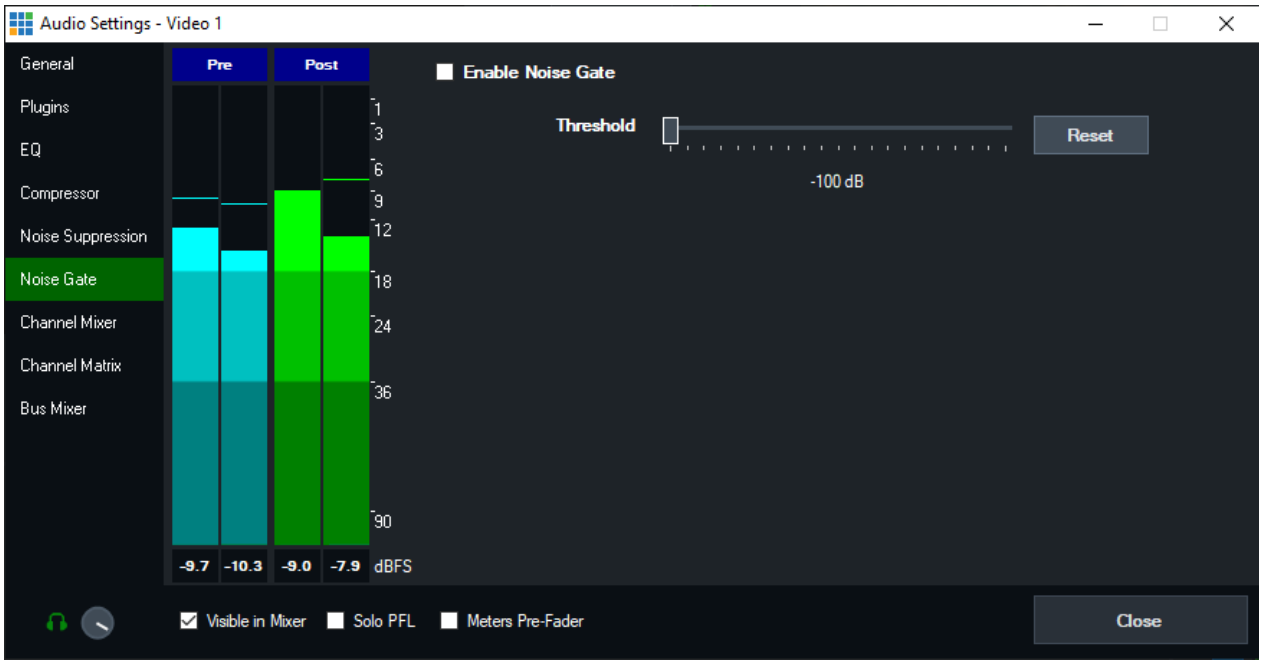
Noise Suppression



RNNoise: A built in option for basic noise suppression
NVIDIA Audio Effects Denoiser: This option requires an RTX series graphics card and the Audio Effects SDK downloaded and installed from the NVIDIA web site.
NVIDIA Audio Effects Dereverb Denoiser: Same as the above option with the addition of a dereverb filter.

Noise Gate

The Noise Gate is a handy way of reducing noise on an Audio Input such as a Microphone
It works by quickly fading out the audio when it drops below a certain dB (decibel) Threshold



Channel Mixer

The channel mixer can be used to set the volume level of individual channels.
An independent audio meter is also available for each channel.

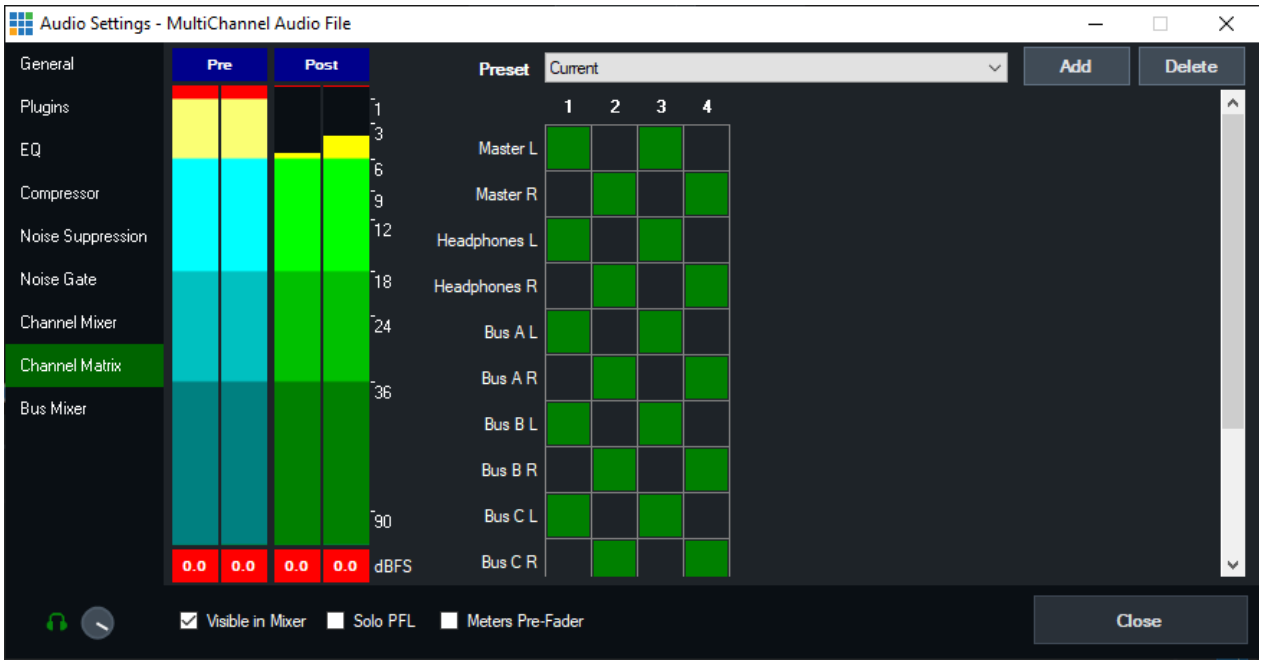


Channel Matrix

Channel Matrix is an 16x16 audio router built in to every input.

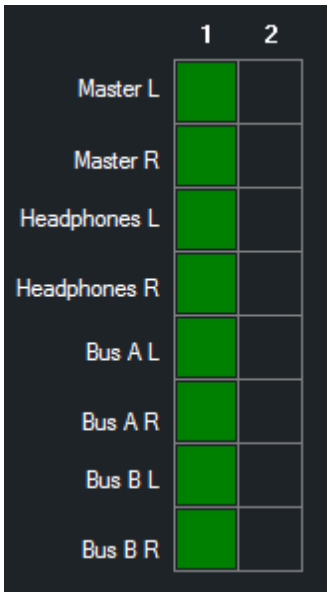
This can be used for simple setups such as routing a mono Microphone channel to both Left and Right, all the way up to advanced scenarios
where each of the independent NDI or SDI Embedded audio channels can be routed to one of the eight stereo audio buses.

Each column represents a source channel, each row represents a destination bus that the channel can be routed to.

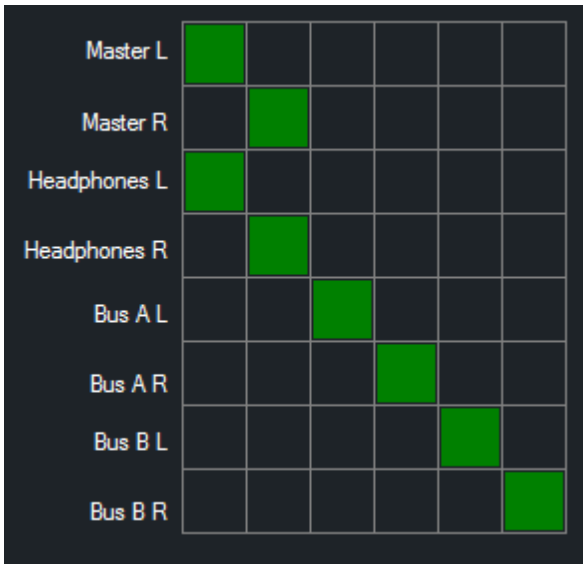


Example: Convert Mono Microphone on Channel 1 to Stereo

Click all the boxes so they are green like the following:

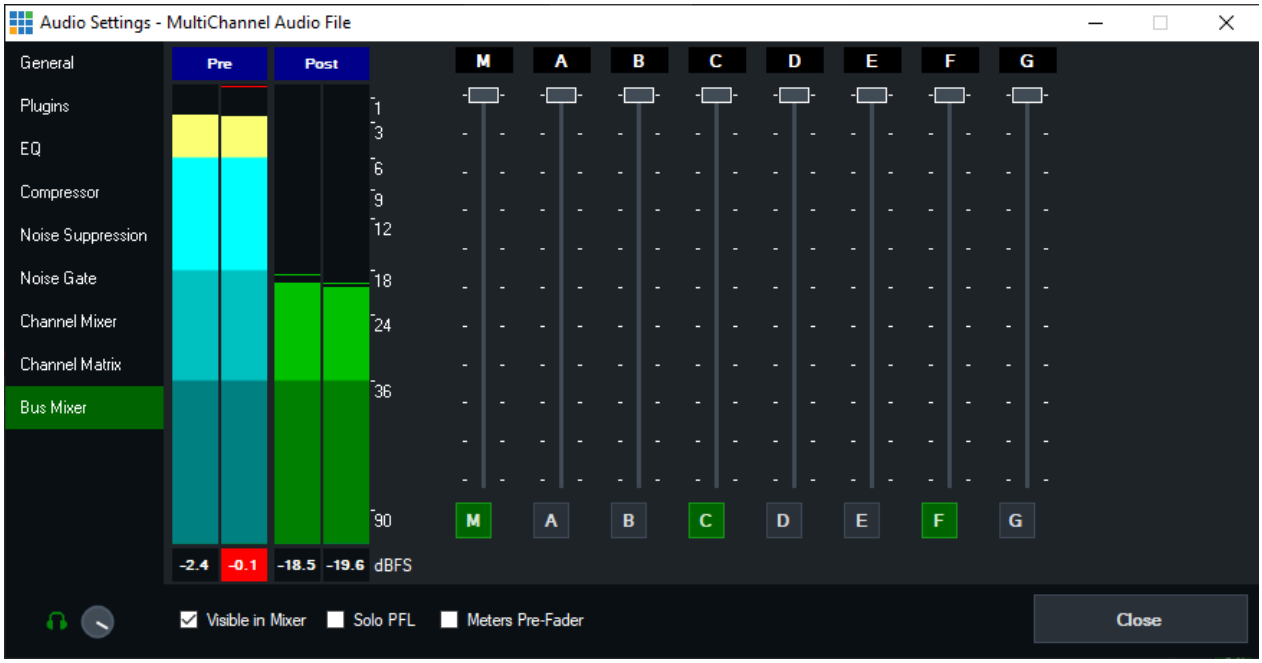


Example: Route 3 independent stereo audio language pairs to the 3 output buses.



The first two channels are routed to Master/Headphones L+R, the second two are routed to Bus A L+R and the final
two are routed to Bus B L + R.

Bus Mixer



Control all Bus volumes and mute for an Input

Audio Plugins

The Audio Plugins feature allows adding 3rd party audio plugins to inputs and outputs in vMix.
vMix supports all 64-bit VST3 audio plugins. VST3 is a popular audio plugin standard by Steinberg commonly used by DAW (Digital Audio Workstation) software.

Note: Plugins are not supported on List inputs. Instead consider adding the plugin to an audio bus and sending that bus to master.

Installing audio plugins

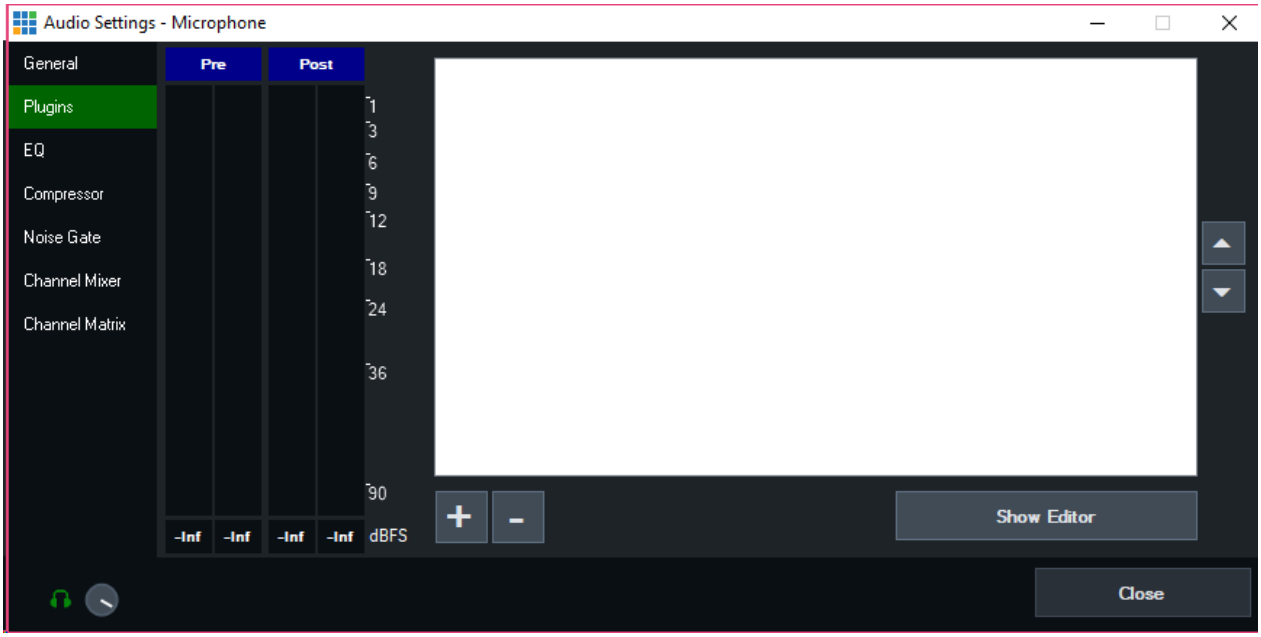
To install an audio plugin, simply install it to the computer using the provided installer from the plugin vendor. Once installed, it will appear automatically in vMix without any additional configuration required.

Adding an audio plugin to an Input or an Output Bus

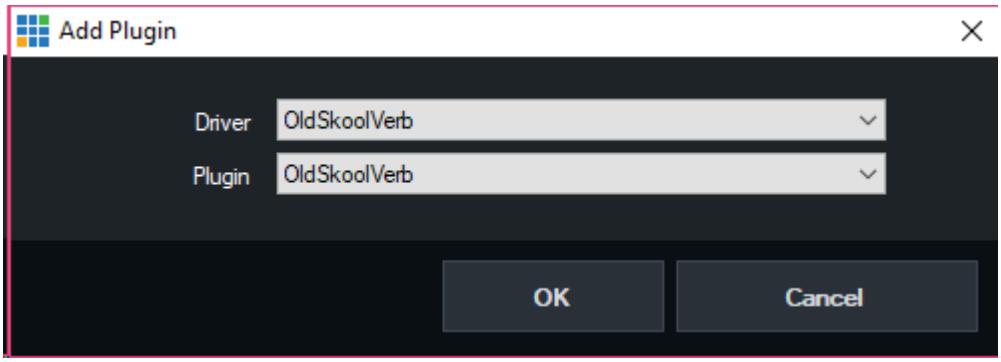
1. Open the Audio Mixer in vMix by clicking the Audio Mixer tab in the middle right of vMix.

2. **For Inputs:** Locate the mixer for the audio input and click the cog icon to open up Audio Settings.
For Audio Buses: Locate the audio bus such as Master and click the cog icon to open up Audio Settings.

3. Click the Plugins tab as shown below:



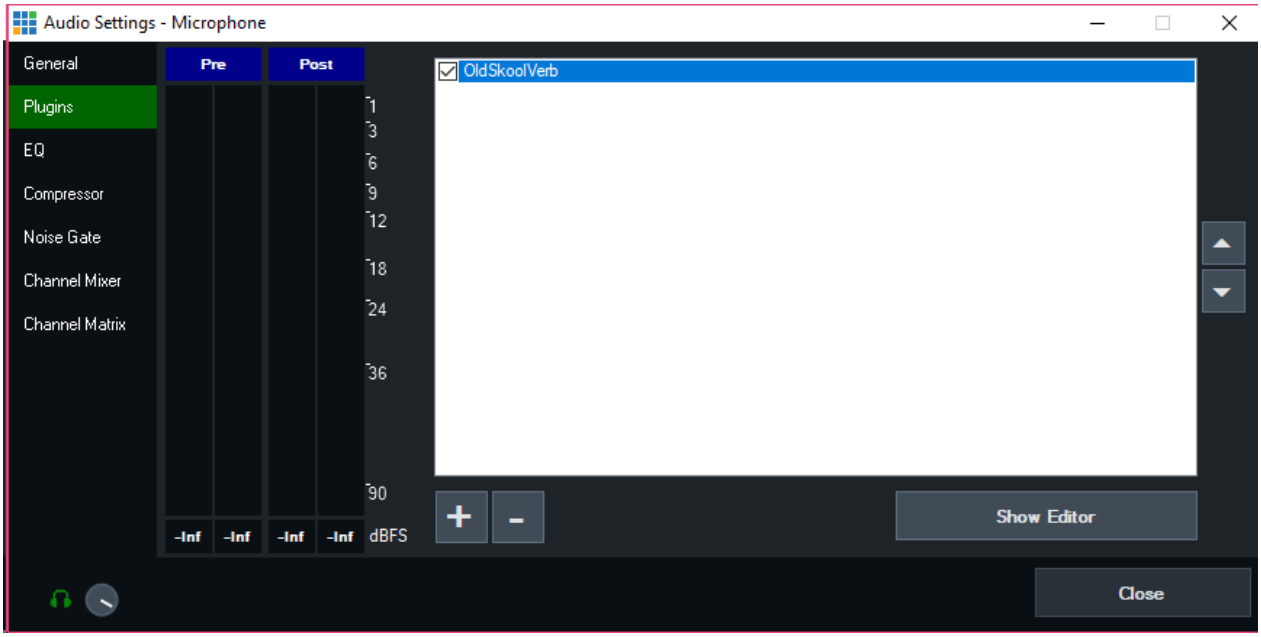
4. Click the + button to add a new plugin.



Select the plugin to add from the Driver and Plugin dropdown boxes and click OK.
There are two boxes because some plugins may have multiple variations available within a single plugin set.

In the above example the free "OldSkoolVerb" plugin has been selected, which is an audio reverb plugin.

5. Once added, the plugin will appear in the list. To configure the plugin's settings click **Show Editor**.



Temporarily turning on or off individual plugins

A checkbox next to each plugin in the list can be used to turn on or off that plugin.

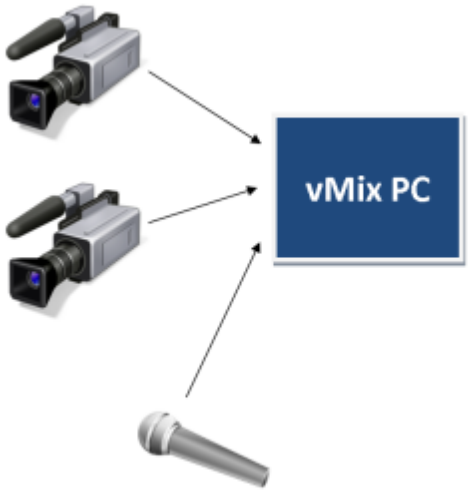
Adjusting the plugin processing order

Plugins are applied to the audio in the order they appear in the list starting from top to bottom.
The two arrow buttons at the right side of the list can be used to change the order.

Recording Audio

There are a number of ways to use audio in a vMix production. A couple of these approaches are described below including an advanced setup using an external audio mixer.

Basic - Use the built in vMIx Audio Mixer



In the diagram above, all audio sources such as Microphones and Cameras run directly into vMix.

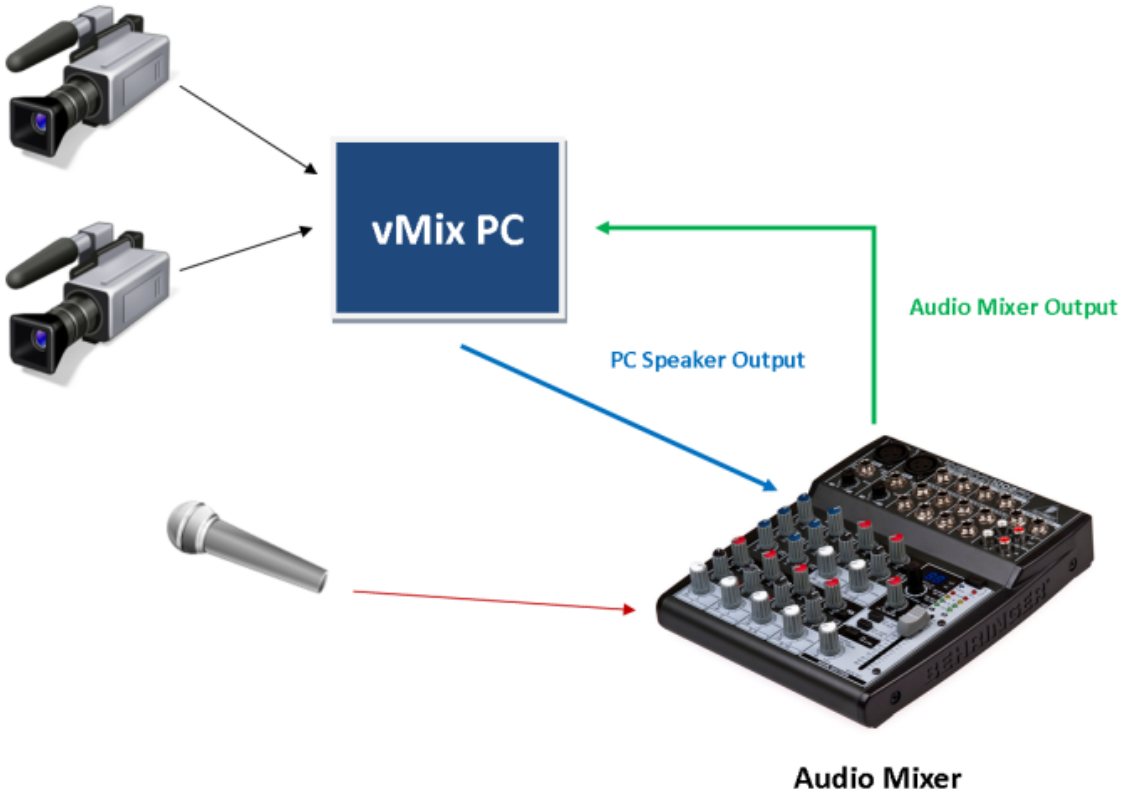
vMix provides a built in fully functional professional audio mixer with built in EQ, Compression and Gain

controls.
More details can be found in the **Audio Settings** section.

The **Master** audio mix includes all inputs in vMix, including Cameras, Microphones and Videos and will be recorded according to the levels set in the built in **Audio Mixer.**
Make note of the **Automatically Mix Audio** setting as this determines if audio sources are automatically muted when not in use.

Multiple microphones can be connected to your vMix PC using a USB ASIO audio interface, such as from Behringer, M-Audio, Focusrite and others.
The **Behringer UMC404** is an example of an audio interface that supports up to 4 XLR microphones and each can be added separately to the vMix audio mixer for independent control.

Advanced - Using an External Audio Mixer



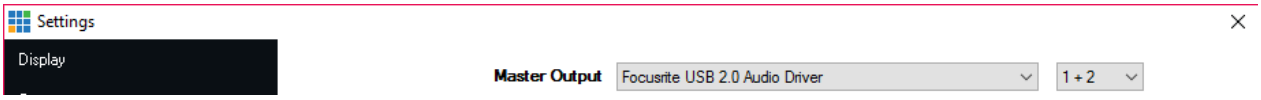
In the diagram above, all external audio sources such as Microphones are connected to a separate external **Audio Mixer**.

There are two connections that need to be made to vMix:

1. vMix Audio Output connected to External Audio Mixer Input

This contains all the audio from vMix inputs such as video clips.
This can be connected using a stereo audio cable from the computers built in Speaker Output or a USB Audio Interface such as the Behringer UMC404.
Many Audio Mixers include built in USB connectivity which is recommended to ensure the highest possible audio quality.

Regardless of which output method you choose, this output can be selected under the **Master** option **Settings -> Audio Outputs** in vMix



2. External Audio Mixer Main Mix / Output connected to vMix

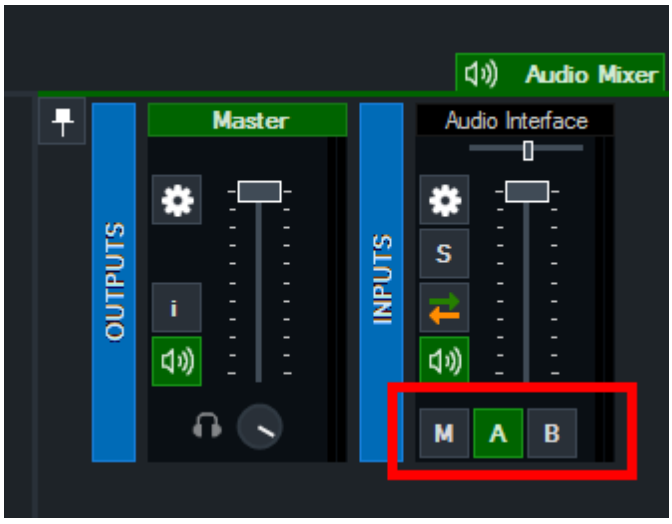
This is the final audio mix that should include all audio needed for the recording and stream.
This connection from the mixer to vMix can be made using a USB Audio Interface or the built in USB capabilities of some audio mixers (recommended)
Or using the Line In / Microphone input on the computer. If using the computers Line In, be sure to confirm the audio mixer output is "unbalanced".
As "balanced" audio signal will result in heavily muted and/or distorted audio.

Finally, to add this audio mix to vMix, follow the instructions below:

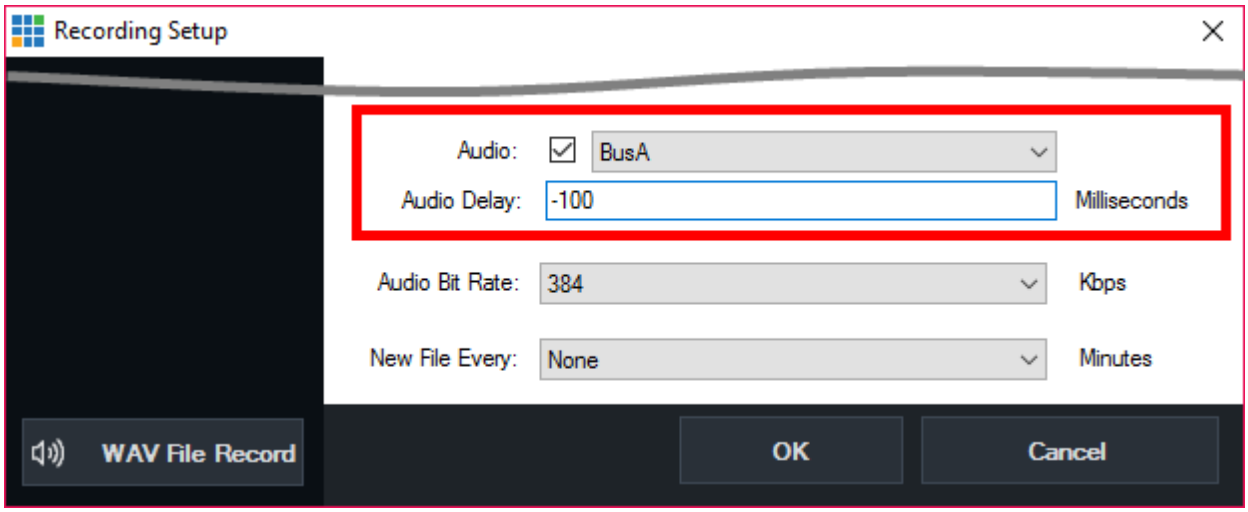
1. Click Add Input in vMix and select Audio Input
2. Select the Audio Device and optionally the Channel(s) and click OK.

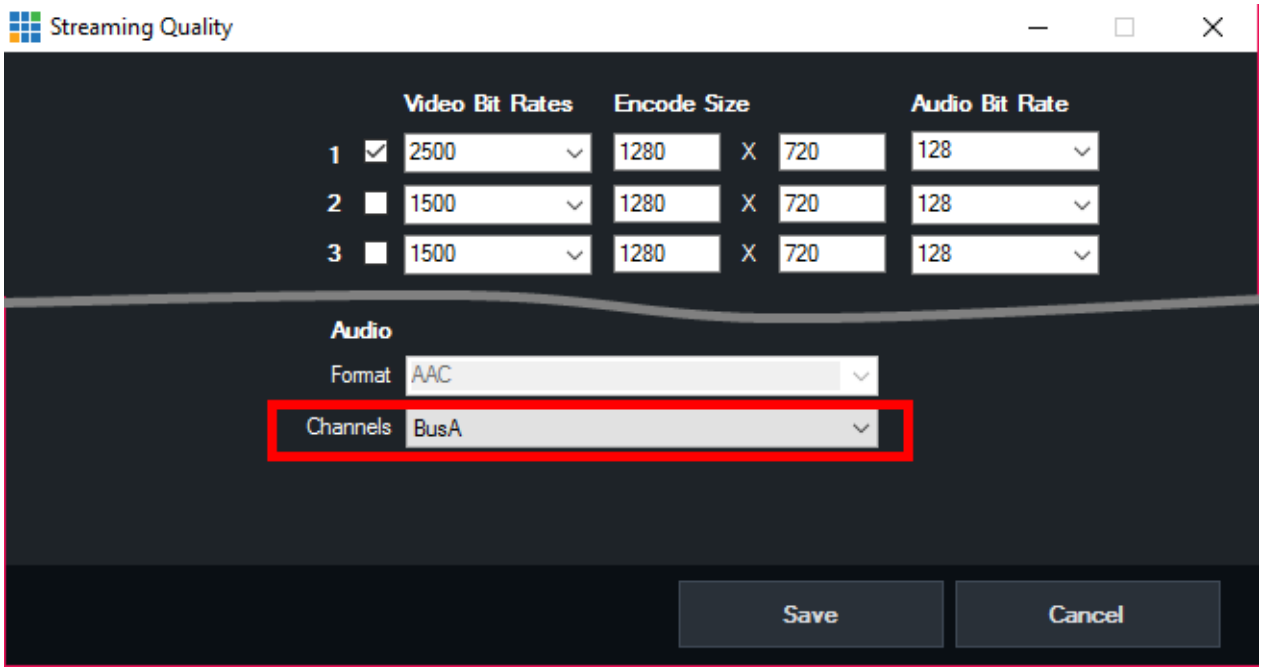


3. Open up the vMix Audio Mixer and turn off the "M" bus and enable bus "A" instead.



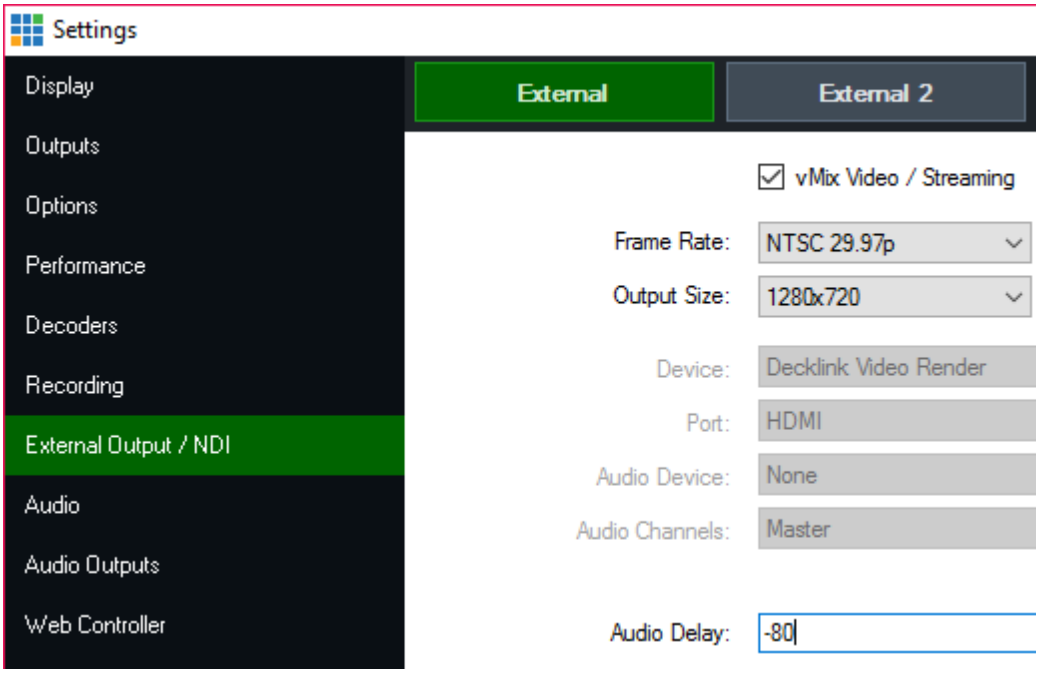
4. From **Recording Setup**, select BusA as the audio source and also from **Streaming Settings -> Quality** as shown below:





5. A negative audio delay should also be used to compensate for the delay of routing all audio externally. This can be done from the **Recording Setup** window and also **Settings -> External Output** for the Stream

You may need to adjust this to suit your particular setup, but in general a delay of -80 for 30p and -100 for 25p works best.



Audio Meters

vMix displays Audio Meters in four different locations:



1. Main interface (next to transition buttons)

2. Next to each Input containing audio

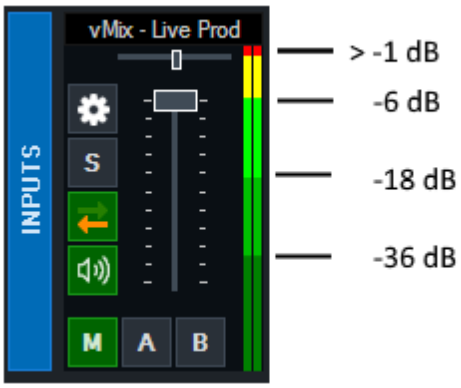
3. Audio Mixer

4. Audio Settings

Each audio meter will display green levels when the audio is turned on and blue levels when muted.

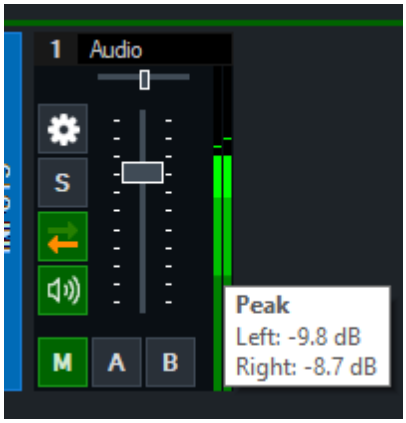


The audio meters are also colour coded into 5 distinct bands to make it easy to determine the approximate audio level at a glance.



Levels are always displayed in dBFS (digital "full scale") where 0 dB equals the maximum possible volume for a given bit rate.

Peak Levels



So see the maximum peak levels of an audio source at any time, hover the mouse over the audio meters. The peak level displayed here is calculated as the maximum audio volume (amplitude) received in the past ~2 seconds.

The peak is also indicated as a line that holds above the updating meters to show the maximum in the past ~2 seconds.

Output Audio Channels

vMix supports eight independent stereo audio mixes or buses called Master (or M), A, B, C, D, E, F and G. The output of this audio mixes can also be independently selected for the Recording, Stream and External Output as described below.

Enabling an Audio Bus/Mix

The Master mix is enabled at all times however, the A to G buses will only be enabled if a device is selected from the dropdown.

To enable the A to G buses, do one of the following in**Settings -> Audio Outputs**
1. Select **Enabled** from the dropdown box.
or
2. Select from the dropdown a free device and channel on an audio device (such an ASIO audio interface)

Audio Mix Channel Options

Master: 2 Channel Master mix
BusA: 2 Channel A mix
BusB: 2 Channel B mix
MA: 2 Channel Master + 2 Channel A (4 channels)
MAB: 2 Channel Master + 2 Channel A + 2 Channel B (6 channels)
MABC: 2 Channel Master + 2 Channel A + 2 Channel B + 2 Channel C (8 channels)
MABCDEFG: 16 channels

Selecting the Audio Mix

Recording

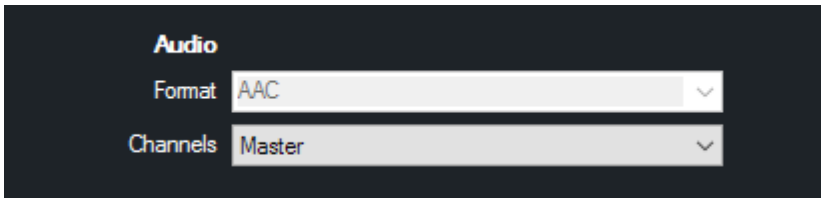
Select the audio mix from the dropdown box next to Audio in **Recording Setup**



**NOTE: Only the AVI video format and the WAV File Record options supports more than 2 channels, if a 4 or 6 channel option is selected here for other formats
then only the first 2 channels will be included.**

Streaming

Select the audio mix from the Channels dropdown box in **Streaming Quality Settings**



External Output

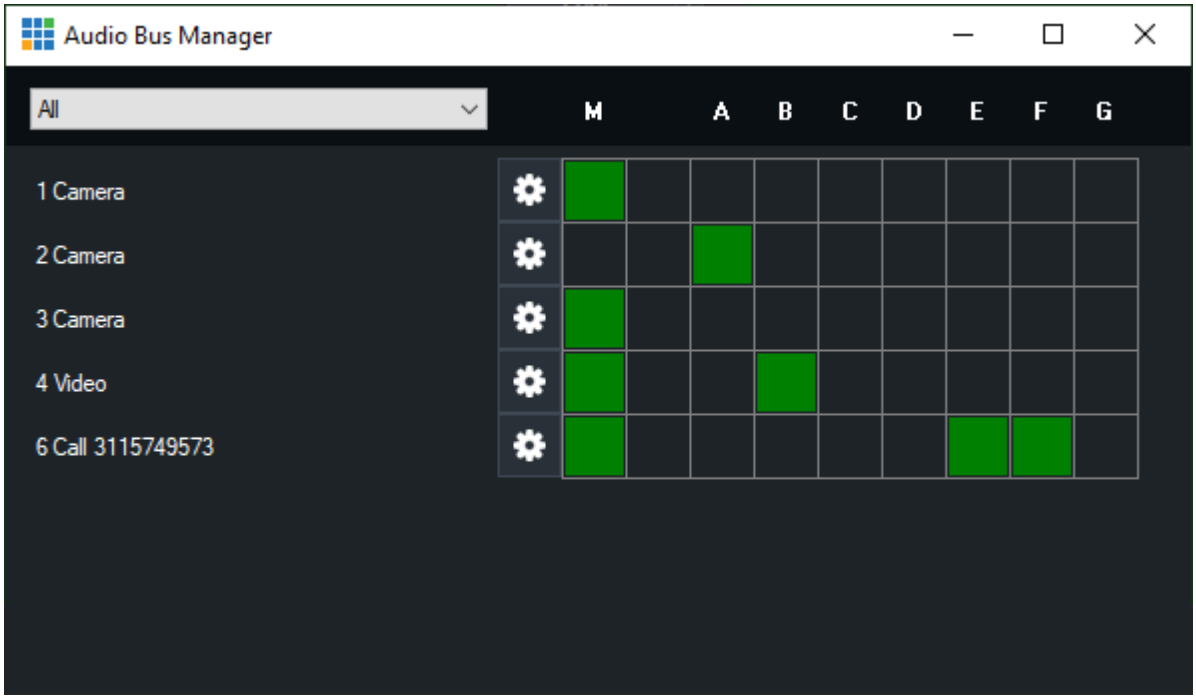


Select the audio mix from the Audio Channels dropdown box in **Settings -> External Output**

AJA and Blackmagic devices support 2, 4, 6 and 8 channel output. When embedding up to 8 channels in SDI, the remaining
8 channels will be left silent.

Audio Bus Manager

Open up the Audio Bus Manager from the menu in the bottom right hand corner of the main vMix window.



Audio Bus Manager allows bus assignments for all inputs from a single window.

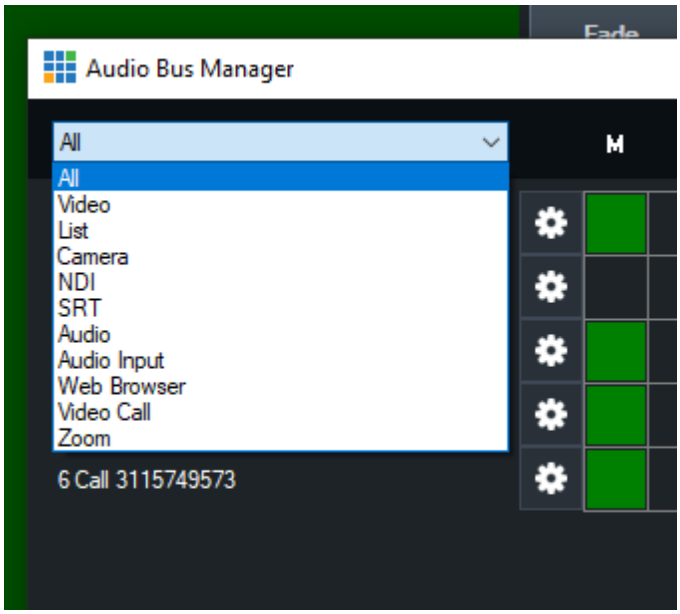
Click the squares within the grid to turn on or off a bus for a particular input.

Input Bus Mixer

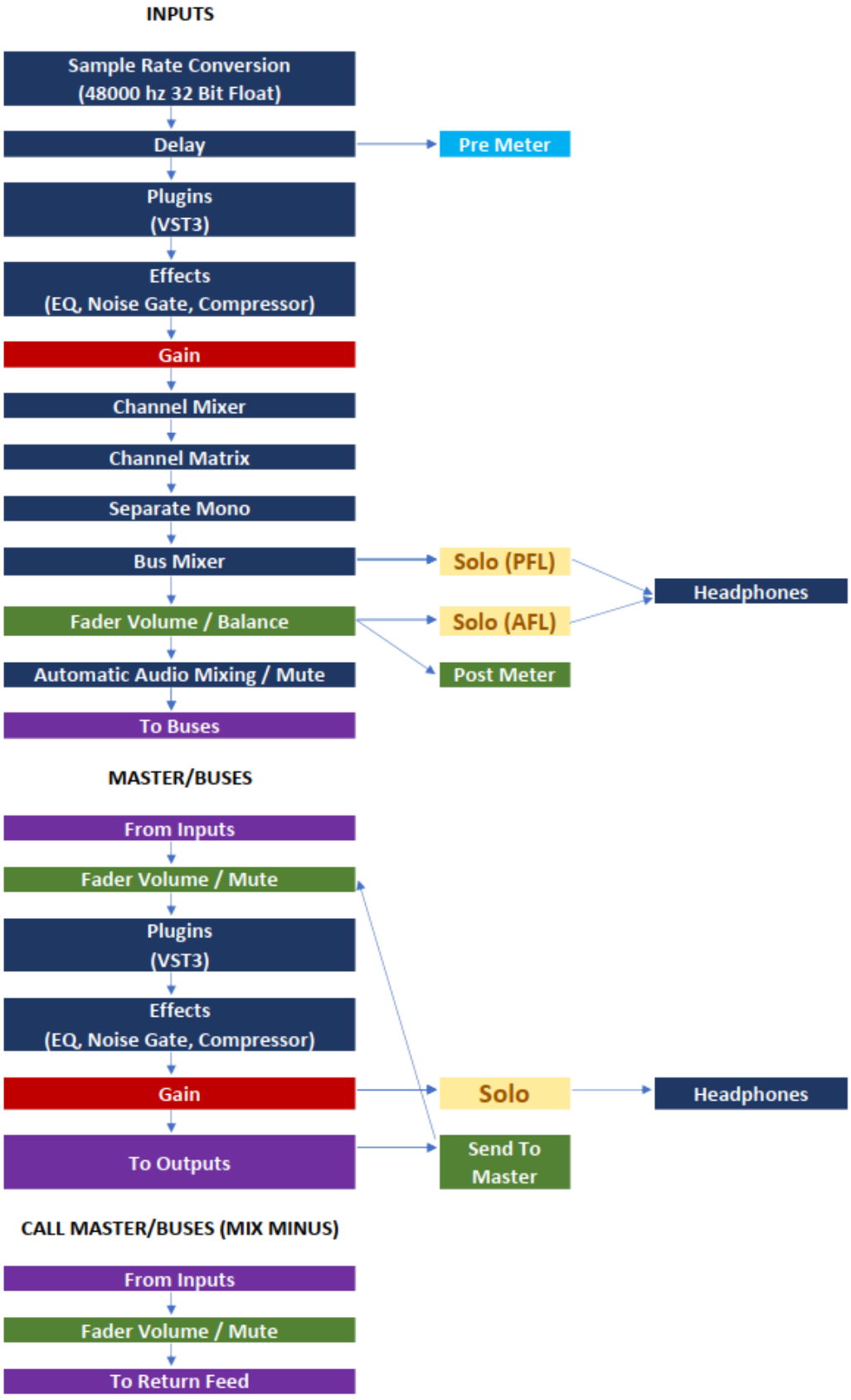
Click the cog icon to open the Bus Mixer for a particular input.

Filter Inputs

Show inputs only of a particular type from the dropdown box at the top left of the window.


Audio Bus Manager
All
All
Video
List
Camera
NDI
SRT
Audio
Audio Input
Web Browser
Video Call
Zoom
M
6 Call 3115749573

Audio Flow Diagram



Master Audio Settings

See [Audio Settings]



Headphones Post Master Fader

When enabled, the volume of the headphones will include the main Master volume fader in addition to the separate Headphones level.
* N

Recording

vMix supports recording the **Output** into a number of formats including AVI and MP4.

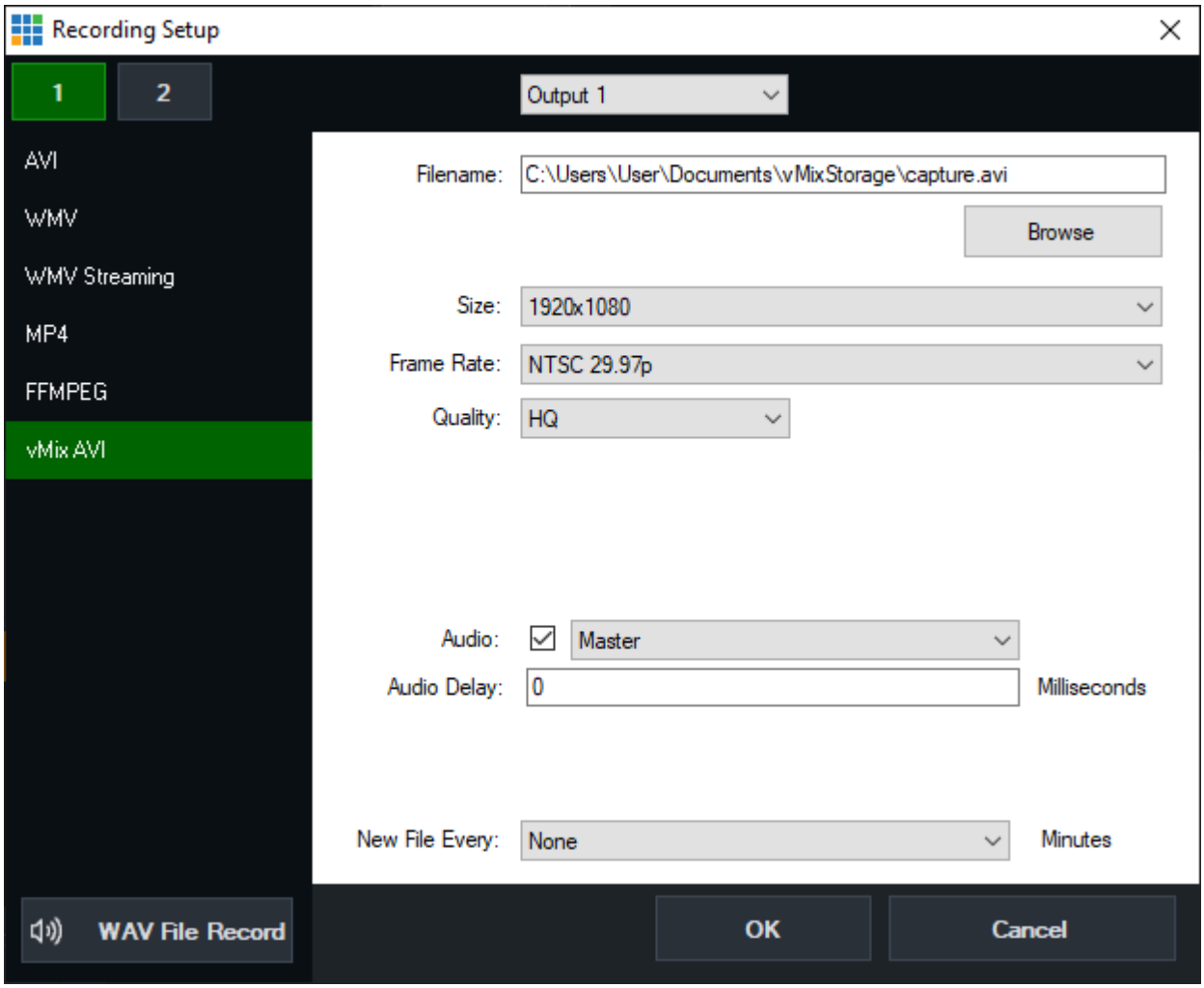
Recommended Recording Settings
Setup
Record
Second Recorder
Fault Tolerant Recordings
vMix Video Codec
WAV File Record

Recommended Recording Settings

Highest quality HD and SD

vMix AVI

Pros: Very high video quality, fast post production editing, fault tolerant.
Cons: Very large file sizes, need to install vMix on any computers used for post production.

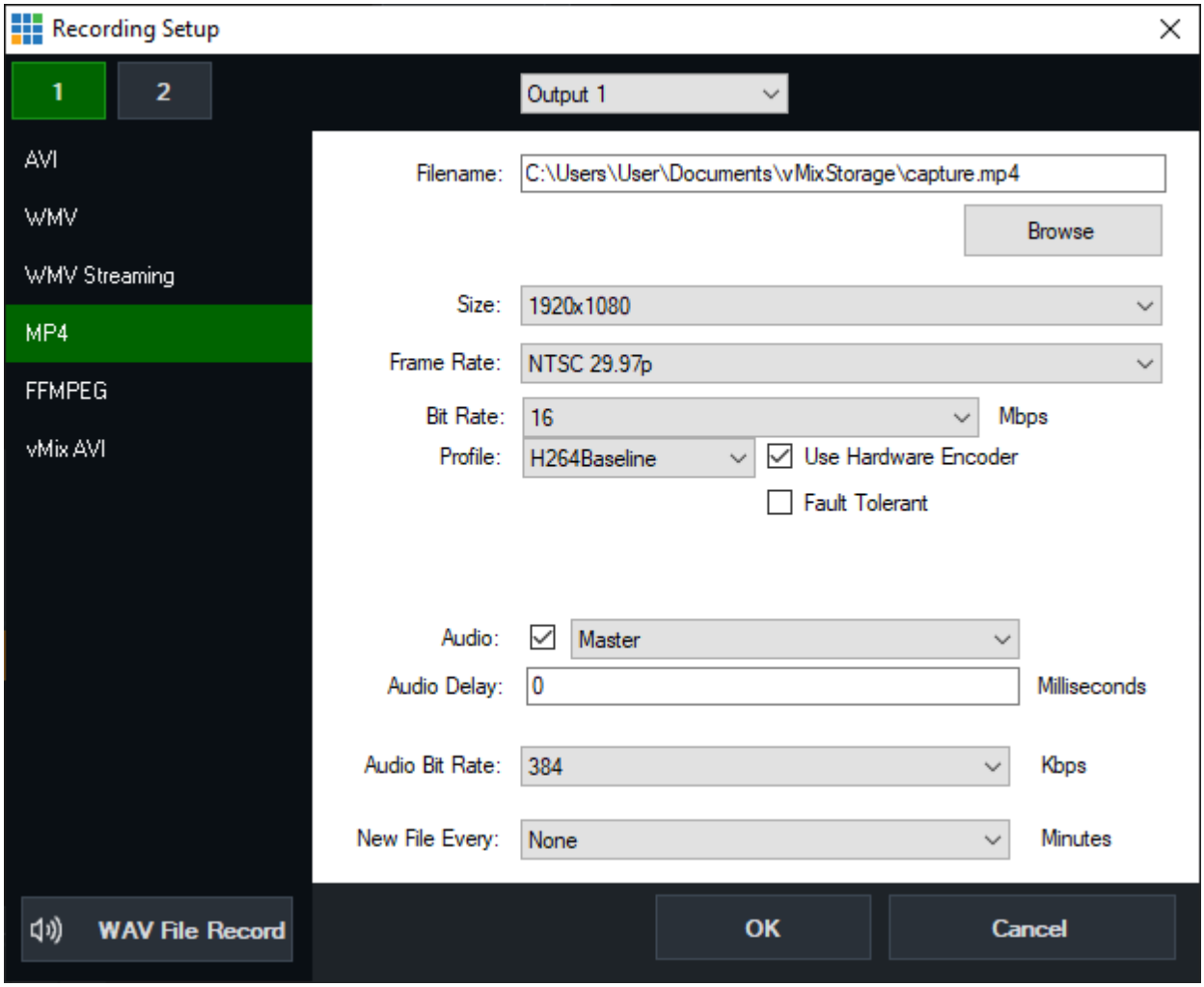


Uploading to YouTube

MP4
Bit Rate: 25 Mbps (HD) or 8 Mbps (SD)

Audio Bit Rate: 192 Kbps

Pros: Files can be played anywhere and can be easily uploaded to most web sites
Cons: Provides good video quality for file size, but may not be suitable for high quality post production video editing.



Setup

Click the **Cog Button** next to **Record** from the Main Window to bring up the **Recording Setup** window.



These settings will need to be configured before starting a recording.

Some video formats do not support partial recordings in the event of a power outage or system failure.
Read about Fault Tolerant recordings here

vMix AVI

For more information on the vMix AVI recording format, see the vMix Video Codec section of this help file.

AVI

Filename

File to save the recording to.

Frame Rate

Frame rate of the recording. (Set this to match the Frame Rate set under the Display tab under Settings)

Codec

Codec to use when recording.
For SD recordings the DV Video Encoder is recommended.
For HD recordings the MJPEG Encoder or MagicYUV codecs are recommended and come built in to vMix
3rd party codecs such as CineForm or HQX can also be used

File Format

AVI: Standard AVI file
MKV: The MKV file format supports partial recordings that can be recovered in the event of a power outage or system failure.

Audio

Enable audio on this recording and select the audio channels to include. See **Output Audio Channels**

Audio Delay

This sets a delay on the audio input in milliseconds. For example if the audio is earlier than the video by 200ms, type in 200 here.

New File Every

Automatically start a new recording every x minutes.
Each file is split seamlessly to enable easy editing.

FFMPEG

FFMPEG is an open source encoding tool that provides the ability to record to a number of formats including MPG, TS, MP4, MOV and MXF.

Codec
Select the recording format to use out of MPEG-2, MP4 X264 with AAC audio and VC-3

Format
Depending on the codec a number of file formats will be available.
MXF or the MOV/MP4 non-Indexed formats are recommended as they support file recovery in the event of a power or system failure.

MP4

MP4 creates a video file containing H264 video and AAC audio.
Due to the complexity of H264 compression, this option requires a faster processor for optimal performance.

Bit Rate
Select the Bit Rate for the H264 video stream in Mbps (Megabits per second). 25 is recommended for

high quality HD (similar to AVCHD)

Audio Bit Rate

Select the Audio Bit Rate for the AAC audio stream in Kbps (Kilobits per second). A maximum of 192kbps can be selected. 128kbps is the default.

Windows 7 File Size
MP4 recordings have a maximum file size limit of 4GB under Windows 7.
For larger recordings, choose a different recording format or upgrade to Windows 10.

MPEG-2

Options are the same as above but with the following additional settings:

Bit Rate

Specify the Bit Rate for the MPEG-2 recording in Mbps (Megabits per second). 8 is recommended for SD, 25 for HD.

File Format

Specify either Program Stream (MPG) or Transport Stream (TS)
Transport Stream is recommended if the video will be edited by a program such as Sony Vegas.

WMV / WMV Streaming

NOTE: WMV Streaming is no longer officially supported.

HTTP Port (Streaming only)

Port that Windows Media Player can connect to to view the stream.

Width/Height

Width/Height of the WMV recording

Bitrate

Bitrate of the WMV recording

FPS

Frames Per Second

Quality

Quality from 1 to 100. 100 is the highest quality.

Codec

WMV codec to use. WMV1 is the fastest but the lowest quality. WMV3 is the slowest with the highest quality.

Audio Compression

WMV Audio Format to use

Record

Click **Record** to start the video recording.



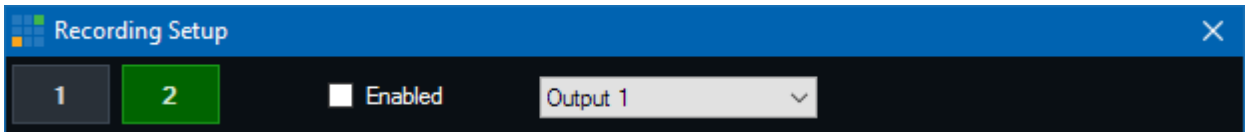
Note: The **Cog Button** must be clicked first to configure the recording prior to starting

A duration counter will begin next to the Start button as well as a dropped frame counter.

Dropped frames may indicate a computer performance issue, or merely as a side effect of using a different frame rate.
(For example of recording at 30fps from a 25fps source, 5 dropped frames will show up per second)

Second Recorder

A second recorder is available in the **vMix 4K** edition and higher.



To configure the second recording, select the 2 button at the top of the Recording Setup window and tick the Enabled checkbox to enable it.
This second recording has its own settings independent of the first recording including format, codec and the video and audio sources used.

This can provide a lot of flexibility, such as recording a second lower quality recording for internet publishing whilst retaining a higher quality
master for editing and archival.
However, the second recording cannot be independently controlled and will always start and stop at the same time as the primary recording.

Fault Tolerant Recordings

Some video formats hold some important information in memory until the recording is complete.
This means in the event of a power outage or system failure these recordings may be corrupt and difficult to recover.

TIP: Use the "New File Every" option to create new recordings at regular intervals so if one file is lost in event of a power outage, the majority of the recording can be recovered.

The following table describes the fault tolerance of each recording format supported by vMix:

Type	File Format	Fault Tolerant?
vMix AVI	AVI	Yes
AVI	AVI	No
AVI	MKV	Yes

MPEG-2	MPG	Yes
MPEG-2	TS	Yes
MP4	MP4	No
MP4	MP4 (with Fault Tolerant checkbox ticked)	Yes (Important Note: Fault tolerant MP4 recordings do not work in all devices and software and should be thoroughly tested for compatibility prior to use in any productions.)
WMV	WMV	Yes
FFMPEG	MXF	Yes
FFMPEG	MOV	Yes
FFMPEG	MP4	Yes
FFMPEG	MOV (Indexed)	No
FFMPEG	MP4 (Indexed)	No

vMix AVI is the best fault tolerant format out of the above.

vMix Video Codec

The vMix Video Codec is a free recording format that provides high video quality with low CPU usage, suitable for use in post production video editing on Windows PCs.
The following is an overview of its features and capabilities:

- Easy to use with no configuration settings required such as bitrate or quality.
- Very low CPU usage requirements, allowing multiple channels of HD and 4K on a modern Intel i7 or i9 PC.
- Records to the standard AVI video format which is compatible with most Windows video editors such as Adobe Premiere and Magix Vegas Pro.
- Recordings are fault tolerant which means they can be recovered in the event of a power outage.
- Supports SD, HD and 4K at all frame rates including interlaced broadcast formats.
- Variable bitrate codec adapts to the content being recorded to provide an optimal balance between quality and practical file sizes for post production editing.

File Size Estimates

- 4K60: 700 - 900 Mbps (~350 GB per hour)
- 4K30: 350 - 450 Mbps (~175 GB per hour)
- HD1080p60: 200 - 300 Mbps (~110 GB per hour)
- HD1080p30: 100 - 150 Mbps (~55 GB per hour)

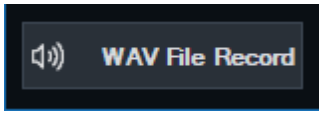
Editing recordings on other computers

vMix AVI files recorded using the vMix Video Codec can be edited on any Windows PC in most video editors including Adobe Premiere and Magix Vegas Pro.
Simply install a copy of vMix on any system used for editing. vMix does not need a license on these computers and does not need to be activated, but does need to be installed.

Converting vMix AVI files to ProRes MOV

vMix includes a program called vMix Media Converter that can transcode multiple vMix AVI files to ProRes MOV files.
This program can be located in the Windows Start Menu.

WAV File Record



The WAV File Record button in the Recording Setup can be toggled to turn on (green) or off recording a separate uncompressed (PCM) WAV file alongside the video recording.
It does not affect the audio in the recording itself. The audio format is fixed and can't be modified in vMix but can be converted into other audio formats such as MP3 once completed
using a 3rd party application. (not included with vMix).

Live Streaming

Getting Started

Step by step instructions to get started streaming

Settings

Detailed information on all the streaming settings available

Streaming Quality

Information on the encoding quality settings

Multi Bitrate Support

How to use Multi Bitrate streaming

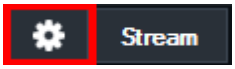
Advanced

Information on the advanced options available in the Advanced streaming window.

Getting Started

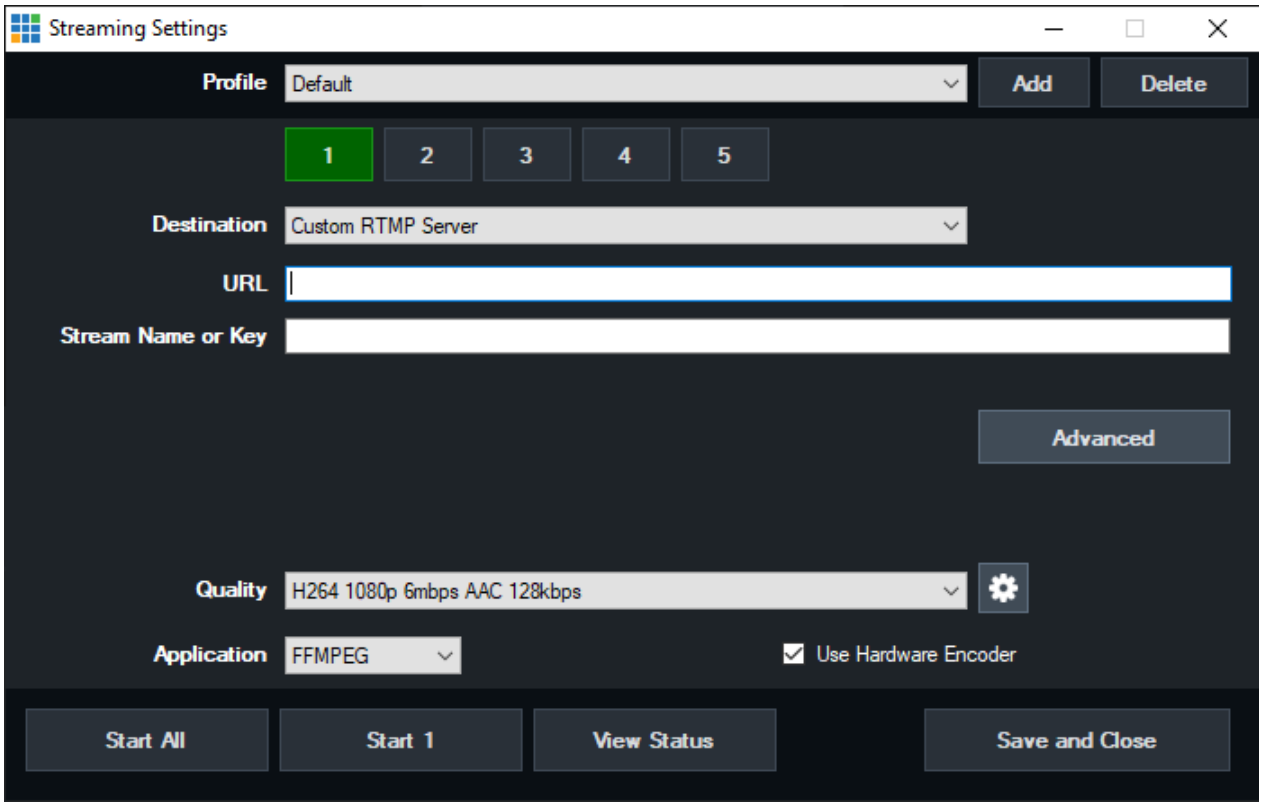
The following is a quick overview of the steps needed to begin streaming to the web

1. Open the streaming window in vMix



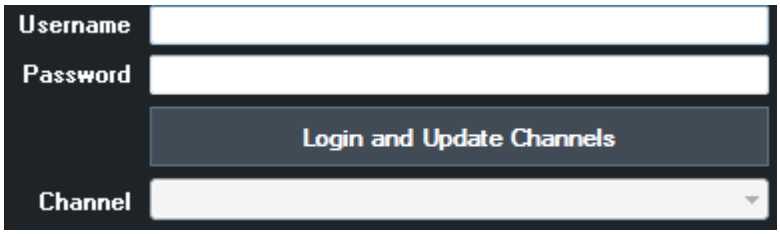
Click the cog icon next to the Stream button in the main vMix window.

2. The streaming window will appear



3. Enter in your streaming provider details

Select your streaming provider from the drop down list or select Custom RTMP Server if your provider is not listed.
If your provider is listed, you can simply login and select a Channel to stream to directly from vMix as shown:



Alternatively, the channel settings can be specified manually using the instructions below.

Custom RTMP Server

vMix supports most 3rd party streaming providers (also known as CDNs) and dedicated streaming servers such as WOWZA.

The following information is needed from your chosen streaming provider:

URL For example rtmp://example.com/live

Stream Name or Key This may also be called Stream or Stream Name.

Once you have retrieved this information, type it into the boxes provided.

Custom SRT Server

See **SRT Streaming** for more information.

4. Select a quality setting

The Quality setting you select will depend on a variety of factors, including the speed of your internet connection and your viewers.
The default setting of 360p 1.5mbps provides a low to medium quality stream that can be viewed by most broadband internet connections.

The cog icon can also be clicked to open up the Streaming Quality window where you can customise these settings to suit your requirements.

5. Select an Application

By default the free **FFMPEG** is installed with vMix and provides high quality streaming with H264 video and AAC audio.

Optionally, the free **Adobe Flash Media Live Encoder (FMLE)** can be installed in order to stream with vMix.
This can be downloaded from the Adobe web site.

FMLE can be used if your streaming provider does not support FFMPEG, or if you need MP3 audio encoding support.

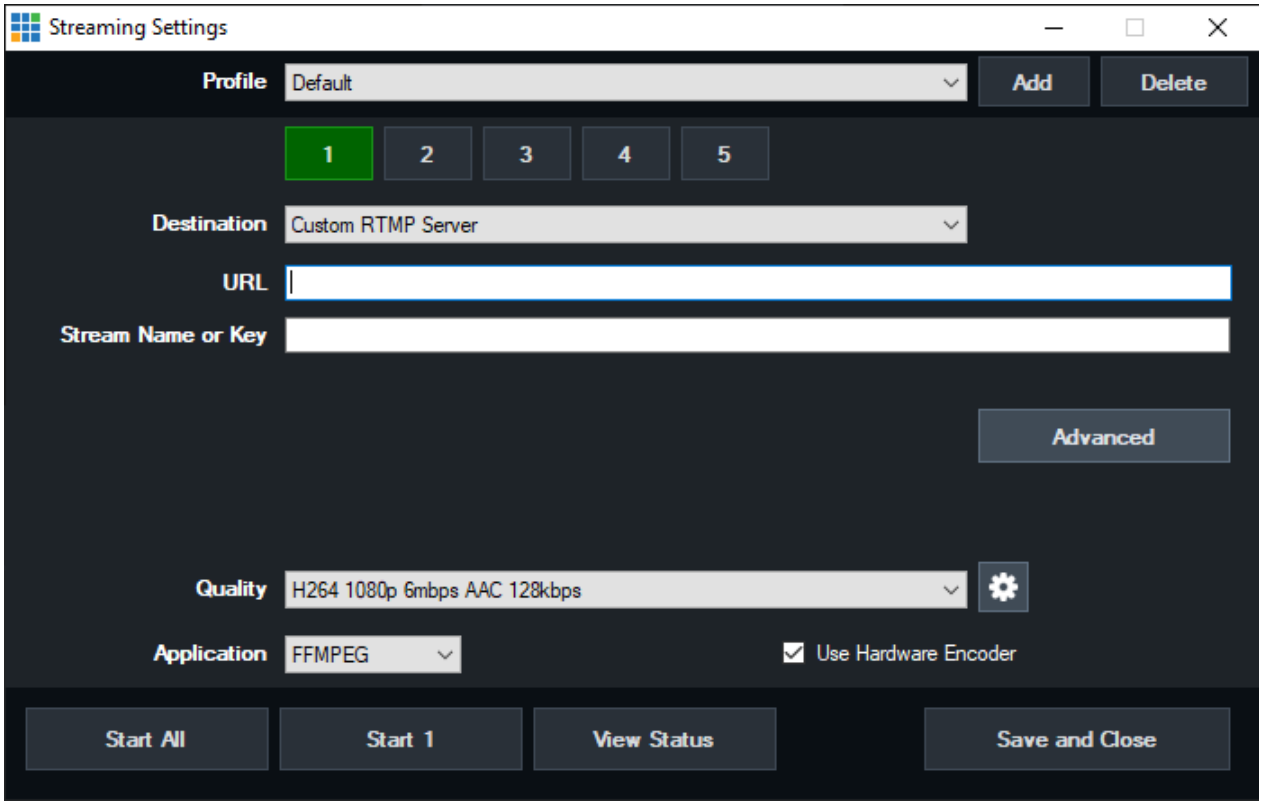
6. Start Streaming!

Click Start All to begin streaming. The button will light up red in both the Streaming window and in the main vMix window when streaming.
After a few seconds if you receive an error, double check the settings in step 3. to ensure they match the details given to you by your streaming provider.

7. Advanced settings

An overview of all the settings available can be found in the Streaming - Settings section.

Settings



1,2,3,4,5 Buttons

These buttons allow streaming to up to three different streaming providers simultaneously. See **Using Multiple Destinations** for more information.
These buttons will only appear when selecting FFMPEG as the application. (See Applications section below).

Profile

Create one or more profiles with unique streaming settings, for example one for each streaming provider. Only one profile can be used at a time.

Click Add to add a new profile that contains a *COPY* of the settings from the current profile. Delete to delete the currently selected profile.

Destination

Select from one of the built in streaming providers, or select Custom RTMP Server if you want to enter in the streaming details manually.
For streaming with SRT see the **SRT Streaming** section.

When using a built in streaming provider destination

Type in the **username** and **password** given to you by the streaming provider and click Login to retrieve a list of Channels.
Select the channel you wish to stream to.

When using Custom RTMP Server

URL

Enter in the streaming provider URL for example **rtmp://example.com/live**

Stream Key

Also known as a Stream Name or Stream. For example **myStream**

Advanced

See Streaming - Advanced

Quality

Select the encoding profile to use for the stream. A number of built in presets are included or you can click the cog icon to customise these.
See **Streaming Quality** for more information

Application

FFMPEG (Recommended)

This is a free streaming encoder installed with vMix.
FFMPEG supports H264, AV1 or HEVC video and AAC audio.

FMLE (Legacy)

Use Adobe Flash Media Live Encoder as the streaming encoder. Requires Adobe Flash Media Live Encoder to be installed.
FMLE has built in support for H264 video and MP3 audio. For AAC audio an additional plugin can be purchased from MainConcept.

This is an obsolete encoder and is not recommended by most streaming providers. FFMPEG should be selected in most cases.

Use Hardware Encoder

This check box is available for most NVIDIA graphics cards and substantially reduces the CPU usage of the computer when streaming by taking advantage
of the hardware encoder (called "NVENC") built into most recent NVIDIA graphics cards, including the GeForce 2050, 3050 and 4050 and higher.
Check the NVIDIA web site for more information.

NVIDIA GeForce cards support a maximum of 8 simultaneous encodes per computer.

Start

Save all streaming settings and start the stream. This button will light up Red when running in addition to the Stream button in the main vMix window.

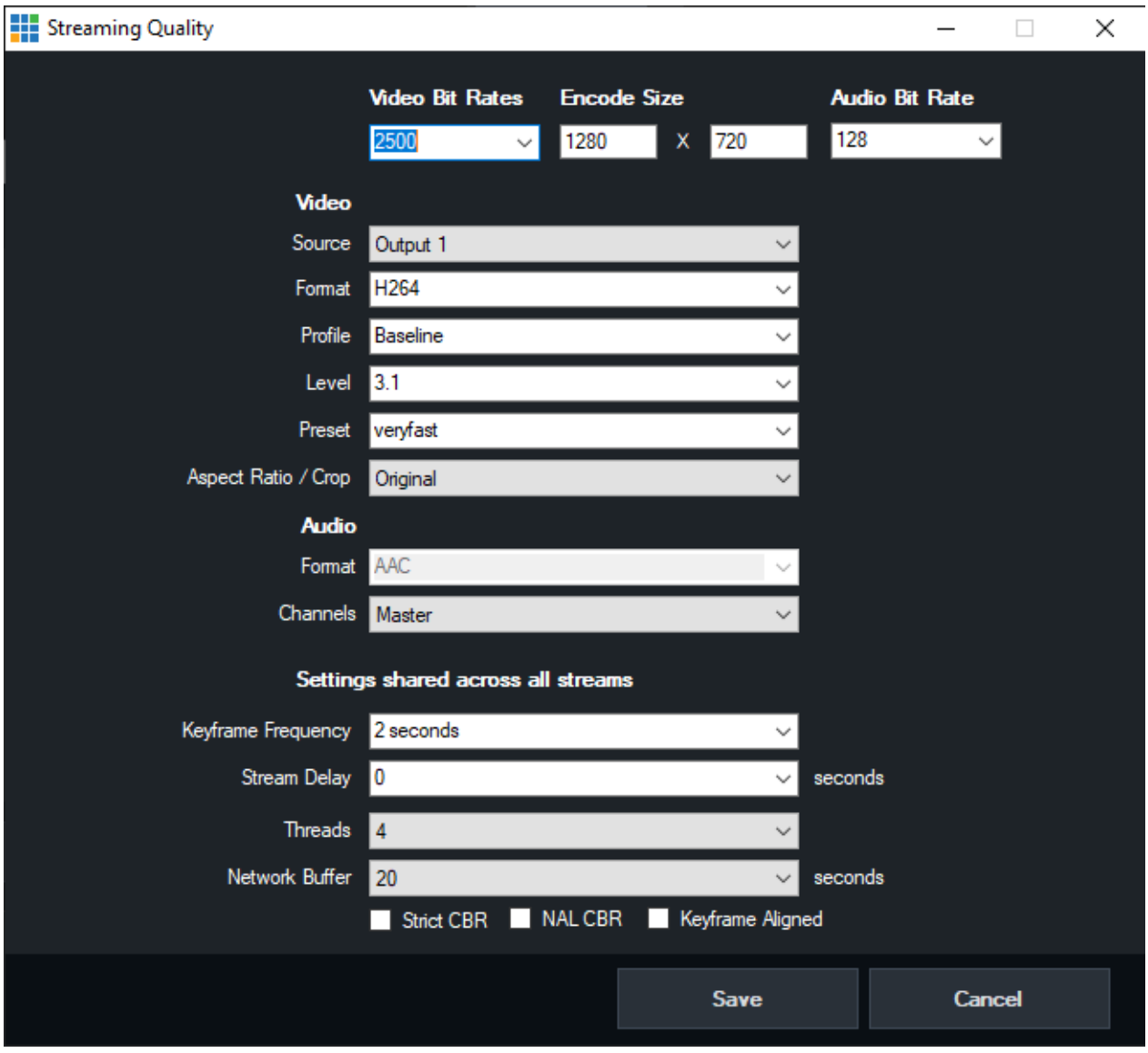
View Status

View some technical information on the stream while it is running. This is useful when troubleshooting connection issues.

Save and Close

Save all streaming settings and close the Streaming window.

Streaming Quality



The Streaming Quality window allows you to customise your streaming quality settings to suit your production.

Video Bit Rates

Set the video encoding bit rate in kbps.

Encode Size

Set the resolution of the stream here. These sizes should match the aspect ratio you are using in vMix. For example 640x360 for Widescreen and 640x480 for Normal (4:3)

Audio Bit Rate

Set the audio encoding bit rate in kbps. A minimum of 96 is supported for MP4 and a minimum of 64 is supported for AAC.
128 provides good near CD quality audio for both MP3 and AAC.

Video

Source

Select from Output 1 to 4 as the source for the stream in vMix 4K, Pro and Max editions.
In all other editions Output 1 will be used and this dropdown will not appear here.
To configure what is sent to Output 2 to 4, refer to the **Settings - Outputs** section.

Format

Select the video compression to use for the stream.
H264 - The default and supported by all streaming providers and computers.
AV1 - Royalty free compression standard offering better quality at lower bitrates than H264, supported only be a few streaming providers, check the streaming provider if unsure.
HEVC - More efficient compression offering better quality at lower bitrates than H264, supported only by a few streaming providers.

Note: Both AV1 and HEVC require hardware encoding by a supported GPU in order to work correctly (such as NVIDIA GeForce). Check the documentation for the GPU installed on the system to see which formats are supported for encoding.

Profile

Select the H264 encoding profile to use. Baseline is lower quality, but uses less CPU. Main is higher quality at the expense of higher CPU usage.

Level

This is an advanced setting for users wishing to specify a particular encoding level to match the capabilities of an end point decoder.

Preset

This is an advanced setting for users who wish to fine tune the FFMPEG encoder (x264)
veryfast is the recommended setting which provides the best balance of CPU usage and quality.

When Use Hardware Encoder is enabled, and an NVIDIA card supporting NVENC is installed, this dropdown will show **Low Latency HQ**, and **P1** to **P7** presets.
Advanced users can fine tune the quality/performance of the NVENC encoder with P7 providing the best quality while P1 provides the best performance.
Low Latency HQ is the default and provides the best balance of NVENC performance vs quality.
(Selecting a higher quality option may reduce the number of simultaneous streams the NVENC can encode, depending on the card model)

Aspect Ratio / Crop

The stream can be cropped to a custom aspect ratio such as Square (1:1) and Vertical (9:16) to suite specialised streaming workflows.
The video is cropped to fit this aspect ratio by cutting the sides off the image.
To easily see the viewable area of the image from within the vMix production useSafe Areas to enable the

Square or Vertical lines.

Keyframe Frequency

Select the number of seconds between each keyframe in the video stream. Higher numbers generally result in better video quality. 2 seconds is recommended
by some streaming providers and is the default here.

Stream Delay

Specify a minimum delay in seconds between when the video is seen in vMix vs when it is first sent to the steaming provider.

Note that due to streaming provider limitations, vMix cannot start connecting to the streaming provider until the delay is reached.
For example, if you specify 1 or more seconds here and click Start on the stream, vMix will immediately begin encoding the stream
according to the parameters chosen, and start saving this stream to memory.

vMix will display a countdown in seconds on the Stream button to indicate how long until the delay is reached.

Once the delay has been reached, it will then connect to the streaming provider and start streaming from memory ensuring that at all times the minimum specified delay is met.

If a stream is stopped, it will immediately disconnect from the streaming provider, vMix will not wait until the delay buffer is emptied and that portion of the stream will be lost.

Note that the stream delay here is only the minimum delay, the overall delay is usually much longer and determined by the streaming provider's own internal requirements and viewer connections/browsers etc.

Memory Requirements

Stream Delay will first encode the stream according to the quality parameters and then save temporarily to system memory.
For an 8mbps stream, this means it requires 1 megabyte per second of memory, therefore only a very small amount of memory is needed, even for large delays.

Threads

Specify the number of threads to use when encoding video and audio with FFMPEG as the Application.
4 is the default and is recommended. For 4K streaming, extra threads may provide better performance.

Network Buffer

This is the maximum number of seconds vMix can keep buffered at any time and reflects the maximum streaming latency
from vMix. (Note that streaming servers and players add their own buffers on to this time)

Increase the Network Buffer if the maximum network speed available is unreliable.

Strict CBR

When this is enabled, the encoder will try to keep the streaming speed as close to the selected bit rates as possible.
Note that this option may reduce the quality of the stream.

NAL CBR

When this is enabled, the encoder will insert empty data if the bitrate drops below the set amount.
This mode is known as "NAL-HRD CBR" mode in some encoders.

Combining this option with Strict CBR will result in a stream that very closely matches the bitrate at all times, at the expense of quality.

Note: This is not necessary or optimal for RTMP streaming and is usually only helpful for diagnosing network issues.
It may also cause issues with MP4 recordings of streams, if the streaming provider does not support this option.

Keyframe Aligned

When sending multiple bitrates, select this option to ensure all streams are aligned on the same keyframe. This can improve seamless switching support at the expense of slightly lower quality.

Auto Adjust

When using FMLE as the encoder, the quality of the stream can be dynamically adjusted to suit the conditions of the internet connection.

Audio

Select the Audio encoding format to use with the stream.
MP3 is supported when using FMLE (Flash Media Live Encoder) as the encoder, while AAC is the only option when using FFMPEG.
If you would like to use FMLE with AAC, an additional plugin needs to be purchased from MainConcept.

Audio Channels

See **Output Audio Channels**

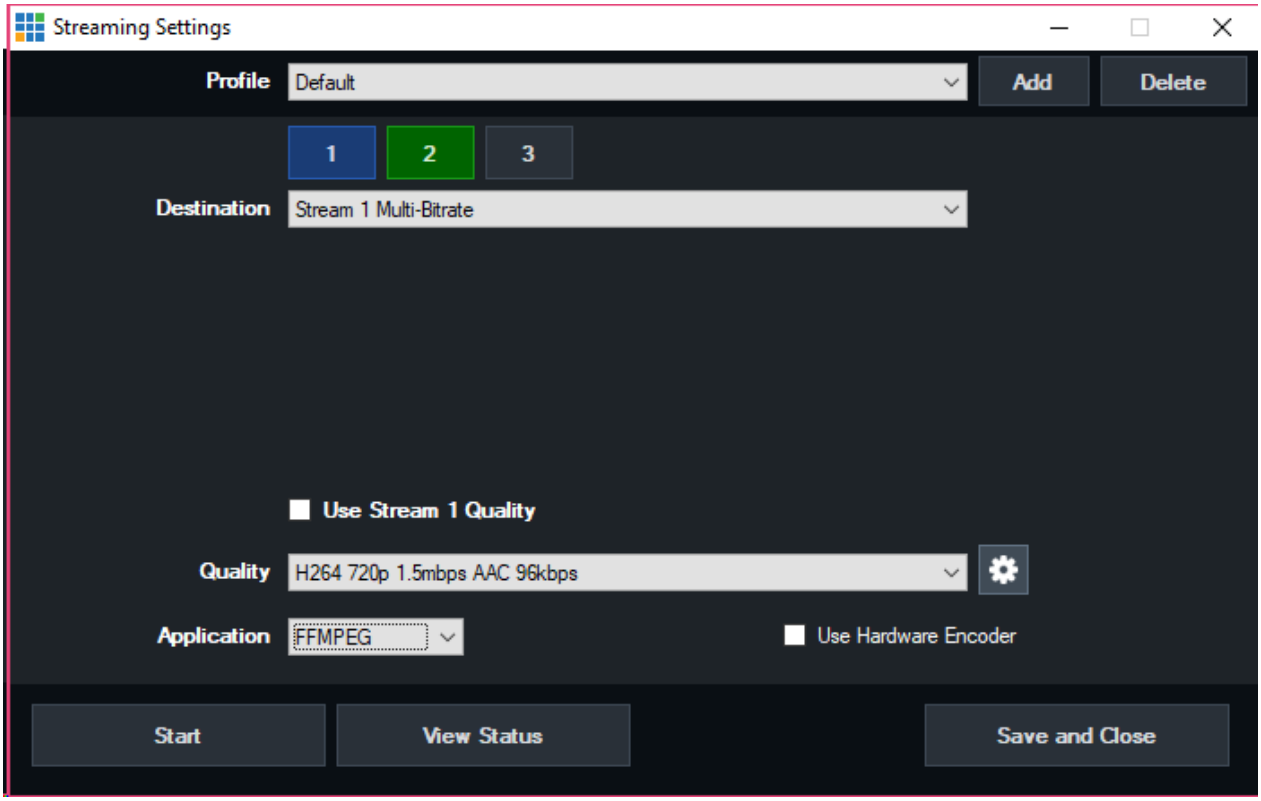
Multi Bitrate Support

vMix supports Multi Bitrate streaming with both the FMLE and FFMPEG streaming applications.

There are two methods of configuring Multi Bitrate depending on the requirements of your streaming provider. Please check with your streaming provider if you are unsure.

Single Stream Key

1. Select your streaming provider from the **Destination** dropdown box under stream 1.
2. Configure the first stream bitrate from **Quality**.
3. Configure up to two additional streams by selecting **Stream 1 Multi-Bitrate** as the **Destination** for stream 2 and optionally stream 3.



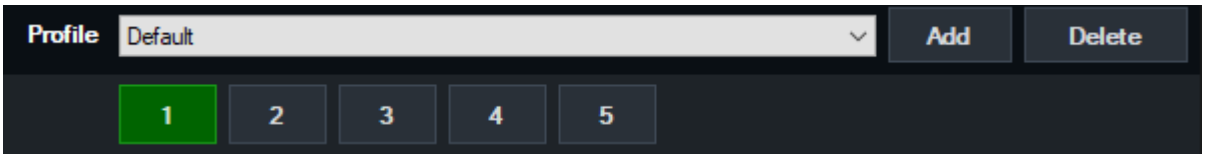
4. Untick **Use Stream 1 Quality** on each of these streams to configure an independent bitrate from the **Quality** dropdown box.

Multiple Stream Keys

If your stream provider has given you a separate stream key for each stream, then configure these streams by selecting **Custom Multi-Bitrate** as the **Destination** dropdown and type in the separate URL and Stream Key for each stream.

Using Multiple Destinations

Up to five streaming destinations can be used by selecting the 1,2,3,4,5 buttons at the top of the Streaming Settings window.



NOTE: If you do not see these buttons, make sure Application has been set to FFMPEG.

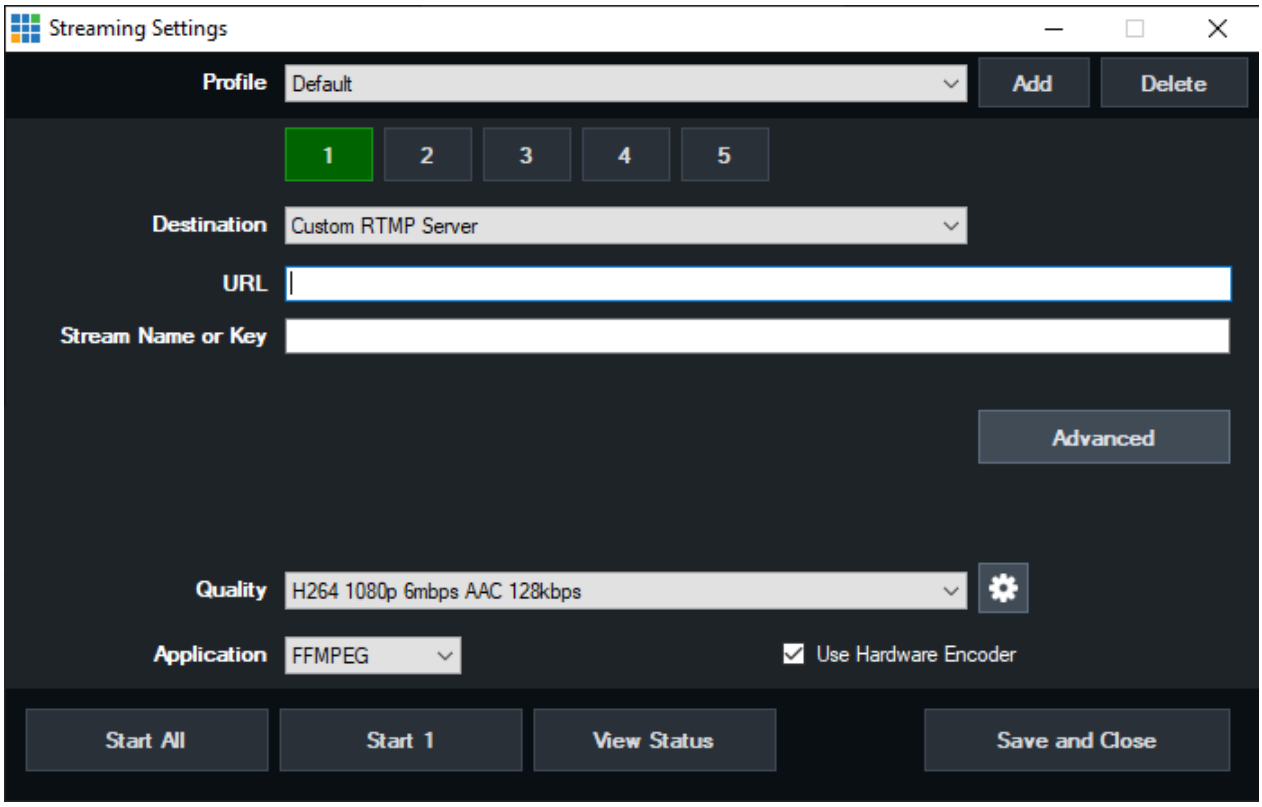


Note

- Multi Bitrate support is disabled when using multiple destinations

Independent Bit Rates

By default, all five destinations will use the same quality settings such as video and audio bitrate and encode size.
To customise this, untick the **Use Stream 1 Quality** checkbox as shown below.

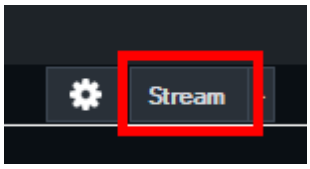


Independent Stream Control

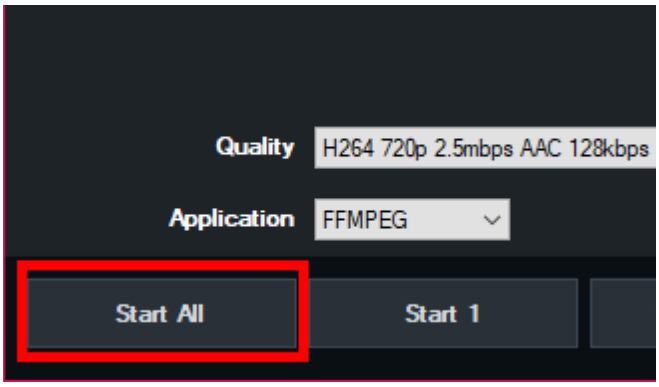
vMix supports up to three independent streams which can be started and stopped independently of each other.

Starting/Stopping All Streams

Click Stream in the main vMix window to start or stop all configured streams at the same time.

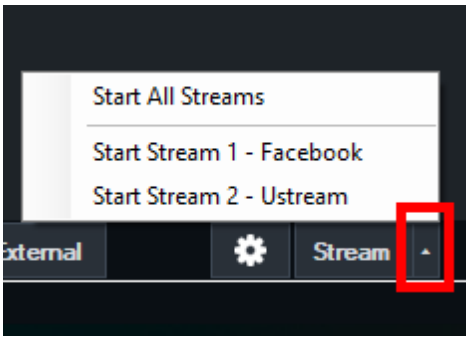


Alternatively click Start All / Stop All in the streaming settings window.

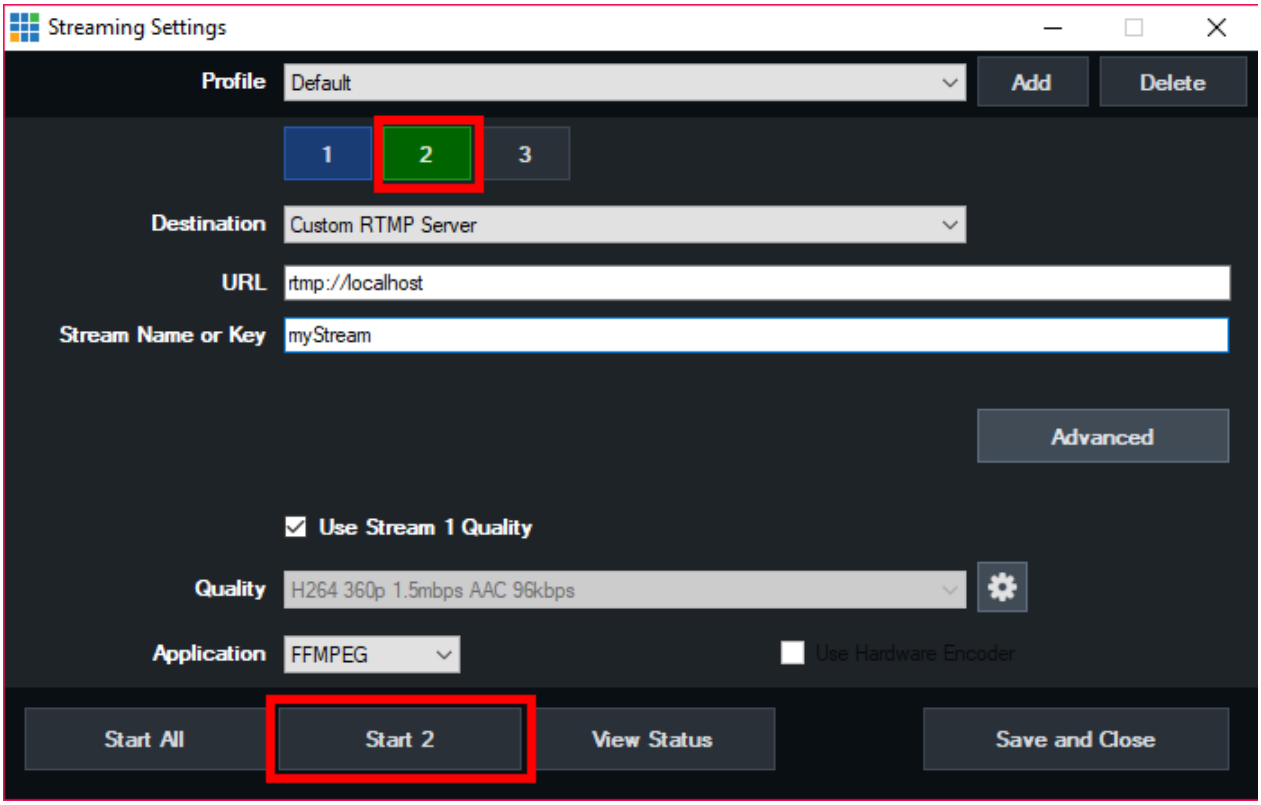


Starting/Stopping Streams Independently

To start or stop a particular stream, click the arrow next to the Stream button in the main vMix window.



Streams can also be controlled from the Streaming Settings window by selecting the top stream button to select the stream, then the Start x / Stop x button at the bottom of the window.

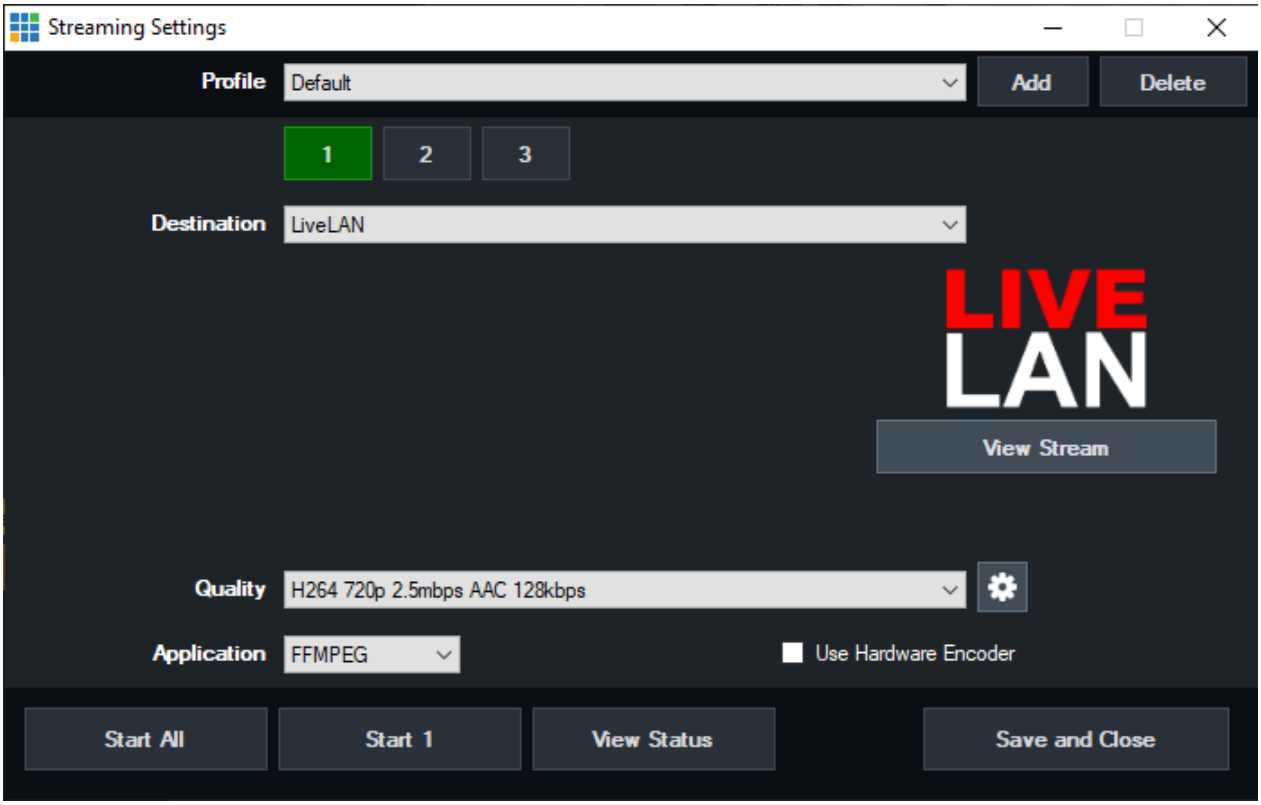


Stream Errors

If a particular stream encounters an error, it will be displayed on screen and the stream stopped. However, all other streams will continue to run as normal, and the stream that stopped can be started manually again when the problem is resolved.

LiveLAN

LiveLAN is a built in streaming destination in vMix that streams directly to a web page built into the **vMix Web Controller.**



Simply select the destination as you would any other streaming provider.
While the stream is running, the LiveLAN page on the web controller can be used to watch the stream from any supported web browser on the same local network as vMix.
This can be on laptops, PCs, smart phones and smart TVs that support HTML5 live streaming.

Performance Considerations

LiveLAN has been tested for up to 100 viewers at a time on a reasonably powerful six-core 3ghz CPU. There is no fixed limit to the number of viewers, but both the performance of the PC and the available network speeds (see below) will factor in to the maximum possible.

Network Considerations

LiveLAN is intended for use on the local network only. To calculate the amount of bandwidth needed, multiply the number of viewers by the bitrate specified in the Streaming Quality,
adding in approximately 10 to 20% extra to account for potential overheads.

For example, in the above screenshot 2.5mbps has been set as the Streaming Quality.
If there will be 50 viewers on the stream, this will require approximately 2.5mbps * 50 = 125mbps + 20% = 150mbps.

Note that browsers standards including HTML5 and HLS do not support any form of Multicast, so bandwidth

allocated to each viewer is necessary.

Security Considerations

As the Web Controller can also provide access to control certain parts of vMix, care should be taken to ensure it is adequately secured before setting up LiveLAN.
For example the Web Controller Settings can be configured with a password, with certain pages excluded. Therefore it is recommended that a password be configured and only the LiveLAN page be excluded from password access.

Latency

A delay from vMix to browser of around 10 seconds is typical with LiveLAN and it is not possible to reduce this.

HLS

LiveLAN uses a HLS compatible stream internally for streaming to the web page.
This can be accessed on the local network by HLS compatible software like VLC by using the following URL format:
http://x.x.x.x:8088/livelan/stream.m3u8
Where x.x.x.x is the IP address of the computer running vMix.

Note this HLS stream is not compatible with streaming to internet streaming providers requiring HLS and is only for viewing streams directly from vMix.

Advanced

Click the Advanced button for the following additional options:

Stream

Username/Password

Specify additional login details if required by the streaming provider.

Backup Stream

URL

Specify a backup URL if the primary stream URL is not available (FMLE only)

Save to file

Save a copy of the stream in file format here. (FMLE only)

SRT Streaming

Streaming can be set to use SRT instead of RTMP if supported by the destination.

NOTE: This supports only the Caller mode and a single audio track.
For more advanced SRT options use the SRT Output option instead.

URL

The URL is provided by the streaming provider and consists of the following format:

srt://hostname:port/?passphrase=YOUR_PASS_PHRASE

Note that some streaming providers may not require either of the streamid or passphrase parameters, so these may not be included.

Optionally, latency can be set using the latency= parameter where the value is in milliseconds. e.g latency=200
If left blank latency will be set to 200ms

Stream ID

This is the same as using the streaming= parameter in the SRT URL directly. (leave this blank if using it within the URL above)

External Output

External Output allows you to send audio and video out of vMix in a number of different ways:

1. To HDMI, SDI or Analog outputs through compatible hardware from **AJA**, **Blackmagic Design** and **Bluefish**.
2. To other applications running on the same PC such as Skype
3. To other devices on the network using **NDI**

Setting up External Output

Click the cog icon next to the External button in the main vMix window and then click Settings.



The External Output Settings window will be displayed. For more information on the options available see **Settings - External Output**.

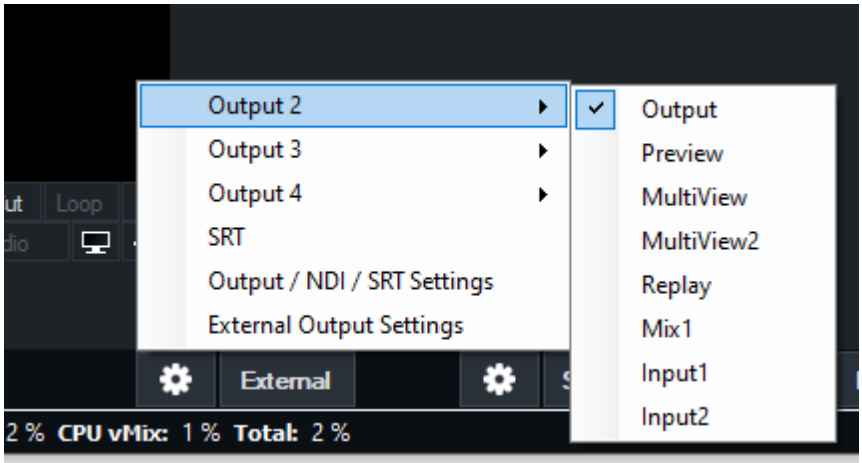
Starting External Output

Click the **External Button** next to the **Cog Button** to start or stop the output.



Selecting a source for Output 2, 3 and 4

The **Cog Button** contains a drop down menu for selecting a source for any additional outputs in real time (Available in **vMix 4K, Pro and Max**)



Key and Fill Output

See the Key and Fill output support section for more information.

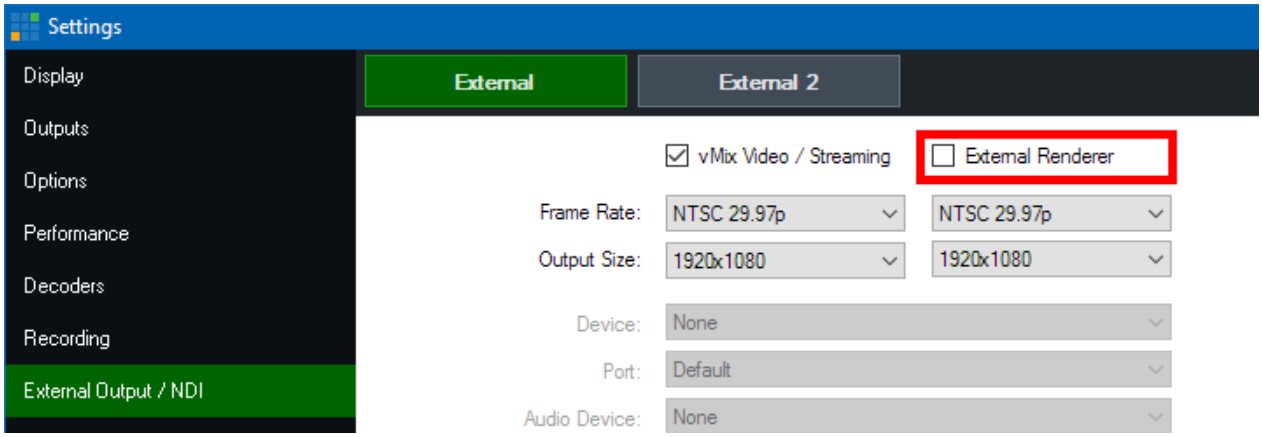
External Output with AJA, Blackmagic or Bluefish444 cards

vMix features the ability to output video to AJA, Blackmagic and Bluefish444 cards.
Follow the steps below to begin using the External Output feature.

Important Note: Many older Blackmagic cards can only perform one task at a time, either Capture or Output.

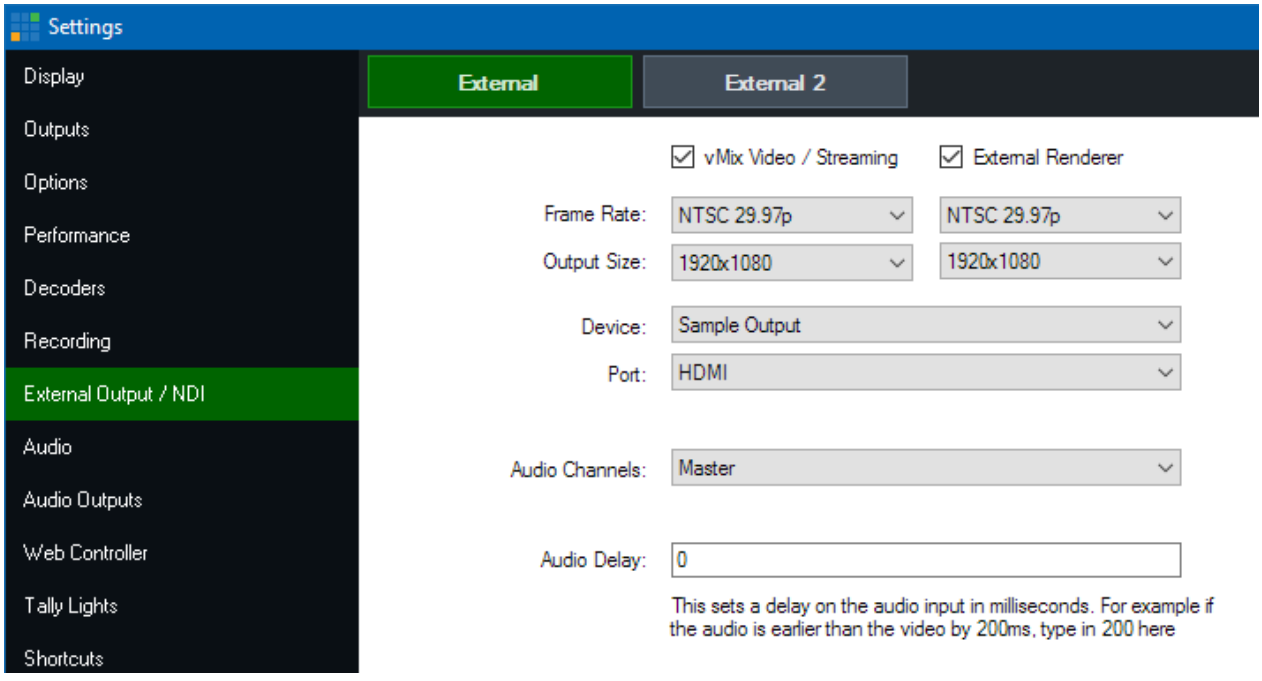
1. Click Settings to open up vMix settings

2. Under the External Output tab check the External Renderer box



2. Under the Device dropdown box, select the item that matches the name of your output card.
(For example "Intensity Pro", "AJA Kona" etc)

Frame Rate: In most cases this should be set to either **PAL 50i, PAL 25p** or **NTSC 59.94i, NTSC 29.97p**
Output Size: For full HD select 1920x1080, for SD select either 720x576 (For PAL) or 720x480 (For NTSC)
Port: This setting should match the connector being used, for example HDMI or Component

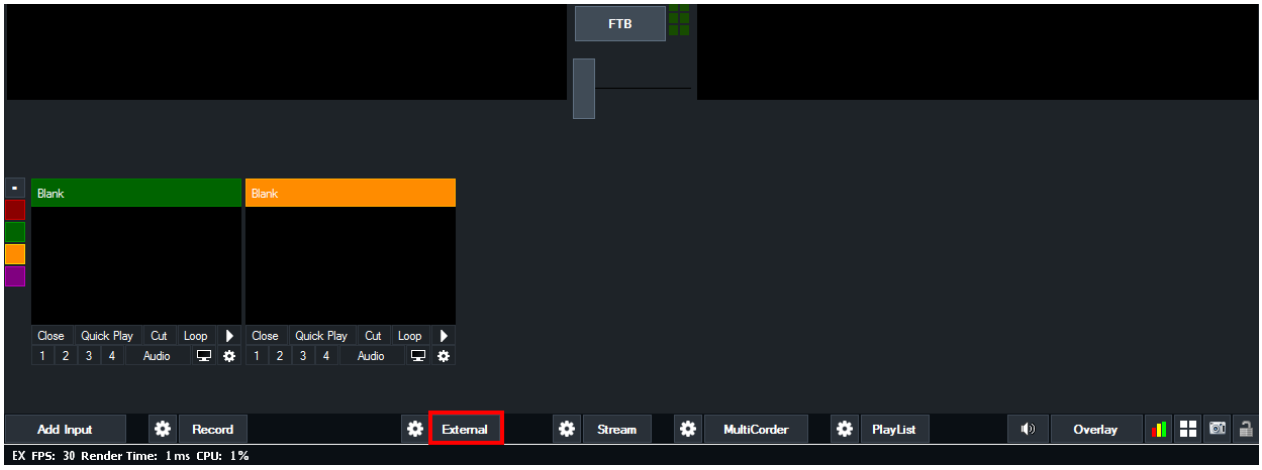


3. Click OK to confirm your settings and head back to the main vMix Window.

4. Click the **External Button** on the bottom right hand corner of the screen next to the **Cog Button**. The output of vMix should now appear on your external display.

If the external display is blank, make sure the correct connector is being used on the device. (There

are separate outputs for input and output for both HDMI and Component on the Intensity Pro for example)



Key and Fill output support

Key/Fill output is supported on selected Blackmagic capture cards.

Supported Devices

- Decklink 4K Extreme / Extreme 12G / Pro
- Decklink Duo 2 / Quad 2 (see additional configuration steps below)
- UltraStudio 4K / 4K Extreme / 4K Extreme 3 / HD Mini
- Bluefish444 KRONOS series cards

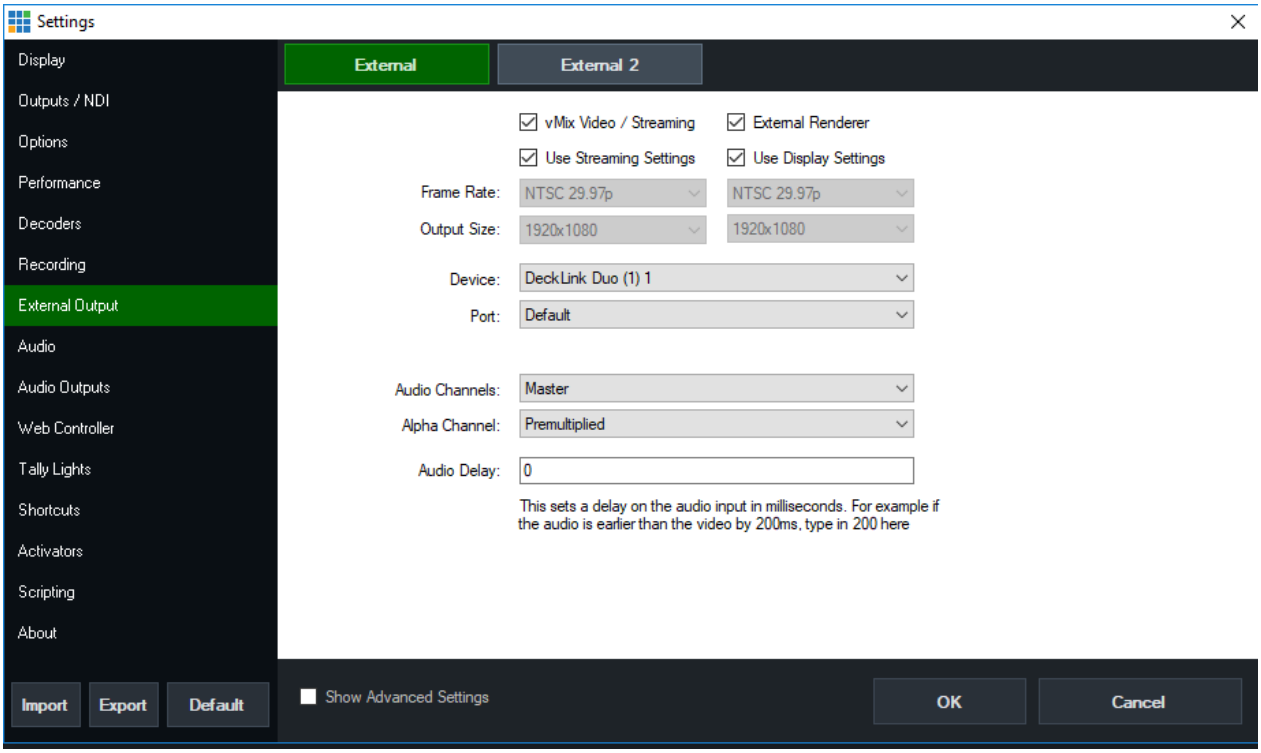
Configuration for Duo 2 / Quad 2

When using the Decklink Duo 2 or the Decklink Quad 2, port 1 will need to be configured in the Blackmagic Desktop Video Utility
to group together SDI ports 1 and 2 as shown below:



External Output Configuration

When selecting a supported device in External Output settings in vMix, an Alpha Channel dropdown box will appear as shown below:



None: No alpha channel, send the video output to the device as normal.
Straight: Output two channels over the device, Key + Fill on separate SDI ports. (This is also known as Linear)
Premultiplied: Same as Straight except the Fill channel will be "Premultiplied" check with the receiving device documentation to determine which of these options should be selected.

Blackmagic ATEM Configuration

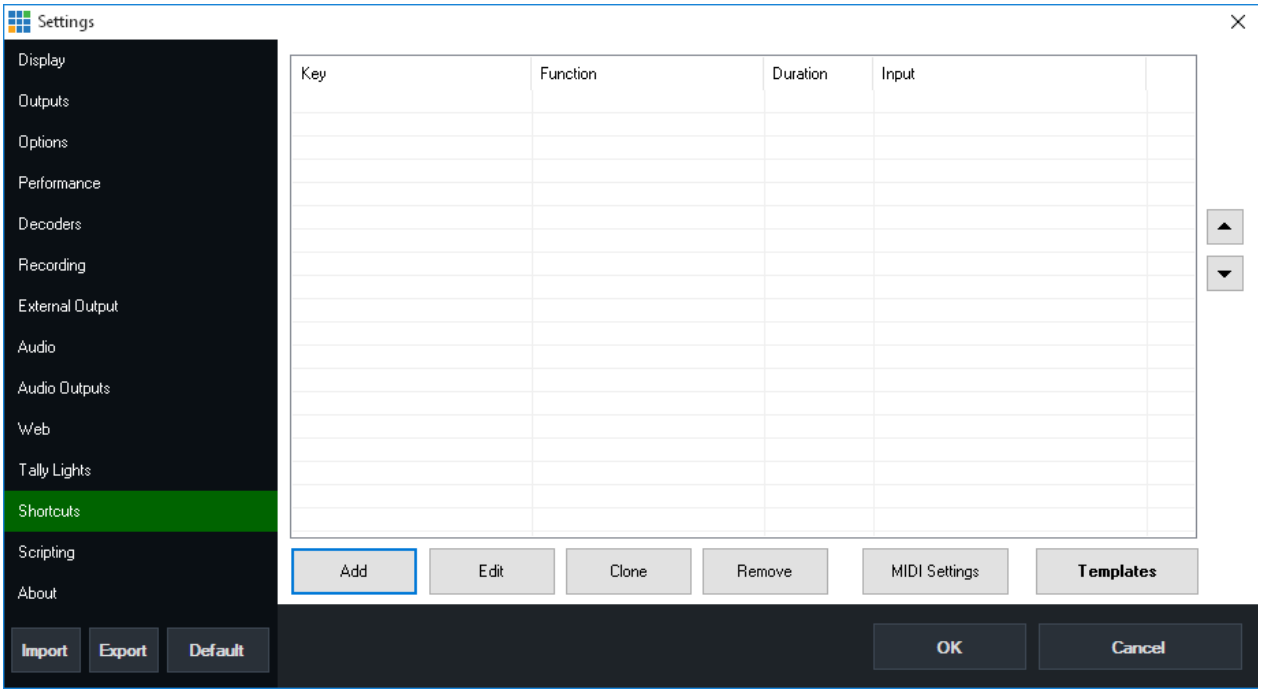
The Key + Fill outputs will be sent over SDI 1 and SDI 2 (or SDI A / SDI B) respectively. These can then be connected to two spare inputs on an ATEM switcher.
From the ATEM switcher control panel keyer settings, these two inputs can be selected as Key and Fill to complete the process.

Keyboard, MIDI and Controller Shortcuts

vMix supports an unlimited number of Shortcuts that can be assigned to anything from Keyboard Keys to MIDI Faders.
In other systems you may know these as Macros.

All of these shortcuts can be configured from the Shortcuts tab in Settings

Controllers you can use with vMix (Keyboard, MIDI, X-Keys etc)
How to add a Shortcut
Templates
Local and Global Shortcuts
Assigning Multiple Functions to a single Shortcut
Advanced MIDI Shortcuts



Controller Options

Keyboard

Shortcuts can be assigned to almost any key on the keyboard.

Web Interface

All shortcuts are available from the built in web interface allowing you to use any web enabled device to control vMix. See **Web** for more information.

MIDI / X-Keys

Shortcuts can be assigned to buttons, faders and knobs on any MIDI compatible device.

X-keys controllers are also supported automatically by vMix and show up as MIDI commands as well.

Contour Design ShuttlePROv2

Shortcuts can be assigned to any button on the ShuttlePROv2.
The shuttle/jog wheel also works as a MIDI JogWheel which can be assigned to various shortcuts such as ReplayJumpFrames and ReplayChangeSpeed.

Elgato Stream Deck / Stream Deck Mini

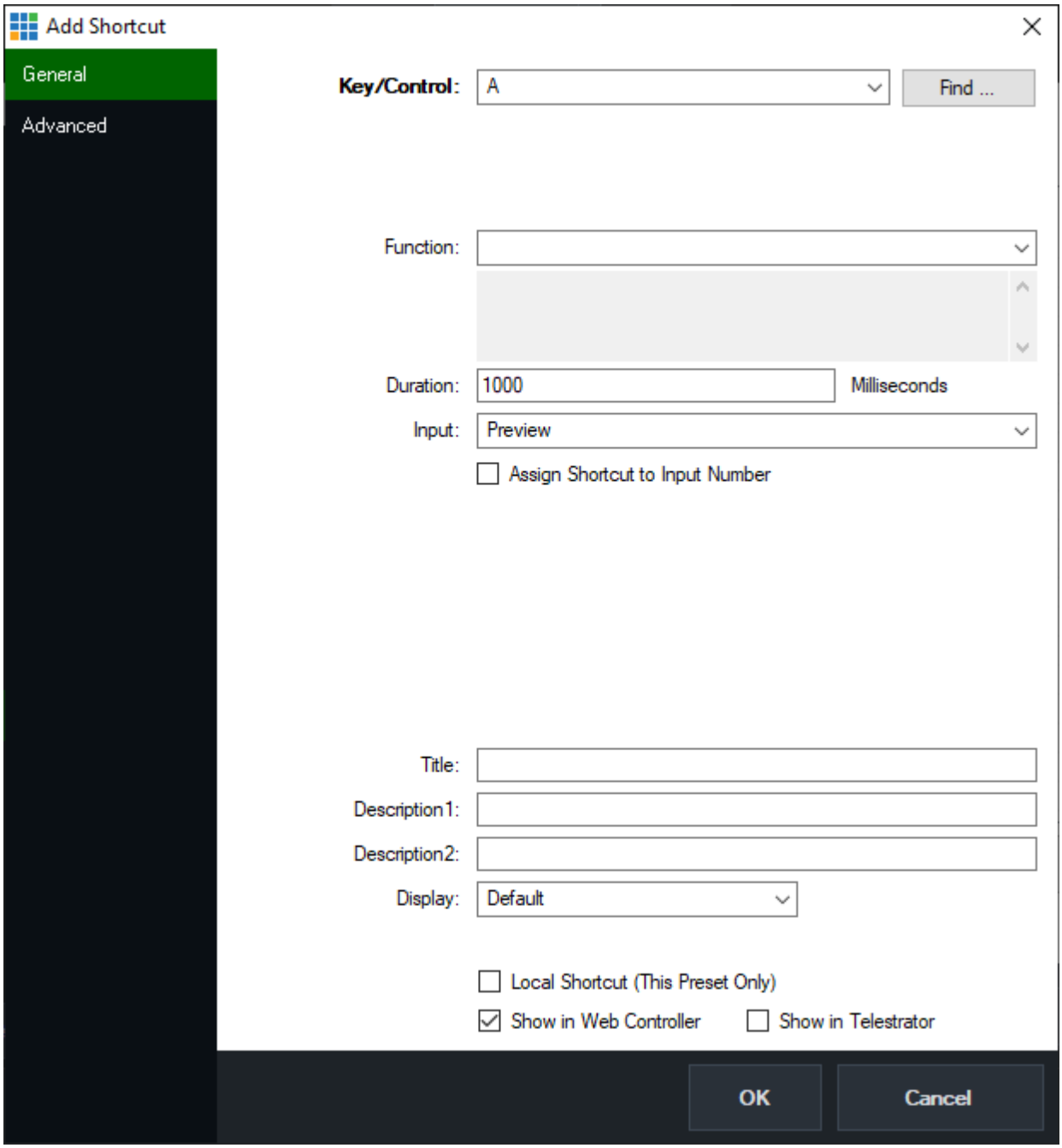
Elgato Stream Deck devices can be used as a vMix controller.
Simply install the vMix Shortcuts plugin in the Stream Deck software from the Plugin Store. (version 4.0 or higher of the Stream Deck is required)
and then drag the Shortcut plugin on to the buttons you wish to use with vMix from within the Stream Deck software.

Once assigned to a button, create a shortcut within vMix as normal (See **How to add a Shortcut**).
To locate the button on the controller, click the **Find** button in the **Add Shortcut** window.

If the shortcut Function relates to a particular input, the Display setting can be changed to **Thumbnail** to show a live video preview
of that input. The button display on the Stream Deck updates approximately 4 times a second.

How to add a Shortcut

From the vMix Settings window click the **Shortcuts** tab and then click **Add**

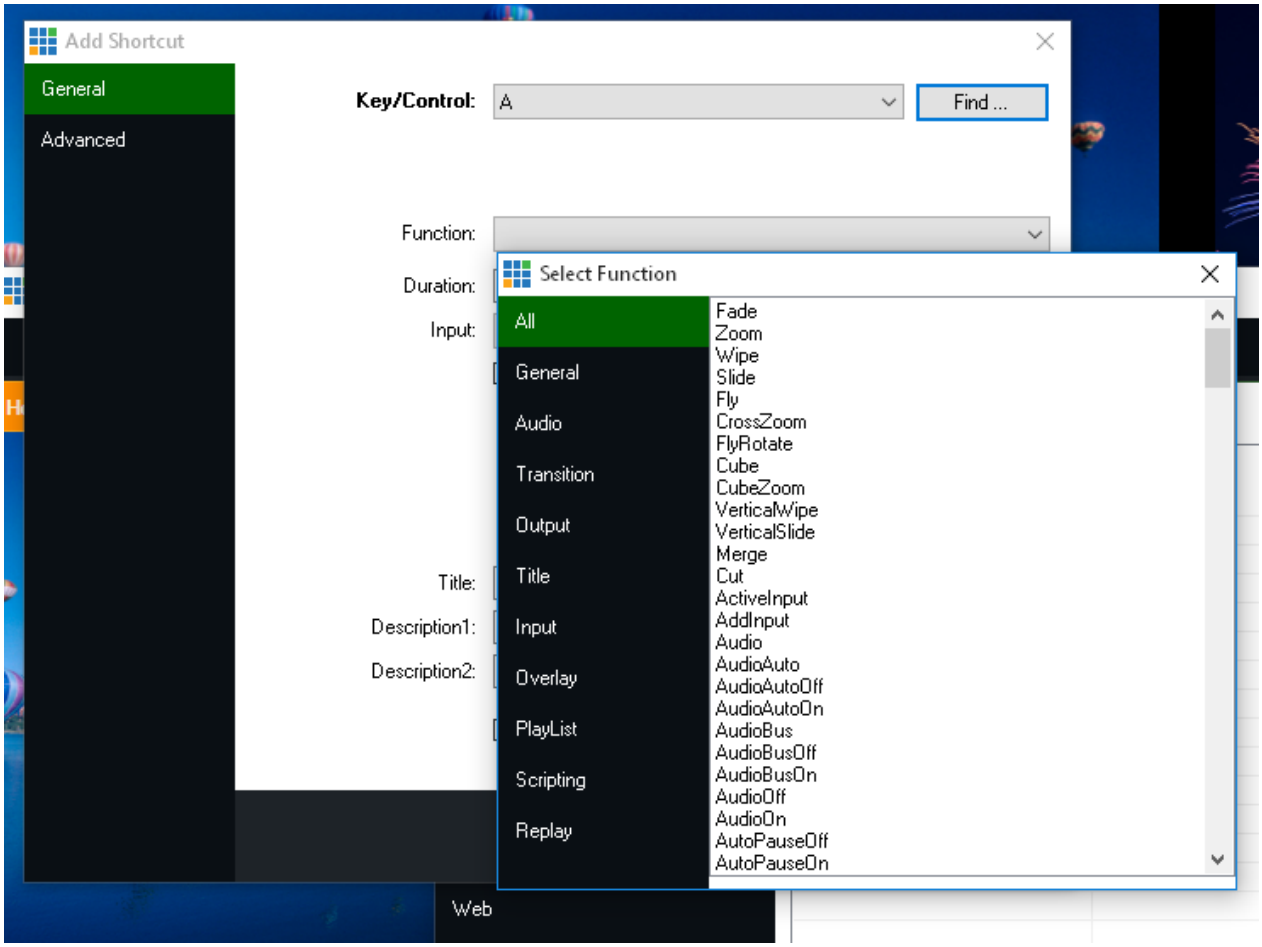


To quickly select the Key or Control you wish to assign this shortcut to, click the **Find ...** button and then press or move the control you wish to use.

MIDI Note: If using a MIDI controller, make sure it has been plugged in and turned on before starting vMix.
Then from the Shortcuts tab in Settings click the MIDI Settings button to enable the device.

Function

Click the arrow next to the Function dropdown box and the Select Function window appear with a number of commands or macros to choose from, organised by category.



Duration

If the function selected is a transition, configure the duration here in Milliseconds

Input

If the function controls a particular Input, select it here.
You can also tick **Assign Shortcut to Input Number** so this shortcut will always control any input assigned to a particular Number, otherwise the shortcut will control the same input even if it has been moved.

Title, Description1, Description2

Assign some optional text to uniquely identify your shortcut when it is displayed in the Web Controller

Display

Configure the display options when showing this shortcut in the Web Controller.
Default: The standard button with text.
Colour: Customise the background colour of the standard button with text.
Image: Select a custom image file to display in place of the button. The image will be stretched to fit the button dimensions.
Thumbnail: Display a thumbnail preview of the Input's contents.

Local Shortcut (This Preset Only)

Assigns the shortcut to the currently open Preset, otherwise the shortcut will be available to use with any preset.

See **Local and Global Shortcuts** for more information.

Show in Web Controller

Untick this box to hide this shortcut from the vMix Web Controller interface.

Show in Telestrator

Show this shortcut in the Telestrator Shortcut Buttons

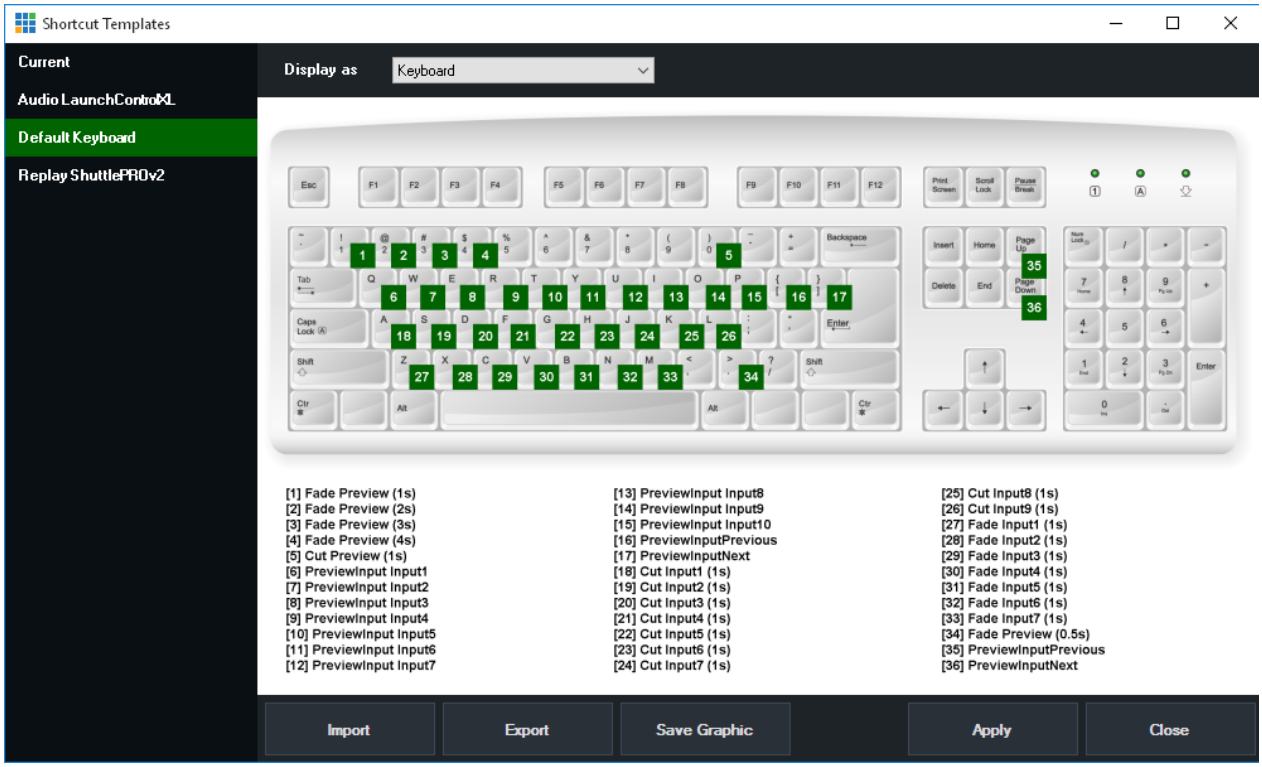
Templates

The Shortcut Templates feature allows you to import and export sets of shortcut keys and save graphical layouts for reference and printing purposes.

How to load a shortcut template

1. Click the template from the right hand list so it is highlighted green.
If you don't see your template in the list, click **Import** to locate the file and add it to the list.

2. Click the **Apply** button. This will override any existing Shortcuts that share any of the buttons.



A number of templates are provided built-in:

AudioLaunchControlXL

This template is designed to be used with the novation LaunchControlXL USB MIDI controller.
It assigns the first 7 faders to the first 7 inputs in vMix and the final fader is assigned as the Master volume control.

Default Keyboard

This template contains the default keyboard shortcuts that were included with previous versions of vMix.

Replay ShuttlePROv2

This template assigns common Instant Replay functions to the ShuttlePROv2 USB controller

Local and Global Shortcuts

vMix supports two types of Shortcuts: Local and Global.

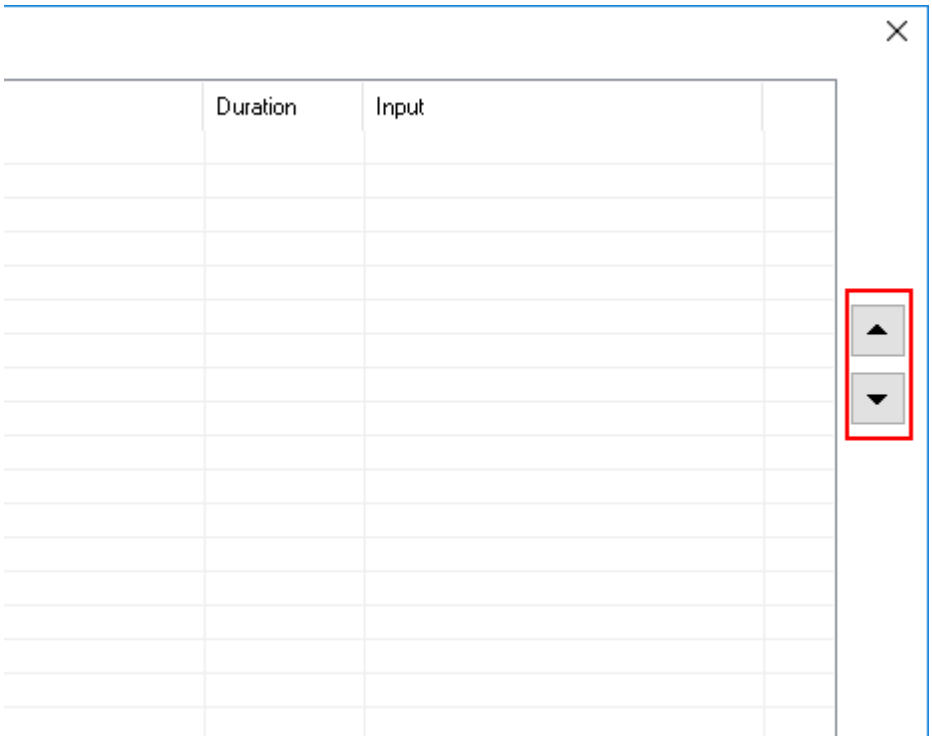
Global shortcuts are saved in the vMix settings and will be remembered each time vMix is opened.
Local shortcuts are saved in **Presets** and will only be remembered if a Preset is saved and subsequently opened later.

Local shortcuts take preference over Global shortcuts, so if you have two shortcuts assigned to the letter A, one local and one global, the local shortcut will be triggered and the global shortcut will be ignored.

Assigning Multiple Functions to a single Shortcut

Multiple functions can be easily assigned to as single keyboard or controller button press.
To do this, simply add multiple shortcuts, assigning them to the same button.

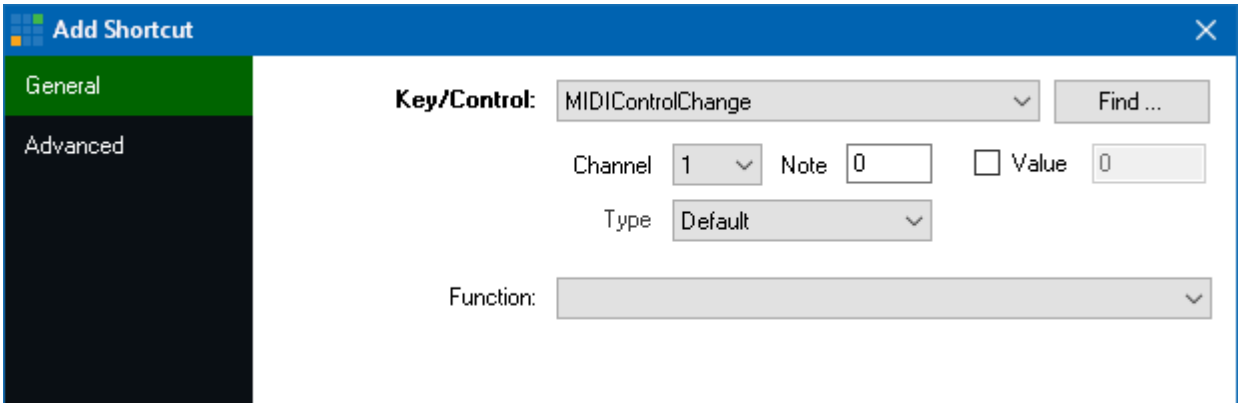
When the button is pressed they will be called in the order in which they appear in the Shortcuts list.
Use the up and down buttons to change the order if necessary.



Advanced MIDI Shortcuts

For most MIDI and X-Keys controllers with buttons and faders, simply following the steps in **How to add a Shortcut** is all that is needed.

However, some controllers may have controls that operate a bit differently to what vMix expects, which is why
there are a couple of extra MIDI control options available in the Edit Shortcut window as shown below.



Channel, Note

Channel and **Note** are automatically detected by clicking Find and pressing the MIDI button or moving the fader or knob.

Value

If you would like to assign different shortcuts to different positions of a single control, such as a rotary knob, you can tick
the Value box and specify a number between 0 and 127.

Type

For most controls that provide a linear value from 0-127 the **Default** setting is recommended here.

Other controls, known as Jog Wheels are continuous and only send a value for left and a value for right, and some may even provide different values depending on how fast the wheel is turned.

For these controls, set the Type to one of the **JogWheel** settings.
There are four speeds of JogWheel available in vMix so that the jog wheel either controls the corresponding Function in slow (JogWheel and JogWheel2X) or fast (JogWheel5X and JogWheel10X)
increments.

For example, setting the Type to JogWheel and setting the Function to SetMasterVolume will increase the volume when turning the control right and lower the volume when turning the control left.

For instant replay, JogWheel MIDI controls can be assigned to the ReplayJumpFrames function to move backwards/forwards through a replay frame by frame
or ReplayChangeSpeed to slow down playback when moving the control left, and speed up again when moving the control right.

NOTE: Both the Shuttle and Jog Wheel controls on X-Keys controllers should be configured as JogWheel here.

Dynamic Input and Value Shortcuts

Dynamic shortcuts allow changing the Value or Input a shortcut uses with the press of a button.
This can be used to reduce the number of buttons needed to be setup in complex productions.

For example, consider a controller where one button is for Mute, and one for Solo.
Normally these would only control a single input. With dynamic inputs you can have a row of buttons to select what these buttons control live.

Dynamic Inputs

1. When selecting an Input for a shortcut (for example "Fade"), scroll up the Input dropdown box to select

either **Dynamic1, Dynamic2, Dynamic3 or Dynamic4**.
By default these are set to nothing, so the shortcut will have no effect when pressed.

2. To choose what input this shortcut will Fade, create another shortcut on a separate button and set the Function to **SetDynamicInput1, SetDynamicInput2, SetDynamicInput3 or SetDynamicInput4** (matching the number you used in Step 1)

3. Set the Value of this shortcut to a Number or Name of the input you wish to assign.

4. Press this button to assign the input to Dynamic1. Now when you press the Fade shortcut it will fade to that input as expected.

With this style of shortcuts you can assign a row of buttons to select various inputs into Dynamic1, then have other inputs (such as transition buttons) that will transition to that input.
The order of pressing buttons is important, you press the shortcut to assign the input first, then press the shortcut you wish to run on that input second.

Dynamic Values

Dynamic Values are similar to Dynamic Inputs above expect they can be used to change the Value a Shortcut uses.

1. Add a shortcut that requires a Value (for example "SetText") and type in **Dynamic1, Dynamic2, Dynamic3 or Dynamic4** as the Value.
If using SetText be sure to select the Title input to use and also the Title dropdown to select the field.
By default this shortcut will have no effect when pressed as Dynamic1 has not yet been set to anything.

2. Create another shortcut on a separate button and set the Function to **SetDynamicValue1, SetDynamicValue2, SetDynamicValue3 or SetDynamicValue4**

3. Set the Value to the text you wish to use, for example "Hello!".

4. Press the second shortcut and then press the first, the text selected by the second shortcut will appear in the title assigned to the first.

Activators

Activators are supported for Dynamic Inputs. If an activator is assigned to Input 5 and Event InputDynamic1 then that button will light up
when Input 5 has been selected into Dynamic1.

Examples

Transitions

- A row of input buttons and another row of transition effects. Press the input button then press the transition effect button to complete the action.

Audio

- A row of input buttons and another row of audio control buttons (Mute, Solo, Bus selection etc)

Replay

- A row of tag names and a separate button for each camera to assign the tags to replay events

Activators - MIDI Lights and Faders

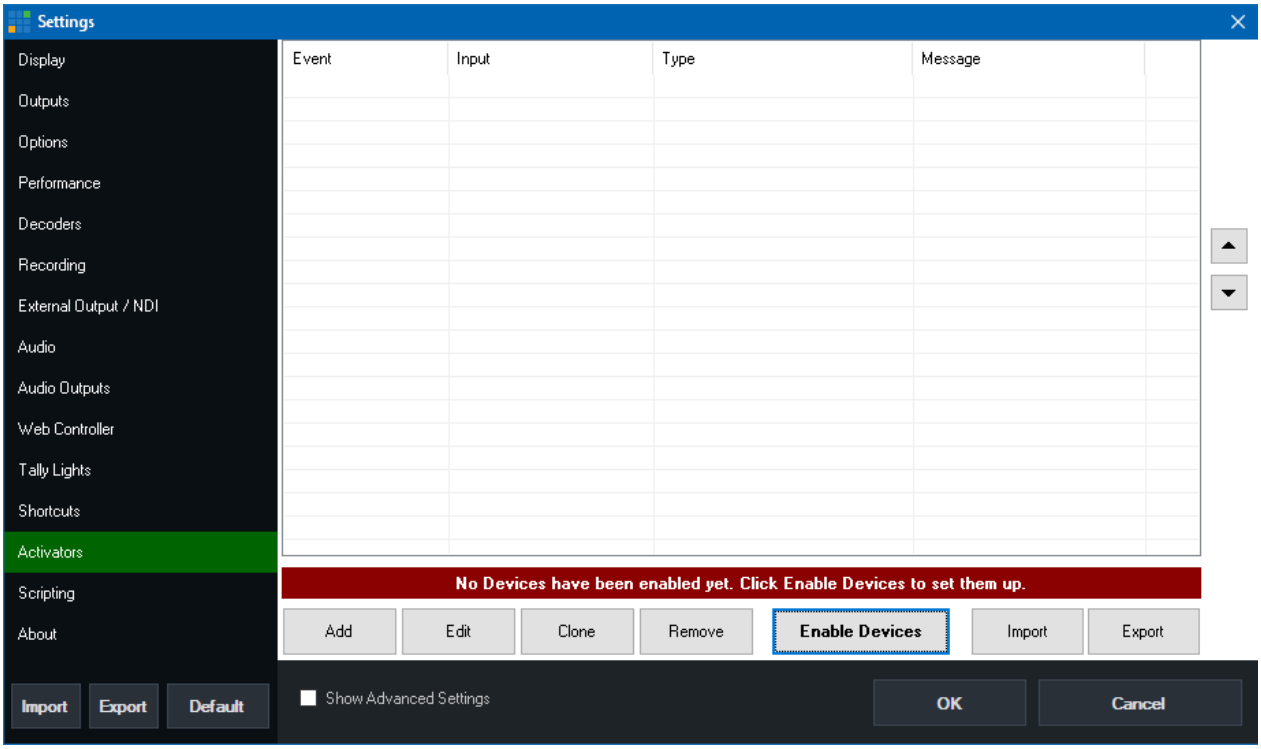
Activators can be used to activate lights, button LEDs and motorised faders in response to changes in vMix. For example, you can assign a row of LED buttons on MIDI controller to a row of Inputs in vMix and have them each light up when the corresponding input is live.

Activators supports most MIDI and X-Keys controllers.

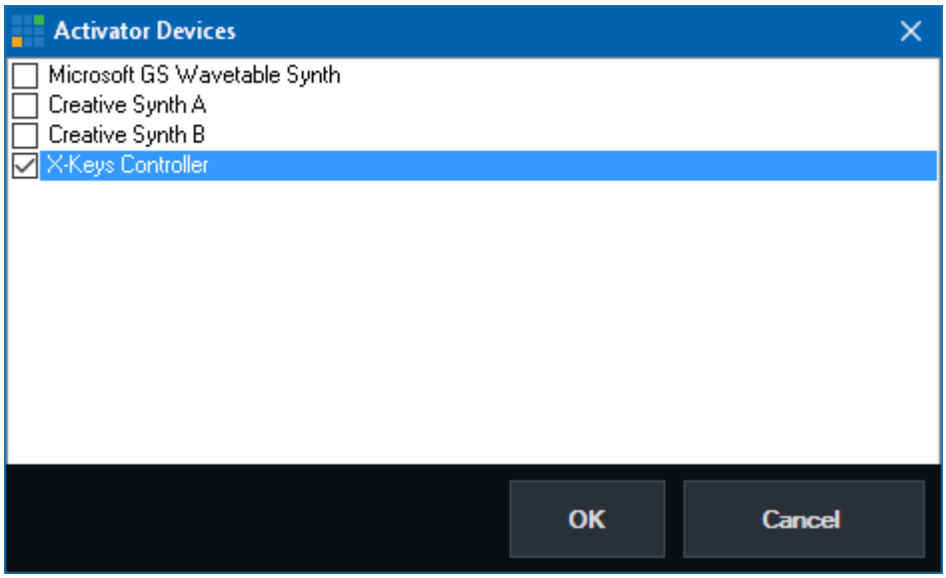
[Getting Started](#)
[Add/Edit Activator](#)
[Activator Examples](#)

Getting Started

1. Go to vMix Settings and click the Activators tab



2. By default no devices (i.e MIDI or X-Keys controllers) are enabled, so to select the controller you wish to use click Enable Devices.



Select the controller and click OK

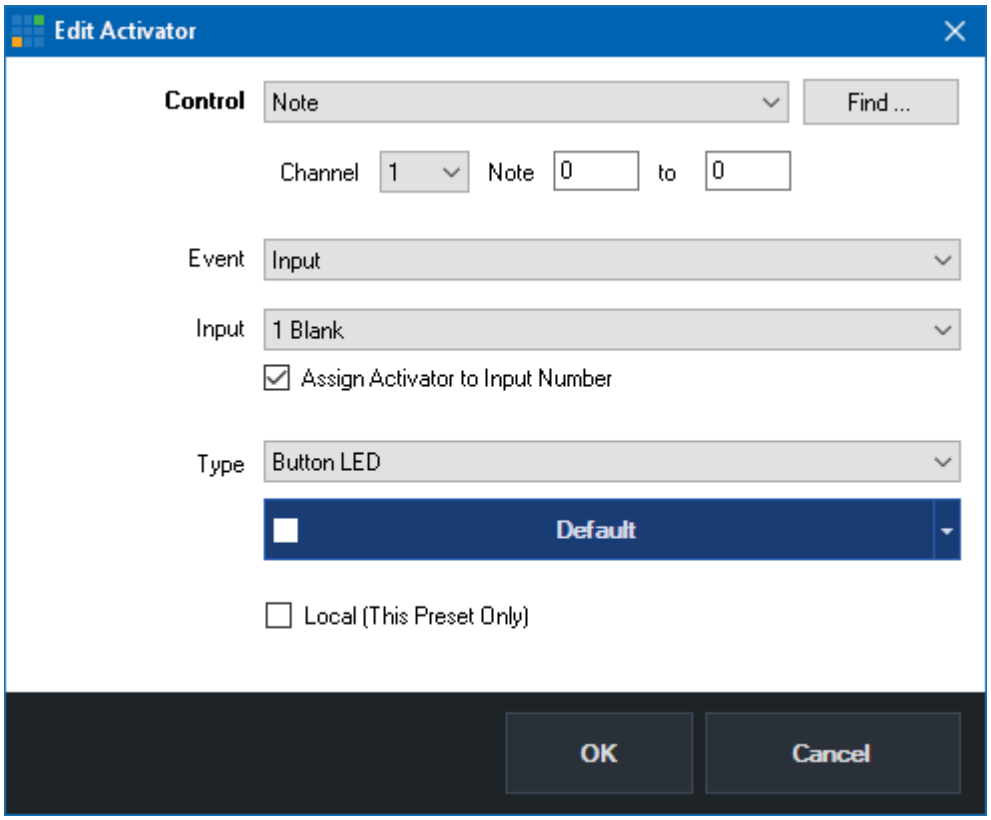
NOTE: For best results, also make sure the corresponding controller is enabled under the Shortcuts tab by clicking MIDI Devices
X-Keys Controllers are enabled by default under Shortcuts and do not need to be selected.

3. Click Add to add a new Activator then click OK.

For some examples of Activators that can be setup see **Activator Examples**

For help on all the settings available when adding an Activator see **Add/Edit Activator**

Add/Edit Activator



Control

Select and configure the type of control. For X-Keys controllers this will also be "Note". For MIDI controllers this is usually Note for buttons and ControlChange for things like knobs and faders.
This is also where the Channel and Note need to be selected that correspond with the button, light or fader you wish to setup.
To make things easier you can click **Find** and press the button or control to locate the correct settings.

Event

This is the change in vMix that you want to turn on a button light, or move a motorised fader.
There are a number of events to choose from as described below:

Default

Default is handy for configuring a default color for buttons that support multiple colors when the button state is "off".
For example you may want a row of buttons to be orange when none are selected here.

When using this option you can also type in a range of notes up the top.

Input

This will turn on when the selected input is currently live and in the vMix Output.

InputPreview

This will turn on when the selected input is currently in Preview

InputPlaying

This will turn on when the selected Input is playing.

InputVolume, InputHeadphones, MasterVolume, MasterHeadphones, BusAVolume, BusBVolume

This will assign a MIDI value from 0 to 127 when the volume of an Input, Headphones or Master volume changes.
This can be used with motorised faders or rotary controls with LED indicators

InputAudio, InputSolo, InputBusAAudio, InputBusBAudio, InputMasterAudio

This will turn on when the selected input's audio/solo/bus etc button is turned on.

MasterAudio, BusAAudio, BusBAudio

This will turn on when the Master or Bus audio button is turned on.

FadeToBlack

This will turn on when the FTB button in vMix is turned on.

Recording, Streaming, External, Fullscreen

This will turn on when the Recording, Streaming, External or Fullscreen output are turned on.

Input

Select the input you wish to use with the selected event.
Tick the "Assign Activator to Input Number" box if you want this activator assigned to a particular input position only, so if inputs are moved around in vMix, the activator will not move.

Type

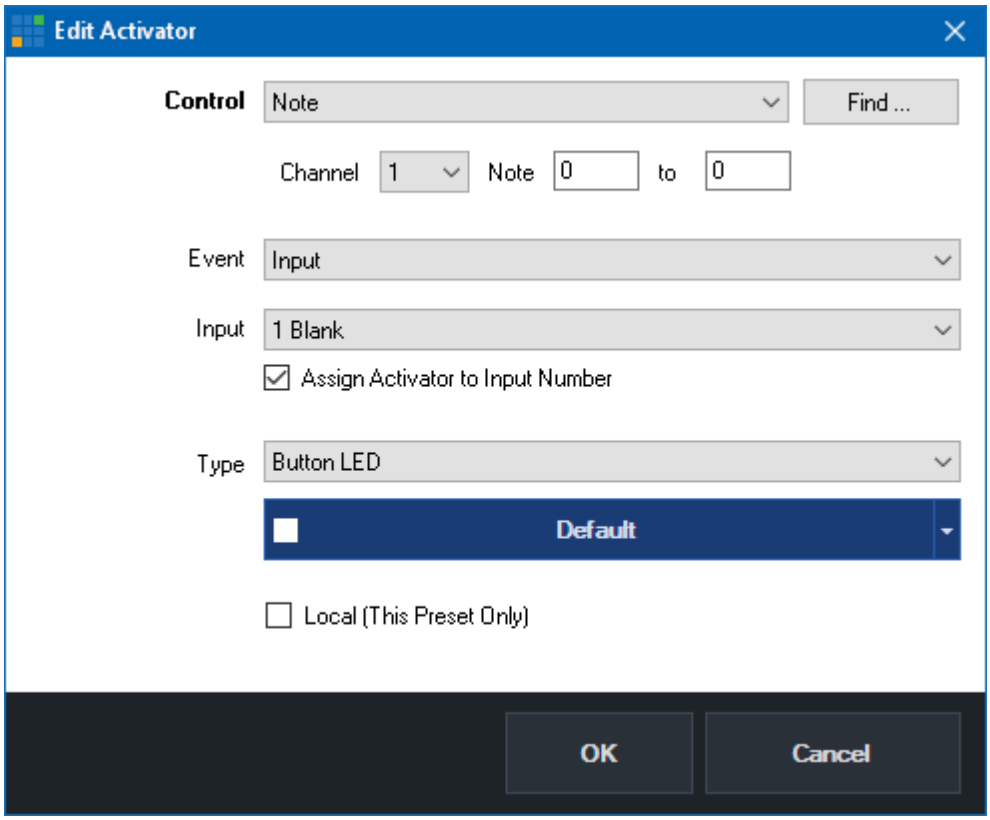
Select the type of button, fader or other type of MIDI control here.
There are a number of options available, depending on the model of MIDI controller.
This is also where the button color is selected if the MIDI controller supports different colors, such as the AKAI APC40

Local (this preset only)

Tick this box to have this Activator saved only within the current preset.

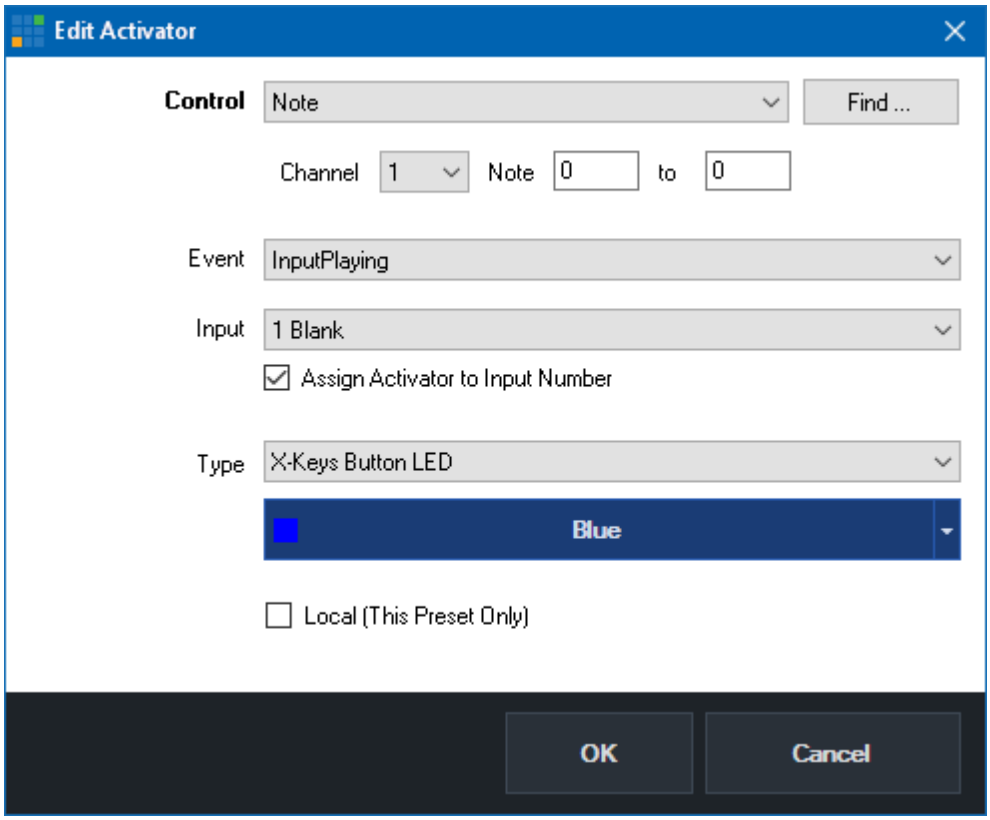
Activator Examples

Toggle ON/OFF LED Button when Input 1 is in Output

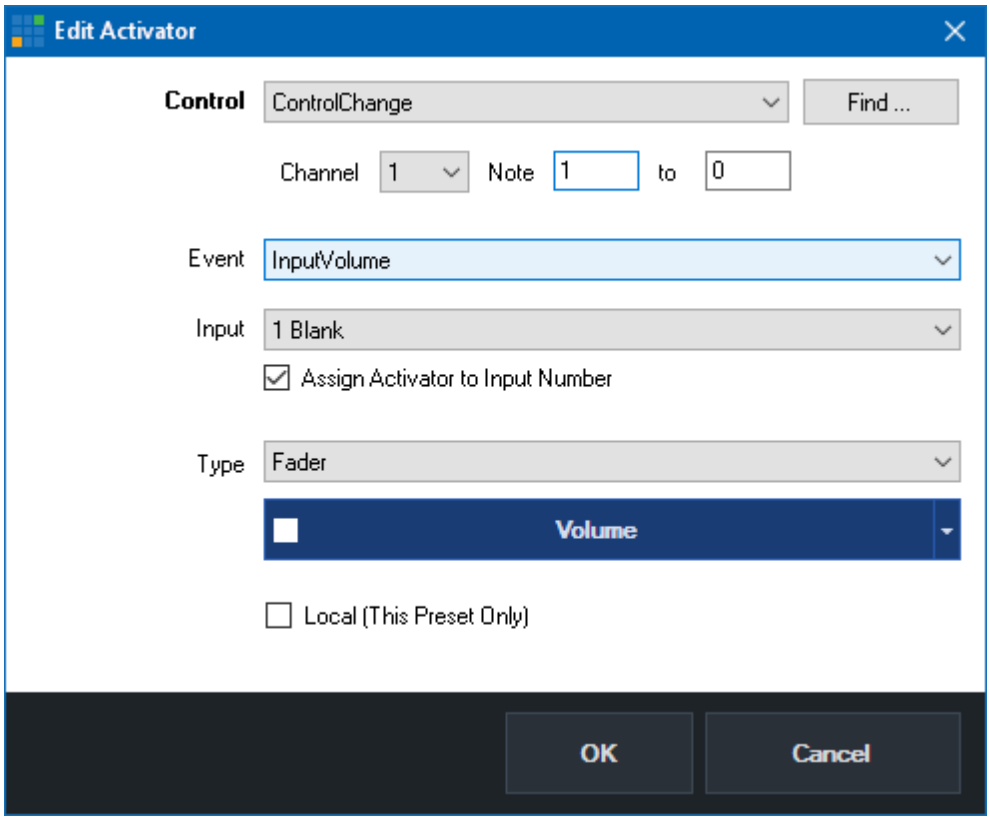


This is for MIDI buttons that only have a single color on/off light.

Turn X-Keys button blue when Input 1 is playing.

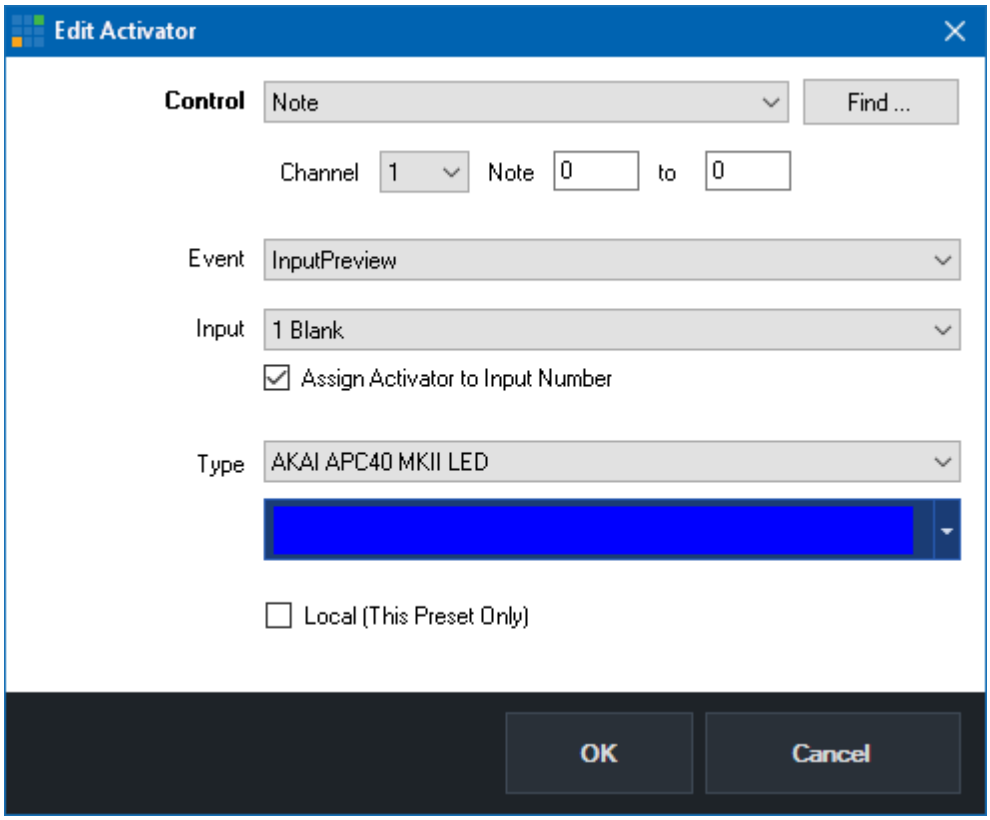


Move the first motorized fader on the Behringer X-Touch Compact when volume on Input 1 is changed



This example may also work on other MIDI controllers with motorized faders.

Turn a button on the AKAI APC40 MK2 controller blue when Input 1 is in Preview



vMix Control Surface

NOTE: The Control Surface is no longer available. This documentation is for reference by existing users only.

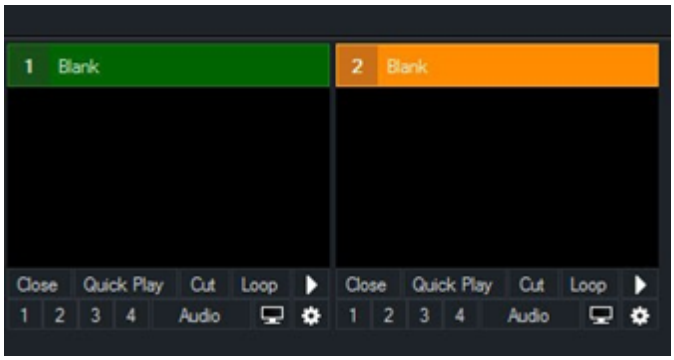


vMix Control Surface is an optional hardware control surface for vMix that connects via USB.
The following is a User Guide that describes the capabilities of each of the buttons and controls.

Setting Up

Visit http://www.vmix.com/controlsurfacedownload/ to download the latest drivers.
Run the installer and accept the prompts to install. Once installed, verify you have the latest version of vMix.
vMix Control Surface is compatible with all installations of vMix version 15 and beyond.

Plug in USB cable from vMix Control Surface to Computer. The lights should flash briefly indicating the unit is receiving power over the USB connection. When using the Control Surface, it must be plugged in prior to opening vMix in order to be recognized. If you plug the unit in while vMix is running, you may need to restart vMix to recognize the Control Surface is connected.



The Control Surface uses an industry standard cross point layout consisting of Preview, Program and Overlay keys.

Each input in vMix has a number next to the input name. These correspond to numbers on the Overlay, Program and Preview rows on the Control Surface.

The Control Surface provides access to the first 12 inputs. Inputs can be dragged and dropped in vMix to

position the most frequently used sources for use by the control surface.

Preview Bus (Bottom Row)

Press the number of the input on the Preview row that you want to assign to Preview.



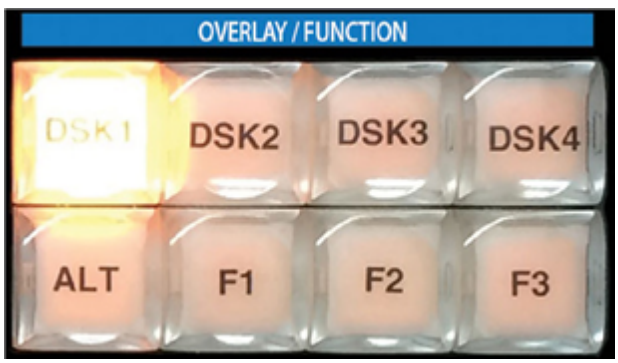
Program Bus (Middle Row)

Press the number of the input on the Program row that you want to assign to the Program or Output. This will cut or take the input directly to output without any transitions.

Overlay Bus (Top Row)

In vMix, graphics placed on top of other sources are known as Overlays. These are also known as Down Stream Keyers (DSK) because the graphics are usually “keyed” over live video after any upstream effects are applied. The DSK buttons on the Control Surface correspond to the 1 through 4 numbers underneath each input in vMix (see graphic on page 1).

1. Select the Overlay channel you wish to use. Example: if you want to overlay an input on channel 1, press the DSK1 button. It will now light up indicating overlay channel one on the first 12 inputs is ready to be used.
2. Press the desired input you wish to overlay. Example: if you have a lower third title in input 6, press button 6 on the Overlay row. Button 6 will then light up indicating that input 6 is overlaid on channel 1 of the chosen input.
3. To see which inputs are currently active on each overlay channel, you can cycle through the 4 DSK buttons. If an overlay channel has an active input, the corresponding input will light up.



Function Buttons (F1, F2, F3)

1. To program the Function buttons, open up the settings window in vMix and click the Shortcuts tab.
2. Click Add and a new window opens, with drop down menus showing usable keys and available vMix shortcuts.
3. Click the Key drop down and scroll down to SurfaceF1, SurfaceF2, SurfaceF3. These correspond to the F1, F2 and F3 keys on the Control Surface.
4. Select the desired Function. Example: if you wanted a button to start recording, select Start Recording.
5. Press Ok and the selected function button is now ready to be used.

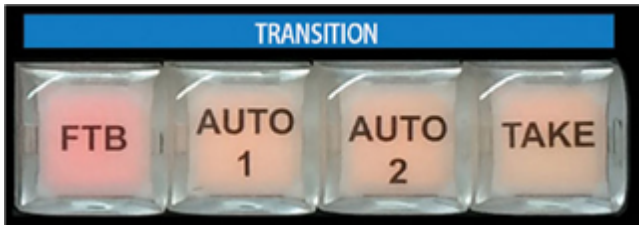
ALT Button

The ALT button can be held down in conjunction with other buttons in order to change their functionality. This will allow enhancements to be added to future updates of vMix.

It presently operates as follows:

1. Hold down ALT while pressing a Preview row button to start playing that input if it is a video clip.
2. Hold down ALT while pressing one of the Overlay row buttons to turn on that overlay in the Preview window instead of directly to Program/Output.
During the next transition the previewed Overlay will automatically be activated over the top of Program/Output.

Transition Buttons



In live switching, changing from one camera or clip to another is called a transition. The vMix Control Surface has three available transition types available, corresponding to transition buttons in vMix.
1. For a hard cut between two inputs, press the “Take” button
2. To use a stylized transition such as a wipe, fade or zoom, there are customizable transitions located at the top of the vMix interface. “Auto 1” and “Auto 2” correspond to the first two transitions below Cut. When these transition types are changed in the vMix window, the transition will also change for the buttons.
3. Press “FTB” to fade the live output to a black screen. (Fade To Black)

T-Bar Operation

By default, the T-Bar allows a manual fade transition between Preview and Program.
The transition effect is linked with the Auto 1 and the first transition button in the vMix interface. If this button is changed from Fade to Wipe for example the T-Bar movement will create a wipe transition instead of a fade.

Web Controller

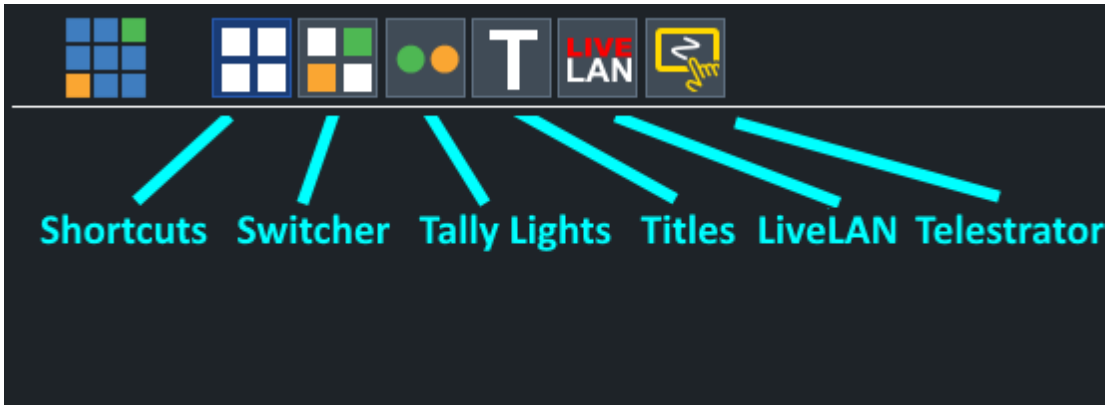
vMix Web Controller allows any web capable device to remotely control Shortcuts, Switching, Titles and also watch live streams using LiveLAN.
Additionally, it can be used to turn any mobile phone into a wireless tally light.

Examples of web capable devices include tablets, iPads, mobile phones and many smart TVs.

The vMix Web Controller is turned on by default and you can find the web site address to type in our device by clicking
Settings in the main vMix window and then clicking the **Web Controller** tab.



After typing in the Web Site Address into your device's browser, the following page will be displayed:

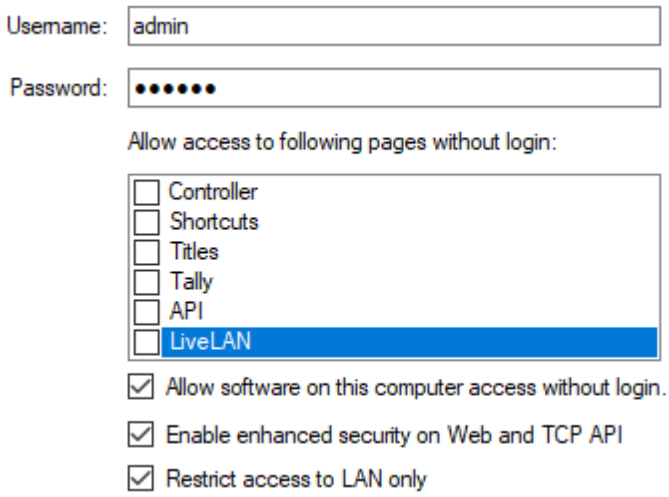


There are five buttons available:

Shortcuts
Switcher
Tally Lights
Title Editor
LiveLAN
Telestrator

Password Protection

Password protection can be enabled from the Web Controller tab in Settings by setting a password as shown below.



Access can be granted to individual pages without requiring a password by ticking the boxes in the list provided.
Note: If password is blank, no login will be required, regardless of the access settings.

Security

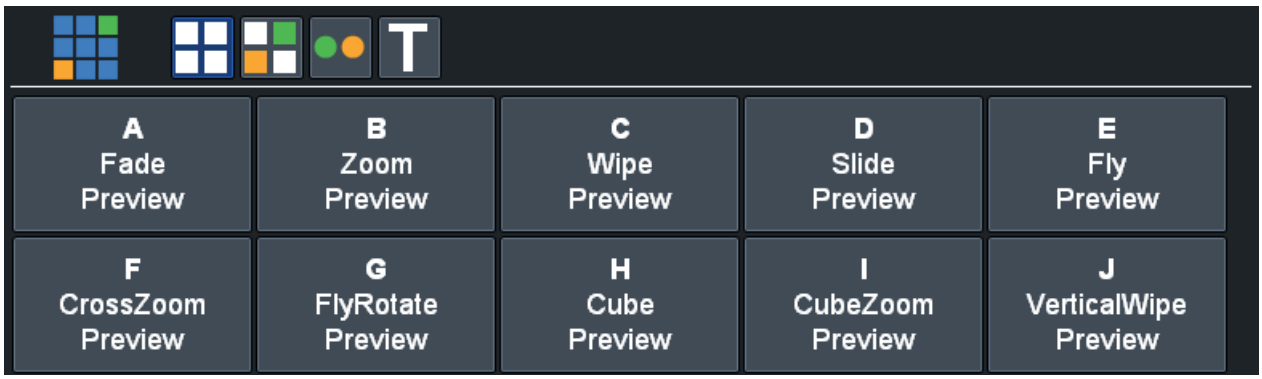
Additional security settings are described below:

Allow software on this computer access without login.
Regardless of password or page restrictions, ticking this box will allow other apps on the same computer access to all web controller functionality.
This is needed for apps like vMix Social which access the vMix API without a login.

Enable enhanced security on Web and TCP API
Ticking this box will disable certain features which may be pose risks on unsecured networks or computers. For example this disables dynamic scripting, and also disables a web browser from running scripts that could in turn access the Web or TCP APIs.

Restrict access to LAN only
This is turned on by default and prevents all internet access to the Web and TCP APIs. If remote access to the web controller is needed
it is strongly recommended to ensure a firewall is used with adequate security policies in place before disabling this option.

Shortcuts



The shortcuts button will display any **Shortcuts** that have been added to vMix.
You can assign each of these Shortcuts a memorable title or description from the **Edit Shortcut** window in

vMix.

Switcher

Click the **Switcher** button to display the web interface in a mode similar to the hardware controller available on a traditional video switcher.



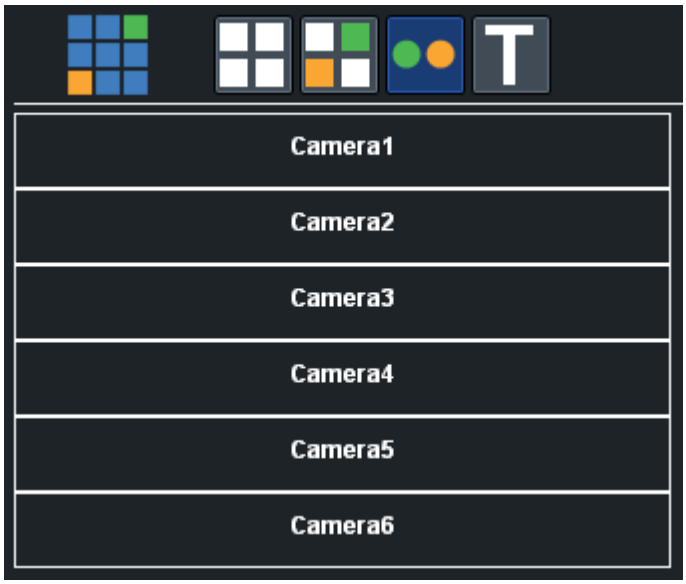
The transition effects along the bottom match the transition buttons seen in the middle of the vMix main window. (See **Transition Buttons**)

Tally Lights

The Tally Lights feature allows you to turn any WiFi enabled smart phone into an instant tally light!
The entire screen will be used as a tally light allowing you to mount it on top of the camera or place it near your on air talent.

Setting up a Tally Light

1. Make sure both the vMix PC and the smart phone are both connected to the same WiFi network.
2. Open up the smart phone browser and type in the Web Controller URL. (This URL can be found by clicking Settings in vMix and looking under the Web Controller tab.)
3. Select the Tally Light icon in the menu to bring up the following page:



4. Select any Input from the list to start the tally light display.



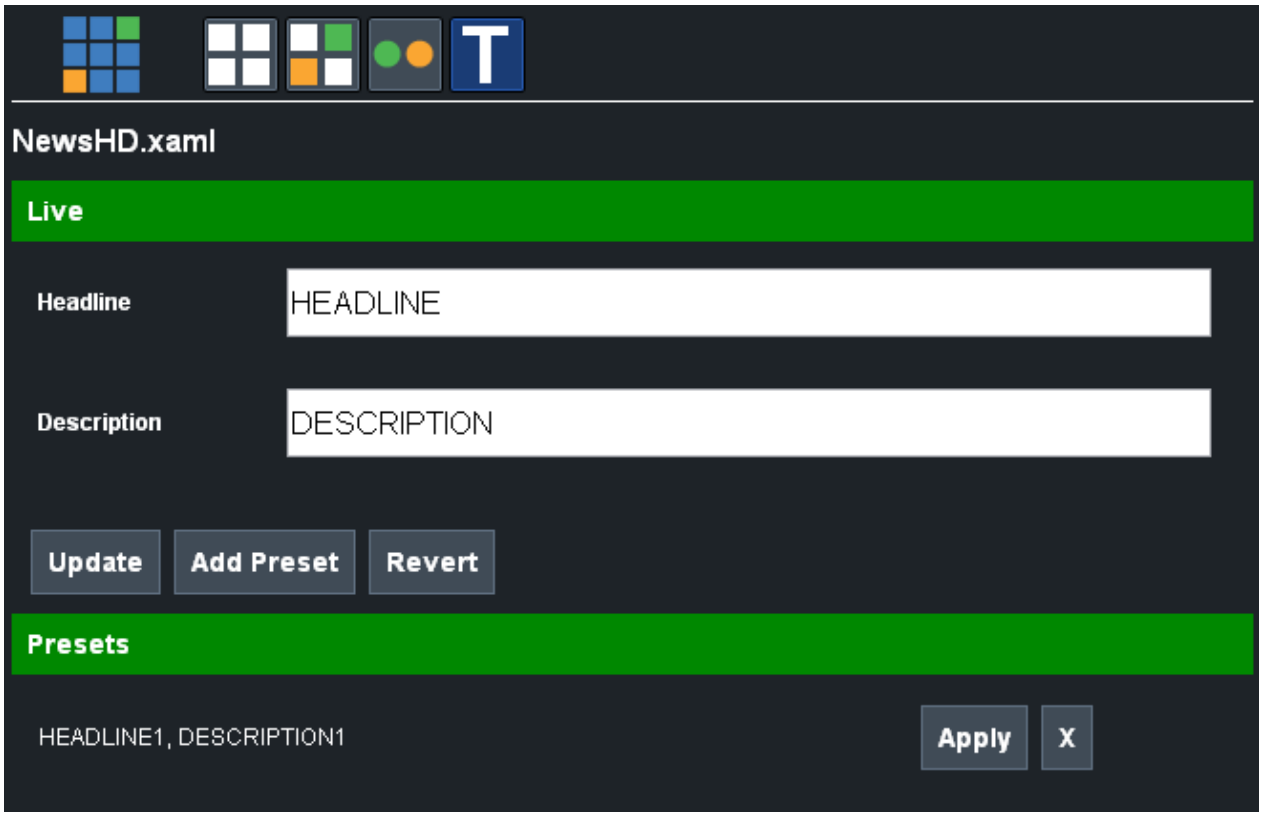
The tally light display will change between the Preview and Output colours depending on the status of that input.

WARNING: Most smart phones will automatically switch off or lock the display after a certain period of time.
On Apple smart phones this can be turned off through the "Auto Lock" settings.
On Android smart phones you can install an app such as "Screen Timeout Toggle"

Title Editor

The title editor allows you to edit the text of any **Title** or **XAML** input in vMix from any WiFi web enabled device.
This includes smart phones, tablets etc.

Select the Title Editor icon from the web interface and select a Title from the list.



Live

This section allows quick editing of each title field. Simply change the text and click **Update**.
To add the changed text to a Preset instead of updating the live title click **Add Preset**
Click **Revert** to go back to the title text the last time it was updated.

Presets

Presets uses the same presets found within the **Title Editor Window**.
To apply a preset to the Title click **Apply**. To delete the preset click **X**

LiveLAN

See LiveLAN for more information.

Telestrator

Telestrator is an input with a transparent background that can be drawn on using a web browser.
Telestrator is available in vMix 4K, Pro and Max.

System Requirements

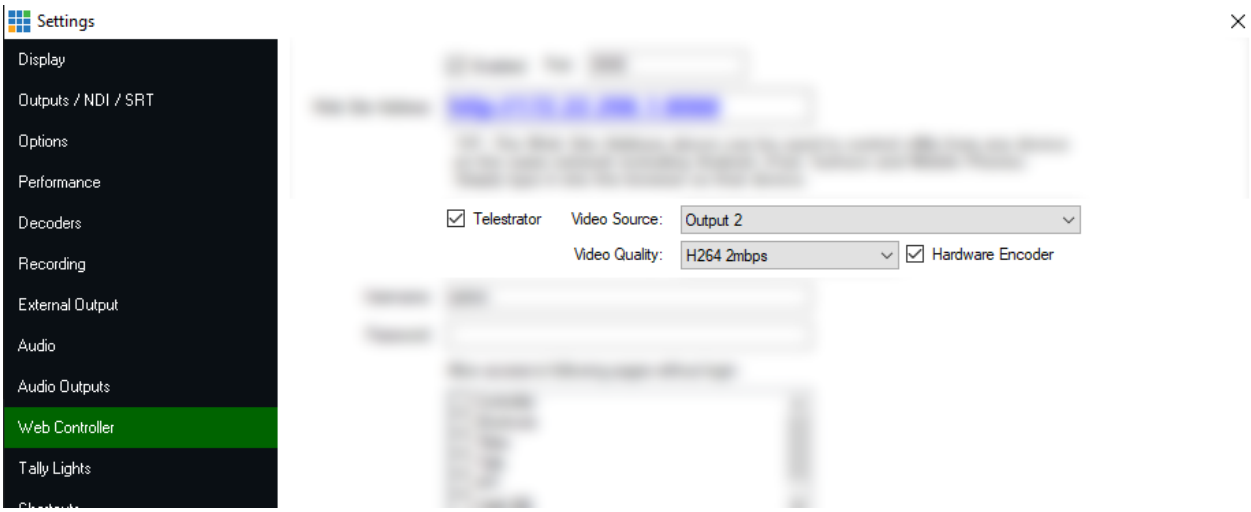
Telestrator works on most modern web browsers.

- iOS/Safari 16 or higher
- Chrome 100 or higher
- FireFox 100 or higher

Getting Started

Before using the Telestrator, first enable and configure the Telestrator in the Web Controller settings:

1. Go to **Settings**
2. Click the **Web Controller** tab
3. The following settings will appear:



4. Tick the checkbox to enable Telestrator
5. Select the **Video Source** to appear behind the Telestrator in the web browser.
IMPORTANT: This should be a video source that doesn't show the telestrator input itself.
This can be done by configuring an input directly in Settings - Outputs in a spare output, or by turning off some of the overlays for that output.

6. Select a **Video Quality** for the video feed that will appear in the web browser.

7. Click OK to save the settings.

Adding Telestrator Input

Go to **Add Input** and select the **Telestrator** tab. Click OK to add the Telestrator.

Using Telestrator

Open up a web browser and browse to the vMix Web Controller.
Click the button for the Telestrator.



Drawing on the screen with either the mouse, finger or touchscreen pen will appear on the input in vMix in real time.
The input can then be used as an Overlay in vMix as needed.

Telestrator Toolbar



The Telestrator Toolbar provides a basic set of drawing tools.
These are (from left to right):

Colour: Change the colour of lines and shapes
Size: Change the width of lines and shapes.

Line Tool: Draw using a freeform line.
Square Tool: Draw a square starting from the top left corner.
Circle Tool: Draw a circle starting from the center.
Image Tool: Draw one of the built in images, including numbers.
Number Tool: Draw a number between 1 and 20. After drawing a number, the tool will automatically progress to the next number in the sequence.
Laser Pointer Tool: Show a red dot on screen as long as the pen, mouse or finger is held down on the screen.

Undo: Undo the last drawing action.
Erase: Erase the entire canvas.
Fullscreen: Expand the video preview fullscreen, hiding the toolbar.
Latency: Set the latency of the video feed. By default this is configured as Normal for optimal smoothness under most conditions. To reduce the latency as much as possible, press this button to change it to Latency: Low.
Video: Turn on or off the video feed.
Drawing: Turn on or off active drawing. Turn off to prevent accidental drawing.

Telestrator Images

Custom images can be added to the Telestrator by placing them in the Documents\vMixStorage\Telestrator folder on the computer.
This folder can also be opened from the Telestrator Input right click menu.

Images must meet the following requirements:
Format: PNG
Size: maximum size 1920x1080

Telestrator Shortcut Buttons

10 shortcut buttons are available at the bottom of the Telestrator page.
These can be configured in vMix - Settings - Shortcuts by toggling on the **Show in Telestrator** checkbox.

Telestrator MultiView

Clicking/tapping on the Telestrator MultiView to select an Input into preview, is possible when the following is configured:

1. The Output assigned to the Telestrator is set to MultiView1 or MultiView2
2. **Enable Click to select Input** is enabled in the MultiView "Customise Layout" settings
3. Drawing: On button is set to **Drawing: Off**

Instant Replay



vMix Replay is a powerful Instant Replay system that adds full slow motion replay capabilities to vMix for up to sixteen (16) camera inputs.

Features

- Sixteen (16) channel continuous recording of up to sixteen camera inputs including 4 channel audio.
- Recordings are high quality vMix AVI 4:2:2 files with resolution support up to 4K and Progressive and Interlaced support.
- Audio is recorded as uncompressed 48khz 4 channel 32Bit Float.
- Two output playback channels that can be controlled independently or in sync and have any camera angle assigned to each.
- Precise slow motion playback control from 0 to 100%.
- Reverse playback, Fast Forward and frame by frame control.
- Twenty (20) Events lists are available that include an unlimited number of Mark In and Mark Out points that can be added on the fly and changed at any time.
- Each event can have a default camera angle selected for playback and text comments can also be included with each angle for easy recall.
- Easily playback entire Events lists or selected entries as a highlight reel, complete with transition effects and background music.
- Auto mark in / out controls allow quick event creation with the click of a button with 5, 10 and 20 second presets.
- Keyboard shortcut support for all replay functions
- Many hardware control options available including X-Keys, JLCooper, Contour ShuttlePro and Scroll Wheel slow motion control.
- Export events to separate video files on the fly, or use the recordings straight away in your favourite video editor in MP4 or AVI format.
- Use vMix Replay as a dedicated instant replay system or incorporate it into your existing vMix based production.
- Dedicated Replay MultiView output with two playback channels alongside eight live camera previews.
- Quad View mode enables displaying four high quality previews at once for VAR applications.
- Allows importing clips in a variety of formats into a spare camera channel.

System Requirements

The table below shows the minimum requirements to use vMix Replay.

	One Channel HD	Four Channel HD / One	Eight Channel HD / Two Channel 4K	Sixteen Channel HD / 4 Channel

		Channel 4K		4K
Operating System	Windows 10/11 (64 bit only)	Windows 10/11 (64 bit only)	Windows 10/11 (64 bit only)	Windows 10/11 (64 bit only)
CPU	Quad Core 3.4 Ghz	Six Core 3.6 Ghz	18 Core 3.0 Ghz	24 Core 3.2 Ghz
Memory	8GB DDR4	8GB DDR4 (Dual Channel)	16GB DDR4 (Dual Channel)	32GB DDR5-6000+ (Dual Channel)
Graphics Card	NVIDIA GeForce GTX 1050 or higher	NVIDIA GeForce GTX 1060 or higher	NVIDIA GeForce GTX 1080 Ti or higher	NVIDIA GeForce GTX 3070 or higher
Storage	Dedicated SSD for Replay 200GB and higher.	Dedicated SSD for Replay 500GB and higher. 1TB recommended.	NVME SSD with minimum 500MB/sec Read/Write.	Multiple NVME M.2 SSDs, at least one for every 4 cameras in HD, one SSD for each camera in 4K.
Storage Connection	Internal SATA or M.2 only	Internal SATA 3, M.2 or faster only. (M.2 recommended)	M.2 only	M.2 only

Camera Requirements

Instant Replay primarily works with cameras connected to a capture card.
This includes HDMI and SDI cameras connected to a capture card either via PCI Express, Thunderbolt or USB 3.0.
NDI and OMT sources can also be used with Instant Replay as long as they are in the same format as the current Replay Session.

SRT Inputs

In order to use an SRT Input the **Use Hardware Decoder** checkbox must be unticked when first adding the SRT Input to vMix.

Other Unsupported Input Types

Webcams, IP cameras, and other types of video sources are not directly supported.

To use these types of inputs, the "Output" camera option can be selected in the Instant Replay settings. Output will capture everything that is currently playing to the output in vMix.

Camera Resolution / Frame Rate

All cameras must have the same resolution.
Different frame rates are permitted as long as all cameras are sending Progressive or PsF video.
Frame rates will be converted by either duplicating or deleting frames to match the Replay Session frame rate.

High Frame Rate Requirements

High frame rates such as 120FPS or higher require specialised cameras and capture cards.
In particular the camera must support outputting at 120FPS or higher, as many cameras have recording support for high frame rates but do not actually output at this rate via the HDMI or SDI output.

CPU requirements also change for high frame rate sources, as a general rule 1x 120FPS is the equivalent of 2x 60FPS sources.

vMix Requirements

Note: Instant Replay and MultiCorder cannot be used at the same time.

Workflow changes since version 23

vMix Replay has undergone some significant workflow changes in version 24 which are outlined below for reference.

New Replay Session and Recording Format

To facilitate higher camera and 4K formats, vMix Replay now uses the vMix AVI format for its recordings instead of the previous MPEG-2 MPG files.
As a result, a new replay session folder will need to be created.
Existing replay session folders can be opened and viewed in 24, but should no longer be used for new productions.

vMix AVI files can be imported into Adobe Premiere, Magix Vegas Pro directly, or the Export Clips feature can be used to export in MP4 format.
vMIx AVI cannot be uploaded directly to sites such as YouTube, Twitter etc, so exporting in MP4 will be required to use these platforms.

vMix AVI files also have a slightly higher bitrate as they are higher quality at 4:2:2 vs the previous format's 4:2:0 format, so recording remaining times
may be reduced by up to 20%.

Independent Output Channels

In previous releases, A and B outputs were fixed to the same time for both.
In 24, these are still linked by default, but can now be used completely independently if required.

Events can be played back in A while events are edited in B and vice versa.

Shortcuts also allow assigning tasks to a particular channel as needed.

Event Transition Overlapping

In previous releases, a transition effect between events would occur after the out point of the previous event and before the in point of the next, leading to playing back extra video at the end and start of the two events.

In 24, this has been changed so the transition effect will overlap the end and start of the two events.
Operators will need to consider expanding the in and out times of events if they wish to emulate the previous behaviour.

ShuttlePro v2 Controller Changes

ShuttlePro v2 Jog/Shuttle controls in previous releases were fixed and could not be changed.
In 24, the ShuttlePro v2 now works as a fully customisable replay controller.
As a result shortcuts need to be added to replicate the previous jog/shuttle behaviour.
The buttons have also changed from ReplayA, ReplayB functions to standard MIDI numbers.

The new built in ShuttlePro v2 replay template in Shortcuts has been updated to emulate all the previous behaviour
and will need to be imported into shortcuts for all users that used this controller in version 23 and prior.

Event Cut/Copy/Paste

Events can now be copied and pasted using a cut/copy/paste workflow.
The previous workflow of copying and moving via menu numbers is still available if preferred.

Per-Event Speeds

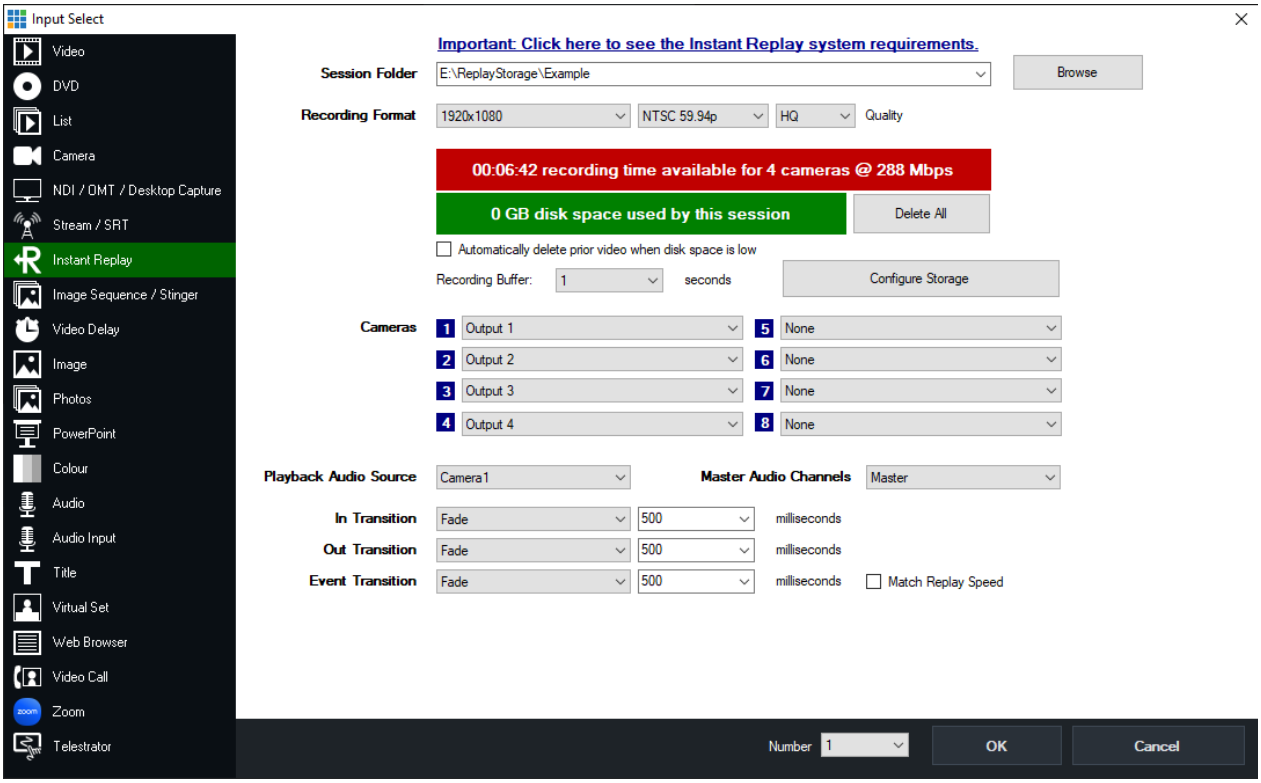
Each event can now have independent speeds assigned on playback, or left as default.
See Creating and Editing events for the specific playback behaviour of this feature.

Getting Started

To begin using vMix Replay, first add all of the cameras you will be using to vMix as inputs.

Next, click Add Input and select the Instant Replay tab as shown below:

Important: Click here to see the Instant Replay system requirements.



Session Folder

This is the location where all Instant Replay recordings will be saved.
This must be dedicated SSD based storage

After selecting a folder, vMix will display an estimated recording time based on the selected recording format and bit rate.

Recording Format

The recording format must match all camera sources that will be used.

Delete All

This button will delete all video, audio and events within the selected session folder while keeping all replay settings intact, including music and tags.
This allows you to use the same session folder and configuration for each game.

Automatically delete prior video when disk space is low

vMix Replay automatically splits each camera recording every 20 minutes.
If disk space is running low, vMix Replay can automatically delete the earliest 20 minutes of the recording to continue.
Note that any events that occurred in this deleted video will be lost.

If this option is left unticked, vMix Replay will automatically stop recording and notify the user that the disk space is low.

Recording Buffer

Set the memory buffer size in seconds to use when writing to storage.
A larger buffer size may help with certain SSDs that have inconsistent write speeds.

Configure Storage

Select additional storage drives to use for individual cameras.
Note that this will not change the location of any existing recordings.
Recordings will be kept in a folder called vmixreplay on the selected drive.

NOTE: It is recommended that cameras be balanced across similarly sized drives.
For example 4x on Session + 4x On extra drive instead of 6x on Session and 2x on extra drive.

Cameras

Select any Camera input already added to vMix here, if you add an input later on you can revisit this configuration window by clicking the cog icon in the Instant Replay Controller window.
Output is also supported as one of the camera inputs, and will record all video and audio playing in the vMix output just like a standard recording.

Select **Clips** as the camera on any channels you wish to import media into. These channels will be reserved for media only and cannot simultaneously include both imported media and live camera recordings.
See **Import Clips** section for more information.

Playback Audio Source

This is the audio source vMix will use when playing back events.
Master can be selected which represents the master audio mix at the time the event being played back occurred.
Follow can be used to automatically switch the audio to the embedded audio of the active camera angle.

Master Audio Channels

Selects the audio channels to record from the Master audio mix.
By default this is the standard stereo master audio but can also be an audio bus or a combination of two buses (for 4 channels total)

In Transition

Select the transition to use when playing back events. This can be a standard transition, or optionally any stinger that has already been configured.

Out Transition

Select the transition to use once the event playback has completed.

Event Transition

Select the transition to use between each event when more than one event is selected for playback, such as in a highlight reel.

Match Replay Speed

When ticked, any transitions between events will be slowed down to match the current replay speed.
(For example a 200ms transition will become 400ms when the replay speed is 50%)

Workflow Overview

Once a new Instant Replay session has been configured and added to vMix (See **Getting Started**)
two new Inputs will appear. Replay A and Replay B.



These are two playback channels that can be used to play previously recorded footage at any time.
Each can have a camera angle assigned from any of the recorded cameras and these can be switched live.

Basic Replay Example

Consider a basketball game where the live Camera 1 is currently selected into the vMix output.

1. Make sure vMix Replay is recording by clicking the record button  so it lights up red.

2. When a team scores a goal, click the -5 button  to instantly create a replay.

3. When you are ready to play back that goal, click the automatic replay button  .

This will transition input A to output, play the event then transition back to Camera 1 when completed.
While the event is playing, try moving the scroll wheel on your mouse to change the playback speed.

Advanced Replay

The example above allows you create quick replays of a single camera with only a single click.
But what if you want to playback one or more previous events or change camera angles and add notes?
The Main Interface can be displayed by clicking the vMix Replay tab

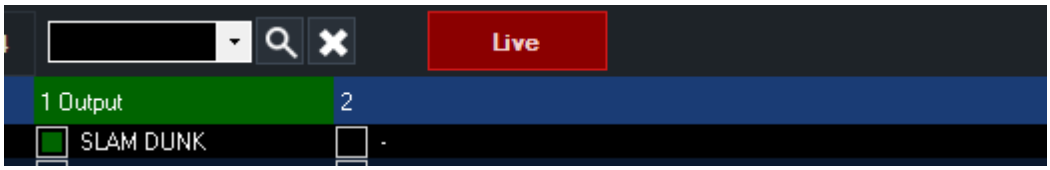

located next to the Audio Mixer tab.
on the bottom right hand side of the main vMix window.

See User Interface Overview for the controls available.

Live and Recorded modes

Events are created in two modes based on the color of the Live button in the Instant Replay Controller

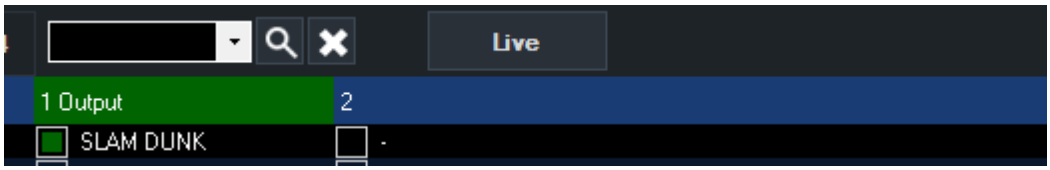
Live Mode (RED)



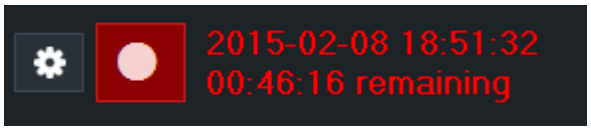
When in Live Mode, all new events are created are based on
the current time "as it happens" on the live cameras.

Starting a recording will turn on Live Mode automatically.

Recorded Mode



When in Recorded Mode, all new events are created based on the time displayed above the position bar
in the Instant Replay controller.



This allows the operator to move the position bar back and forth through previous video to create events that may have been missed live.

TIP: Be sure to enable Live Mode again when finished if you are in the middle of a recording

Creating and Editing events

In vMix Replay, events represent short clips of time for one or more camera angles.
As vMix Replay records continuously, these events can be edited, changed and deleted at any time without losing any footage.

Use the Mark In/Out buttons, shortcuts or controller buttons to create new events as required.
See the Live and Recorded modes overview to find out which times are used when creating events.

Within the user interface, each event has the following columns:

ID

A 3 or 4 digit number (customisable in replay settings) that unequally identifies each event.
This number is fixed when created and cannot be manually changed.
When copying an event, the copy will have a new number assigned.

In
The start time of the event.

Out
The finish time of the event.

Duration
The time between In and Out

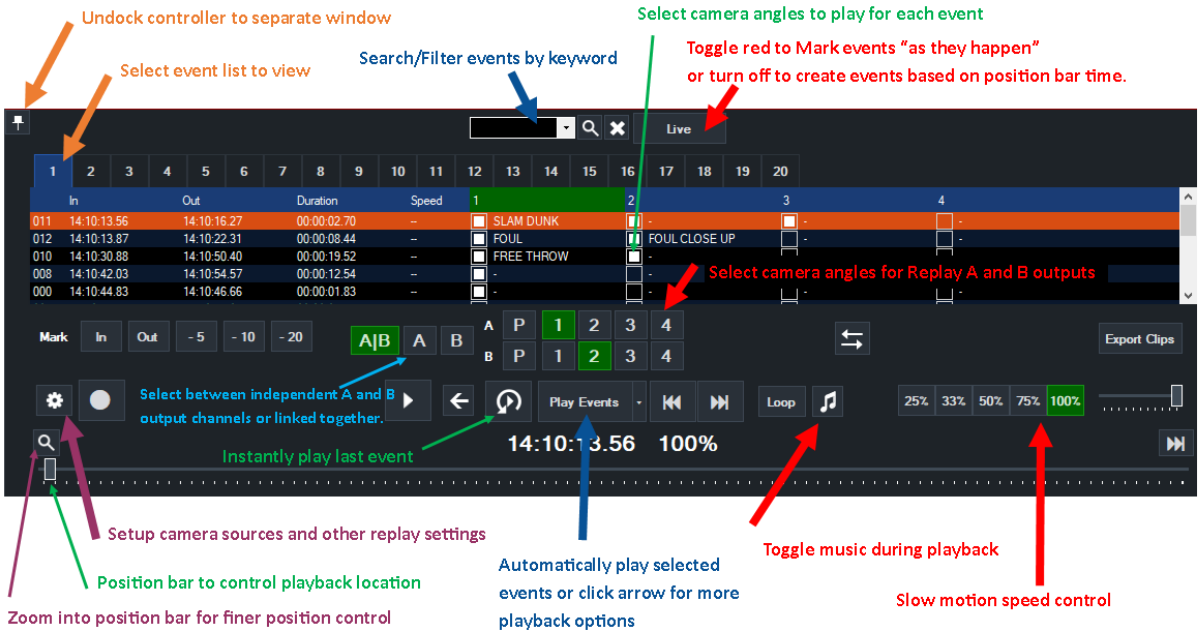
Speed
When -- this means it will play the event at whatever the previous event speed is. If no events specify a speed, this will be the speed the controller is currently set to.
When set to a specific speed, the event will play at that speed, and that speed will become the new default speed for any subsequent events with no speed set.

1,2,3,4,5,6,7,8
These columns represent the up to 8 camera angles available. Checking each box enables playback of that angle when playing the event.
Right click the text boxes next to the check boxes to input text to help identify each event and angle.

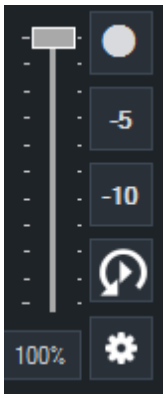
User Interface Overview

vMix Replay includes a centralised Instant Replay Controller that can either be docked to the main vMix window or opened separately.

Main Interface



Mini Interface



The mini interface is located next to the Instant Replay channel "A" input and includes common controls such as recording, quick 5 second or 10 second mark in / out buttons,
a playback last event button and a settings button.

Slow motion can also be controlled here in addition to the main interface.

Control Options

MIDI and X-Keys Controllers

The buttons on most MIDI and X-Keys controllers can be programmed vis the Shortcut feature to activate most functions in Instant Replay.
For more information see **Shortcuts User Guide**

Jog and shuttle wheels can also be used on supported devices such as the Behringer CMD PL-1 or the X-Keys XK-12 Jog and Shuttle.
Pay special attention to the Jog wheel configuration options when setting up a MIDI Shortcut. See **Advanced MIDI Shortcuts**

Contour ShuttlePro v2

The ShuttlePro has 14 configurable buttons in addition to the Jog and Shuttle wheels.
To buttons will be detected as MIDI buttons when creating a Shortcut in vMix.

See **Shortcut Reference** for a list of Instant Replay related functions that can be assigned.

The following diagram shows the functions that are applied when applying the Replay ShuttlePROv2 Template.
This template is found in **Shortcuts - Templates.**



Keyboard

A number of keyboard shortcuts can be configured using the existing Shortcuts feature in vMix.
For a full list of what is available see **Shortcut Reference.**

Mouse

The mouse scroll wheel can be used at any time in the following ways:

With Shift key pressed: Slow down or speed up playback
With Ctrl key pressed: Move backwards or forwards one frame at a time.
With Alt key pressed: Move backwards or forwards one second at a time.

Shortcut Reference

The shortcuts below can be configured as keyboard or controller shortcuts to allow easy control of common Instant Replay functions.
See the **Shortcuts User Guide**

Many more shortcuts are available than listed here.
For a complete list of Instant Replay Shortcuts see **Shortcut Function Reference**.

ReplayStartRecording	
ReplayStopRecording	
ReplayMarkIn	Create a new event with the In Point set to the current time (when live), or the time displayed in the Replay Controller (when in recorded mode)

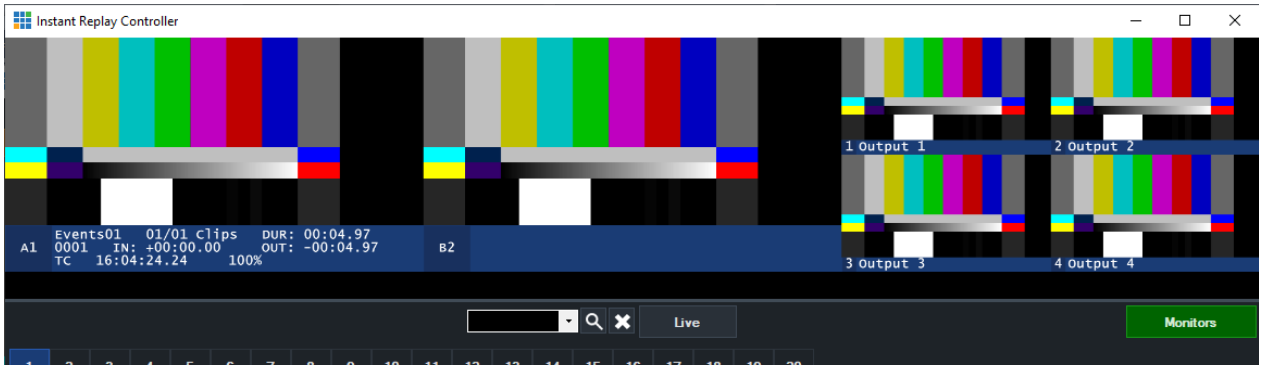
ReplayMarkInRecorded ReplayMarkInLive	Create a new event with the In Point set to either the current time or the time displayed in the Replay Controller
ReplayMarkInRecordedNow	Jumps to recorded mode and starts a new event from the most recent frame allowing the operator to move the position bar backwards to set the out point.
ReplayMarkOut	Complete an event started with ReplayMarkIn and set the Out Point to the time described in **Live and Recorded modes**
ReplayMarkInOut	Create an event with **Value** specifying the number of previous seconds to use according to the time described in **Live and Recorded modes**
ReplayMarkInOutLive ReplayMarkInOutRecorded	Create an event With Value specifying the number of previous seconds to use from either the current time or the time displayed in the Replay Controller
ReplayMarkCancel	Cancel incomplete event and delete it from the list
ReplayMoveSelectedInPoint	Set **Value** to the number of frames (positive or negative) to add to the InPoint of the selected event
ReplayMoveSelectedOutPoint	Set **Value** to the number of frames (positive or negative) to add to the OutPoint of the selected event
ReplayLive	Set all new event timing to Live mode. See **Live and Recorded modes**
ReplayRecorded	Set all new event timing to Recorded mode. See **Live and Recorded modes**
ReplayLiveToggle	Toggle between Live and Recorded modes.See **Live and Recorded modes**
ReplayACamera1,2,3,4..16	Change camera angle for playback channel A
ReplayBCamera1,2,3,4..16	Change camera angle for playback channel B
ReplaySelectEvents1,2,3,4,5,6,7,8..20	Select the Event List to display in the Instant Replay Controller and to use as a reference for any related controls
ReplayPlayEvent	Set **Value** to a positive number starting from 0 where 0 is the most recent event and 1 is the next most recent and so on.
ReplayPlayEventToOutput	Same as ReplayPlayEvent but this will also automatically transition Replay A to output if it is not already.
ReplayPlayLastEvent	Play the most recent event (based on time)
ReplayPlayLastEventToOutput	Same as ReplayPlayLastEvent but this will automatically transition Replay A to output if it is not already.
ReplayPlaySelectedEvent	Play all of the selected events in the current Events list
ReplayPlaySelectedEventToOutput	Same as ReplayPlaySelectedEvent but this will automatically transition Replay A to output if it is not already.
ReplayShowHide	Show/hide the Instant Replay Controller interface.
ReplayChangeDirection	Change current playback direction

ReplaySetLastEventText	Set text of the most recent event (based on time) to **Value**
ReplaySetSelectedEventText	Set text of the selected event to **Value**
ReplayPlayPause	This is the same as the PlayPause shortcut except it will always apply to the Replay regardless of what Input is selected for the shortcut.
ReplayJumpFrames	Specify **Value** as the number of frames, positive or negative to jump
ReplayChangeSpeed	Specify **Value** as a number, positive or negative, to subtract from the current playback speed. For example 0.5 will increase current speed by 50%
ReplayExportLastEvent	Export last event (based on time) as a separate video file. This will default to the export folder in the Replay Session Folder, otherwise **Value** can be used to specify a custom folder.
ReplaySelectNextEvent	Move to next item in the currently selected Event list
ReplaySelectPreviousEvent	Move to previous item in the currently selected Event list
ReplayPlayNext	Transition to next event or angle in the currently playing events list
ReplayPlayPrevious	Transition to the previous event or angle in the currently playing events list
ReplayMoveLastEvent	Specify **Value** as the number from 0 to 3 specifying the Events list to move the last event (based on time).
ReplayMoveSelectedEvent	Specify **Value** as the number from 0 to 3 specifying the Events list to move the selected events
ReplayToggleLastEventCamera1,2,3,4..16	Toggle on or off playing back the Camera 1,2,3 or 4 of the last event.
ReplayToggleSelectedEventCamera1,2,3,4..16	Toggle on or off playing back the Camera 1,2,3 o 4 of the selected event.
ReplayStopEvents	Stop any currently playing events.
ReplayJumpToNow	Jump to recorded mode and move the playback position to the most recent frame of video.

MultiView

Overview

The Replay MultiView is a video multiviewer that displays the two replay channels (A and B) alongside the live camera feeds (from 1 up to 8 cameras at a time).

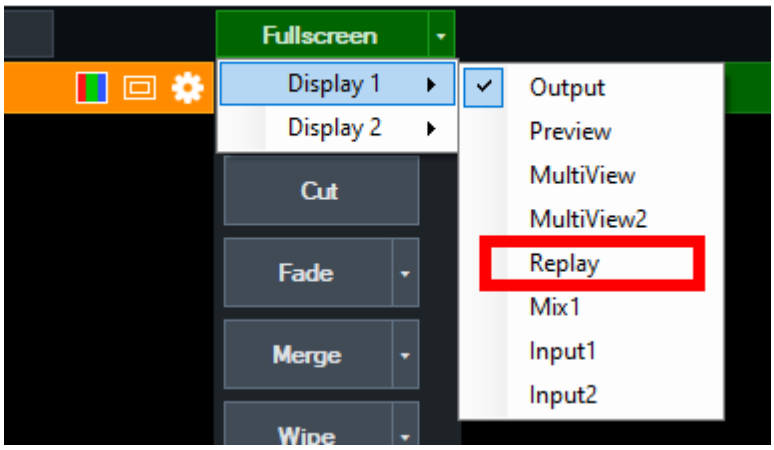


When displayed in the Replay Controller, the channels are on the left, and the cameras are on the right. When displayed on an Output such as Fullscreen, the channels are on the top, and the cameras along the bottom.

Setting up

The Replay MultiView can be enabled in one of the following ways:

1. From the **Fullscreen** menu:

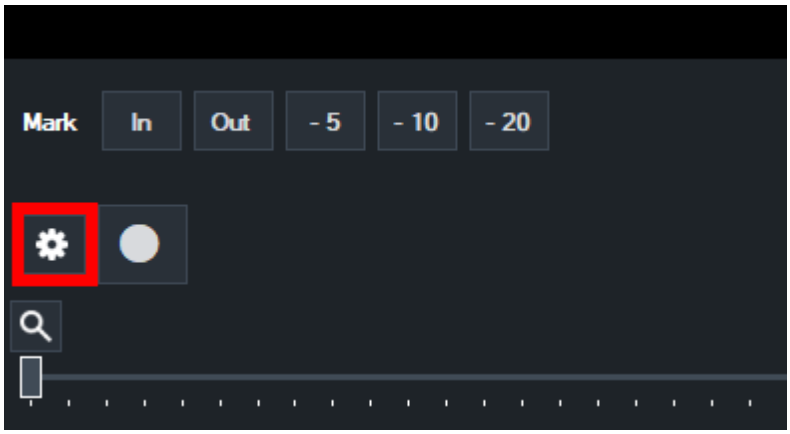


2. From the Replay User Interface, when open as a separate window, by toggling the Monitors button on the middle right hand side of the window.

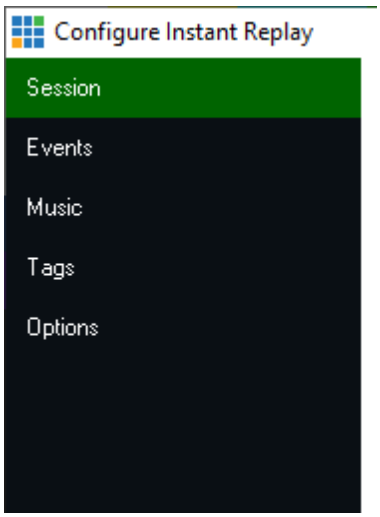


Settings

Settings for the current Replay Session can be changed by clicking the cog icon in the Replay Controller window.



The Configure Instant Replay window will appear with the following menu options:



Session

See **Getting Started**

Events

Pre Roll / Post Roll: Number of seconds to add to the start (pre) or end (post) of each event automatically.

Enable Double Click to Play Event: Double clicking an event will start playing it directly to Output when this is enabled.

Automatically Sort New Events By Time: When unticked, the events will appear in the list in the order they were created, regardless of the timecode.

Continue playback after Events have completed: When unticked, disable pausing of playback when all pending events have completed.

Play Events button automatically transitions to Output: When unticked, the Play Events button will default to playing out to the Replay input only, and won't automatically transition the Replay input to the main vMix output.

ID Digits: Number of digits to use as the unique id for reach replay event. Defaults to 4 (0000, 0001 etc)

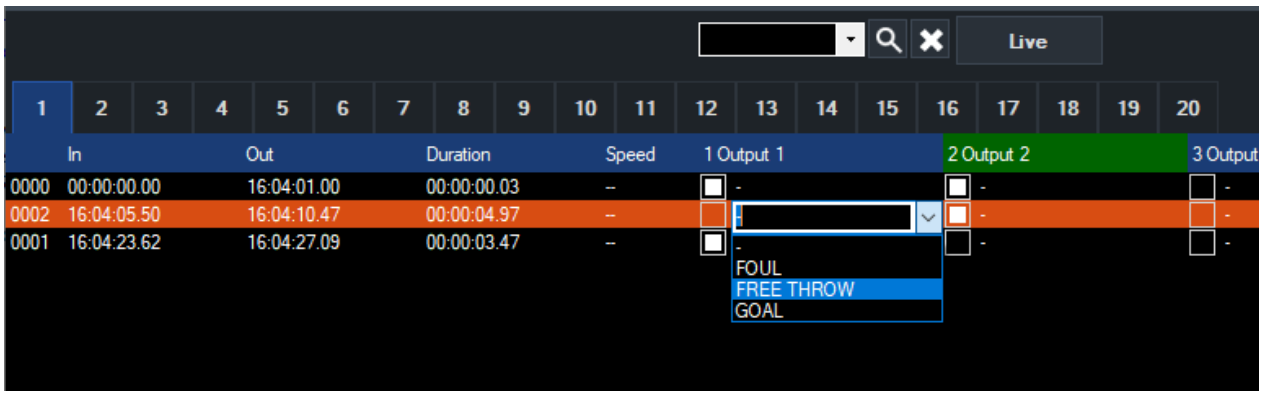
Event Names: Give unique names to each of the Event bins.

Music

Select the music file (in WAV or MP3 format) to play during event playback when the Music button is toggled on in the User Interface.
(See **User Interface Overview**)

Tags

Allows editing and importing the tags that appear in the dropdown list when right clicking the tags section of the Replay Events List



Options

Show live sources in Replay A and B when in Live mode

Unticked by default. When ticked the A/B channel previews on both the input and in the MultiView will display the live camera feeds currently assigned to those channels when in Live mode.
These previews will automatically switch to the recorded footage when not in live mode or when playing back events.

Show preview of all camera angles when not in Live mode

When ticked, will show a preview of all camera angles in the MultiView instead of just those currently assigned to A and B.
Note: These previews are generated using a lower quality preview of each of the camera recordings, and while more efficient then decoding all camera angles at full resolution, still requires
a faster CPU than standard A + B only playback.

Play audio when speed is below 100%

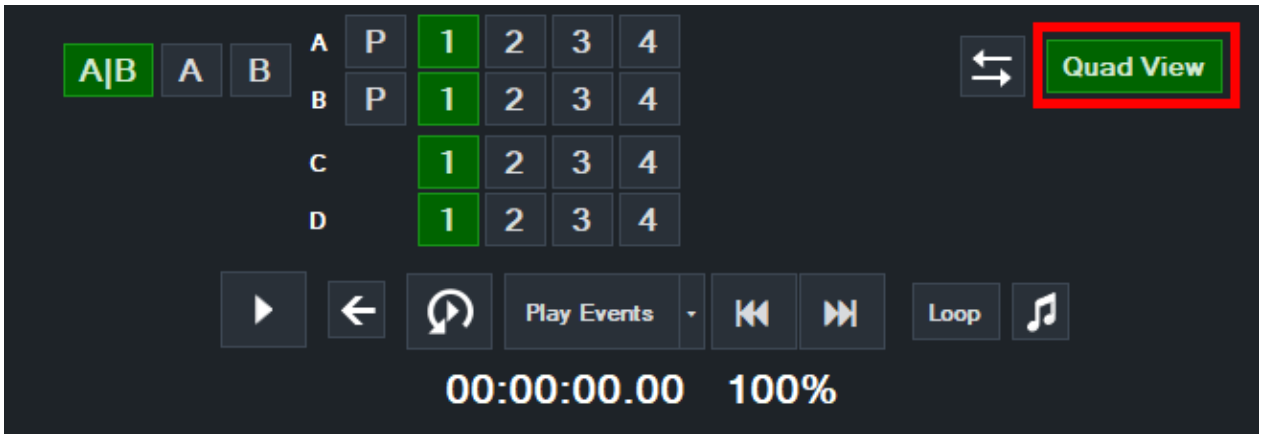
Will play a time stretched version of the audio when events are played back in slow motion.

Camera Sync

See **Camera Sync**

Quad View

Quad View is a special Instant Replay viewing mode that can be enabled by toggling the Quad View button in the Instant Replay Controller.



When enabled an additional two replay output channels called "C" and "D" are available, and all four channels are shown in a quad view
within the Replay MultiView Output.

C and D are special channels only available in this mode and cannot be independently controlled or viewed.

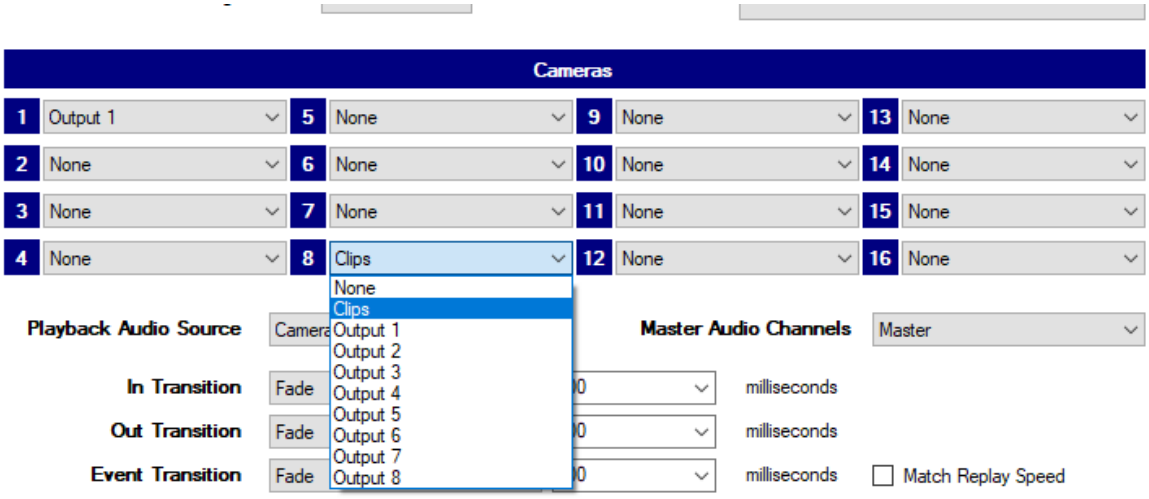
To view a particular camera angle in Fullscreen, select it within A and toggle via shortcuts between the Replay multiview and the Replay A input.

Import Clips

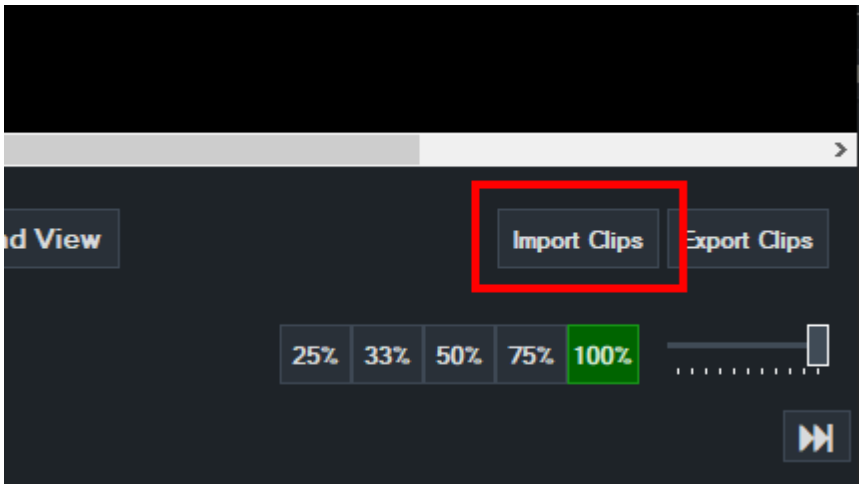
Custom media can be imported into a spare replay camera channel through the Import Clips feature.

Getting Started

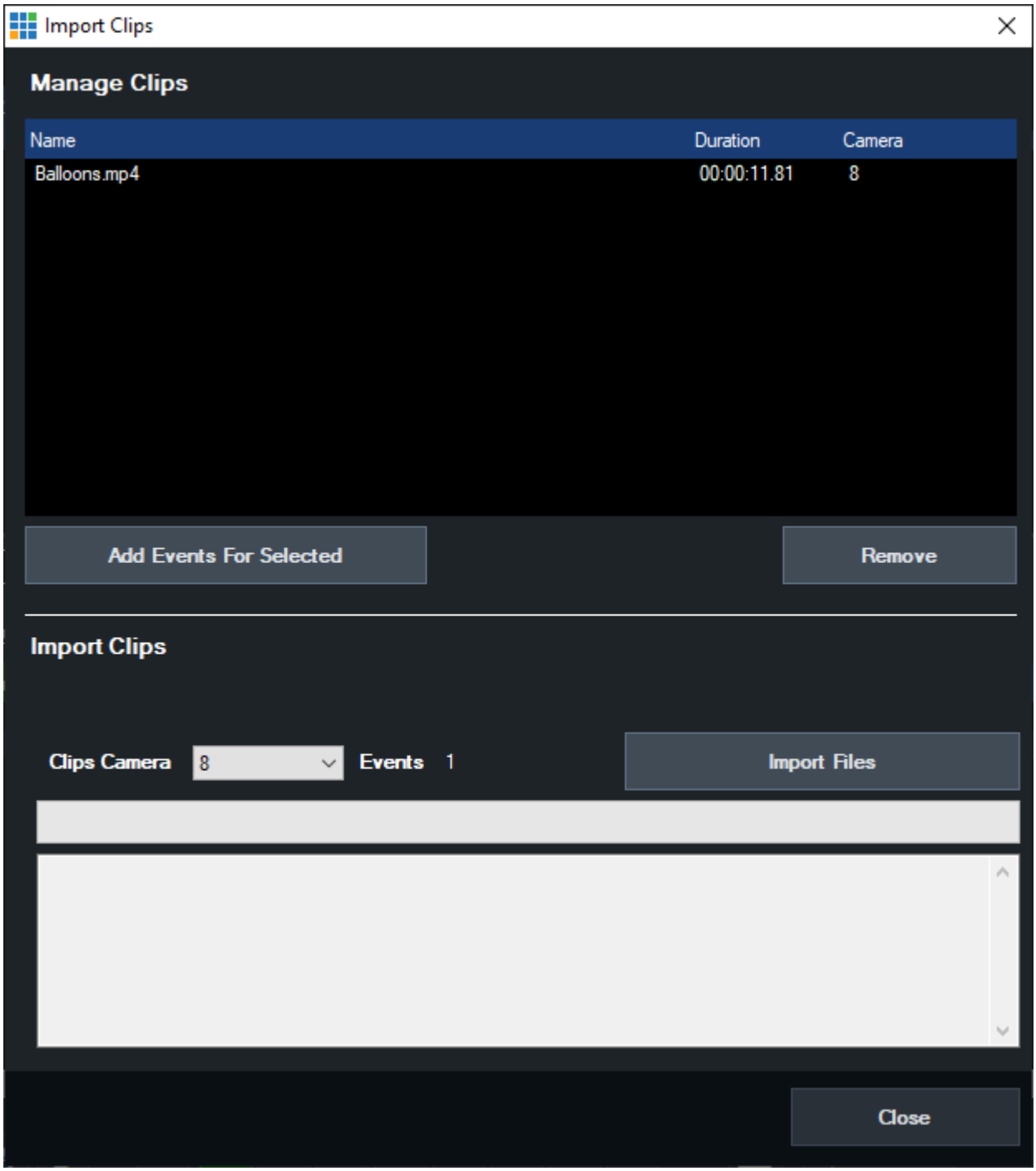
1. Assign a spare replay camera will need to be assigned to "Clips" via the Replay Settings:



2. Click Import Clips from the main replay window



Import Clips



Manage Clips

Previously imported clips will appear in this section.

Add Events for Selected

Create new events in the currently open events tab for the selected media clips. This is handy if the previously added events were deleted or modified.

Remove

This will remove the media from the replay session entirely. Note the original media files that were imported will not be deleted, only the vMix Replay avi files contained within the session for the selected media file will be removed.

Events that relate to the time period of the media will not be removed and instead may show blank when the media no longer exists.

Import Clips

Click **Import Files** to browse for standard media files to import (MOV, MP4 etc). Multiple files can be imported at the same time.
Files will be converted/scaled to match the current replay session. Note that if importing a file with a different aspect ratio, it will be stretched to match. Import Files does not support adding black bars to preserve aspect ratio.
vMix AVI files from other replay productions can be imported and will be kept as is without recompressing. Note that this means they must already match the format of current session and cannot be scaled as a result.

Clips Camera

Select the camera channel previously configured as "Clips" that the media files will be imported into.
The media files will be appended to the end of any previously added clips.

Events

This shows the currently open Events tab in the main interface the imported clip events will be added to.
To import to a different events tab, first change the event in the main interface and open this window again.

Clip Events Timecode

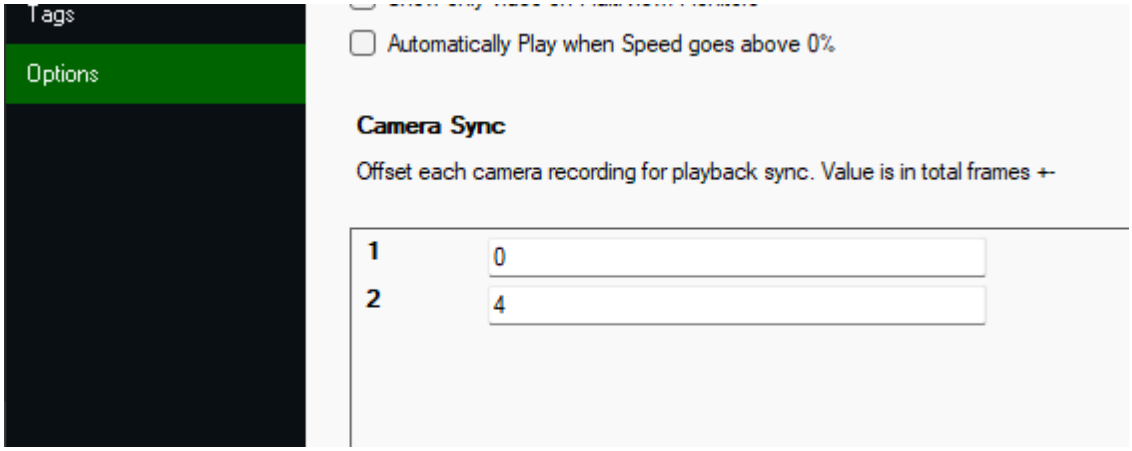
Imported clips will be assigned a timecode starting from the earliest time in the current session with subsequent media appended to the end of the previously added media automatically.
This means clips may appear far in the past compared to the current replay session if the same session is used where older recordings exist.

It is good practice to use the Delete All option before each day's session and the import the clips each time if you do not wish the position bar to extend over multiple hours or even days.

Camera Sync

Cameras are synchronised relative to each other based on the arrival times as set by the capture card and usually no adjustment is required.
However, when mixing capture card sources with IP sources, there may be a significant delay between cameras.

To compensate for this, the **Camera Sync** options in **Settings** can be used to adjust each individual camera relative to the others.
Note that this setting applies to playback only and will not change the underlying recordings or the live previews.



It is strongly recommended that Camera 1 remain at 0, and all other cameras be adjusted relative to that camera.
In the above example Camera 2 is set to a delay of 4 frames relative to Camera 1.
This means on playback, Replay will source a frame 4 frames ahead of Camera 1 to play in Camera 2.

Setting Camera Sync Using Shortcuts

To assist in settings these values visually a shortcut is available.

First, record some footage across all camera angles, preferably with all pointed towards a single clock accurate to the milliseconds.

Next, setup Replay in **A|B** mode, then select the camera you wish to adjust in channel A and the primary reference camera in channel B.
Setup the following shortcuts on two separate keys or buttons:

1. **ReplayMoveSelectedCameraSync** with Value of 1
2. **ReplayMoveSelectedCameraSync** with Value of -1

Press these shortcut keys and note the preview in channel A should be shifting back and forth in frames relative to the camera set in channel B.
Adjust this until sync is achieved.

Finally, go into Settings and check the final value set in Options and then click OK to save the setting.

PTZ - Pan Tilt Zoom

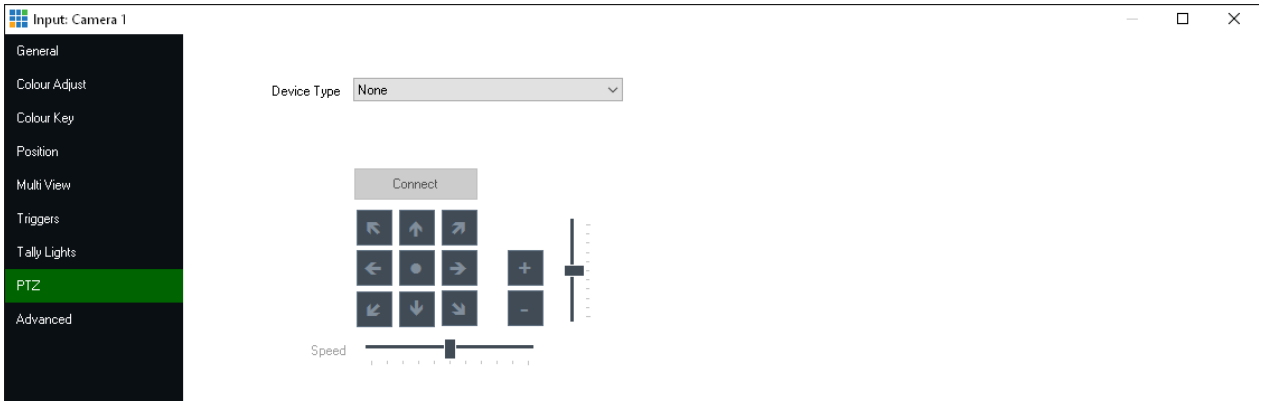
PTZ Control is an advanced feature found in the **4K** and **Pro** editions of vMix.

vMix supports controlling multiple Pan Tilt and Zoom cameras directly from the main interface and by shortcut and/or joystick control.
PTZ support can be enabled on any input, providing the ability to enable PTZ support regardless of how the camera is connected, be it SDI, HDMI, NDI
or RTSP Stream.

NOTE: PTZ cameras will need to be connected to the same network as vMix in order to be controlled.
This is usually done over Ethernet and is a separate cable connection if the video is coming in via SDI or HDMI through a Capture Card.

Enabling PTZ Control

To enable PTZ support on a particular camera, go to the Input Settings of that camera and select the PTZ tab as show below.



Selecting the PTZ camera Device Type

Select the device type that matches your camera from the Device Type dropdown box.
vMix currently supports the following types of PTZ cameras:

Virtual PTZ

- Turns any input into a virtual Pan Tilt and Zoom controller. Select from the dropdown box the desired digital zoom level.

PTZ Cameras

- An up to date list of supported PTZ cameras can be found at the link below:
  https://www.vmix.com/software/supported-hardware.aspx#ptz-cameras

It is important to note that for simplicity and ease of use, only PTZ cameras that support network control are supported.
Cameras that only have serial control such as via the VISCA or Pelco RS-422 or RS-232 protocols are not currently supported.

Entering in the PTZ camera network address

Once the Device Type is selected, a box to enter either a Web Address or IP Address will be displayed.
This is the IP address configured for the camera as per the camera's network documentation.
For more information on how to configure and locate this IP address, refer to the cameras documentation.

Connecting to the PTZ camera

Once the Device Type and Address have been selected click Connect to connect to the camera.
If successful, the controls below the Connect button will be enabled.

Controlling a PTZ Camera

vMix provides three different methods for controlling a PTZ camera, you can either pick the method that suits your production or use a combination of all three!

PTZ control using Virtual Inputs

This method allows assigning a PTZ position to its own Input in vMix, turning one camera into potentially unlimited "Virtual" cameras!

PTZ control using the mouse

Simple push button controls for up, down, left, right etc to move the camera into position

PTZ control using shortcuts and joysticks

Assign shortcut keys or controls to PTZ movements, including the ability to assign the joysticks on an XBOX controller to a PTZ camera.

PTZ control using Virtual Inputs

Perhaps the easiest way to control PTZ cameras is to create a number of ***"Virtual Inputs"*** for a particular PTZ camera and assign a particular pan, tilt and zoom position when selected.

In vMix, this is relatively straightforward to setup:

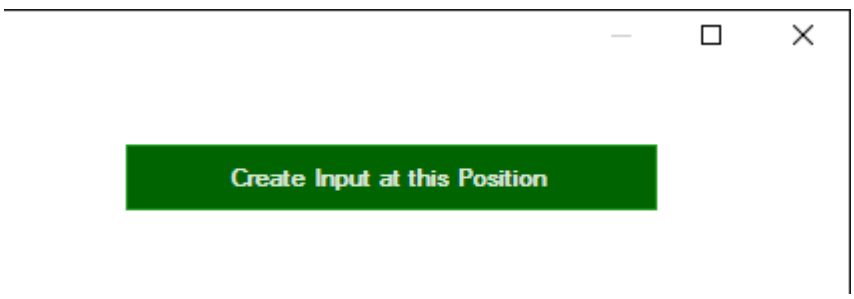
Step 1 - Enable PTZ Control

Follow the instructions under **PTZ - Pan Tilt Zoom** to enable PTZ control for a particular Camera input.

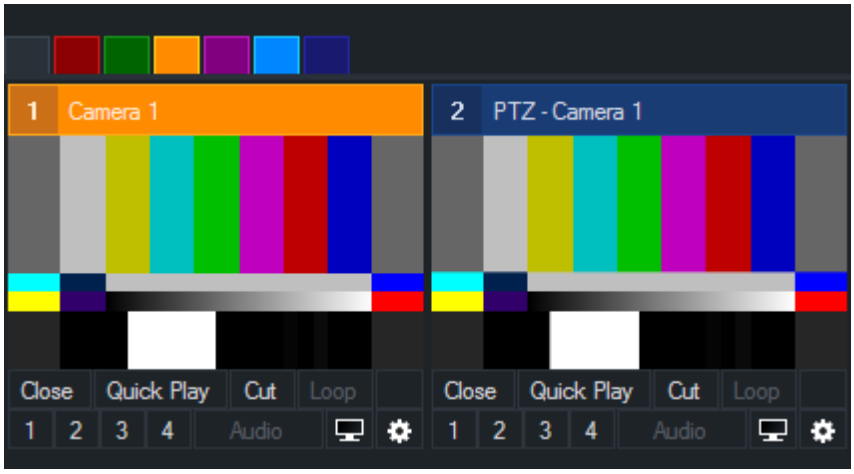
Step 2 - Move the camera into position

Use the provided controls under the Input Settings PTZ tab to move the camera into the position you wish to create a virtual input for.

Step 3 - Click Create Input at this Position

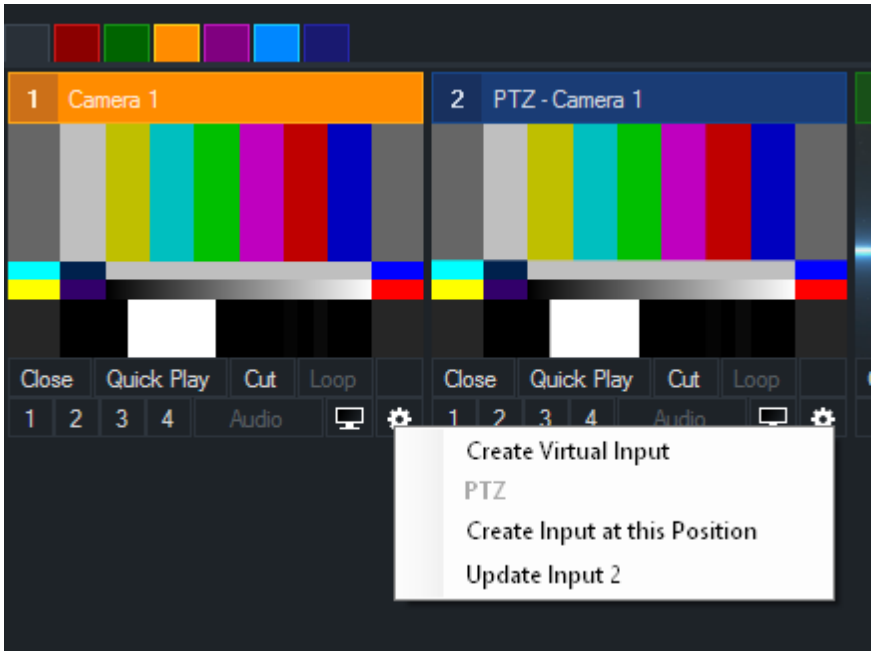


This will create a new input based on the current camera and PTZ position.



You can see these two inputs side by side in the screenshot above.

TIP: You can also right click the cog icon underneath the PTZ camera to create PTZ Virtual Inputs without going into Input Settings



Step 4 - Repeat steps 2 and 3 to create as many virtual inputs as needed

Step 5 - Use these inputs just as you would if multiple real cameras were available

Any time one of these inputs is selected into Preview, the PTZ camera will automatically move into position. When the input is not visible in either Preview or Output, a static image of what the camera was seeing when the input was created will be displayed to make it easy to locate a particular camera angle.

PTZ enables the operator to create the illusion of a large multi camera production with just 2 PTZ cameras!

The basic work flow involves swapping between the two cameras, paying careful attention to make sure the movement of a camera is complete in Preview before switching it to Output.

Updating PTZ Virtual Inputs

Each virtual input that is created will create a corresponding update button in the **Input Settings PTZ tab**.



The number next to each button (for example "Update Input 2") corresponds to the number of the input in the main window.
Moving the camera and then clicking the corresponding update button will update that virtual input so that it recalls that position in the future.

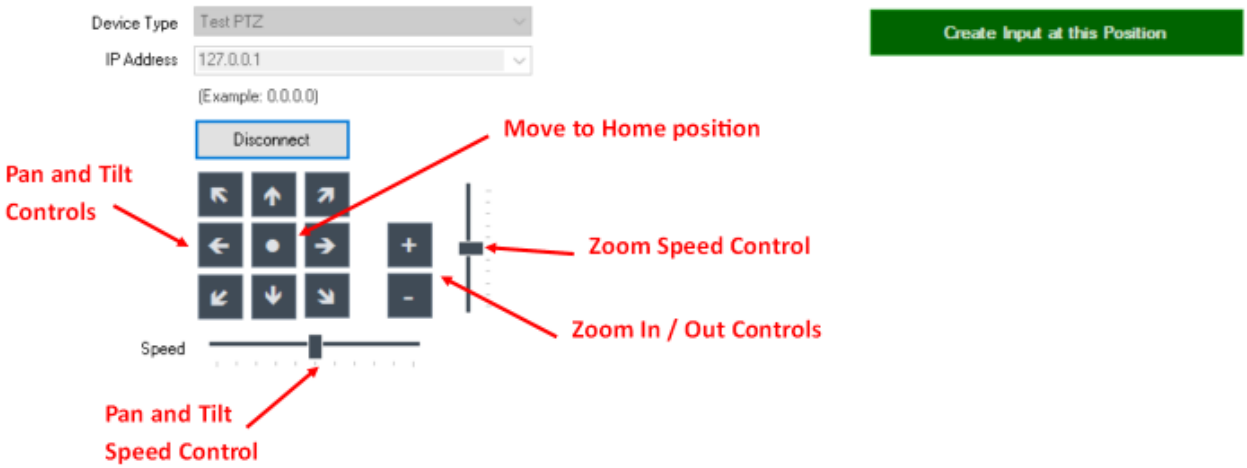
TIP: You can also right click the cog icon underneath the PTZ camera to update any of the PTZ Virtual Inputs without going into Input Settings

Automation using shortcuts

Most of the buttons available for PTZ are also available a shortcuts.
See the PTZ section of Shortcut Function Reference for more information.

PTZ control using the mouse

PTZ cameras can be controlled using the buttons provided in the PTZ tab under Input Settings.
The options available are described in the following diagram.



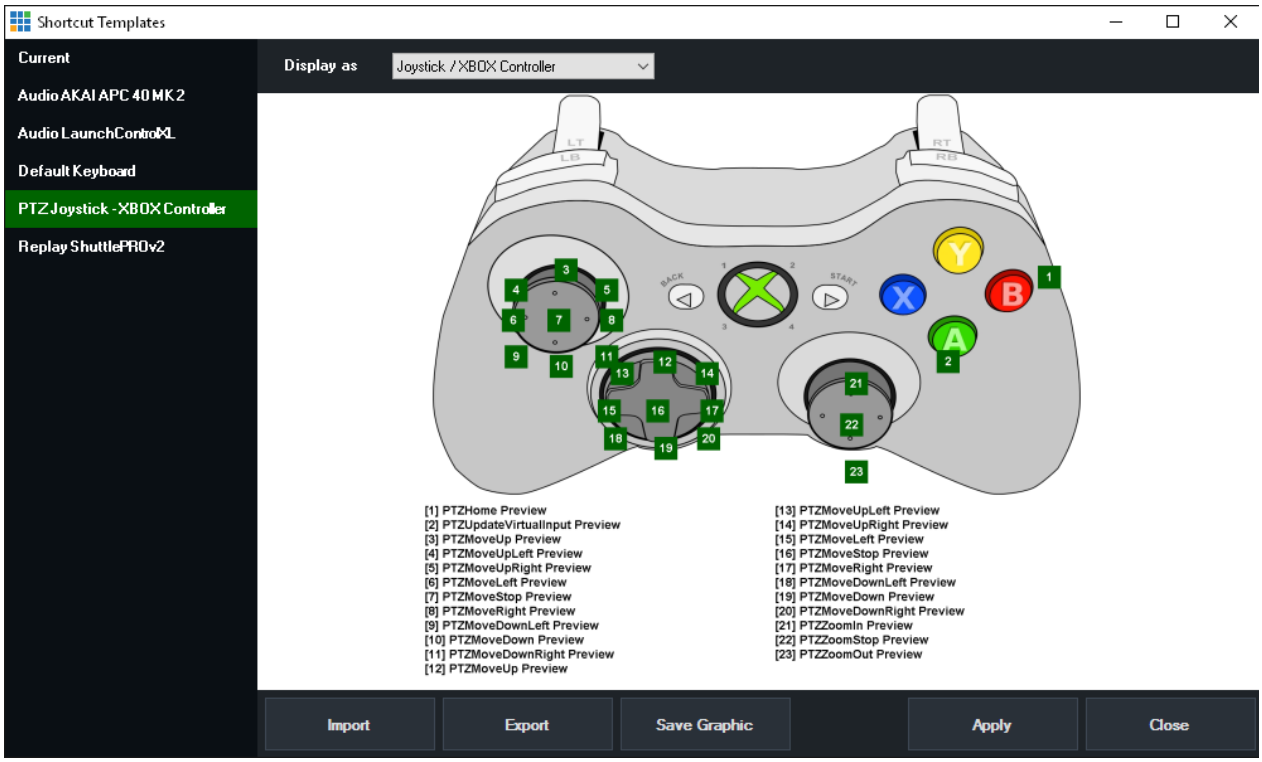
PTZ control using shortcuts and joysticks

PTZ cameras can be controlled by assigning a PTZ shortcut to an input where PTZ has been configured. For example the shortcut "PTZMoveUp" once activated will keep the camera moving upward until a corresponding "PTZMoveStop" shortcut is activated.

For more information on the shortcuts available see **Shortcut Function Reference**

PTZ Control using an XBOX compatible controller

vMix includes a shortcut template that assigns PTZ control to joysticks and buttons on a USB XBOX controller



By default this template assigns all the buttons to the Preview input which means as long as a PTZ enabled camera is in Preview it can be moved and controlled using this template.
Of course, the shortcuts in this template can be edited to assign to a particular input if you prefer.

PTZ Shortcuts and Speed Control

By default, PTZ shortcuts will use the speeds defined by the sliders in the Input Settings PTZ tab.
To specify a custom speed, specify a fractional number between 0 and 1 as the **Value** of the shortcut.

Variable Speed Control / Pressure Sensitive Control

To enable variable speeds on pressure sensitive controllers (such as joysticks and the XBOX controller), from shortcuts tick the Pressure Enabled checkbox
for all applicable shortcuts.

NDI and Open Media Transport (OMT)



NDI and OMT are easy ways to send and receive high quality, low latency video and audio between supported devices using a standard Gigabit enabled network.
For example you can produce one aspect of your show on one computer and send the output to vMix running on another.

vMix supports both sending and receiving NDI and OMT.

Receiving Sources

See **NDI / OMT / Desktop Capture** for more information.

Sending video and audio from vMix

vMix supports sending a number of different types of output via NDI or OMT.
To enable a particular type of output, it must first be turned on from **Settings - Outputs / NDI / OMT / SRT**

Output 1

This is the main Output (or "Program") feed and includes the Master stereo audio mix

Output 2, 3, 4

These are independent outputs that can be configured to show Output, Preview, MultiView or a particular input.
See **Settings - Outputs / NDI / OMT / SRT** for more information.

Cameras / Calls / Audio Inputs

Any Camera, Video Call or Audio inputs currently being used in vMix can also be viewed remotely via NDI or OMT.

Audio Outputs

Master, Headphones, A and B mixes in vMix can all be independently accessed over the network.
The A and B mixes can be enabled by assigning them to Enabled in the dropdown list in **Settings - Audio Outputs**
and also by turning on the Audio Outputs button for NDI or OMT in the Additional outputs section under **Settings - Outputs / NDI / OMT / SRT**

Changing additional settings such as resolution and audio channel on an Output

Output 1,2,3 and 4 each have a cog button that provides access to additional options when using these outputs with NDI, OMT, SRT, MultiCorder or with Instant Replay.
(Note: vMix Call has a separate option to select an audio track for a caller, so in this case, changing the audio channels here will have no effect).

Audio Channels: Specify the audio bus and channels to use with NDI, OMT, SRT, MultiCorder or Instant Replay when using this output.
When selecting more than 4 channels for Instant Replay, only the first four channels are recorded.

20 dB Boost: Boost the volume of the output by 20 dB (NDI and OMT only).
Alpha Channel: Enable sending an alpha channel (NDI and OMT only)
Resolution: Scale the main vMix Output Size to SD (720x576 for PAL frame rates, 720x480 for all others), HD720 (1280x720) or HD1080 (1920x1080)

Quality (OMT Only): Specify the video quality for the OMT output.
Default means OMT will select the highest quality amongst all receivers. If all receivers are set to Default also, this will be Medium.

Output Audio Levels

The audio levels from vMix may appear 20dB lower than expected in some applications. To fix this tick the 20dB Boost option in the Output Settings.

Alpha Channel Support

Alpha Channel Support for NDI and OMT Sources

vMix automatically supports alpha channel when it is detected on an NDI or OMT source.
If the source provides the video as "pre-multiplied alpha", be sure to turn on the checkbox in the **Colour Adjust** tab in **Input Settings**

Alpha Channel Support for NDI and OMT Outputs

When using the Output options with NDI or OMT, these will by default send standard "YUV" video without alpha channel.
To enable Alpha Channel on output follow the steps below:

1. Open vMix Settings and go to the Outputs / NDI / OMT / SRT tab
2. Click the cog icon next to the Output you wish to enable Alpha Channel for.
3. Under the Alpha Channel setting, select Straight or Premultiplied depending on the receiving application requirements.

SRT - Secure Reliable Transport

Secure Reliable Transport is an open source video transport protocol. It optimises streaming performance across unpredictable networks, such as the Internet, by dynamically adapting to the real-time network conditions.

Features

- Input and Output (send and receive) support for Caller, Listener and Rendezvous connection methods.
- 256 bit encryption through use of PassPhrase.
- Hardware (GPU) accelerated encoding and decoding of HEVC or H264 video in up to 4K (where supported by the underlying hardware and operating system).
- Up to 8 channels of AAC audio which can optionally be split into separate stereo audio tracks on output.

Technical/System Requirements

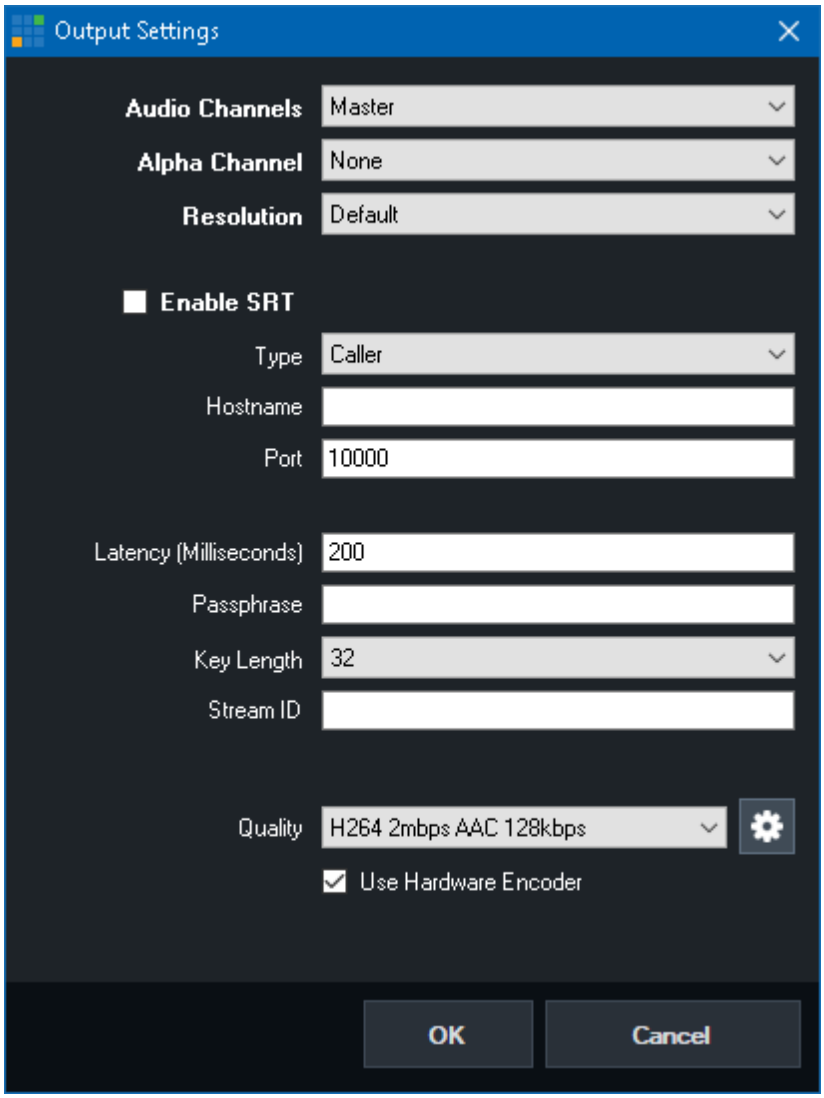
- Windows 10 x64 or higher
- Graphics card with support for HEVC and H264 encoding and decoding.
  NVIDIA Quadro P2000 or higher series recommended.
  NOTE: NVIDIA GeForce 9xx series or lower should not be used with SRT, and is unsupported.
- When using HEVC on Windows 10, the "HEVC Video Extensions" from the Microsoft Store is required to be installed.
- Progressive video formats are supported only. (interlaced support is not available)
- vMix supports HEVC or H264 video and AAC audio (AAC-LC) wrapped in a transport stream only. Other codecs are not supported.

Setting up an input stream

See SRT Input for more information.

Setting up an output stream

1. From the vMix Settings, go to the Outputs tab and click the cog icon next to the output channel you wish to send.
2. The following settings will appear:



Enable SRT

Check this box to enable the SRT output.

Type

Listener: Listen on the specified Port on all network adapters on the computer for connections. Hostname is ignored.
Caller: Connect to the specified Hostname and Port.
Rendezvous: Connect to the specified Hostname and Port. The other side must also be set to Rendezvous with an identical port number specified.
This mode allows connecting through most firewalls automatically.

Latency

Specify the latency of the connection in milliseconds to adapt to network congestion.
The higher this value, the better SRT can handle difficult network conditions.
As a general rule this should be set to at least 4x the ping time destination IP. So 20ms would require a latency setting of at least 80
This must be set to the same value on both ends.

Passphrase

Specify a password to encrypt the connection. This password must be used by both sides for the connection to be established.

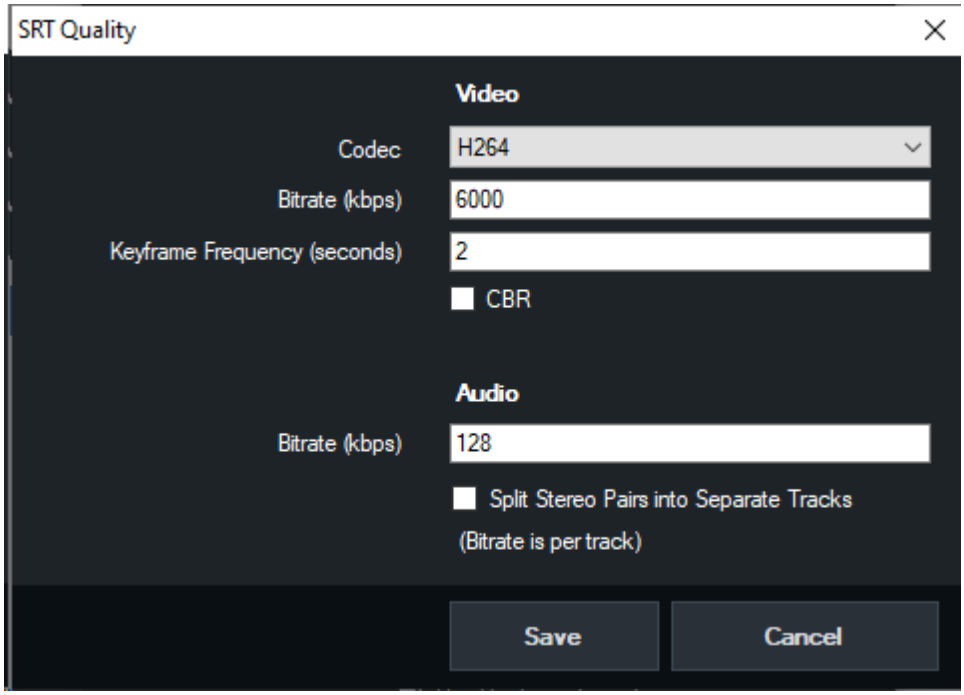
Key Length

This is the encryption strength to use. Multiple by 8 to convert to bits, for example 32 = 256bit encryption.

Stream ID
Optional Stream ID that may be required by your streaming provider to uniquely identify the stream.

Quality

Select one of the built in compression profiles from the list or click the cog icon to customise the encoding settings.



Video Codec
Select either H264 or HEVC as the video compression method.

Video Bitrate / Audio Bitrate
Specify the bandwidth in kbps per second for Video and Audio. Example 2000 = 2mbps and 128 = 128kbps. Audio bandwidth is total for all channels when in a single track. For example for 8 channels, 384 = 48 kbps per channel.
When audio is in separate tracks, bitrate is for each stereo pair.

Keyframe Frequency (seconds)

Set the maximum distance between keyframes in the stream in seconds.

CBR

Ticking this box will enable constant bit rate mode on the SRT stream.
This will pad the stream with additional dummy data in cases where the bitrate drops below the target (for example when showing still images).
For example, if the bitrate is 6000 kbps and the stream is currently 2000 kbps, CBR will add an additional 4000 kbps of data to keep at a constant rate.

NOTE: CBR will increase the overall bitrate by approximately 10%. The Video Bitrate setting above can be reduced to compensate if an exact bitrate is required.

Split Stereo Pairs into Separate Tracks

When this option is ticked, all audio channels in the stream will be split into stereo pairs and encoded as

separate audio tracks.
The tracks will use the default stream PIDs of 256, 257, 258 and so on for each stereo pair.
For example if MAB is selected, bus A will be a stereo track with PID 257.

NOTE: Video Track PID will be the last track after all audio tracks, so PID 257 when there is one audio track, PID 258 when there is two and so on.

Use Hardware Encoder

Use accelerated encoding where available on the graphics card. NVIDIA GeForce cards (and some low end Quadro cards) are limited to 2 simultaneous encodes per system.
This includes the Streaming and Recording features in vMix, so care should be taken to ensure this tick box is only enabled at two locations when using these types of cards.
(such as 1x Stream and 1x SRT)

Use Low Power Encoder

Some Intel Graphics drivers included support for "VDENC" which is a low power, high performance encoder built in to some CPUs.
Tick this box to enable using this encoder where available.

Audio Channels

Specify the audio source for this output. A maximum of 8 channels of audio is supported by AAC.

Resolution

Optionally specify a resolution to downscale to. Only progressive formats are supported.

Alpha Channel

This setting must be set to None as alpha is not supported by the video codecs used by SRT.

Data Sources

Data Sources in vMix can be used to assign dynamic text and images to Titles from a variety of sources including Google Sheets, Excel, CSV, XML, Text and the chat in an embedded Zoom meeting.

These sources can be from files on the local system, network or internet and data will update the title automatically as it changes.

For example, you can create a Spreadsheet with a list of speakers and have somebody update the data from a different computer on the same network
or even from the other side of the world!

Types of Data Sources
Setting up a new Data Source
Mapping a Data Source to a Title
Controlling Data Sources
Using Images in Data Sources

Types of Data Sources

Excel/CSV

This data source supports XLSX, XLS, ODS, CSV, HTML, PDF and XPS tables.
Multiple tables can be utilised from a single file simultaneously.

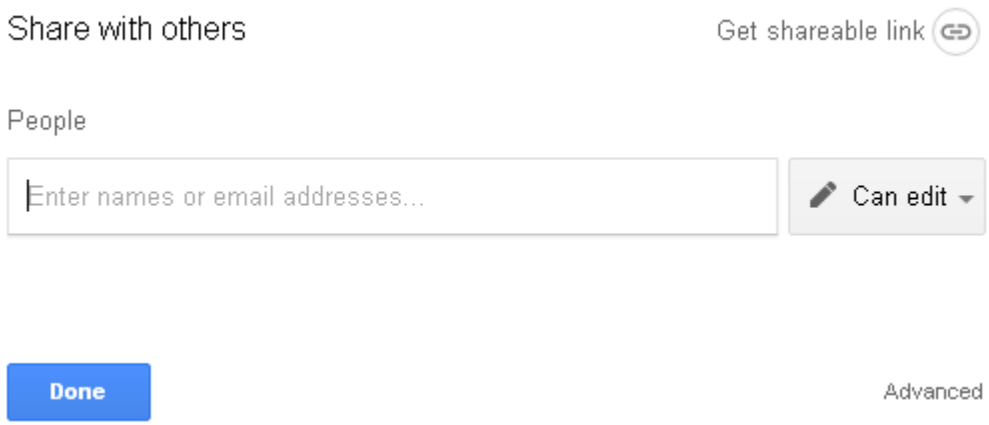
If the first row of each table contains the names of each column, tick the "Use first row as column names" tick box in the Settings window.

Google Sheets

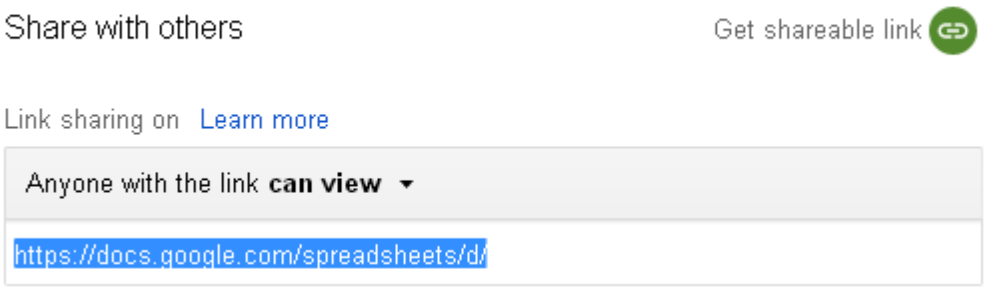
This data source supports Google Sheets that have been shared to be viewed by anyone.
From within Google Docs, click the Share button in the top right hand corner.



Then click **Get shareable link**



Finally copy the link provided into the URL box in the vMix Data Source Settings.



Google Sheets also requires an API Key which can be created by following the instructions below.
How to create a Google API Key

RSS

Use any web site address in RSS format with this data source. RSS is commonly used by news sites, blogs and other online information sites.

Text

Select any text file to use as a data source, for example Stream Labels on Twitch Alerts.

XML

Select any XML compliant web site or file to use as a data source.
To select which XML element to use as a data source, the XPath setting will need to be filled in.

For more information on the XPath format, refer to the Wikipedia page below:
https://en.wikipedia.org/wiki/XPath

JSON

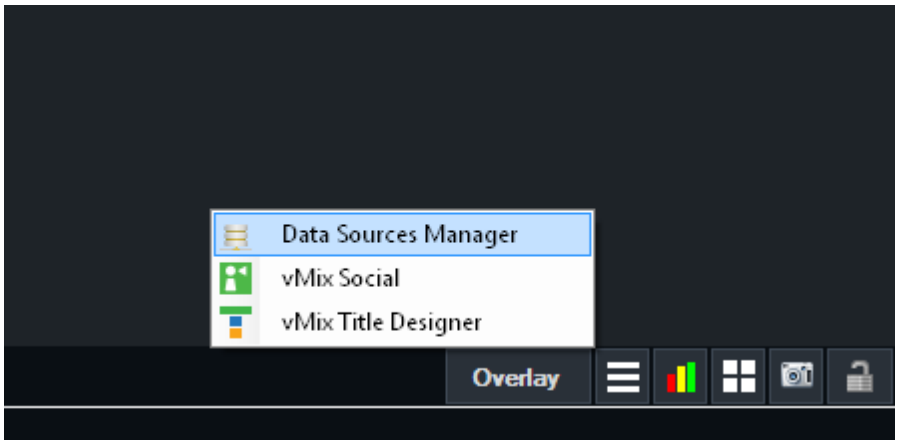
This supports JSON data that is stored as an object array.
Each element in the array will be treated as a row.

Zoom Chat

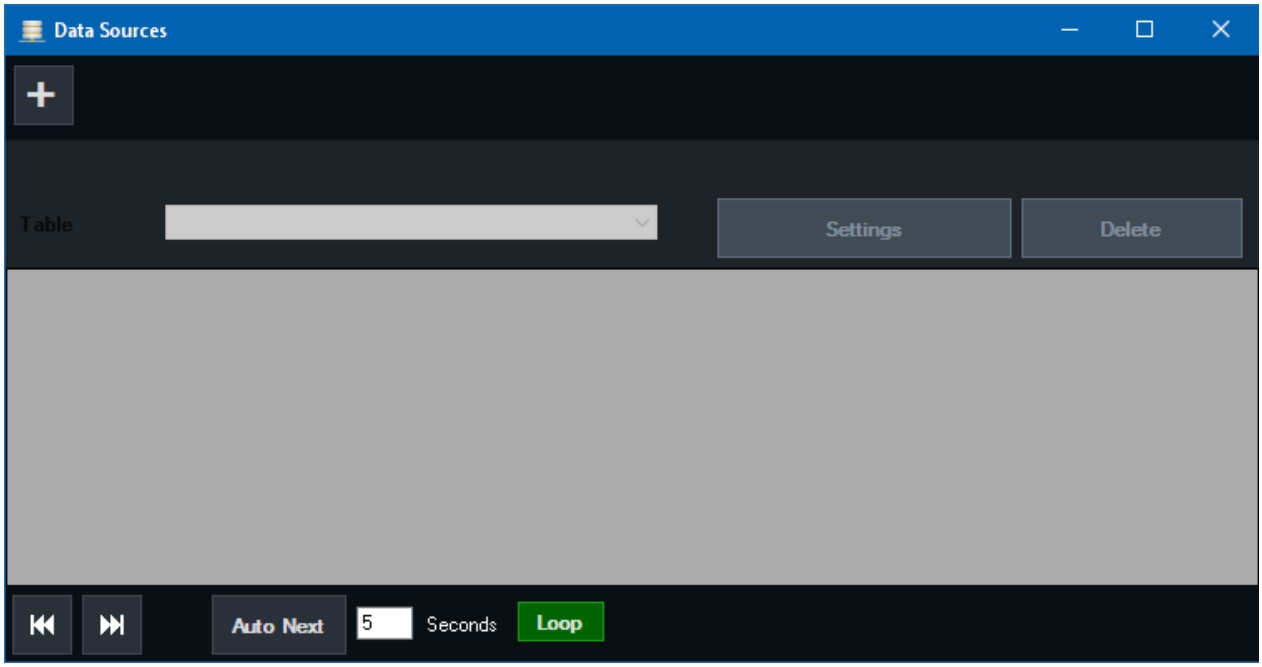
If a Zoom Meeting is added and in progress, the chat content found in the Zoom Manager is also available in a list format here.

Setting up a new Data Source

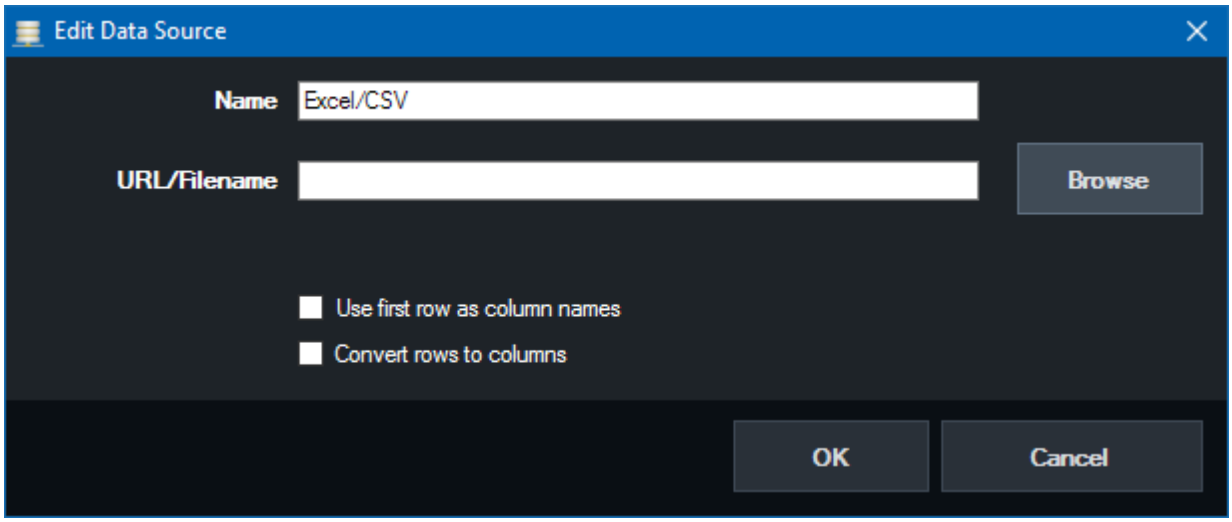
1. Open up the Data Sources Manager from the  menu in the bottom right hand corner of the main vMix window.



2. The following window will appear. click the  button to add the first Data Source



3. Once added, a window will appear where you can type either the web address to the data file or browse for it on the local computer.
Depending on the Data Source type, a number of other settings may appear in this window.



Name: Provide a memorable name to identify this data source.
Use first row as column names: If the first row of a spreadsheet contains the column names, tick this box.
Convert rows to columns: Ticking this box will group all rows in the data source into a single row, numbering the column names in the process. For example a spreadsheet
with Name and Description and 3 rows will become Name1, Description1, Name2, Description2, Name3, Description3 with all data contained in a single row.

Additionally, to prevent potential naming conflicts, if more than 10 columns are detected then the rows will be named with **.** separating the column name and row number. (For example Column1.3)

Note: Converting rows to columns is not recommended for performance reasons.
Instead select a specific row when mapping to each title field as described in section Mapping a Data Source to a Title

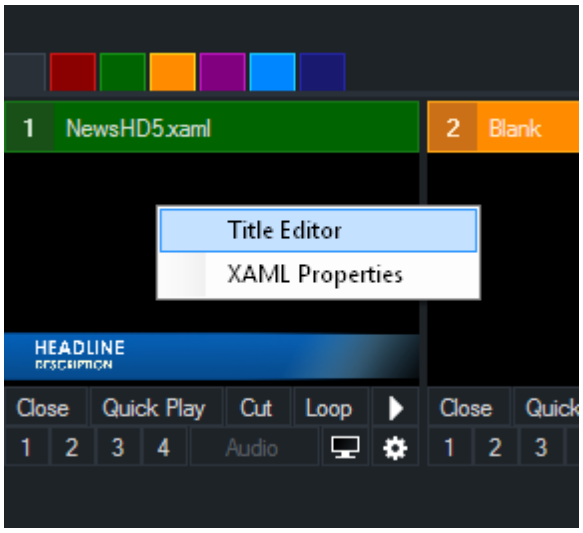
When ready click OK to complete setting up the new Data Source.

4. To remove a data source, simply click the Delete button

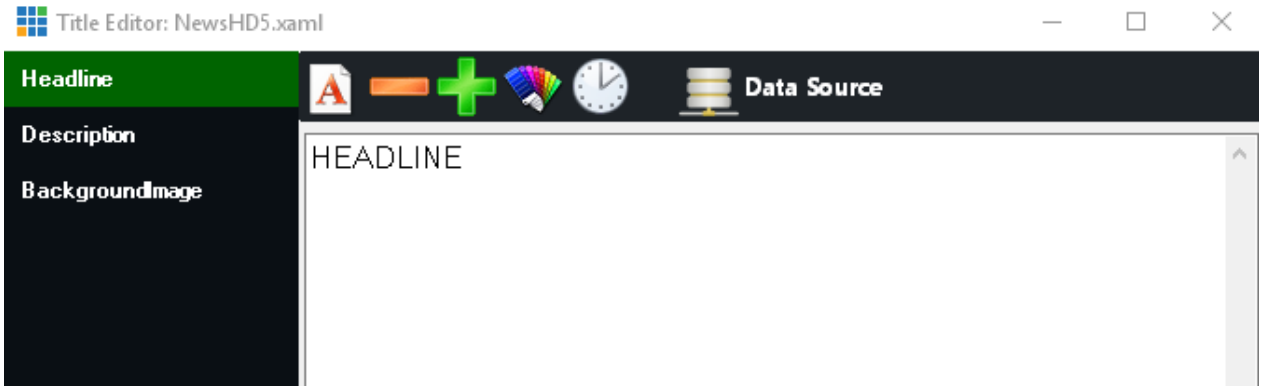
Mapping a Data Source to a Title

Once one more Data Sources have been added, they can be easily assigned to any Title input from within vMix.
(See Setting up a new Data Source for help on setting up a new Data Source)

1. Right click a Title input from within vMix and click **Title Editor** from the menu.



2. Select one of the Title fields from the left hand column (such as Headline, Description etc) then click Data Source from the top menu bar.



3. Select the Data Source and other settings such as Table and Column.

Table: Select the table you wish to source the data from. Some data sources may only have a default table available to select here.

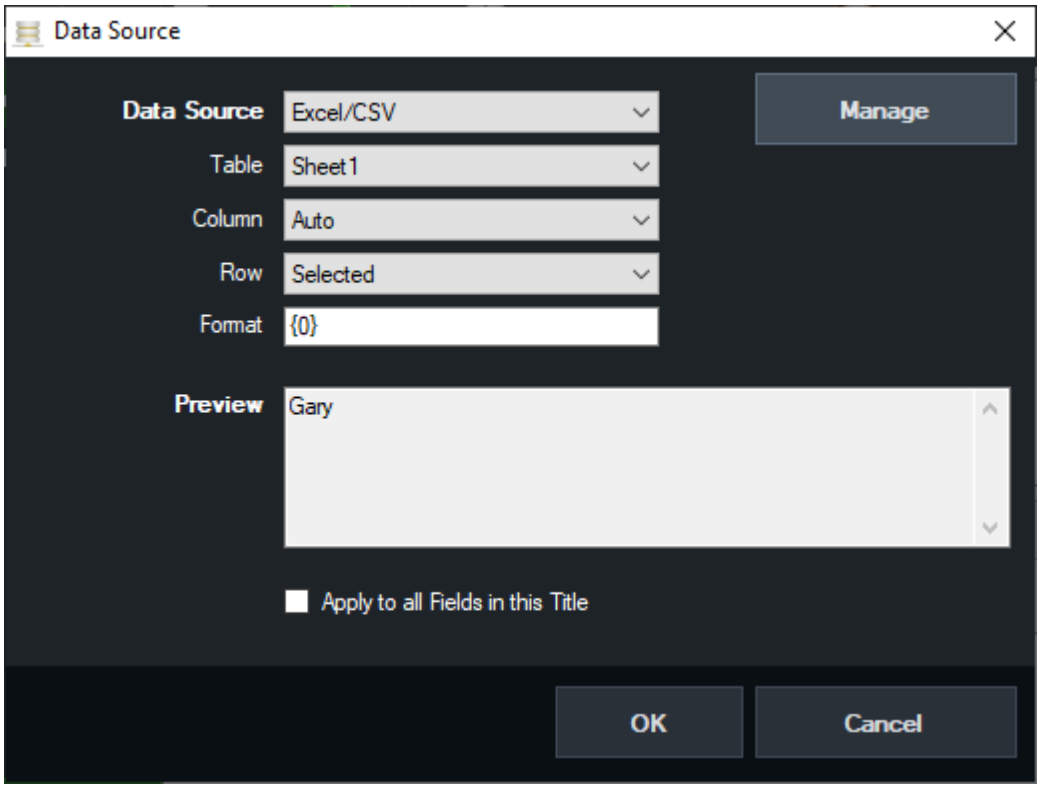
Column: Select the column to use for this particular Title Field, if you leave this set to **Auto**, the data source will map based on the following:
a) Will first look for the first column with the exact same name as the Title field, for example "Headline". Include the full name including any suffix like ".Text".
b) If no column is found, use the column index that matches the Title field index. For example Headline would be Column1, Description Column2 and so on.

Row: Select the row to use for this particular Title Field. If you leave this set to **Selected**, the data source will map based on the currently selected row in the **Data Sources Manager**.

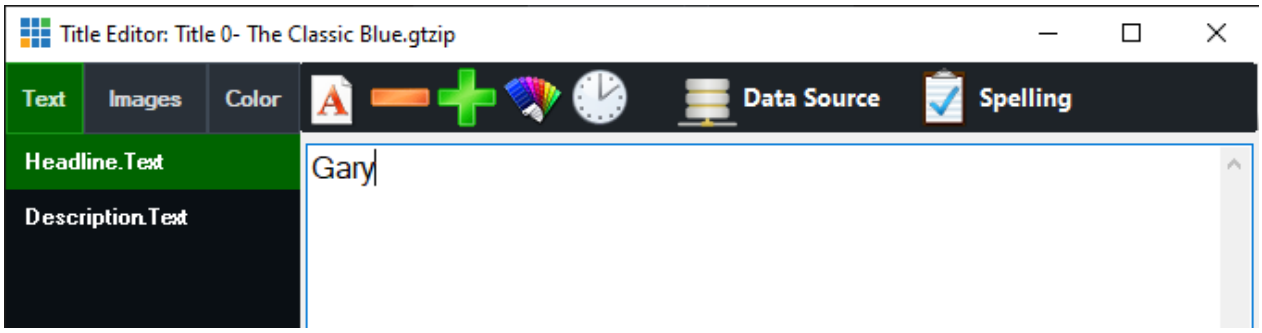
Format: This option can be used to format and add additional text to the data, for example "Name: {0}" will output the data as "Name: Gary"
Format Type: This option determines how to format the text for display.

See **Formatting Data Sources** for more information.

A preview will be displayed showing the data that will be assigned to the title.



4. Click OK and the data will automatically populate the text box in the Title Editor



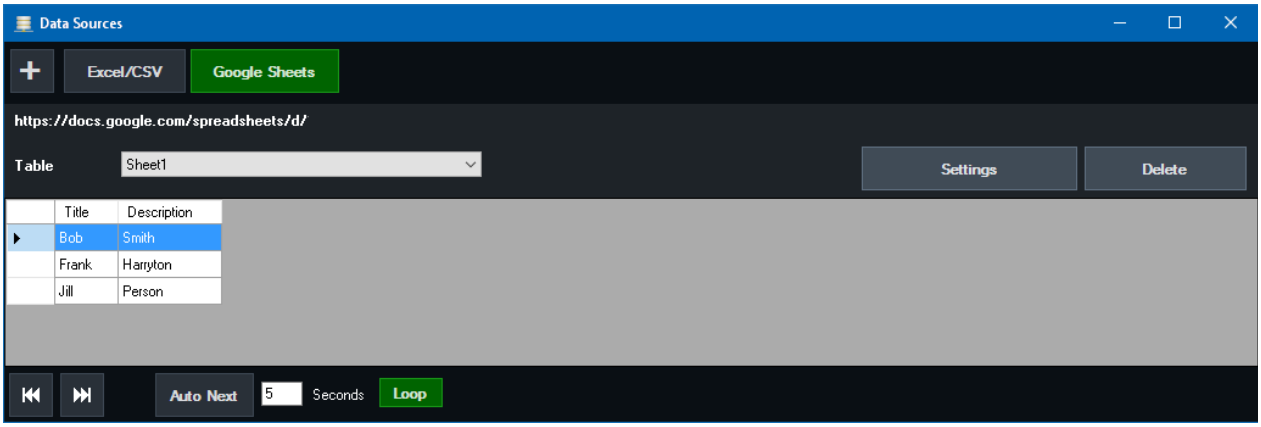
5. Repeat steps 1 to 4 for each Title field you wish to assign to data.

Controlling Data Sources

Once a Data Source has been added and assigned to a title, it may contain a number of rows you want to select from, for example a list of speakers
during a conference.

There are a number of methods to select rows that are described in the following section.
When a row is selected, all Titles that refer to that data source will update automatically.

Using the Data Sources Manager



For manual control, select any data source from the buttons along the top and click a row in the table to select it.

To automatically move down the list, click the **Auto Next** button so that it lights up green and type in the number of seconds between each row in the provided text box.
Click **Loop** to jump to the start of the list after the last row.

TIP: The Data Sources window can be left option and setup on a separate monitor for quick and easy access.

Using Shortcuts

A number of Shortcut Functions are available for controlling data sources such as DataSourceNextRow, DataSourcePreviousRow and DataSourceSelectRow
These are described in the **Shortcut Function Reference** guide.

Editing the Data Source directly

As all Data Sources automatically update, you can control what data is sent by moving things around at the source, consider the following example:

1. A Title mapped to a Excel data source with the first row selected
2. The Excel file is open on another computer

The computer that has opened the excel file can move or copy the data they wish select into the first row and click save.
Each time they click save, the data will update in vMix.

Using Images in Data Sources

If your title includes an image field, this can also be assigned to a data source.
The data source text data must be either a full URL or file path in order to load correctly.
For example

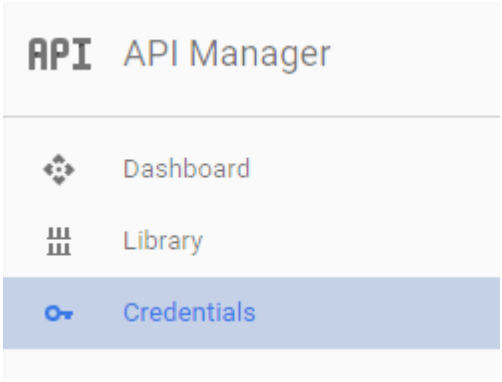
http://www.example.com/image.jpg
c:\images\logo.png

How to create a Google API Key for Google Sheets

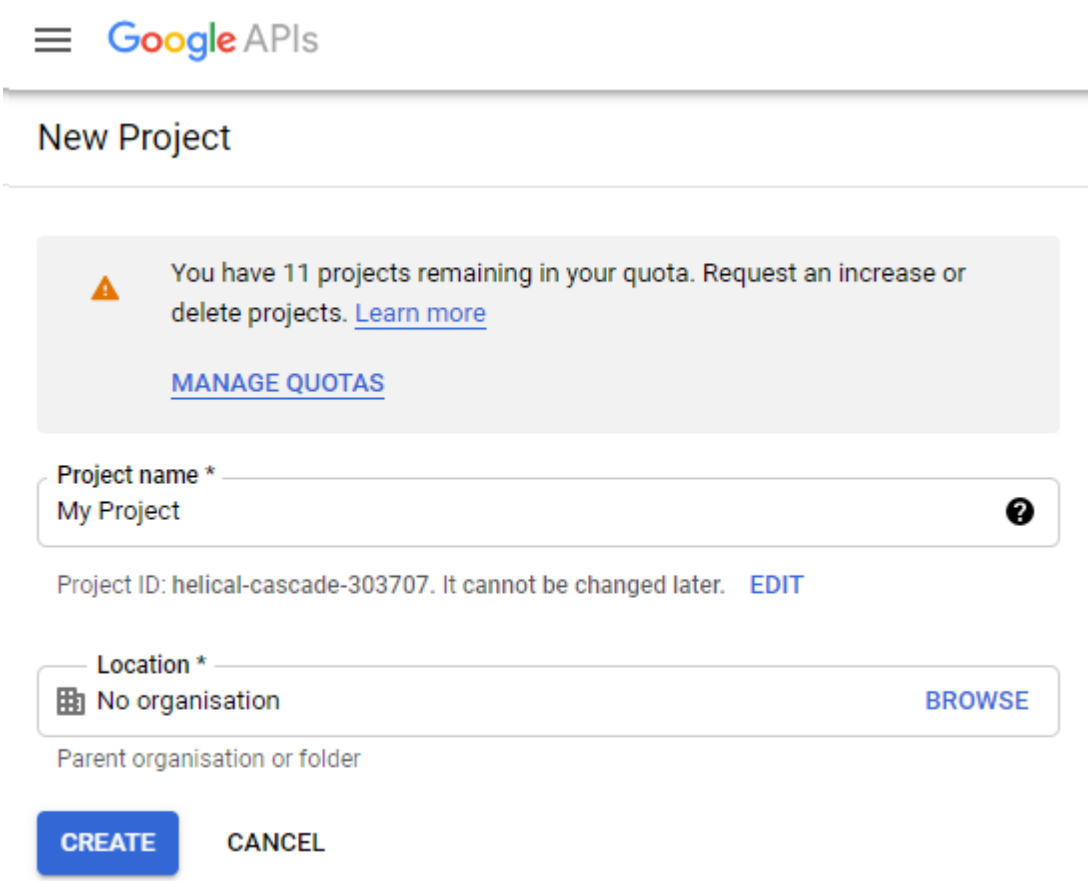
1. Open https://console.developers.google.com/ in a web browser

2. Login to your Google Account

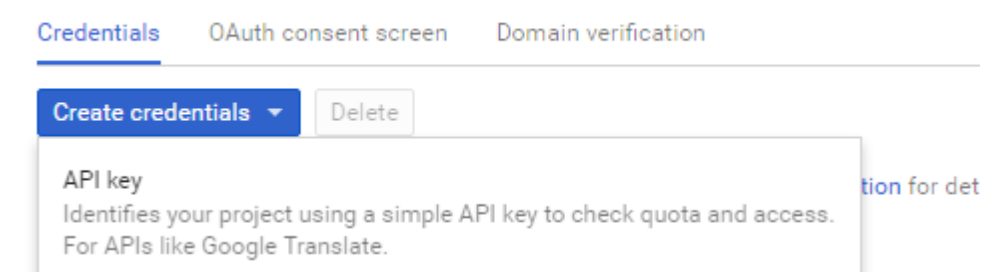
3. From the left hand menu select Credentials



4. For new users of Google APIs and Services, you will need to create a new project by clicking on the **New Project** button and providing a project name such as "My Project", then clicking **Create**.



5. Click the Create credentials button and select API key



6. A new API key will be created that can be used with Google Sheets data sources

I**MPORTANT: Once the API key has been created, Google Sheets will also need to be enabled from the Dashboard:**

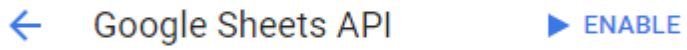
7. Select Dashboard in the left hand menu

8. Select Enable API



9. Select Sheets API from the list

10. Select Enable up the top. If Google prompts for additional steps after this, they can be safely ignored and the key will be ready to use.



11. The API key can now be used in vMix Data Sources.

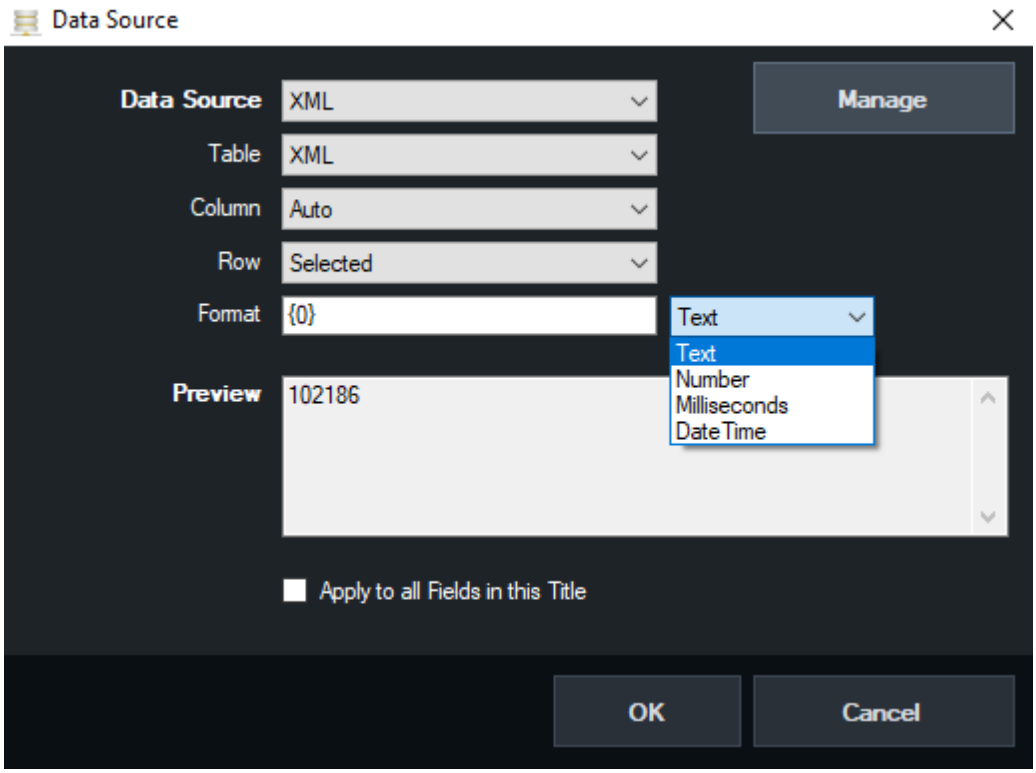
Formatting Data Sources

When assigning text data to a Title, the way the data is displayed can be changed according to advanced formatting rules such as adding or removing decimal places, or displaying
dates and times.

Additional text can also be added before and after if needed.

Format Type

First select the type of data that will be formatted, the options available are Text, Number, Milliseconds and DateTime.



Format String

The format string will determine how the data is displayed, with {0} meaning to display the data as is.

Adding Text before and after

Simply insert {0} in between the text you wish to surround it with. For example **Name: {0}** for a data source of "Gary" will result in the final string **Name: Gary**

Number

Numbers are formatted according to the Standard number formatting strings as documented below:
https://learn.microsoft.com/en-us/dotnet/standard/base-types/standard-numeric-format-strings

Some simple examples are provided below:

Round to two decimal places

{0:F2}

Round to zero decimal places

{0:F0}

Display as currency

{0:c}

Milliseconds

Milliseconds formats a number as a Time according to the date and time format strings as documented below:
https://learn.microsoft.com/en-us/dotnet/standard/base-types/custom-date-and-time-format-strings

For example to display the milliseconds number as a duration of minutes and seconds:
{0:**mm:ss**}

Where mm:ss is the custom date/time format string to use.

DateTime

DateTime formats the input as a Date and/or Time according to the date and time format strings as documented below:
https://learn.microsoft.com/en-us/dotnet/standard/base-types/custom-date-and-time-format-strings

{0:**yyyy-MM-dd**}

Where yyyy-mm-dd is the custom date/time format string to use.

vMix Call



vMix Call allows you to add remote guests to your vMix production with high quality audio and up to HD video.

Features

- Quickly add remote guests to any production using only a web browser and a web cam.
- Supports guests connecting with Google Chrome (Version 56 or higher) and FireFox (Version 50 or higher) on Windows, Mac and Android.
  As well as iOS devices (iPhone, iPad) running iOS 11+ using the Safari browser.
- Peer to Peer Encryption between each guest and vMix ensures a secure, low latency connection.
- Auto Mix Minus technology automatically handles the audio mixing for each guest, preventing echo and saving time.
- Full Duplex high quality audio for all guests and return feed
- Built in return video/audio feed for each guest with configurable quality up to HD 1080p 4Mbps.
- Select any of the four outputs (4K and Pro) as the return video for all guests.
- Select Master, Headphones, Bus A to Bus G as the return audio feed for all guests. All options have Auto Mix Minus technology built in.
- Dynamic bandwidth estimation automatically adapts the quality of each guests video on the fly to match changing network conditions.
- Video and audio for each guest is available over NDI automatically.

Requirements

- vMix Call requires a copy of vMix HD (1 Guest), vMix 4K (4 Guests) or vMix Pro (8 Guests)
- **vMix Network Connection**: Recommended 2Mbps Up/2Mbps Down network bandwidth per guest.
- **Guest Network Connection**: 2 Mbps Down / 600 Kbps Up network bandwidth for the guest side connection.
- Quad Core Processor 2Ghz (up to 2 guests) or 4Ghz+ (up to 8 guests)
- **Recommended Guest Requirements**

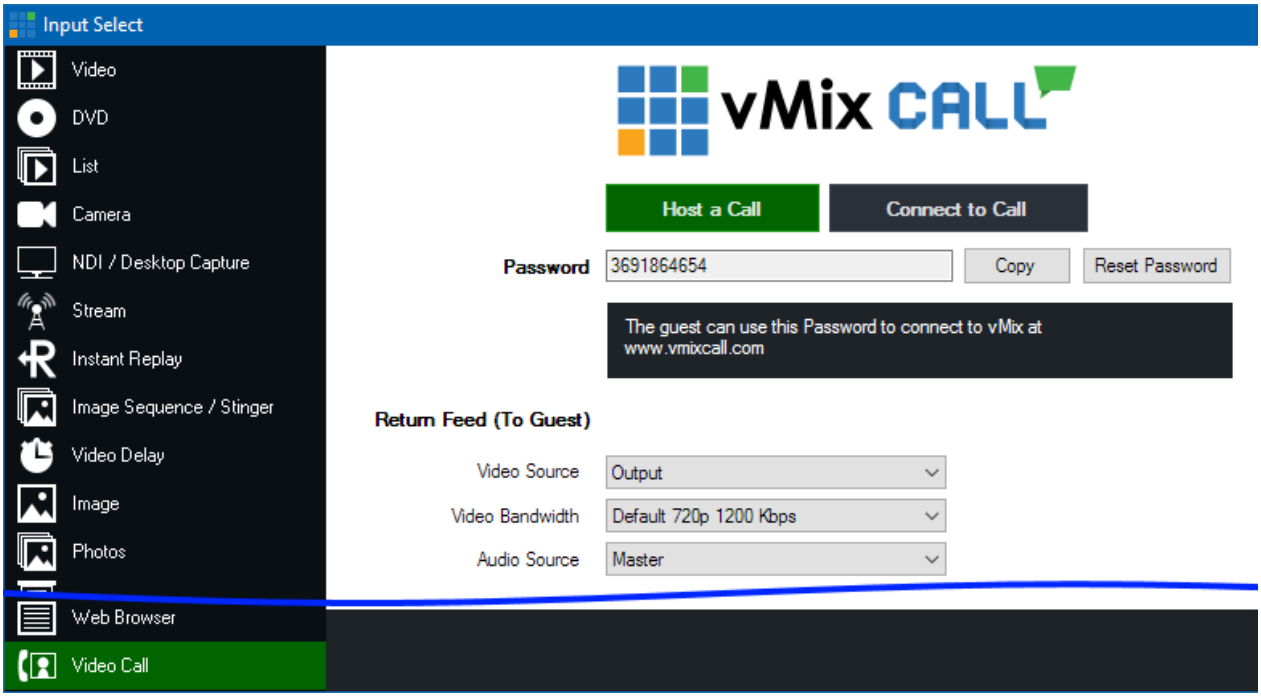
Help Topics

Setting up a Call
Call Manager / Chat
Audio and Talkback
Troubleshooting / FAQ

Setting up a Call

Setting up a Call

1. Click **Add Input** in vMix then select the **Video Call** tab:



Host a Call: Select this button to host a new call for a remote guest (default)
Connect to Call: Connect to an existing call on another vMix PC.

Password: This is an automatically generated number that can be used to identify the call and allow the remote guest to connect.

Return Feed (To Guest): The following settings control what the guest sees and hears on their end.

Video Source: Select either Output 1, Output 2-4 (4K and Pro editions only) or None as the return video feed the remote guest will see
If None is selected, no audio or video will be sent to the remote guest, this is useful for situations where you need a remote feed only and don't expect to interact
with the caller.

NOTE: None is a special mode that can only be selected when first adding the input. It will have no effect when selected via the menu afterwards.

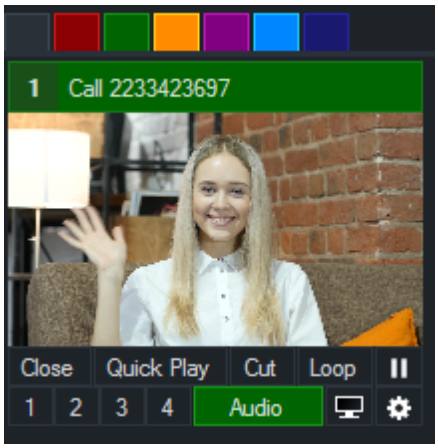
Video Bandwidth: Select the video quality and bandwidth of the return video.
NOTE: This setting is the same for all guests and cannot be configured independently.

Audio Source: Select the audio mix to send back as the audio the guest will hear.
Note that regardless of the setting selected, Auto Mix Minus will be applied so that the guest will never hear themselves back again as an echo.
Selecting Master here is usually recommended as using Bus A to G to apply a Mix Minus is not necessary.

Allow only direct peer to peer connections: Sometimes due to firewall and network restrictions a call may go via one of the vMix servers which may not be desirable due to increased latency and lower video quality.
Tick this box to force peer to peer connections only when establishing a call. If the call does not connect all when this is ticked, a firewall will be blocking UDP traffic on either side.

Show Advanced Options: These options should only be selected when diagnosing call issues as directed to by the vMix support team.

2. Click OK to add this call as an Input in vMix



3. Direct your guest to visit **www.vmixcall.com** using any Google Chrome or Firefox browser with a Webcam and Microphone connected.
The guest should type in any Name to identify themselves and the generated Password and then click Join Call

4. After a brief connection process you should see the remote guests video and audio

5. To end the call, the guest can click the red phone icon from their toolbar.

The input can also be closed in vMix, however it is possible to reuse the Password for subsequent calls in the future.

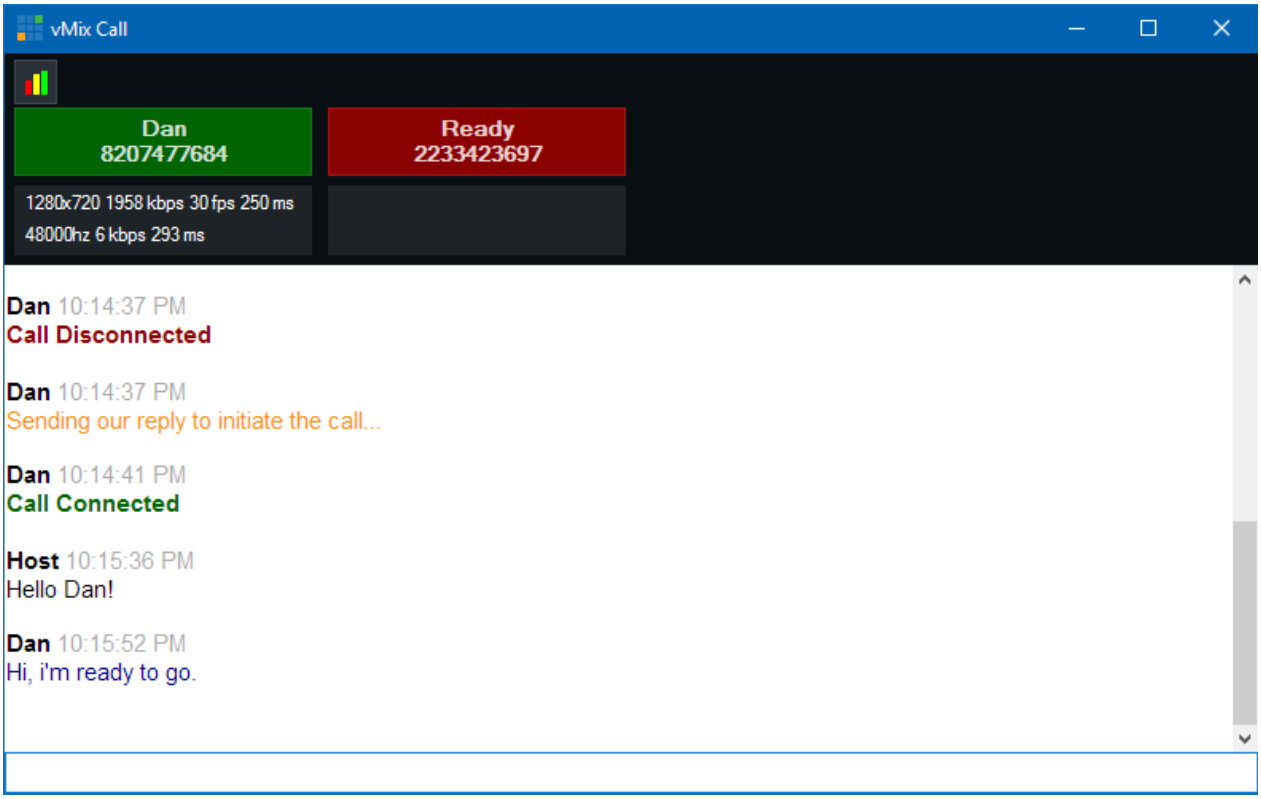
6. To add additional guests, repeat these steps as many times as needed.

Call Manager / Chat

vMix Call includes a call manager window that provides the ability to monitor all calls and text chat with guests.

Open the Call Manager by right clicking any vMix Call input and selecting **Open Call Manager** from the menu.

Call Manager Window



The Call Manager window lists the Name, Password and Receiver Statistics for each caller along the top panel from left to right, in the same order as the inputs in vMix.

TIP: Click any of the coloured panels to change what is displayed between Name + Password, Name + Input Title and Name.

The colour of the box listing the Name and Password indicates the status of that particular call.

Green: Call is connected and audio and video is coming in smoothly
Red: Call is either disconnected or no audio and video is being received
Amber: Call is experiencing dropped frames or missing audio due to current network conditions.

See **Troubleshooting** for more information on call connection and quality issues.

Chat

The chat window allows sending and receiving text messages to all currently connected guests.
Any message typed into this window will be seen by all guest in vMix, and any message sent by a guest will be seen by both vMix and any other guests within the same vMix session.

Status information may also appear in the chat list, indicating when a guest logged in with their browser and the progress of the connection.

Statistics

Statistics appear below the Guest's name during each call as described below:

1280x720 1958 kbps 30fps 250 ms

From left to right this indicates the video resolution received from the guest, their current video bandwidth, frame rate and jitter buffer latency.

48000hz 6 kbps 293 ms

From left to right this indicates the audio sample rate from the guest, their current audio bandwidth and jitter buffer latency.

Advanced Statistics

Advanced diagnostic information can be found by clicking the  button

Audio and Talkback

vMix Call provides three different audio feed options that can be sent to all guests.
All three include built in automatic mix minus, so regardless of the option selected the guest microphone audio will not be returned back to them.

Master

This is the default and simplest option where the guest will hear the same audio as the stream and recording, minus their microphone.

Headphones

This option will allow the guest to hear everything the vMix operator hears, minus their microphone.
This allows the vMix operator to Solo any audio sources in the audio mixer they want the guest to hear without being heard on the recoding or stream.

This is useful for Talkback scenarios where a producer's microphone and guests are muted with solo turned on, creating a private conversation
between the producer's and guests that the audience can't hear until they are unmuted.

Bus A, Bus B, Bus C, Bus D, Bus E, Bus F, Bus G

vMix provides seven independent audio mixes / buses in addition to Master and Headphones which can be controlled using the A and B toggle buttons
underneath each audio input in vMix. (right click these buttons to see Bus C-G) For more information see the Audio Buses section of Audio Mixer.

These separate audio buses allow full flexibility when configuring guests audio in advanced production scenarios.

For example, a "virtual green room" could be created whereby any waiting guests can be turned on in Bus A to talk amongst themselves
with the M or Master being turned on just before they go on air.

When using this option, be sure to enable any sources before hand you wish the guests to hear such as the interviewer's microphone and any video clips
they might need to hear as well.

Troubleshooting / FAQ

Recommended Guest/Caller Requirements

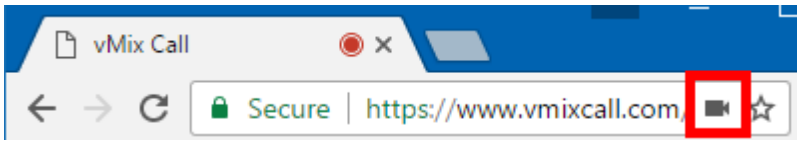
For best results, the following is recommended for each guest/caller:

Intel Laptop/PC from 2009 or higher
Windows 10
Google Chrome 56 or higher
HD USB Webcam such as the Logitech C920

Headset/Mic combo or Earphones + USB Microphone such as the Yeti from Blue Microphones

Guest is able to connect but no video and audio is received

Check to make sure the caller has a Webcam and Microphone plugged in and these have been selected in the browser.
In Google Chrome the camera and microphone can be configured by clicking the grey Camera icon at the top right hand corner of the address bar.
In FireFox, the browser will prompt to select the camera and microphone each time the call is connected.

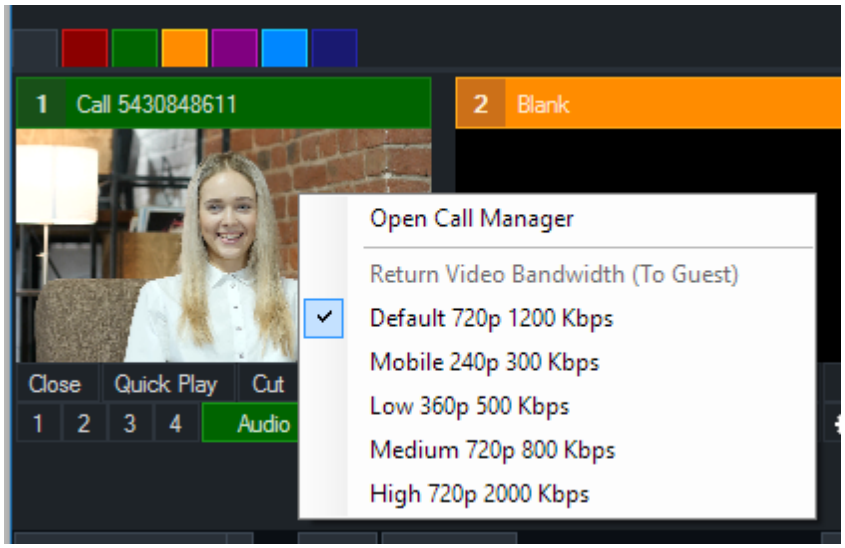


Guest dropped out, video/audio is no longer being received

This may occur if the internet connection is interrupted. The caller simply needs to refresh/reload the browser page to reconnect automatically.

Guest is flashing orange/amber in the Call Manager

This indicates network congestion between vMix and the caller.
The video and audio from the caller will adapt automatically after several seconds, however if the Return Video bandwidth is too high for the callers
internet connection, then you may need to select a lower quality by right clicking the Call input in vMix.



Guest's video/audio is low quality

vMix Call adapts to the available network conditions which may result in low quality video and audio if the callers network upload speed is lower than 2Mbps
Audio quality may also briefly drop to Telephone quality during periods of network congestion

If network congestion can be ruled out, try a different webcam.

Guest's video/audio is not smooth

During periods of network congestion, the received frame rate may drop as low as 1 frame per second.
The video frame rate may also lower in response to camera lighting or performance limits of the caller's laptop, PC or mobile device.

High Latency

vMix Call uses what is known as a Jitter Buffer which adds a variable amount of latency to each call to ensure smooth video and synchronised audio.
This latency can range from approx 200ms for guests on the same or nearby network to between 1 and 1.5 seconds for guests located on different continents or on congested networks.

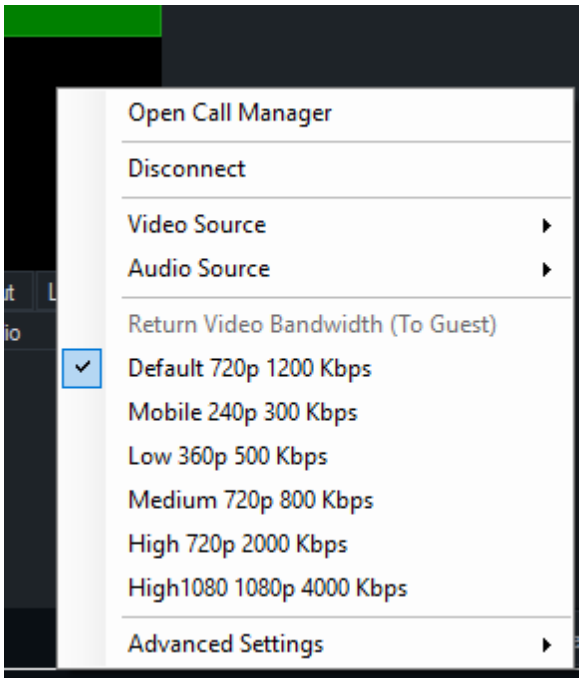
As vMix Call will generally adapt to the worst case scenario, if a brief period of network congestion results in higher than expected latency during a call, the guest can refresh their browser
to re-establish the call and reset the Jitter Buffer.

Audio echo from guest

Check to make sure the guest is using headphones/earphones instead of speakers to ensure the return audio is not feeding back through their microphone.
If speakers must be used (such as in a boardroom environment), the Microphone will need to be directional to ensure it is not picking up the speakers audio.

Right click menu settings

A number of settings can be adjusted for calls on the fly through the right click menu on each call input.



Open Call Manager

Disconnect

Disconnect the call. The guest will need to either refresh their browser or if using vMix right click and select Reconnect to connect again.

Video Source / Audio Source

Select a custom video and/or audio source to send the guest on this particular input.

Return Video Bandwidth (To Guest)

Select the video quality to send back to the guest from vMix. As this is generally used for preview purposes

by the guest
it is recommended to select this as low as practical.
NOTE: This setting is the same for all guests and cannot be configured independently.

Advanced Settings

Remote Guest Video Bandwidth

NOTE: This applies only to guests connecting using a browser as vMix callers will have specified their own bandwidth manually.
Manually select the maximum bandwidth the guest can use when sending video to vMix.
This is set to Auto by default which will adapt to internet conditions automatically.

Allow only direct peer to peer connections

See the **Setting up a Call** section on this topic for more information.

GT Title Designer

GT Designer is an easy to use application for creating title and lower third templates for use with vMix. These templates are high quality, GPU accelerated and support animations in the 4K and Pro editions of vMix.

For detailed instructions on the GT Designer, visit https://help.vmix.com/graphics/6/

Adding GT Titles to vMix

1. In the vMix main window click Add Input
2. Select the Title tab
3. Click Browse and browse for the title file you wish to add and click ok.
4. A thumbnail preview will appear with a GT icon at the top left hand corner, if this is the correct template click OK to add to vMix.

Playing Animations

Animations are supported in the 4K and Pro editions of vMix only.
The exception is the included built in GT templates provided with vMix which will work in all editions.

To play an animation, click one of the overlay channel buttons underneath the title (1,2,3,4,5,6,7,8) to start the Transition In animation
and bring the title on screen.

To Transition Out, click the overlay channel button again.

Animations can be manually started as well by right clicking the input and selecting the transition from the menu.

If a particular transition does not appear in the menu, it means no animation has yet been assigned to that particular Storyboard in the GT Title Designer.

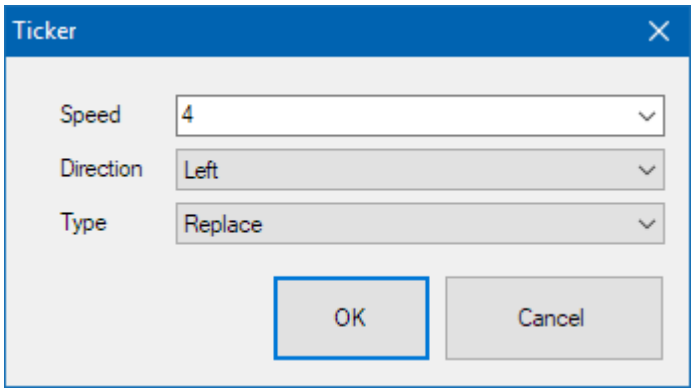
Reloading Titles

If you already have a title added to vMix but have made further changes to it in the title designer you can right click that
input in vMix and select Reload to update vMix with the changes.

Note that any Font, Text or Image changes made in vMix directly will always override any equivalent changes made in the designer.
To open the Title exactly as it is in the designer, close the input and add it again.

Changing Ticker Settings

Settings such as speed and direction of Tickers can be changed in real time from the Title Editor.
Right click the Ticker input in vMix and go to Title Editor.
Click the clock icon in the toolbar to open the Ticker settings window.



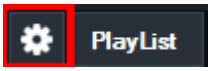
Speed is defined in pixels per frame. For example a speed of 4 equals 120 pixels per second @ 30 fps.
Type can be **Add** or **Replace**. Replace restarts the ticker each time the contents changes, Add will append the new content to the end of the ticker without affecting the currently playing content.

Using GT Titles as Stingers

A GT Title can be used as a Stinger Transition where both the TransitionIn and TransitionOut animations have been configured.
When used as a stinger, the transition will cut between TransitionIn and TransitionOut automatically.
For more information see the GT Stinger Transitions section of **Stinger Transitions**

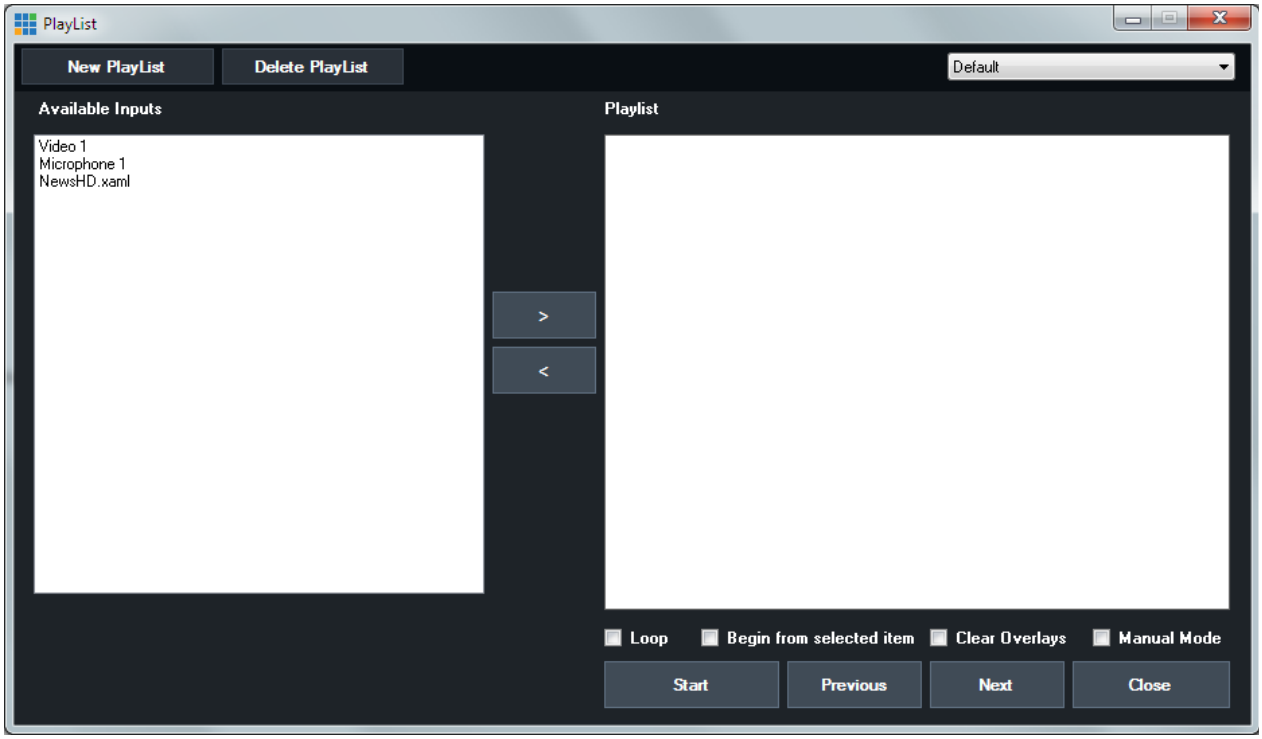
PlayList

PlayList provides the ability to automate switching tasks or play multiple videos sequentially.



Click the **Cog Button** next to **PlayList** to bring up the PlayList window.
Click **PlayList** to start or stop the PlayList once it has been configured.

PlayList Window



Loop: Start PlayList from the beginning again when completed.

Begin from selected item: Start the PlayList from the item currently selected in the list.

Clear Overlays: Turn off all overlays before starting playlist.

Manual Mode: When in Manual Mode, the playlist will not automatically progress to the next input until **Next** is clicked.

Start: Start the PlayList from the beginning

Previous: Jump to the previous item in the playlist using the PlayList item's transition

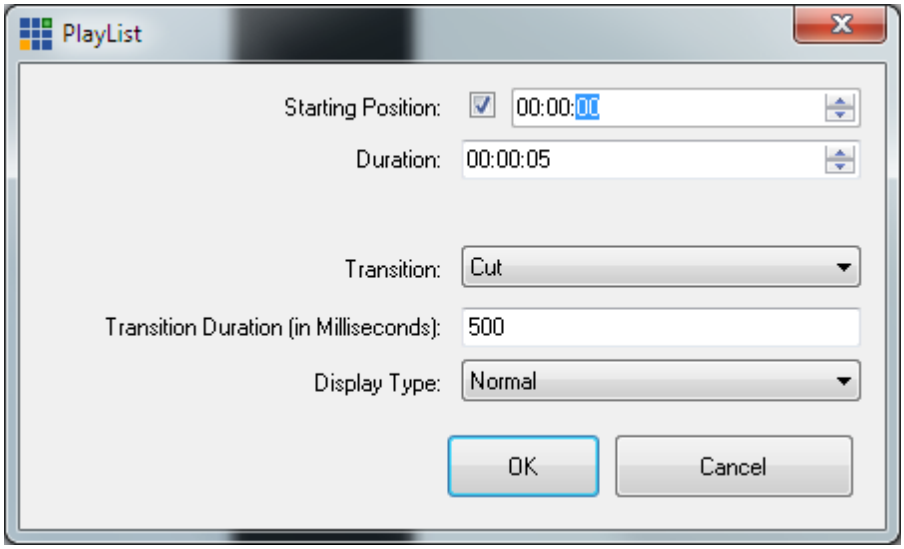
Next: Skip to the next item in the playlist using the PlayList item's transition.

Creating a PlayList

To create a PlayList, click the PlayList button from the bottom left hand corner of vMix.
Select an input from the Available Inputs column and click the > arrow to add it to the Playlist.

Editing PlayList item

Each item in the right hand Playlist can have its own starting position, duration, transition and transition time.
Double click the item in the list to bring up the settings window.



Starting Position: If the PlayList item is a video clip, a starting position can be set here. If the Starting Position checkbox is not checked the item will start playing from the current position.

Duration: Set length of time this PlayList item will run before moving to the next item in the list. If the duration is 0 the PlayList will default to the inputs duration.

Transition: Set a Transition Effect for this PlayList item.

Transition Duration: Set the Transition Duration for the Transition Effect in milliseconds.

Display Type: Optionally select the display type for this PlayList item. When an Overlay is set as the Display Type this PlayList item will appear as an overlay over the previous PlayList item, display for the length of the duration before
moving to the next item.

Opening/Saving a PlayList

PlayLists are linked to the currently active Preset in vMix. This means any saved playlists can only be loaded alongside the preset in which they were created.

MultiCorder

MultiCorder is an advanced feature found in the **4K, Pro and Max** editions of vMix.
It provides the ability to record the raw video and audio from capture inputs to separate files in addition to the main **vMix Recording**.

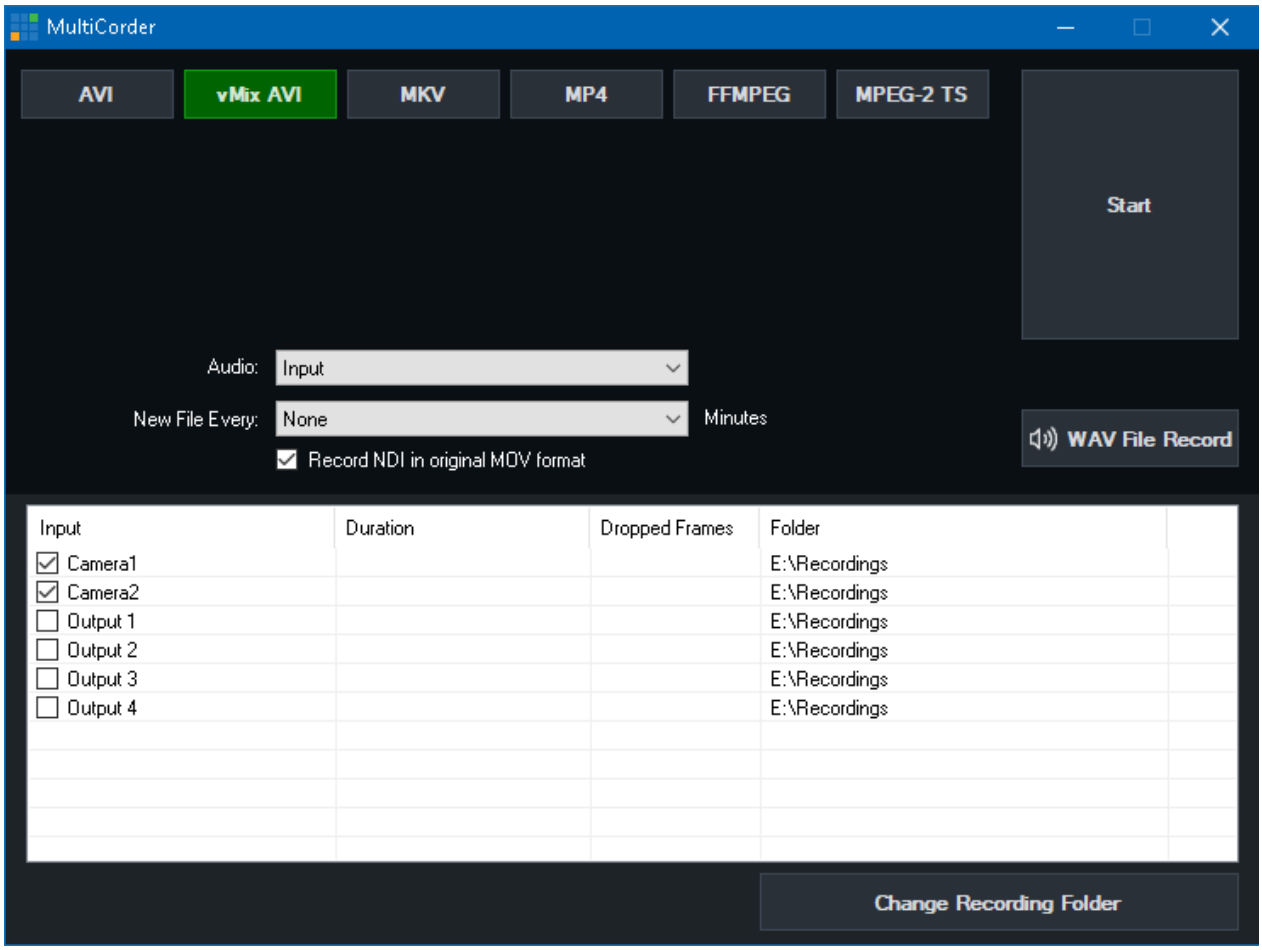
NOTE: **Raw video** means the original video direct from the source. As a result, no effects, colour correction or position settings etc will be recorded. The exception to this is the Output 1-4 options, as these will record exactly as shown in these outputs, including any relevant effects and processing.

Note: Instant Replay and MultiCorder cannot be used at the same time.

MultiCorder has the following minimum system requirements:

- Solid State Disk (SSD) for storing recordings.
- Intel Core i7 Quad Core processor or higher
- High end graphics card with at least 1GB of on board memory

The number of simultaneous recordings and the type of recording formats will depend on the processing capabilities of the computer.



The interface above appears by clicking the **Cog Button** next to MultiCorder in the main interface.



All available Camera, NDI inputs are listed within the MultiCorder window along with the four Output

channels. Tick the source you wish to record and click Start.
SRT inputs can also be recorded, however please note that SRT will always be recorded in its native Transport Stream (.ts) format and any recording settings except the recording folder will be ignored.

NOTE: Any source with irregular timing such as NDI-HX, Desktop Capture, Stream and vMix Call are not supported by MultiCorder and should not be used.

The following options are also available:

Recording Format

vMix AVI, AVI, MKV, MP4 and **FFMPEG** are available as recording options in MultiCorder.
For more information about these formats see **Recording Setup**.

Fault Tolerant Recordings

It is recommended that a fault tolerant recording format is selected when using MultiCorder.
This means in the event of a power outage, the recording will still be recoverable.
See **Fault Tolerant Recordings** for a list of options available.

Folder

Select the folder to place the video files. This will need to be a fast storage device as listed above under the system requirements.
The more cameras that are recorded simultaneously, the greater chance of dropped frames if the storage device is unable to keep up.

Audio

Select and audio source to include with each recording. This can either be Input which includes the embedded audio in the source, or one of the many audio bus configurations such as Master.
Note: If recording one of the Output channels (Output 1-4) the audio recorded***will always match*** the audio bus selected in **Settings - Outputs / NDI / OMT / SRT** for that particular output.

New File Every

Split the recording into a new file every x Minutes.

Record NDI in original MOV format

When recording NDI sources, you can select to record in the same compression format as NDI itself (MOV) by checking this tickbox.
This allows recording NDI sources without any additional system load or CPU usage as the video does not need to be re-compressed.

When recording NDI in this mode, all MultiCorder settings except the recording folder are ignored, including audio source and "new file every".

NOTE: This is a special NDI MOV file, and may not be compatible with some programs and editors. Refer to the NDI.TV web site
for the tools and plugins available for this format.

Change Recording Folder

Each source can be saved into its own folder or storage by highlighting the item in the list and selecting Change Recording Folder.
To change the folder of two or more sources, highlight them in the list before selecting Change Recording Folder.

To change all sources to the same folder again, deselect all items then select Change Recording Folder.

WAV File Record

See **WAV File Record**

Tally Lights

vMix supports a number of Tally Lights options

Smart Phone Tally Lights

vMix supports turning any Smart Phone into an instant Tally Light!
See the **Web Controller Tally Lights** section for more information.

Tally-Lights.com

Tally lights can be purchased from http://www.tally-lights.com and connected via USB.
These lights work automatically with vMix and will be assigned to Inputs according to the tally number.
(Tally 1 = Input 1, Tally 2 = Input 2, ...)

metaSETZ

USB Tally lights from metaSETZ are supported by vMix and can be found at http://www.metasetz.com/

Radio-Far

More information on Radio-Far tally lights can be found at http://www.radio-far.com/

Arduino Tally Lights

vMix supports the use of custom built Tally Lights through use of the open source Arduino hardware platform. (See http://www.arduino.cc/)
vMix required that the StandardFirmata firmware be loaded on to the Arduino device.

To connect to the Arduino device, go to the Input properties (click the i button) and from the Tally Light tab, select the COM port of the Arduino device and select the Tally Number.
The Tally Numbers are assigned to individual **Digital Pins** on the Arduino in the order specified in the Tally Lights tab in Settings.

The following is an overview of the digital pins and how to attach LED lights to them:

http://arduino.cc/en/Tutorial/DigitalPins

Interlaced Support

To enable interlaced processing in vMix, set Master Frame Rate to one of the settings below.
This can be done from **Settings -> Display**

Master Frame Rate

50p, 59.94p, 60p, 50i, 59.94i, 60i

Interlaced sources will be separated into two separate frames for frame rates 50p and higher.
All other master frame rates are progressive and any Interlaced inputs will be deinterlaced automatically.

Inputs

Input	Interlaced Support	Notes
Camera	Yes	Select an Interlaced Frame Rate and tick the Interlaced check box
Video	MOV, MXF To enable additional file types for full interlaced processing, add them to the FFMPEG section of **Settings -> Decoders**	All other formats will be converted to progressive using Blend deinterlacing
List	Same as for Video above	Interlaced can be set for each video independently.
Image Sequence	Yes, one image per field	Each image in an image sequence is treated as a field when using an interlaced output. For example, 50 images are needed for 1 second of 50i video.
Video Delay	Yes, saved clips progressive	Saved clips are saved as Interlaced but will playback in vMix as Progressive only

Recording

Interlaced recording is supported for AVI and MPEG-2 formats by setting the Recording Frame Rate to 50i, 59.94i or 60i
All recordings are Upper Field First with the exception of NTSC 480i which is Lower Field First

MP4 and WMV support progressive recording only.

External Output

Interlaced output is supported by setting the Frame Rate to 50i, 59.94i or 60i in External Output

Fullscreen Display

Fullscreen and preview windows will display the first field only when the Master Frame Rate is set to 50i, 59.94i or 60i
For full field display, set the Master Frame Rate to 50p or higher.

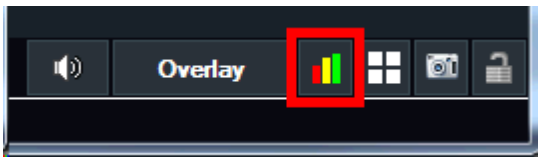
Progressive output from Interlaced source

The following table describes how each Master Frame Rate is processed when using progressive frame rates for recording or external output.

Master Frame Rate	Output Frame Rate	Processing
50p, 59.94p, 60p	25p, 29.97p, 30p	Drop every second frame
50i, 59.94i, 60i	25p, 29.97p, 30p	Discards every second field. First field used for each frame
50i, 59.94i, 60i	50p, 59.94p, 60p	One frame per field

Statistics

The statistics window can be displayed by clicking the icon in the bottom right hand corner as shown below



This window displays real time statistics of each live input including dropped frames and audio sync.

Clicking on Refresh will update the table to reflect the current list of Inputs and Outputs
Clicking on Reset will reset certain statistics back to zero. (Certain elements will not reset to zero that are ongoing, such as Recording or External Output)

Overview

Each column is described in detail below:

Source Dropped

This shows the number of dropped frames as a result of the capture card / camera running slowly.
For example, the camera clock might be slower than vMix or the capture card is experiencing a bandwidth bottleneck.

Renderer Dropped

This shows the number of dropped frames as a result of the graphics card running slowly.

Resync

This number shows the number of dropped frames as a result of the capture card / camera running too fast.
For example, the camera clock might be running slightly faster than vMix.

Video

This column shows timing statistics relating to the arrival time of each frame from the source.

Example: 33 33 33 33 (49)

In the above example, the four previous frames arrived 33 milliseconds after each other (indicating approx. 30 fps)

The number in brackets shows how long it took for the frame to be displayed on screen. (1.5 frames in this case)

These numbers will coincide with the results seen in the other dropped columns.

If a 30p camera shows 38 38 38 38 consistently, this indicates that it is running slow.
This will show up in the **Source Dropped** column.

If a 30p camera shows 25 25 25 25 consistently, this indicates that is running fast.
This will show up in the **Resync** column.

Audio

This column shows timing statistics relating to the arrival time of each sample of audio from the source.

Example: 60/67 ms Dropped: 2/0 Resampled: 0/40

60/67 ms

These values show the fullness of the audio buffer.

Dropped: 2/0

Number of dropped audio samples read/write.

Resampled: 0/40

Number of milliseconds of audio that has been resampled to stay in sync.

SRT

This window displays additional statistics related to SRT, including the bandwidth utilisation, packet loss, total data transferred and Round-Trip Time (RTT) for SRT inputs and outputs.

Encoders

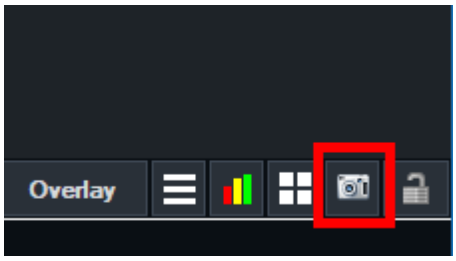
This window displays additional statistics related to encoding sources including Streams, NDI and SRT outputs, Recordings and MultiCordings.
The Codec column notes whether a source is using the CPU (software) or the GPU (hardware) to encode the content.

Snapshot

A snapshot of the live production (that is a still image taken at a particular point in time) can be created in one of the following ways:

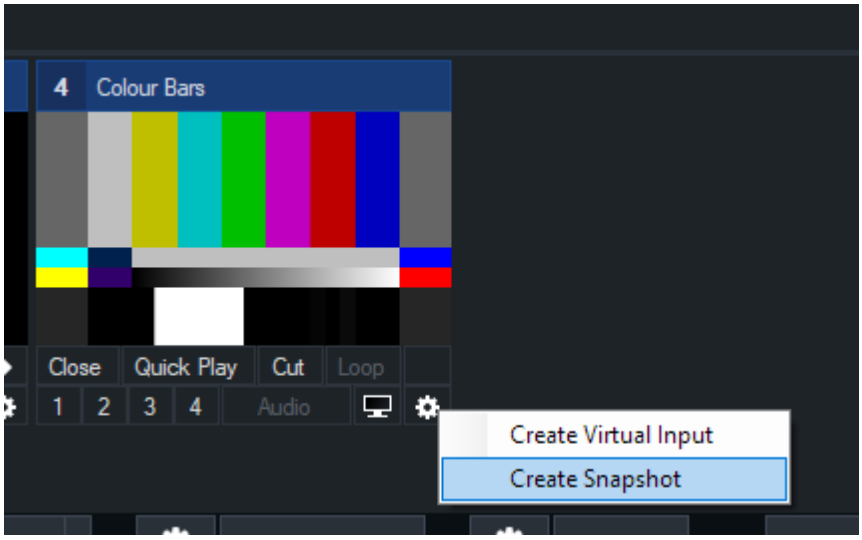
Output Snapshot

Click the camera icon to take a Snapshot of the final vMix Output.
This will browse to save the file as a PNG, JPEG or BMP image.
If saved as a PNG, transparency is preserved, where applicable.



Input Snapshot

Right click the cog icon under an input to take a Snapshot of that particular input at full resolution.
This will browse to save the file as a PNG, JPEG or BMP image.
If saved as a PNG, transparency is preserved, where applicable.



Padlock

The Padlock icon in the bottom right hand corner of vMix can be used to lock certain buttons in vMix so they are not clicked accidentally.
When the icon is grey and open, everything is unlocked, when the icon is orange and closed, the functions below are locked:

- vMix Close Button
- Input Close Button
- Open Preset
- Last Preset
- Recording Stop
- Streaming Stop
- External Output Stop
- MultiCorder Stop

Scripting and Automation

4K and Pro editions of vMix include powerful programming capabilities through the Scripting feature.

Consider this is a highly advanced version of Shortcuts, instead of a simple function assigned to a keyboard key
you can assign any code you can think of including tasks like downloading internet content and assigning it to a title.

The process goes like this:

1. Create a Script from the Scripting tab in Settings and assign it a unique Name.

2. Create a Shortcut and select "ScriptStart" as the function and type in the name of the script in the Script Name box.

Scripting supports two different languages when writing your script:

VB.NET Scripting

Web Scripting

Local Scripts

Similar to shortcuts, scripts can be globally (accessible regardless of what Preset is open) or locally (only loaded with a particular Preset)
When editing a script, tick the box **Local Script (This Preset Only)** if you would like the script saved in the Preset.

Local scripts show up as **Bold** in the list. If two scripts have the same name, the first in the list will always be used when using shortcuts that refer to a script by name.

VB.NET Scripting

vMix Scripting supports the powerful and easy to understand VB.NET language when writing your script.

Hello World Example

Consider the following vMix take on the infamous "Hello World" application:

```
Input.Find("Title 0- The Classic Blue.gtzip").Text("Headline.Text") = "Hello World!"
```

Or put another way:

```
dim i = Input.Find("Title 0- The Classic Blue.gtzip")
i.Text("Headline.Text") = "Hello World!"
```

Both of these scripts do the same thing, that is to find the Title Input with name "Title 0- The Classic Blue.gtzip" and assign the "Headline.Text" field with the text "Hello World!"
To try it out add the Title 0- The Classic Blue.gtzip title template to vMix and then run the script.

VB.NET

vMix Scripting supports the majority of VB.NET 2.0 code that will work within a single sub or function.
This means that custom classes and structures are not supported, however you can use the vast majority of the built in base classes in the .NET framework
including the handy System.Net.WebClient for downloading data over the internet.

vMix Objects

There are a number of built in objects that can be used from within vMix scripting:

Input

Shared Properties

Output As Input
Preview As Input
Find(inputNameNumberOrKey as String) As Input

Example:

```
Input.Preview.Function("Cut")
```

Instance Properties

Text(Optional fieldName As String = "") As String

Change the text of a Field within an Title input, or read the current value

Instance Methods

Function(functionName As String, Optional value As String = "", Optional duration As Integer = 0, Optional selectedName As String = "", Optional selectedIndex As Integer = 0)

Function can be used to call any Shortcut function in vMix

WaitForCompletion(timeoutMilliseconds As Integer) As Boolean

Wait for a video to finish playing and return True, otherwise return False if timed out.

Overlay

Shared Properties

Find(number as Integer) As Overlay

Instance Methods

In(input as String)
Out
Off

Examples:

```
Overlay.Find(1).In("NewsHD.xaml")
```

```
For i As Integer = 1 to 8
  Overlay.Find(i).Off
Next
```

Console

Shared Methods

WriteLine(message as String)

Write the message string to the vMix Script console accessible from the Scripting tab of Settings. This is useful for debugging purposes

Examples:

```
Console.WriteLine("Beginning Example Script")
Overlay.Find(1).In("NewsHD.xaml")
Console.WriteLine("Title should now appear in Overlay 1, now we wait 5 seconds")
Sleep(5000)
Console.WriteLine("Now we will transition out Overlay 1")
Overlay.Find(1).Out
Console.WriteLine("Finished!")
```

API

Shared Methods

XML() As String

Returns the XML state of vMix as per the vMix Web API

ReplayXML() As String

Returns the Replay XML state of vMix as per the Replay API

ReplayEventsXML() As String

Returns the Replay Events XML state of vMix as per the Replay API

Function(functionName As String, Optional input As String = "", Optional value As String = "", Optional duration As Integer = 0, Optional selectedName As String = "", Optional selectedIndex As Integer = 0)

Calls an API function as per the vMix Web API

Examples:

```
API.Function("CubeZoom",,1000)
```

Web Scripting

Web Scripting supports a basic URL syntax to execute multiple functions one after the other.

Examples

Overlay a title for 2 seconds using the in and out transitions.

```
Function=OverlayInput1In&Input=Title 0- The Classic Blue.gtzip
Sleep 2000
Function=OverlayInput1Out
```

Fade to an input called "Camera1" using the transition time of 1000 milliseconds:

```
Function=Fade&Input=Camera1&Duration=1000
```

Set the text of field called "Description.Text" in the Title to "Hello World" then overlay that title for 4 seconds using the in/out transitions.

```
Function=SetText&Input=Title 0- The Classic Blue.gtzip&SelectedName=Description.Text&Value=Hello World
Function=OverlayInput1In&Input=Title 0- The Classic Blue.gtzip
Sleep 4000
Function=OverlayInput1Out
```

Syntax

The syntax for each line is the same as the query string used with the vMix Web API exception without the URL portion

For example **http://localhost:8088/API/?Function=Cut** in the Web API would be just **Function=Cut** with Web Scripting

All the same parameters apply for example:

```
Function=Slide&Input=Title 0- The Classic Blue.gtzip&Duration=1000
Function=SetText&Input=Title 0- The Classic Blue.gtzip&SelectedName=Description.Text&Value=Hello World
```

The only exception is the Sleep command which is unique to Web Scripting and will pause for a number of milliseconds between two functions.
URL encoding may need to be used when using special characters in the Value parameter.

Developer Information

vMix provides the following interfaces for developers:

HTTP Web API

TCP API

HTTP WEB API

The vMix API provides access to common functions through the HTTP protocol.
For example, the following command will signal vMix to fade Preview to Active within 1 second:

http://127.0.0.1:8088/api/?Function=Fade&Duration=1000

Setup

The API uses the same web address as the standard Web Interface and can be configured from the Web tab in Settings.

Parameters

Function

Specify a function to execute.
This can be any of the functions provided for the Shortcuts feature.
To view a list of what is possible, in vMix go to Settings, Shortcuts and click Add.
All the functions in the "Function" dropdown box can be called from the API.

Click here to view a list of some of the Shortcut Functions that are available.

Duration

If the specified function is a transition this parameter can be set to a time in milliseconds.

Input

Input can be used to specify the Input in one of three ways:
1. By number starting from 1.
0 can be used for Preview and -1 for Active.

2. By name. (note that it is case sensitive, and requires the full title name including spaces)

3. A GUID can be used to specify an exact input. The GUID can be found from the "Key" attribute in the XML.
For example:

http://127.0.0.1:8088/API/?Function=Fade&Duration=1000&Input=877bb3e7-58bd-46a1-85ce-0d673aec6bf5

SelectedName

When using Title or XAML inputs, SelectedName can be used to specify the name of the text field to

modify.
For example:

http://127.0.0.1:8088/API/?Function=SetText&Input=877bb3e7-58bd-46a1-85ce-0d673aec6bf5&SelectedName=Headline&Value=Hello

When using GT titles, the name should include ".Text" at the end for text fields and ".Source" at the end for images or rectangles with brush images.
For reference, these full names are displayed in the Title Editor built into vMix.

For example:

http://127.0.0.1:8088/API/?Function=SetText&Input=877bb3e7-58bd-46a1-85ce-0d673aec6bf5&SelectedName=Headline.Text&Value=Hello

http://127.0.0.1:8088/API/?Function=SetImage&Input=877bb3e7-58bd-46a1-85ce-0d673aec6bf5&SelectedName=MyImage.Source&Value=filename.jpg

SelectedIndex

Specify an index to pass to the input
The following Inputs support the SelectedIndex parameter:

> **VideoList**: Specify the video to play starting from 1
> **Virtual Set**: Specify the camera zoom to transition to
> **Title**: Specify the text item to configure starting from 0

Value

Value is used with many different API Functions including the following.
For a full list of functions that use Value parameters refer to the Shortcut Function Reference.

> **SetImage**: Specify the image to display in an image field within a supported XAML or Title input
> **SetText**: Specify the text to display in the text field specified by SelectedIndex above.
> **SetPosition**: In milliseconds
> **SetCountdown:** As a timespan (00:00:00)
> **SetFader:** As a number between 0 and 255
> **AddInput:** Specify the Video/Image/Photos or Xaml input filename in the following formats:
>
> > Video|c:\filename.wmv
> > Image|c:\filename.jpg
> > ...

Mix

In the 4K and Pro editions up to three separate Mix inputs are available.
This parameter can be used to select the Mix to use where 0 = main mix, 1 = first Mix input, 2 = second Mix input etc.

Shortcuts related to Overlays and Stingers can have multiple mixes enabled (to display an Overlay on more than one Mix at a time for example).
This is done via a comma separated list. So setting **Mix** to **0,1** (Mix=0,1) will result in the main mix and the first mix input to display the Overlay or Stinger.

Channel

Some replay functions can be applied to a specific channel. If this parameter is left blank it will default to the currently selected channel in the Replay user interface.
The value should be A, B, Current or left blank.

Return

If successful, the API will return the standard 200 response code.
If an error occurs, the API will return the standard 500 error code.

Information

If all parameters are left blank the API will return state information in XML format.
The following is an example of the XML output:

```
<vmix>
<version>11.0.0.16</version>
<inputs>
<input key="26cae087-b7b6-4d45-98e4-de03ab4feb6b" number="1" type="Xaml" title="NewsHD.xaml"
state="Paused" position="0" duration="0" muted="True" loop="False" selectedIndex="0">
NewsHD.xaml
<text index="0" name="Headline">Hello</text>
<text index="1" name="Description">Hello</text>
</input>
<input key="55cbe357-a801-4d54-8ff2-08ee68766fae" number="2" type="VirtualSet" title="LateNightNews"
state="Paused" position="0" duration="0" muted="True" loop="False" selectedIndex="0">
LateNightNews
<overlay index="0" key="2fe8ff9d-e400-4504-85ab-df7c17a1edd4"/>
<overlay index="1" key="20e4ee9a-05cc-4f58-bb69-cd179e1c1958"/>
<overlay index="2" key="94b88db0-c5cd-49d8-98a2-27d83d4bf3fe"/>
</input>
</inputs>
<overlays>
<overlay number="1"/>
<overlay number="2">1</overlay>
<overlay number="3"/>
<overlay number="4"/>
<overlay number="5"/>
<overlay number="6"/>
</overlays>
<preview>1</preview>
<active>2</active>
<fadeToBlack>False</fadeToBlack>
<transitions>
<transition number="1" effect="Fade" duration="500"/>
<transition number="2" effect="Wipe" duration="500"/>
<transition number="3" effect="Fly" duration="500"/>
<transition number="4" effect="CubeZoom" duration="3000"/>
</transitions>
<recording>False</recording>
<external>False</external>
<streaming>False</streaming>
<playList>False</playList>
<multiCorder>False</multiCorder>
</vmix>
```

In the example above Input 2 is active and Input 1 is currently running as Overlay 2.

TCP API

The vMix TCP API provides the same functionality as the HTTP WEB API but with lower processing overhead making it suitable for use in embedded devices that have limited XML parsing capabilities.
It also provides the ability to subscribe to a TALLY event that will automatically send TALLY updates to the client.

Preface

The vMix TCP API is designed to be a simple protocol that can be expanded in the future without breaking compatibility with existing clients.
Therefore it employs a simple text command/response architecture, similar to other standard protocols such as SMTP.
As a result, fixed length binary structures have been avoided.
The <> symbols in this specification refer to mandatory commands/responses while [] are always optional.

Connection

TCP connection on fixed port 8099

Formatting

All messages are UTF8 encoded and \r\n terminated unless specified otherwise.
This is compatible with ASCII only devices for the vast majority of commands with the exception of those that might retrieve incompatible characters such as in Titles.

Responses

Responses are space delimited \r\n terminated strings with optional binary data in the following format:

<command> <status/length> [response]\r\n
[data]

Examples:
MYCOMMAND OK This is the response to MYCOMMAND\r\n
MYCOMMAND ER This is an error message in response to MYCOMMAND\r\n
MYCOMMAND 28\r\n
This is optional binary data
MYCOMMAND 28 This is a message in addition to the binary data\r\n
This is optional binary data

Notes:
a. Optional binary data is the exact length specified in <status/length> including additional terminating characters such as \r\n
which are always appended to the end of multiline text such as from XMLTEXT.
b. Single line responses such as ER should always be expected and handled, even for commands that usually return binary data.
c. OK (Success), ER (Error) and length are the only three statuses to expect.

Note: Do not send multiple requests without waiting for a response each time.

Events

Events are responses that can be sent at any time to the client in response to state changes.
All clients should be written to handle any response at any time, as these may be received in the middle of sending a command but before
receiving that particular commands response. Therefore it is recommended clients operate "asynchronously" without waiting for a particular command response.

Commands

TALLY
Event Supported: Yes
Example Request: TALLY\r\n
Example Response: TALLY OK 0121...\r\n

Description: Returns a list of tally values where 0 = off, 1 = program, 2 = preview.
The list is padded to the total number of inputs currently added to vMix and may have up to 1000 entries as a result.
(Maximum possible length = 9 + 1000 + 2 = 1011 bytes)

FUNCTION
Format: FUNCTION <Function> [QueryString]\r\n
Example Request: FUNCTION PreviewInput Input=5\r\n
Example Request: FUNCTION SetText Input=3&SelectedName=Headline&Value=Hello world\r\n
Example Response: FUNCTION OK Completed\r\n
Example Response: FUNCTION ER Error message\r\n
Description: Calls a Shortcut Function with optional Query String. This Query String exactly matches the syntax
and layout of HTTP WEB API. Standard URL escape/encoding characters should be used.

ACTS
Event Supported: Yes
Format: ACTS <ActivatorName> [InputNumber]\r\n
Example Request: ACTS Input 1\r\n
Example Response: ACTS OK Input 1 1\r\n
Description: Retrieves the current state of an Activator. This can be used even if a particular activator has not been added in vMix and is handy
for retrieving state information for use with custom controllers.
To subscribe to all activator events use the command SUBSCRIBE ACTS. This will retrieve all events
as it is not possible to subscribe to only a particular activator.
The input number can be left blank for Input, InputPreview and Overlay1,2,3,4,5,6,7,8 to show the currently assigned input, if any, otherwise ER No Input will be returned.
Return values will always be between 0 and 1. In contrast to the XML output this means boolean True/False becomes 1/0 and integer values such as Volume become 32bit floating point values.

XML
Example Request: XML\r\n
Example Response: XML 37\r\n
<vmix><version>x.x.x.x</version></vmix>
Description: Returns the current XML state as binary data encoded in UTF-8 format.
The data length has no size limit and can be quite large, therefore embedded devices should use the XML parsing commands below to efficiently retrieve values.

XMLTEXT
Format: XMLTEXT XPATH
Example Request: XMLTEXT vmix/inputs/input[1]/@title\r\n
Example Response: XMLTEXT OK This is the title of the first input\r\n
Example Request: XMLTEXT vmix/inputs/input[6]/text[@name='Headline']\r\n
Example Response: XMLTEXT OK This is the value of Headline text field in title input that is the number 6 (index 5) input.\r\n
Description: Uses the XPATH syntax to retrieve individual text values of the XML state.
To simplify parsing, multiline text will use the status length, while single line data will always use a single line response.

REPLAYXML
Example Request: REPLAYXML\r\n
Example Response: REPLAYXML 17\r\n
<replay></replay>
Description: Returns the current Replay XML state as binary data encoded in UTF-8 format.
The data length has no size limit and can be quite large, therefore embedded devices should use the XML parsing commands below to efficiently retrieve values.

REPLAYXMLTEXT
Format: REPLAYXMLTEXT XPATH
Example Request: REPLAYXMLTEXT replay/@channelMode\r\n

Example Response: REPLAYXMLTEXT OK AB\r\n
Description: Uses the XPATH syntax to retrieve individual text values of the Replay XML state.
To simplify parsing, multiline text will use the status length, while single line data will always use a single line response.

REPLAYEVENTSXML
Example Request: REPLAYEVENTSXML\r\n
Example Response: REPLAYEVENTSXML 48\r\n
<events><list index="0" name=""></list></events>
Description: Returns the current Replay XML state as binary data encoded in UTF-8 format.
The data length has no size limit and can be quite large, therefore embedded devices should use the XML parsing commands below to efficiently retrieve values.

REPLAYEVENTSXMLTEXT
Format: REPLAYEVENTSXMLTEXT XPATH
Example Request: REPLAYEVENTSXMLTEXT events/list[1]/@name\r\n
Example Response: REPLAYEVENTSXMLTEXT OK This is the name of the first events list\r\n
Description: Uses the XPATH syntax to retrieve individual text values of the Replay Events XML state.
To simplify parsing, multiline text will use the status length, while single line data will always use a single line response.

SUBSCRIBE
Format: SUBSCRIBE <COMMAND>\r\n
Example Request: SUBSCRIBE TALLY\r\n
Example Response: SUBSCRIBE OK TALLY\r\n
Description: Subscribe to an event/command. Event responses matching the selected command may begin immediately, even before the SUBSCRIBE response is received.
Event responses will continue to be received until either a. UNSUBSCRIBE is called or b. the connection is closed.

UNSUBSCRIBE
Format: UNSUBSCRIBE <COMMAND>\r\n
Example Request: UNSUBSCRIBE TALLY\r\n
Example Response: UNSUBSCRIBE OK TALLY\r\n
Description: Due to the internal event queue in vMix, event responses may continue to be received briefly after the UNSUBSCRIBE command has been called.

QUIT
Description: Closes the connection

Custom XAML

Warning: The following API is deprecated as of vMix 24 and may be removed in a future update.

vMix supports the use of custom WPF User Controls compiled into an assembly.

Custom User Controls can implement the **vMixWPFUserContro**l interface from the **vMixInterop.dll** in the vMix installation directory.
This interface allows vMix to communicate with the User Control and gather duration and position information.

Implementation Guidelines

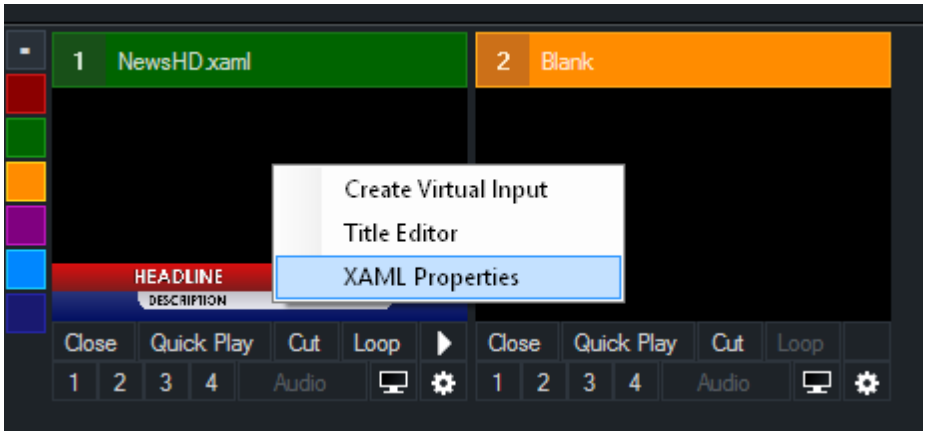
- ShowProperties should display a WinForms window without blocking (Form.Show instead of Form.ShowDialog)
- Displaying WPF windows through ShowProperties is untested and unsupported.
- Any code within ShowProperties will not run in the context of the WPF UI thread so the use of Dispatcher is required to modify UI elements.
- All other methods run within the WPF UI thread so cpu intensive procedures should be avoided to

prevent frame drops.

- Any media related controls such as MediaElement and WebBrowser are not supported and will display a blank window.

How to add a Custom WPF User Control to vMix

1. First make sure the user control has been compiled as a DLL and follows the implementation guidelines above.
2. Click Add Input in vMix and then select the Title / XAML tab
3. Click Browse and browse for the DLL file and click OK
4. Click OK and the control will now be available in vMix.
5. If you have built custom properties through the ShowProperties function, this can be displayed through a right click menu:



Replay API

The vMix Replay API can be used to retrieve information about the currently running replay session.
It is available from both the HTTP WEB API and the TCP API.

HTTP WEB API

Information

http://127.0.0.1:8088/ReplayAPI/

This will return XML information about the current replay session.

Events

http://127.0.0.1:8088/ReplayEventsAPI/

This will return XML information about all the events in the current replay session.

TCP API

Use the **REPLAYXML, REPLAYEVENTSXML, REPLAYXMLTEXT** or **REPLAYEVENTSXMLTEXT** commands to retrieve this information using the TCP API.
For more information see **TCP API**

Shortcut Function Reference

The following shortcut functions can be called either via a **Shortcut** or via the **API**.

Transitions: Transitions such as **Fade, Zoom, Cut etc** can be used as Functions in shortcuts or the API and are in addition to those listed below. The names of these exactly match the transition names in vMix user interface.

Name	Description
General	
ActivatorRefresh	Refresh all activator device lights and controls
CallManagerShowHide	
KeyPress	Value = Key
SendKeys	Send keys to active window Value = Keys
SetDynamicValue1	Set Dynamic Value to use when specifying Dynamic1 as a shortcut val Value = Value
SetDynamicValue2	Set Dynamic Value to use when specifying Dynamic2 as a shortcut val Value = Value
SetDynamicValue3	Set Dynamic Value to use when specifying Dynamic3 as a shortcut val Value = Value
SetDynamicValue4	Set Dynamic Value to use when specifying Dynamic4 as a shortcut val Value = Value
SetProductionClock1Message	Set Production Clock 1 to display selected Message. Value = Message
SetProductionClock1Type	Set Production Clock 1 to Type specified in Value Value = Clock,Event,Recording,Streaming,TimeRemaining,Message
SetProductionClock2Message	Set Production Clock 2 to display selected Message. Value = Message
SetProductionClock2Type	Set Production Clock 2 to Type specified in Value Value = Clock,Event,Recording,Streaming,TimeRemaining,Message
Undo	Undo closing Input.
Audio	
Audio	Toggle Audio Mute On/Off
AudioAuto	

AudioAutoOff	
AudioAutoOn	
AudioBus	M,A,B,C,D,E,F,G Value = Bus
AudioBusOff	M,A,B,C,D,E,F,G Value = Bus
AudioBusOn	M,A,B,C,D,E,F,G Value = Bus
AudioChannelMatrixApplyPreset	Apply preset to channel matrix Value = Preset Name
AudioMixerShowHide	
AudioOff	
AudioOn	
AudioPluginOff	Turn off Audio Plugin, starting from 1 Value = Plugin Number
AudioPluginOn	Turn on Audio Plugin, starting from 1 Value = Plugin Number
AudioPluginOnOff	Toggle on/off Audio Plugin, starting from 1 Value = Plugin Number
AudioPluginShow	Show Audio Plugin Editor, starting from 1 Value = Plugin Number
BusAAudio	
BusAAudioOff	
BusAAudioOn	
BusAAudioPluginOff	Turn off Audio Plugin, starting from 1 Value = Plugin Number
BusAAudioPluginOn	Turn on Audio Plugin, starting from 1 Value = Plugin Number
BusAAudioPluginOnOff	Toggle on/off Audio Plugin, starting from 1 Value = Plugin Number
BusAAudioPluginShow	Show Audio Plugin Editor, starting from 1 Value = Plugin Number
BusBAudio	
BusBAudioOff	

BusBAudioOn	
BusBAudioPluginOff	Turn off Audio Plugin, starting from 1 Value = Plugin Number
BusBAudioPluginOn	Turn on Audio Plugin, starting from 1 Value = Plugin Number
BusBAudioPluginOnOff	Toggle on/off Audio Plugin, starting from 1 Value = Plugin Number
BusBAudioPluginShow	Show Audio Plugin Editor, starting from 1 Value = Plugin Number
BusXAudio	M,A,B,C,D,E,F,G Value = Bus
BusXAudioOff	M,A,B,C,D,E,F,G Value = Bus
BusXAudioOn	M,A,B,C,D,E,F,G Value = Bus
BusXAudioPluginOff	Turn off Audio Plugin, starting from 1 Value = Bus,PluginNumber
BusXAudioPluginOn	Turn on Audio Plugin, starting from 1 Value = Bus,PluginNumber
BusXAudioPluginOnOff	Toggle on/off Audio Plugin, starting from 1 Value = Bus,PluginNumber
BusXAudioPluginShow	Show Audio Plugin Editor, starting from 1 Value = Bus,PluginNumber
BusXSendToMaster	M,A,B,C,D,E,F,G Value = Bus
BusXSendToMasterOff	M,A,B,C,D,E,F,G Value = Bus
BusXSendToMasterOn	M,A,B,C,D,E,F,G Value = Bus
BusXSolo	M,A,B,C,D,E,F,G Value = Bus
BusXSoloOff	M,A,B,C,D,E,F,G

	Value = Bus
BusXSoloOn	M,A,B,C,D,E,F,G Value = Bus
MasterAudio	
MasterAudioOff	
MasterAudioOn	
MasterAudioPluginOff	Turn off Audio Plugin, starting from 1 Value = Plugin Number
MasterAudioPluginOn	Turn on Audio Plugin, starting from 1 Value = Plugin Number
MasterAudioPluginOnOff	Toggle on/off Audio Plugin, starting from 1 Value = Plugin Number
MasterAudioPluginShow	Show Audio Plugin Editor, starting from 1 Value = Plugin Number
SetBalance	Value = Balance -1-1
SetBusAGain	Value = Gain dB 0-24
SetBusAVolume	Value = Volume 0-100
SetBusAVolumeFade	Set volume gradually over x milliseconds. Value = Volume 0-100,Milliseconds
SetBusBGain	Value = Gain dB 0-24
SetBusBVolume	Value = Volume 0-100
SetBusBVolumeFade	Set volume gradually over x milliseconds. Value = Volume 0-100,Milliseconds
SetBusCGain	Value = Gain dB 0-24
SetBusCVolume	Value = Volume 0-100
SetBusCVolumeFade	Set volume gradually over x milliseconds. Value = Volume 0-100,Milliseconds
SetBusDGain	Value = Gain dB 0-24
SetBusDVolume	Value = Volume 0-100
SetBusDVolumeFade	Set volume gradually over x milliseconds. Value = Volume 0-100,Milliseconds
SetBusEGain	Value = Gain dB 0-24
SetBusEVolume	Value = Volume 0-100
SetBusEVolumeFade	Set volume gradually over x milliseconds.

	Value = Volume 0-100,Milliseconds
SetBusFGain	Value = Gain dB 0-24
SetBusFVolume	Value = Volume 0-100
SetBusFVolumeFade	Set volume gradually over x milliseconds. Value = Volume 0-100,Milliseconds
SetBusGGain	Value = Gain dB 0-24
SetBusGVolume	Value = Volume 0-100
SetBusGVolumeFade	Set volume gradually over x milliseconds. Value = Volume 0-100,Milliseconds
SetGain	Value = Gain dB 0-24
SetGainChannel1	Value = Gain dB 0-24
SetGainChannel2	Value = Gain dB 0-24
SetHeadphonesVolume	Value = Volume 0-100
SetMasterGain	Value = Gain dB 0-24
SetMasterVolume	Value = Volume 0-100
SetMasterVolumeFade	Set volume gradually over x milliseconds. Value = Volume 0-100,Milliseconds
SetVolume	Value = Volume 0-100
SetVolumeBusMixer	Set Volume of an Input's Bus Mixer (M,A,B,C,D,E,F,G) Value = Bus,Volume 0-100
SetVolumeBusMixerA	Set Volume of an Input's A Bus Value = Volume 0-100
SetVolumeBusMixerB	Set Volume of an Input's B Bus Value = Volume 0-100
SetVolumeBusMixerC	Set Volume of an Input's C Bus Value = Volume 0-100
SetVolumeBusMixerD	Set Volume of an Input's D Bus Value = Volume 0-100
SetVolumeBusMixerE	Set Volume of an Input's E Bus Value = Volume 0-100
SetVolumeBusMixerF	Set Volume of an Input's F Bus Value = Volume 0-100
SetVolumeBusMixerG	Set Volume of an Input's G Bus Value = Volume 0-100

SetVolumeBusMixerM	Set Volume of an Input's Master Bus Value = Volume 0-100
SetVolumeChannel1	When using SeparateMono on an Audio Input, this can be used to set volumes independently. Value = Volume 0-100
SetVolumeChannel2	When using SeparateMono on an Audio Input, this can be used to set volumes independently. Value = Volume 0-100
SetVolumeChannelMixer	Set Volume of an Input's sub channel (1 to 16) Value = Channel,Volume 0-100
SetVolumeChannelMixer1	Set Volume of an Input's sub channel 1 Value = Volume 0-100
SetVolumeChannelMixer2	Set Volume of an Input's sub channel 2 Value = Volume 0-100
SetVolumeChannelMixer3	Set Volume of an Input's sub channel 3 Value = Volume 0-100
SetVolumeChannelMixer4	Set Volume of an Input's sub channel 4 Value = Volume 0-100
SetVolumeChannelMixer5	Set Volume of an Input's sub channel 5 Value = Volume 0-100
SetVolumeChannelMixer6	Set Volume of an Input's sub channel 6 Value = Volume 0-100
SetVolumeChannelMixer7	Set Volume of an Input's sub channel 7 Value = Volume 0-100
SetVolumeChannelMixer8	Set Volume of an Input's sub channel 8 Value = Volume 0-100
SetVolumeChannelMixer9	Set Volume of an Input's sub channel 9 Value = Volume 0-100
SetVolumeChannelMixer10	Set Volume of an Input's sub channel 10 Value = Volume 0-100
SetVolumeChannelMixer11	Set Volume of an Input's sub channel 11 Value = Volume 0-100

SetVolumeChannelMixer12	Set Volume of an Input's sub channel 12 Value = Volume 0-100
SetVolumeChannelMixer13	Set Volume of an Input's sub channel 13 Value = Volume 0-100
SetVolumeChannelMixer14	Set Volume of an Input's sub channel 14 Value = Volume 0-100
SetVolumeChannelMixer15	Set Volume of an Input's sub channel 15 Value = Volume 0-100
SetVolumeChannelMixer16	Set Volume of an Input's sub channel 16 Value = Volume 0-100
SetVolumeFade	Set volume gradually over x milliseconds. Value = Volume 0-100,Milliseconds
Solo	
SoloAllOff	Turn off Solo for all Inputs and Busses
SoloOff	
SoloOn	
SoloPFL	Toggle between AFL or PFL mode for Solo
SoloPFLOff	Turn off PFL mode for Solo
SoloPFLOn	Turn on PFL mode for Solo
Transition	
CutDirect	Cuts the input directly to Output without changing Preview
FadeToBlack	Toggle FTB On/Off
QuickPlay	
SetFader	Set Master Fader T-Bar, 255 will cut to Preview Value = Fader 0-255
SetStingerGTInput1	Assign GT Input as animation source for Stinger 1
SetStingerGTInput2	Assign GT Input as animation source for Stinger 2
SetStingerGTInput3	Assign GT Input as animation source for Stinger 3
SetStingerGTInput4	Assign GT Input as animation source for Stinger 4
SetStingerGTInput5	Assign GT Input as animation source for Stinger 5
SetStingerGTInput6	Assign GT Input as animation source for Stinger 6
SetStingerGTInput7	Assign GT Input as animation source for Stinger 7
SetStingerGTInput8	Assign GT Input as animation source for Stinger 8
SetTransitionDuration1	Change Transition Duration for Button 1 Value = Duration MS

SetTransitionDuration2	Change Transition Duration for Button 2 Value = Duration MS
SetTransitionDuration3	Change Transition Duration for Button 3 Value = Duration MS
SetTransitionDuration4	Change Transition Duration for Button 4 Value = Duration MS
SetTransitionEffect1	Change Transition for Button 1 Value = Transition
SetTransitionEffect2	Change Transition for Button 2 Value = Transition
SetTransitionEffect3	Change Transition for Button 3 Value = Transition
SetTransitionEffect4	Change Transition for Button 4 Value = Transition
Stinger1	
Stinger2	
Stinger3	
Stinger4	
Stinger5	
Stinger6	
Stinger7	
Stinger8	
Transition1	Clicks one of the four Transition buttons in the main vMix window.
Transition2	
Transition3	
Transition4	
Output	
Fullscreen	Toggles Fullscreen On or Off
FullscreenOff	
FullscreenOn	
SetOutput2	Change what is displayed on Output 2. Output,Preview,MultiView,Replay,Mix,Input Value = Output, Preview, MultiView, Replay, Mix, Input
SetOutput3	Change what is displayed on Output 3. Output,Preview,MultiView,Replay,Mix,Input

	Value = Output, Preview, MultiView, Replay, Mix, Input
SetOutput4	Change what is displayed on Output 4. Output,Preview,MultiView,Replay,Mix,Input Value = Output, Preview, MultiView, Replay, Mix, Input
SetOutput5	Change what is displayed on Output 5. Output,Preview,MultiView,Replay,Mix,Input Value = Output, Preview, MultiView, Replay, Mix, Input
SetOutput6	Change what is displayed on Output 6. Output,Preview,MultiView,Replay,Mix,Input Value = Output, Preview, MultiView, Replay, Mix, Input
SetOutput7	Change what is displayed on Output 7. Output,Preview,MultiView,Replay,Mix,Input Value = Output, Preview, MultiView, Replay, Mix, Input
SetOutput8	Change what is displayed on Output 8. Output,Preview,MultiView,Replay,Mix,Input Value = Output, Preview, MultiView, Replay, Mix, Input
SetOutputExternal2	Change what is displayed on the External2 output. Output,Preview,MultiView,Replay,Mix,Input Value = Output, Preview, MultiView, Replay, Mix, Input
SetOutputFullscreen	Change what is displayed on the Fullscreen output. Output,Preview,MultiView,Replay,Mix,Input Value = Output, Preview, MultiView, Replay, Mix, Input
SetOutputFullscreen2	Change what is displayed on the Fullscreen2 output. Output,Preview,MultiView,Replay,Mix,Input Value = Output, Preview, MultiView, Replay, Mix, Input
Snapshot	Create a snapshot image of the current Output. Optional Value specifi Filename, otherwise a save file window will appear. Filename can sp for example mysnapshot {0:dd MMM yyyy}.jpg Value = Value

SnapshotInput	Create a snapshot image of the selected Input. Optional Value specifi Filename, otherwise a save file window will appear. Filename can sp for example mysnapshot {0:dd MMM yyyy}.jpg Value = Value
StartExternal	
StartMultiCorder	
StartRecording	
StartSRTOutput	Optional output number starting from 0. Leave blank to control Outpu Value = Output
StartStopExternal	
StartStopMultiCorder	
StartStopRecording	
StartStopSRTOutput	Optional output number starting from 0. Leave blank to control Outpu Value = Output
StartStopStreaming	Optional stream number starting from 0. Leave blank to control all str Value = Stream
StartStreaming	Optional stream number starting from 0. Leave blank to control all str Value = Stream
StopExternal	
StopMultiCorder	
StopRecording	
StopSRTOutput	Optional output number starting from 0. Leave blank to control Outpu Value = Output
StopStreaming	Optional stream number starting from 0. Leave blank to control all str Value = Stream
StreamingSetKey	Set Key on Custom RTMP Stream. Optional stream number starting fr start followed by comma, e.g 0,mystreamkey Value = Stream
StreamingSetPassword	Set Password on Custom RTMP Stream. Optional stream number start at start followed by comma, e.g 0,password Value = Stream
StreamingSetURL	Set URL on Custom RTMP Stream. Optional stream number starting fro start followed by comma, e.g 0,rtmp://myurl/ Value = Stream

StreamingSetUsername	Set Username on Custom RTMP Stream. Optional stream number star at start followed by comma, e.g 0,username Value = Stream
WriteDurationToRecordingLog	Write current recording duration to log file with optional tag text Valu Value = Tag Text
Title	
AdjustCountdown	Seconds to add or subtract from current Countdown time Value = Seconds
ChangeCountdown	Change countdown time according to Value as hh:mm:ss (00:00:00) Value = Time 00:00:00
NextTitlePreset	
PauseCountdown	Pause or Resume Countdown or if complete, Start from beginning.
PauseRender	Freeze Title Input while making multiple updates
PreviousTitlePreset	
ResumeRender	Resume Title Input rendering after making multiple updates
SelectTitlePreset	Value = Preset Index
SetColor	Change Color in Title using HTML #xxxxxxxx format. SelectedIndex or SelectedName can be used to select object. Value = Color
SetColour	Change Colour in Title using HTML #xxxxxxxx format. SelectedIndex or SelectedName can be used to select object. Value = Colour
SetCountdown	Set countdown duration according to Value as hh:mm:ss (00:00:00) Value = Duration 00:00:00
SetImage	Change Image in Title according to Filename or empty to clear. SelectedIndex or SelectedName can be used to select image. Value = Filename
SetImageVisible	Toggle Image Visibility in Title SelectedIndex or SelectedName can be used to select image.
SetImageVisibleOff	Hide Image in Title SelectedIndex or SelectedName can be used to select image.
SetImageVisibleOn	Show Image in Title SelectedIndex or SelectedName can be used to select image.

SetText	Change Text in Title according to Value parameter. SelectedIndex or SelectedName can be used to select Text Field Value = Text
SetTextColor	Change Color of Text in Title in HTML format (#xxxxxx) Value = Color
SetTextColour	Change Colour of Text in Title in HTML format (#xxxxxx) Value = Colour
SetTextVisible	Toggle Text Visibility in Title SelectedIndex or SelectedName can be used to select text field.
SetTextVisibleOff	Hide Text in Title SelectedIndex or SelectedName can be used to select text field.
SetTextVisibleOn	Show Text in Title SelectedIndex or SelectedName can be used to select text field.
SetTickerSpeed	Change Ticker Speed. SelectedIndex or SelectedName can be used to select ticker field. Value = Speed 0-1000
StartCountdown	
StopCountdown	Stop and Reset Countdown
SuspendCountdown	Pause Countdown Only
TitleBeginAnimation	Value = Animation
Input	
ActiveInput	Send to Output the selected Input
AddInput	Create a new Input based on information provided in Value. Video|c:\path\to\video.avi Image|c:\path\to\image.jpg Photos|c:\path\to\folder Title|c:\path\to\title.gtzip VideoList|c:\path\to\playlist.m3u Colour|HTMLColor AudioFile|c:\path\to\audio.wav Flash|c:\path\to\flash.swf

	PowerPoint|c:\path\to\powerpoint.pptx Value = Type|Filename
AutoPauseOff	
AutoPauseOn	
AutoPlayFirst	Toggle automatically playing first item in a List with Transition
AutoPlayFirstOff	Turn Off automatically playing first item in a List with Transition
AutoPlayFirstOn	Turn On automatically playing first item in a List with Transition
AutoPlayNext	Toggle automatically playing next item in a List
AutoPlayNextOff	Turn Off automatically playing next item in a List
AutoPlayNextOn	Turn On automatically playing next item in a List
AutoPlayOff	
AutoPlayOn	
AutoRestartOff	
AutoRestartOn	
ColorCorrectionAuto	Basic Auto Color Correction.
ColorCorrectionReset	Reset Color Correction to Default Values.
ColourCorrectionAuto	Basic Auto Colour Correction.
ColourCorrectionReset	Reset Colour Correction to Default Values.
CreateVirtualInput	Create a new Virtual Input from the specified Input.
DeinterlaceOff	
DeinterlaceOn	
Effect1	Toggle Effect 1 On/Off
Effect1Off	Turn Effect 1 Off
Effect1On	Turn Effect 1 On
Effect2	Toggle Effect 2 On/Off
Effect2Off	Turn Effect 2 Off
Effect2On	Turn Effect 2 On
Effect3	Toggle Effect 3 On/Off
Effect3Off	Turn Effect 3 Off
Effect3On	Turn Effect 3 On
Effect4	Toggle Effect 4 On/Off
Effect4Off	Turn Effect 4 Off

Effect4On	Turn Effect 4 On
GO	Trigger GO action on Input
InputPreviewHide	Hides large preview of input
InputPreviewShow	Shows large preview of input
InputPreviewShowHide	Toggles large preview of input
LayerOff	Turn Off Layer For Input At Index (starting from 1) Value = Index
LayerOn	Turn On Layer For Input At Index (starting from 1) Value = Index
LayerOnOff	Toggle On/Off Layer For Input At Index (starting from 1) Value = Index
ListAdd	Add Filename to List Value = Filename
ListExport	Export List as M3U to Filename Value = Filename
ListItemDisable	Disable item in List by Index starting from 1 Value = Index
ListItemDisableHighlighted	Disable highlighted item(s) in List
ListItemEnable	Enable item in List by Index starting from 1 Value = Index
ListItemEnableHighlighted	Enable highlighted item(s) in List
ListItemHighlight	Highlight item in List by Index starting from 1 Value = Index
ListItemHighlightNext	Move highlighted item to next in List
ListItemHighlightPrevious	Move highlighted item to previous in List
ListItemSelectHighlighted	Select first highlighted item in List
ListItemToggleHighlighted	Toggle Enable/Disable for highlighted item(s) in List
ListPlayOut	
ListRemove	Remove from List by Index starting from 1 Value = Index
ListRemoveAll	Remove all items from List
ListShowHide	
ListShuffle	Shuffle (randomize) List
LivePlayPause	
Loop	Toggle Loop on Input

LoopOff	
LoopOn	
MarkIn	
MarkOut	
MarkReset	
MarkResetIn	
MarkResetOut	
MirrorOff	
MirrorOn	
MoveInput	Value = Number
MoveLayer	Move Layer in Input according to Value parameter. Example: 1,2 moves Layer1 to Layer2 Value = FromIndex,ToIndex
NextItem	Move to next item in List
NextPicture	Move to Next Picture for Photo and PowerPoint Inputs
Pause	
Play	
PlayPause	
PreviewInput	Send to Preview the selected Input
PreviewInputNext	Send to Preview the next Input
PreviewInputPrevious	Send to Preview the previous Input
PreviousItem	Move to previous item in List
PreviousPicture	Move to Previous Picture for Photo and PowerPoint Inputs
RemoveInput	
ResetInput	
Restart	Restart selected Input
SaveVideoDelay	Save video clip from Video Delay according to Duration in millisecond
SelectCategory	Change to Category according to Value (All,Red,Green,Orange,Purple,Aqua,Blue,Custom1-16,Search) Value = Category
SelectIndex	Photos,List: Selects item in List according to Value starting from numb Virtual Set: Zooms to selected preset using the current speed setting Title: Starts Page animation according to Value starting from number Value = Index
SetAlpha	Set Input transparency according to Value. 0 is transparent, 255 is opa Value = Alpha 0-255

SetCCGainB	Change Gain B level of Input. 1=Original Value = Value 0-2
SetCCGainG	Change Gain G level of Input. 1=Original Value = Value 0-2
SetCCGainR	Change Gain R level of Input. 1=Original Value = Value 0-2
SetCCGainRGB	Change Gain RGB level of Input. 1=Original Value = Value 0-2
SetCCGainY	Change Gain Y level of Input. 1=Original Value = Value 0-2
SetCCGammaB	Change Gamma B level of Input. 0=Original Value = Value -1-1
SetCCGammaG	Change Gamma G level of Input. 0=Original Value = Value -1-1
SetCCGammaR	Change Gamma R level of Input. 0=Original Value = Value -1-1
SetCCGammaRGB	Change Gamma RGB level of Input. 0=Original Value = Value -1-1
SetCCGammaY	Change Gamma Y level of Input. 0=Original Value = Value -1-1

SetCCHue	Change Hue level of Input. 0=Original Value = Value -1-1
SetCCLiftB	Change Lift B level of Input. 0=Original Value = Value -1-1
SetCCLiftG	Change Lift G level of Input. 0=Original Value = Value -1-1
SetCCLiftR	Change Lift R level of Input. 0=Original Value = Value -1-1
SetCCLiftRGB	Change Lift RGB level of Input. 0=Original Value = Value -1-1
SetCCLiftY	Change Lift Y level of Input. 0=Original Value = Value -1-1
SetCCSaturation	Change Saturation level of Input. 0=Original, -1=Greyscale Value = Value -1-1
SetCrop	Change current Crop value of Input. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetCropX1	Change current Crop X1 value of Input. 0=No Crop, 1=Full Crop Value = X1 0-1
SetCropX2	Change current Crop X2 value of Input. 1=No Crop, 0=Full Crop Value = X2 0-1

SetCropY1	Change current Crop Y1 value of Input. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetCropY2	Change current Crop Y2 value of Input. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetCustomTemplateAnimated	Apply Custom Template (Index starting from 0) to all Input Layers and Example: 0,1000 Value = CustomIndex,DurationMilliseconds
SetDynamicInput1	Set Dynamic Input from Input Name or Number Value = Input
SetDynamicInput2	Set Dynamic Input from Input Name or Number Value = Input
SetDynamicInput3	Set Dynamic Input from Input Name or Number Value = Input
SetDynamicInput4	Set Dynamic Input from Input Name or Number Value = Input
SetEffect1Strength	Set Input 1 Effect Strength Value = Value 0-1
SetEffect2Strength	Set Input 2 Effect Strength Value = Value 0-1
SetEffect3Strength	Set Input 3 Effect Strength Value = Value 0-1
SetEffect4Strength	Set Input 4 Effect Strength Value = Value 0-1
SetFrameDelay	Set the delay in frames Value = Frames
SetInputName	Set the Display Name of the Input Value = Name
SetLayer	Change Layer in Input according to Value parameter. Example: 1,2 changes Layer1 to Input2

	Value = Index,Input
SetLayer1Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayer1CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayer1CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayer1CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayer1CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayer1Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer1PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetLayer1PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayer1Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height

SetLayer1Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer1X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer1Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer1Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetLayer2Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayer2CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayer2CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayer2CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayer2CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayer2Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096

SetLayer2PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetLayer2PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayer2Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayer2Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer2X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer2Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer2Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetLayer3Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayer3CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayer3CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1

SetLayer3CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayer3CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayer3Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer3PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetLayer3PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayer3Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayer3Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer3X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer3Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer3Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5

SetLayer4Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayer4CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayer4CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayer4CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayer4CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayer4Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer4PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetLayer4PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayer4Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayer4Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096

SetLayer4X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer4Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer4Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetLayer5Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayer5CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayer5CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayer5CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayer5CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayer5Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer5PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2

SetLayer5PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayer5Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayer5Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer5X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer5Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer5Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetLayer6Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayer6CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayer6CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayer6CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1

SetLayer6CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayer6Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer6PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetLayer6PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayer6Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayer6Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer6X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer6Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer6Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetLayer7Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2

SetLayer7CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayer7CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayer7CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayer7CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayer7Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer7PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetLayer7PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayer7Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayer7Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer7X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096

SetLayer7Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer7Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetLayer8Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayer8CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayer8CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayer8CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayer8CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayer8Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer8PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetLayer8PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2

SetLayer8Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayer8Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer8X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer8Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer8Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetLayer9Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayer9CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayer9CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayer9CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayer9CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1

SetLayer9Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer9PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetLayer9PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayer9Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayer9Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer9X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer9Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer9Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetLayer10Crop	Change current Crop value of Input Layer. X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayer10CropX1	Change current Crop X1 value of Input Layer. 0=No Crop, 1=Full Crop Value = X1 0-1

SetLayer10CropX2	Change current Crop X2 value of Input Layer. 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayer10CropY1	Change current Crop Y1 value of Input Layer. 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayer10CropY2	Change current Crop Y2 value of Input Layer. 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayer10Height	Change current Height value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer10PanX	Change current PanX value of Input Layer. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetLayer10PanY	Change current PanY value of Input Layer. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayer10Rectangle	Change current Rectangle values of Input Layer in pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayer10Width	Change current Width value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer10X	Change current X value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096
SetLayer10Y	Change current Y value of Input Layer. In pixels based on preset resolution Value = Pixels -4096-4096

SetLayer10Zoom	Change current Zoom level of Input Layer. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetLayerAnimated	Change Layer Index to Input. Animate if input exists in another layer. Example: 1,2,1000 changes Layer1 to Input2. Value = Index,Input,DurationMilliseconds
SetLayerDynamic	Change Input Layer number in DynamicValue1 (1-10) to Input. Value = Input
SetLayerDynamicCrop	Change current Crop value of Input Layer from DynamicValue1 (1-10). X1,Y1,X2,Y2 (values between 0 and 1) Value = X1,Y1,X2,Y2
SetLayerDynamicCropX1	Change current Crop X1 value of Input Layer from DynamicValue1 (1-1 0=No Crop, 1=Full Crop Value = X1 0-1
SetLayerDynamicCropX2	Change current Crop X2 value of Input Layer from DynamicValue1 (1-1 1=No Crop, 0=Full Crop Value = X2 0-1
SetLayerDynamicCropY1	Change current Crop Y1 value of Input Layer from DynamicValue1 (1-1 0=No Crop, 1=Full Crop Value = Y1 0-1
SetLayerDynamicCropY2	Change current Crop Y2 value of Input Layer from DynamicValue1 (1-1 1=No Crop, 0=Full Crop Value = Y2 0-1
SetLayerDynamicHeight	Change current Height value of Input Layer from DynamicValue1 (1-10 In pixels based on preset resolution Value = Pixels -4096-4096
SetLayerDynamicPanX	Change current PanX value of Input Layer from DynamicValue1 (1-10). 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2

SetLayerDynamicPanY	Change current PanY value of Input Layer from DynamicValue1 (1-10) 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetLayerDynamicRectangle	Change current Rectangle values of Input Layer from DynamicValue1 pixels. X,Y,Width,Height Value = X,Y,Width,Height
SetLayerDynamicWidth	Change current Width value of Input Layer from DynamicValue1 (1-10 In pixels based on preset resolution Value = Pixels -4096-4096
SetLayerDynamicX	Change current X value of Input Layer from DynamicValue1 (1-10). In pixels based on preset resolution Value = Pixels -4096-4096
SetLayerDynamicY	Change current Y value of Input Layer from DynamicValue1 (1-10). In pixels based on preset resolution Value = Pixels -4096-4096
SetLayerDynamicZoom	Change current Zoom level of Input Layer from DynamicValue1 (1-10) 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SetPanX	Change current PanX value of Input. 0=centered, -2=100% to left, 2=100% to right Value = Pan -2-2
SetPanY	Change current PanY value of Input. 0=centered, -2=100% to bottom, 2=100% to top Value = Pan -2-2
SetPictureEffect	Set transition effect for Photos and PowerPoint Inputs (Fade, Zoom, e Value = Transition
SetPictureEffectDuration	Set duration of transition effect in Milliseconds Value = Duration MS
SetPictureTransition	Set transition time between Photos and PowerPoint slides in Seconds Value = Seconds

SetPosition	Set Position of selected Input according to Value in Milliseconds Value = Milliseconds
SetRate	Set Playback speed/rate for Videos and Video Delays 0.5=50%,1=100%,2=200% etc Value = Speed 0.1-4
SetRateSlowMotion	Set Slow Motion speed for Instant Replay 0.5=50%,1=100% etc Value = Speed 0-1
SetZoom	Change current Zoom level of Input. 1=100%, 0.5=50%, 2=200% Value = Zoom 0-5
SharpenOff	
SharpenOn	
SwapLayerAnimated	Animate swapping the Layers in Input according to Value parameter. Example: 1,2,1000 swaps Layer1 and Layer2 over 1000 milliseconds. Value = FromIndex,ToIndex,DurationMilliseconds
VideoCallAudioSource	Master,Headphones,BusA,BusB,BusC,BusD,BusE,BusF,BusG Value = Source
VideoCallConnect	Value = Name,Password
VideoCallReconnect	
VideoCallVideoSource	Output1,Output2,Output3,Output4 Value = Source
VideoDelayStartRecording	Start Video Delay Recording
VideoDelayStartStopRecording	Toggle Video Delay Recording
VideoDelayStopRecording	Stop Video Delay Recording
WaitForCompletion	Wait for a Video Input to reach the end of playback.
ZoomJoinMeeting	Value = MeetingID,Password
ZoomMuteSelf	
ZoomSelectParticipantByCurrentName	Select participant by the current name if it has changed during the me Value = Name
ZoomSelectParticipantByName	Value = Name
ZoomUnMuteSelf	
Overlay	

MoveMultiViewOverlay	Move Overlay in Input MultiView according to Value parameter. Example: 1,2 moves Overlay1 to Overlay2 Value = FromIndex,ToIndex
MultiViewOverlay	Toggle On/Off MultiView Overlay For Input At Index (starting from 1) Value = Index
MultiViewOverlayOff	Turn Off MultiView Overlay For Input At Index (starting from 1) Value = Index
MultiViewOverlayOn	Turn On MultiView Overlay For Input At Index (starting from 1) Value = Index
OverlayInput1	Toggle Overlay1 On/Off with selected Input using configured Transitic
OverlayInput1In	Transition In to Overlay1 with selected Input
OverlayInput1Last	Toggle Overlay1 On/Off with last used Input on this channel
OverlayInput1Off	Immediately switch Overlay1 Off (Cut)
OverlayInput1Out	Transition Out Overlay1
OverlayInput1Zoom	Zooms PIP Overlay to fill Fullscreen and vice versa
OverlayInput2	
OverlayInput2In	
OverlayInput2Last	Toggle Overlay2 On/Off with last used Input on this channel
OverlayInput2Off	
OverlayInput2Out	
OverlayInput2Zoom	
OverlayInput3	
OverlayInput3In	
OverlayInput3Last	Toggle Overlay3 On/Off with last used Input on this channel
OverlayInput3Off	
OverlayInput3Out	
OverlayInput3Zoom	
OverlayInput4	
OverlayInput4In	
OverlayInput4Last	Toggle Overlay4 On/Off with last used Input on this channel
OverlayInput4Off	
OverlayInput4Out	
OverlayInput4Zoom	
OverlayInput5	
OverlayInput5In	
OverlayInput5Last	Toggle Overlay5 On/Off with last used Input on this channel
OverlayInput5Off	

OverlayInput5Out	
OverlayInput5Zoom	
OverlayInput6	
OverlayInput6In	
OverlayInput6Last	Toggle Overlay6 On/Off with last used Input on this channel
OverlayInput6Off	
OverlayInput6Out	
OverlayInput6Zoom	
OverlayInput7	
OverlayInput7In	
OverlayInput7Last	Toggle Overlay7 On/Off with last used Input on this channel
OverlayInput7Off	
OverlayInput7Out	
OverlayInput7Zoom	
OverlayInput8	
OverlayInput8In	
OverlayInput8Last	Toggle Overlay8 On/Off with last used Input on this channel
OverlayInput8Off	
OverlayInput8Out	
OverlayInput8Zoom	
OverlayInputAllOff	Immediately switch all Overlays Off
PreviewOverlayInput1	Preview Overlay1 using the selected Input
PreviewOverlayInput2	
PreviewOverlayInput3	
PreviewOverlayInput4	
PreviewOverlayInput5	Preview Overlay5 using the selected Input
PreviewOverlayInput6	
PreviewOverlayInput7	
PreviewOverlayInput8	
SetMultiViewOverlay	Change Layer in Input MultiView according to Value parameter. Example: 1,2 changes Layer 1 to Input2 Value = Index,Input
PlayList	
NextPlayListEntry	Move to Next Item in a running PlayList
PreviousPlayListEntry	Move to Previous Item in a running PlayList
SelectPlayList	Open PlayList with Name matching Value Value = PlayList
StartPlayList	

StopPlayList	
Scripting	
ScriptStart	Value = Script Name
ScriptStartDynamic	Start a dynamic script using code specified as the Value. Value = Code
ScriptStop	Value = Script Name
ScriptStopAll	
ScriptStopDynamic	
Replay	
ReplayACamera1	
ReplayACamera2	
ReplayACamera3	
ReplayACamera4	
ReplayACamera5	
ReplayACamera6	
ReplayACamera7	
ReplayACamera8	
ReplayACamera9	
ReplayACamera10	
ReplayACamera11	
ReplayACamera12	
ReplayACamera13	
ReplayACamera14	
ReplayACamera15	
ReplayACamera16	
ReplayAppendLastEventText	Value = Text
ReplayAppendLastEventTextCamera	Adds the text to the specified angle (1-4), example: 3,angle3text Value = Camera,Text
ReplayAppendSelectedEventText	Value = Text
ReplayAppendSelectedEventTextCamera	Adds the text to the specified angle (1-4), example: 3,angle3text Value = Camera,Text
ReplayBCamera1	
ReplayBCamera2	
ReplayBCamera3	
ReplayBCamera4	
ReplayBCamera5	
ReplayBCamera6	
ReplayBCamera7	

ReplayBCamera8	
ReplayBCamera9	
ReplayBCamera10	
ReplayBCamera11	
ReplayBCamera12	
ReplayBCamera13	
ReplayBCamera14	
ReplayBCamera15	
ReplayBCamera16	
ReplayCamera1	
ReplayCamera2	
ReplayCamera3	
ReplayCamera4	
ReplayCamera5	
ReplayCamera6	
ReplayCamera7	
ReplayCamera8	
ReplayCamera9	
ReplayCamera10	
ReplayCamera11	
ReplayCamera12	
ReplayCamera13	
ReplayCamera14	
ReplayCamera15	
ReplayCamera16	
ReplayCCamera1	
ReplayCCamera2	
ReplayCCamera3	
ReplayCCamera4	
ReplayCCamera5	
ReplayCCamera6	
ReplayCCamera7	
ReplayCCamera8	
ReplayCCamera9	
ReplayCCamera10	
ReplayCCamera11	
ReplayCCamera12	
ReplayCCamera13	
ReplayCCamera14	

ReplayCCamera15	
ReplayCCamera16	
ReplayChangeDirection	
ReplayChangeSpeed	Value = Speed
ReplayCopyLastEvent	Value = Event List 0-19
ReplayCopySelectedEvent	Value = Event List 0-19
ReplayDCamera1	
ReplayDCamera2	
ReplayDCamera3	
ReplayDCamera4	
ReplayDCamera5	
ReplayDCamera6	
ReplayDCamera7	
ReplayDCamera8	
ReplayDCamera9	
ReplayDCamera10	
ReplayDCamera11	
ReplayDCamera12	
ReplayDCamera13	
ReplayDCamera14	
ReplayDCamera15	
ReplayDCamera16	
ReplayDeleteLastEvent	
ReplayDeleteSelectedEvent	
ReplayDuplicateLastEvent	
ReplayDuplicateSelectedEvent	
ReplayExportAllEvents	Export all Events in the active list Value = Folder
ReplayExportLastEvent	Value = Folder
ReplayExportSelectedEvents	Export selected Events in the active list Value = Folder
ReplayFastBackward	1-30x Value = Speed
ReplayFastForward	1-30x Value = Speed
ReplayJumpFrames	Value = Frames

ReplayJumpFramesAcceleratedFast	Jump frames where the quicker this shortcut is called, the higher the Value = Frames
ReplayJumpFramesAcceleratedMedium	Jump frames where the quicker this shortcut is called, the higher the Value = Frames
ReplayJumpFramesAcceleratedSlow	Jump frames where the quicker this shortcut is called, the higher the Value = Frames
ReplayJumpFramesFastOff	ReplayJumpFrames jumps 1 frame for each value instead of 1 second.
ReplayJumpFramesFastOn	ReplayJumpFrames jumps 1 second for each value instead of 1 frame.
ReplayJumpToNow	
ReplayJumpToSelectedInPoint	Set Position to In point of Selected Event.
ReplayJumpToSelectedOutPoint	Set Position to Out point of Selected Event.
ReplayLastEventCameraOff	Turns off the specified camera angle (1-8) Value = Camera
ReplayLastEventCameraOn	Turns on the specified camera angle (1-8) Value = Camera
ReplayLastEventSingleCameraOn	Turns on only the specified camera angle (1-8) Value = Camera
ReplayLive	
ReplayLiveToggle	
ReplayMarkCancel	
ReplayMarkIn	
ReplayMarkInLive	
ReplayMarkInOut	Number of previous seconds to use when creating a new event. Value = Seconds
ReplayMarkInOutLive	Number of previous seconds to use when creating a new event. Value = Seconds
ReplayMarkInOutLiveFuture	Number of seconds into the future to use when creating a new event. Value = Seconds
ReplayMarkInOutRecorded	Number of previous seconds to use when creating a new event. Value = Seconds
ReplayMarkInRecorded	
ReplayMarkInRecordedNow	
ReplayMarkOut	
ReplayMoveLastEvent	Value = Event List 0-19

ReplayMoveSelectedCameraSync	Shift sync of selected camera by number of frames Value = Frames
ReplayMoveSelectedEvent	Value = Event List 0-19
ReplayMoveSelectedEventDown	
ReplayMoveSelectedEventUp	
ReplayMoveSelectedInPoint	Value = Frames
ReplayMoveSelectedOutPoint	Value = Frames
ReplayPause	
ReplayPlay	
ReplayPlayAllEvents	Play all Events in active list
ReplayPlayAllEventsToOutput	Play all Events in active list
ReplayPlayBackward	
ReplayPlayEvent	Value = Event Number where 0 is bottom of list 0-1000
ReplayPlayEventsByID	Value = List of IDs
ReplayPlayEventsByIDToOutput	Value = List of IDs
ReplayPlayEventToOutput	Value = Event Number where 0 is bottom of list 0-1000
ReplayPlayForward	
ReplayPlayLastEvent	
ReplayPlayLastEventToOutput	
ReplayPlayNext	
ReplayPlayPause	
ReplayPlayPrevious	
ReplayPlaySelectedEvent	
ReplayPlaySelectedEventToOutput	
ReplayQuadModeOff	
ReplayQuadModeOn	
ReplayRecorded	
ReplayScrollSelectedEvent	Move back or forward through events list Value = Count -10-10
ReplaySelectAllEvents	Select all events in active channel.
ReplaySelectChannelA	
ReplaySelectChannelAB	
ReplaySelectChannelB	
ReplaySelectedEventCameraOff	Turns off the specified camera angle (1-8) Value = Camera
ReplaySelectedEventCameraOn	Turns on the specified camera angle (1-8) Value = Camera

ReplaySelectedEventSingleCameraOn	Turns on only the specified camera angle (1-8) Value = Camera
ReplaySelectEvents1	
ReplaySelectEvents2	
ReplaySelectEvents3	
ReplaySelectEvents4	
ReplaySelectEvents5	
ReplaySelectEvents6	
ReplaySelectEvents7	
ReplaySelectEvents8	
ReplaySelectEvents9	
ReplaySelectEvents10	
ReplaySelectEvents11	
ReplaySelectEvents12	
ReplaySelectEvents13	
ReplaySelectEvents14	
ReplaySelectEvents15	
ReplaySelectEvents16	
ReplaySelectEvents17	
ReplaySelectEvents18	
ReplaySelectEvents19	
ReplaySelectEvents20	
ReplaySelectEventsByID	Select one or more events based on ID Value = List of IDs
ReplaySelectFirstEvent	
ReplaySelectLastEvent	
ReplaySelectNextEvent	
ReplaySelectPreviousEvent	
ReplaySetAudioSource	Name as per dropdown box. e.g 'Camera1' Value = AudioSource
ReplaySetChannelAToBTimecode	Set A Timecode to B Timecode
ReplaySetChannelAToBTimecodeAndCamera	Set A Timecode and Camera to B
ReplaySetChannelBToATimecode	Set B Timecode to A Timecode
ReplaySetChannelBToATimecodeAndCamera	Set B Timecode and Camera to A
ReplaySetDirectionBackward	
ReplaySetDirectionForward	
ReplaySetEventCamerasByID	Turn on only the specified camera angles for the event matching ID Value = ID,List of camera angles (1-8)

ReplaySetEventTextCameraByID	Changes the text of the specified angle (1-4), example: 001,3,angle3te Value = ID,Camera,Text
ReplaySetLastEventText	Value = Text
ReplaySetLastEventTextCamera	Changes the text of the specified angle (1-4), example: 3,angle3text Value = Camera,Text
ReplaySetSelectedEventText	Value = Text
ReplaySetSelectedEventTextCamera	Changes the text of the specified angle (1-4), example: 3,angle3text Value = Camera,Text
ReplaySetSpeed	See SetRateSlowMotion Value = Speed 0-1
ReplaySetTimecode	Set position to Timecode in format yyyy-MM-ddTHH:mm:ss.fff Value = Timecode
ReplayShowHide	
ReplayStartRecording	
ReplayStartStopRecording	
ReplayStopEvents	
ReplayStopRecording	
ReplaySwapChannels	Swap A to B and vice versa, includes angles and playback status.
ReplayToggleLastEventCamera1	
ReplayToggleLastEventCamera2	
ReplayToggleLastEventCamera3	
ReplayToggleLastEventCamera4	
ReplayToggleLastEventCamera5	
ReplayToggleLastEventCamera6	
ReplayToggleLastEventCamera7	
ReplayToggleLastEventCamera8	
ReplayToggleLastEventCamera9	
ReplayToggleLastEventCamera10	
ReplayToggleLastEventCamera11	
ReplayToggleLastEventCamera12	
ReplayToggleLastEventCamera13	
ReplayToggleLastEventCamera14	
ReplayToggleLastEventCamera15	
ReplayToggleLastEventCamera16	
ReplayToggleQuadMode	
ReplayToggleSelectedEventCamera1	
ReplayToggleSelectedEventCamera2	

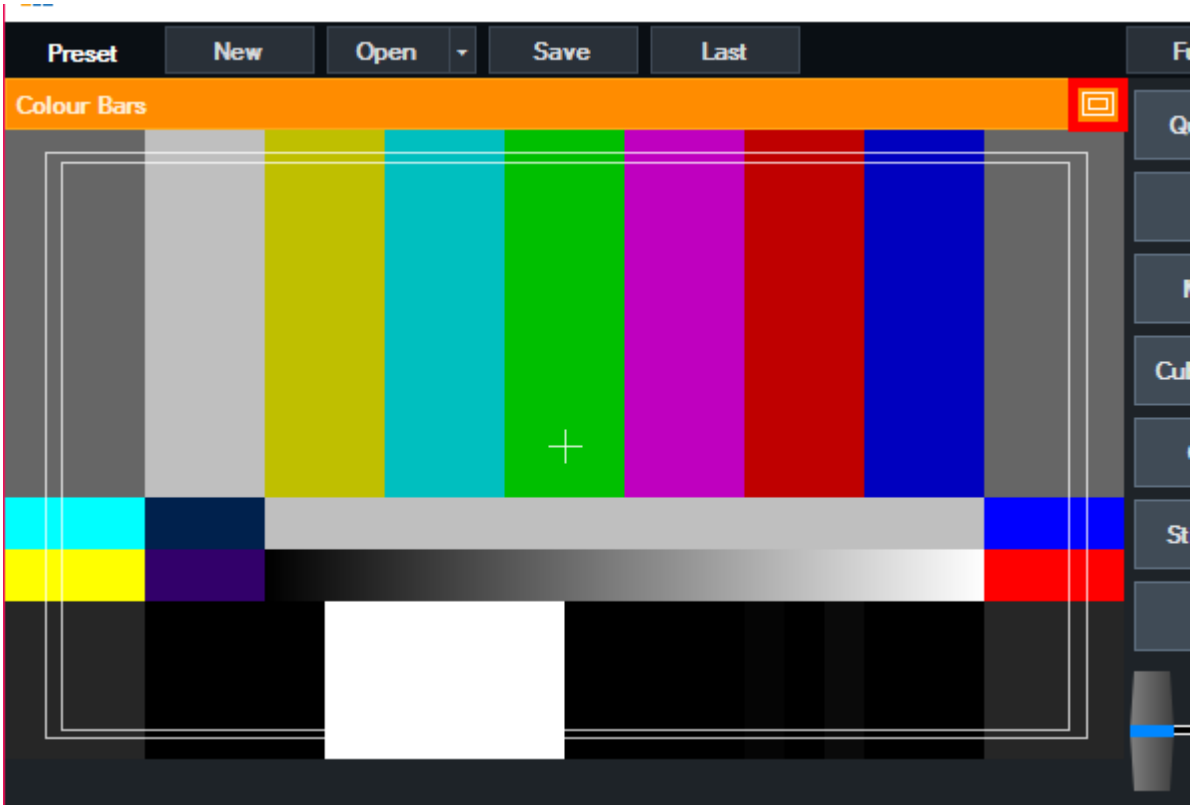
ReplayToggleSelectedEventCamera3	
ReplayToggleSelectedEventCamera4	
ReplayToggleSelectedEventCamera5	
ReplayToggleSelectedEventCamera6	
ReplayToggleSelectedEventCamera7	
ReplayToggleSelectedEventCamera8	
ReplayToggleSelectedEventCamera9	
ReplayToggleSelectedEventCamera10	
ReplayToggleSelectedEventCamera11	
ReplayToggleSelectedEventCamera12	
ReplayToggleSelectedEventCamera13	
ReplayToggleSelectedEventCamera14	
ReplayToggleSelectedEventCamera15	
ReplayToggleSelectedEventCamera16	
ReplayUpdateSelectedInPoint	Update In point of Selected Event to current Position.
ReplayUpdateSelectedOutPoint	Update Mark Out point of Selected Event to current Position.
ReplayUpdateSelectedSpeed	Update Selected Event to use Current Speed.
ReplayUpdateSelectedSpeedDefault	Update Selected Event to use Default Speed.
ReplayUpdateSelectedSpeedFromValue	See SetRateSlowMotion Value = Speed 0-1
NDI	
NDICommand	Send specified command to NDI source Value = Command
NDISelectSourceByIndex	Value = Index 0-100
NDISelectSourceByName	Value = Name
NDIStartRecording	
NDIStopRecording	
OMT	
OMTPreviewOff	
OMTPreviewOn	
OMTSelectSourceByIndex	Value = Index 0-100
OMTSelectSourceByName	Value = Name
PTZ	
PTZCreateVirtualInput	Creates a PTZ Virtual Input with the current Position
PTZFocusAuto	
PTZFocusFar	Value = Speed 0-1
PTZFocusManual	
PTZFocusNear	Value = Speed 0-1
PTZFocusStop	

PTZHome	
PTZMoveDown	Value = Speed 0-1
PTZMoveDownLeft	Value = Speed 0-1
PTZMoveDownRight	Value = Speed 0-1
PTZMoveLeft	Value = Speed 0-1
PTZMoveRight	Value = Speed 0-1
PTZMoveStop	Stop all PTZ movement
PTZMoveToVirtualInputPosition	Moves to the Position of the PTZ Virtual Input without selecting it int
PTZMoveToVirtualInputPositionByIndex	Moves to the Position of the PTZ Virtual Input associated with this Inp is first Input found starting from 0 Value = Index 0-100
PTZMoveUp	Value = Speed 0-1
PTZMoveUpLeft	Value = Speed 0-1
PTZMoveUpRight	Value = Speed 0-1
PTZUpdateVirtualInput	Updates selected PTZ Virtual Input with current Position
PTZZoomIn	Value = Speed 0-1
PTZZoomOut	Value = Speed 0-1
PTZZoomStop	
Preset	
LastPreset	Load the last preset.
OpenPreset	Load preset from the specified Filename. Value = Filename
SavePreset	Save preset to the specified Filename. Value = Filename
DataSources	
DataSourceAutoNextOff	Name of the Data Source, Table Name (optional) eg 'Excel/CSV,Sheet1 Value = Name,Table
DataSourceAutoNextOn	Name of the Data Source, Table Name (optional) eg 'Excel/CSV,Sheet1 Value = Name,Table
DataSourceAutoNextOnOff	Name of the Data Source, Table Name (optional) eg 'Excel/CSV,Sheet1 Value = Name,Table
DataSourceNextRow	Name of the Data Source and Table Name (optional) eg 'Excel/CSV,Sh Value = Name,Table
DataSourcePause	Name of Data Source eg 'Excel/CSV' Value = Name

DataSourcePlay	Name of Data Source eg 'Excel/CSV' Value = Name
DataSourcePlayPause	Name of Data Source eg 'Excel/CSV' Value = Name
DataSourcePreviousRow	Name of the Data Source and Table Name (optional) eg 'Excel/CSV,Sh Value = Name,Table
DataSourceSelectRow	Name of the Data Source, Table Name (optional) and Row Index starti eg 'Excel/CSV,Sheet1,5' Value = Name,Table,Index
Browser	
BrowserBack	
BrowserForward	
BrowserKeyboardDisabled	
BrowserKeyboardEnabled	
BrowserMouseDisabled	
BrowserMouseEnabled	
BrowserNavigate	URL Value = URL
BrowserReload	

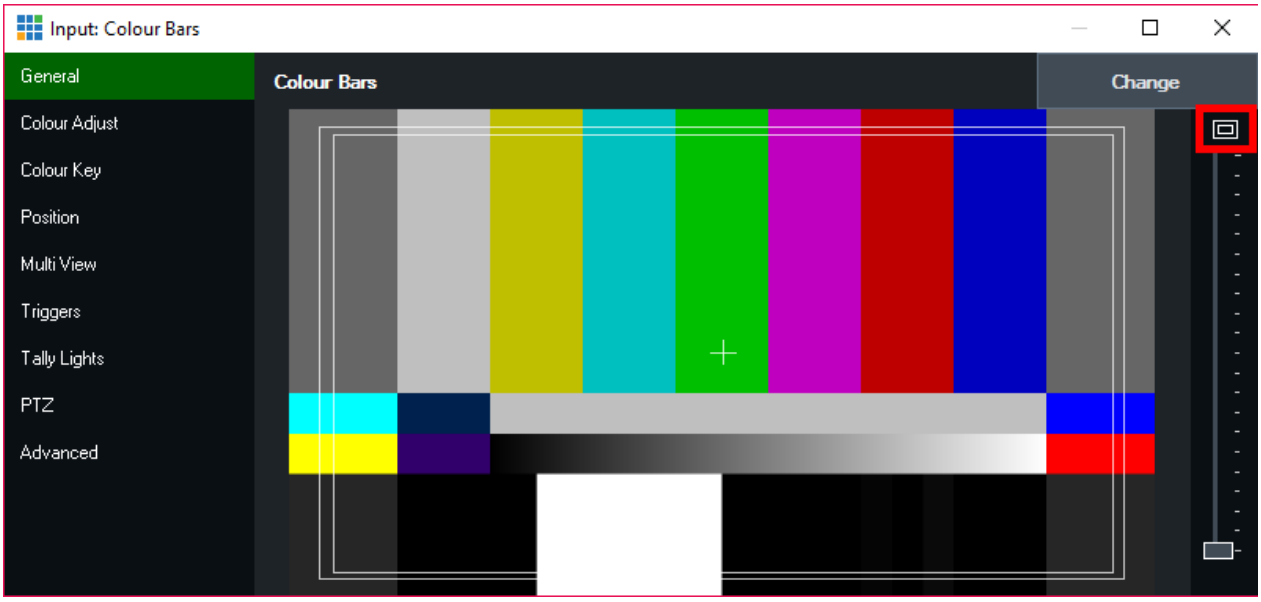
Safe Areas

Safe Areas for the Preview Window can be enabled by clicking the icon at the top right hand corner of the Preview Title Bar as shown below.



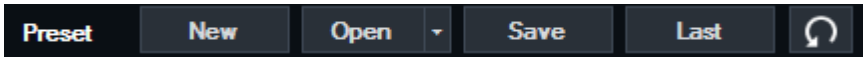
A number of display options are supported including EBU/SMPTE, 80/90% and grids of various sizes.

Safe Areas can also be displayed and controlled from the Input Settings window.



Undo Button

After completing an action in vMix, an Undo button may appear next to the **Preset** buttons at the top right of vMix

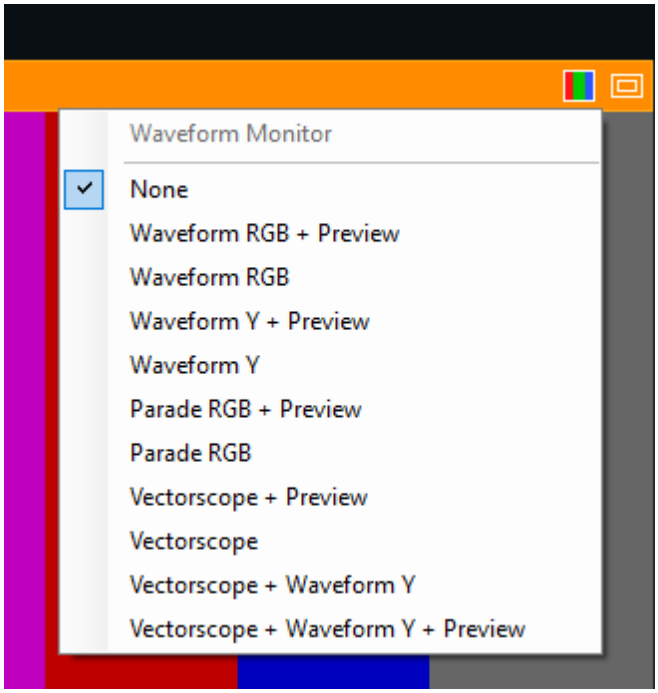


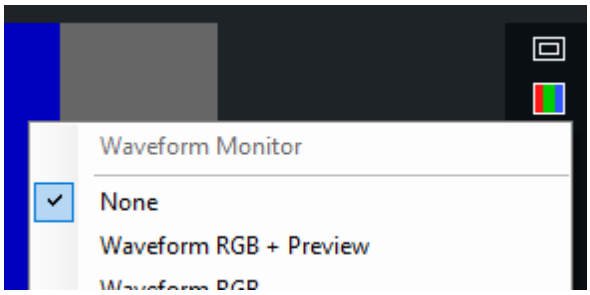
Press this button to undo that action.
Currently the following actions are supported with more expected to be added in the future.

- Closing Inputs

Waveform and Vectorscope Monitor

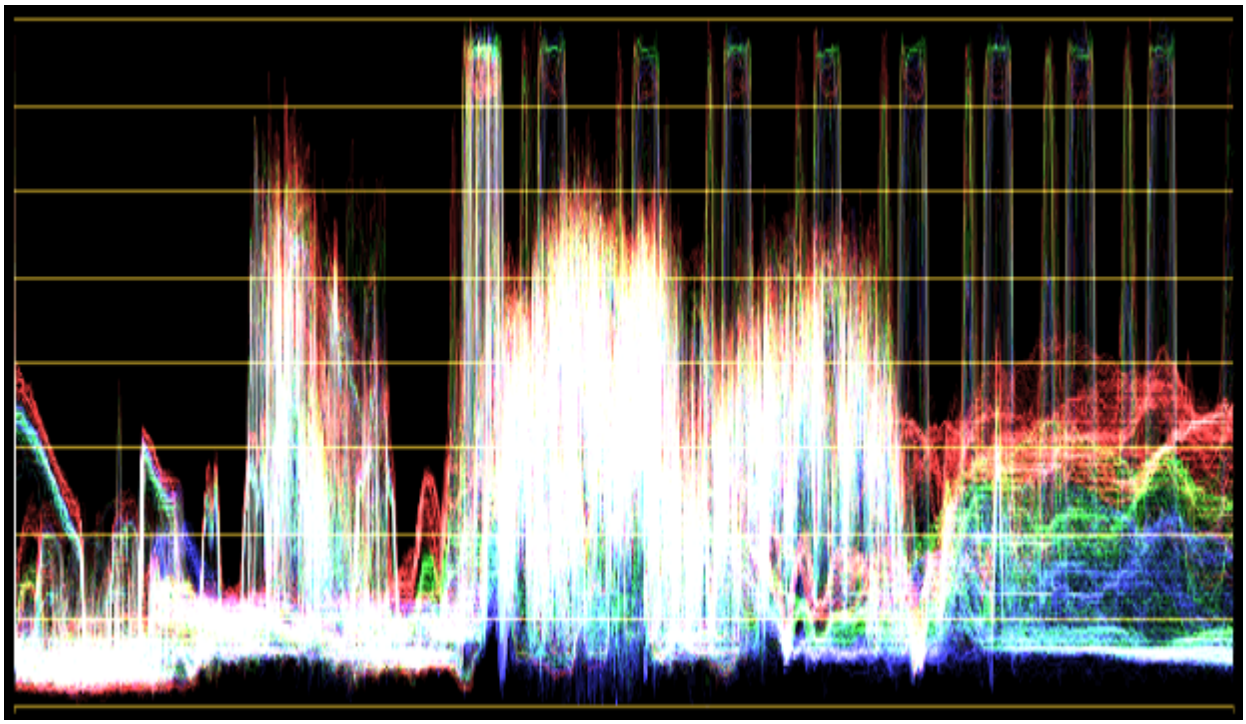
The professional waveform monitor can be turned on within the Preview window and the Input settings window by clicking the colour bar icon as shown below.





Waveform RGB

Displays a waveform of the red, green and blue colour channels on top of each other as shown below.

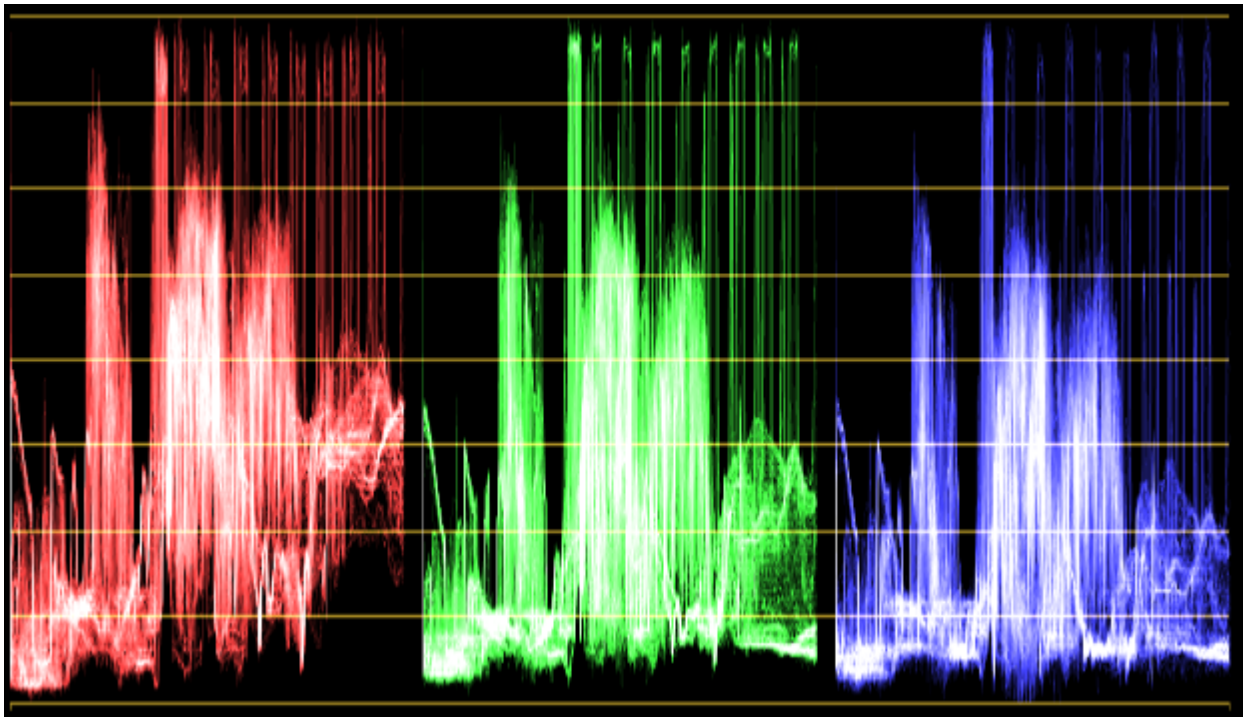


Waveform Y

Displays the Luminance waveform only.

Parade RGB

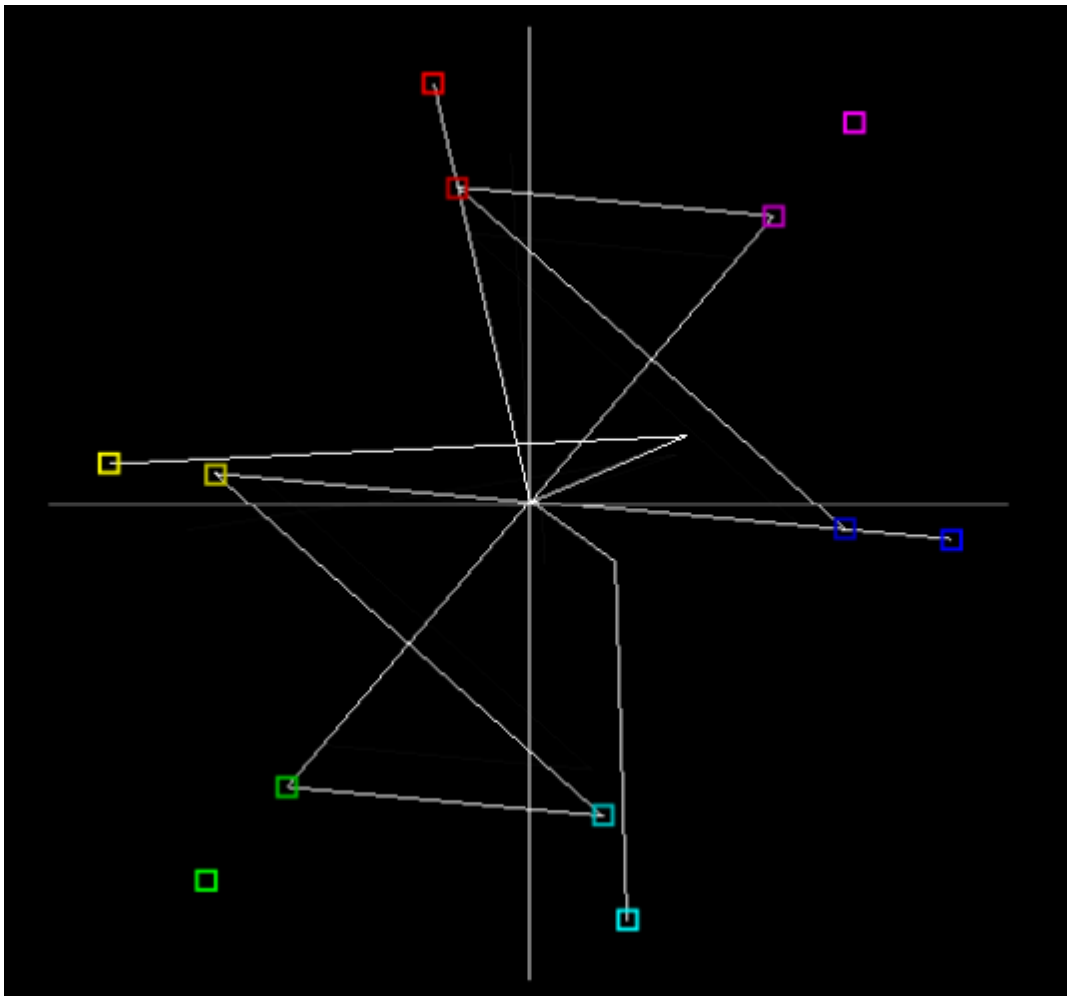
Displays three separate waveforms representing the three colour channels Red, Green and Blue.



Vectorscope

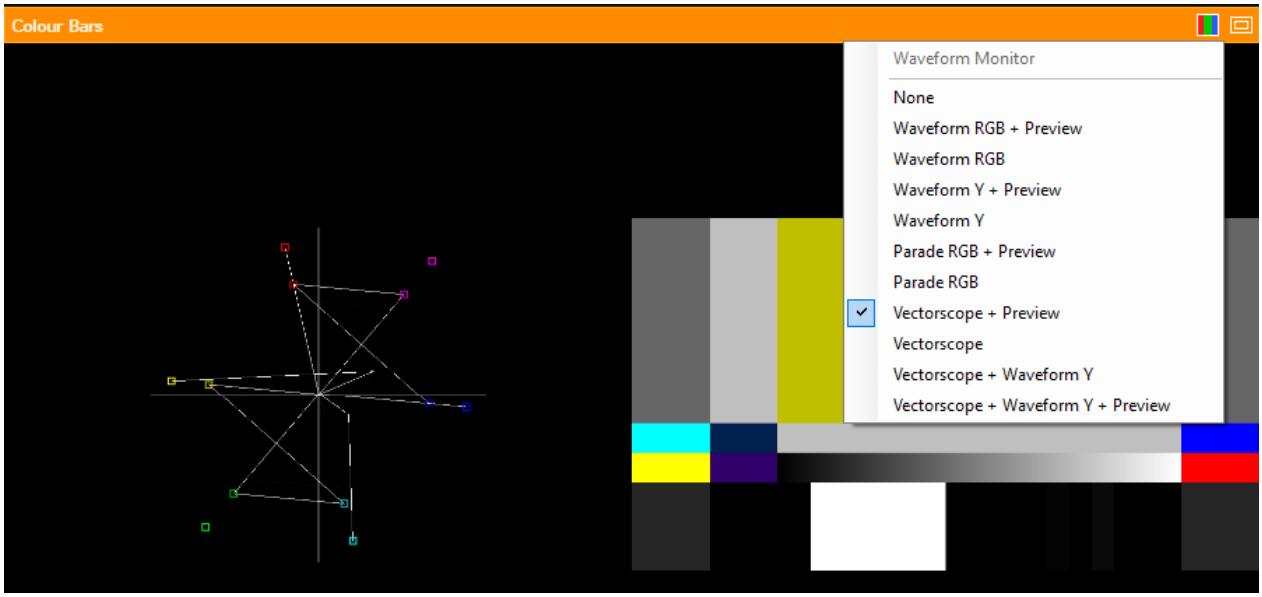
Graphs the chrominance portion of the video (Cb,Cr or U,V channels) as an X/Y plot.

Colour squares indicators representing 75% and 100% Red, Magenta, Blue, Cyan, Green and Yellow are displayed at the relevant points
for easy calibration. For example the lines on a standard colour bars or test chart (such as those provided in Add Input -> Colour) will line up perfectly
with the coloured squares when the colour is calibrated correctly. Thus using a test chart on a camera source will allow accurate colour correction to be achieved.



Preview

Some monitoring options have a + Preview option which shows the monitor side by side with a live video preview of the input.


Colour Bars
Waveform Monitor
None
Waveform RGB + Preview
Waveform RGB
Waveform Y + Preview
Waveform Y
Parade RGB + Preview
Parade RGB
Vectorscope + Preview
Vectorscope
Vectorscope + Waveform Y
Vectorscope + Waveform Y + Preview

Vertical Video Production

vMix provides a number of tools to assist in vertical video production while still maintaining a standard 16:9 / Widescreen production:

Vertical HD Preset

When selecting New in vMix a number of Vertical HD presets are available for the most common frame rates.
These ensure the vertical portion of the screen is exactly 1080x1920 (3412x1920 in total)

This allows streaming out the vertical portion of the screen in full HD without sacrificing resolution.

NOTE: As Vertical HD (1920p) is larger than HD (1080p), this preset requires either the 4K, Pro or Max editions of vMix.

Safe Areas

A Vertical 9:16 Safe Area option is available to display margins on screen for vertical production.
See **Safe Areas** for more information.

Source Rotation

Easily rotate Inputs 90 degrees for use in Vertical HD production from the **Input Settings - Position** tab.
For example video cameras that have been rotated 90 degrees specifically for a vertical production.

GT Vertical Title Templates

A number of animated title templates are included specifically designed to fit within the vertical portion of the screen.

Zoom

vMix supports hosting and joining a Zoom meeting within a live production and receiving the audio and video of each participant for incorporation into your vMix live production.

Features

- Add the video and audio of each participant as a separate input in vMix.
- Support for up to 720p and 1080p where supported by the Zoom plan and account (refer to Zoom web site for more information)
- Send out custom audio and video from vMix into the Zoom meeting. (one custom audio/video feed per meeting)
- Chat integration allows you to display chat messages as GT graphics using vMix Social
- Support for displaying the Screen Share of each participant.
- Zoom Events support

Requirements

- Requires vMix HD edition or above for 1x Zoom Input
- Requires 4K, Pro or Max edition for multiple Zoom Inputs, limited only by computer performance, network bandwidth and your Zoom plan
- Free Zoom accounts support up to 360p per participant
- HD (720p and 1080p) support requires a paid Zoom plan, refer to the Zoom web site fore more information on enabling HD support: https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0066166

Getting Started

See the Getting Started page to begin.

Getting Started

To start using Zoom with vMix, you will first need to download and install the latest version of vMix and the latest Zoom Plugin for vMix.

1. Check system requirements

Check the minimum hardware requirements for running vMix at the following URL:
https://www.vmix.com/software/supported-hardware.aspx#systemrequirements

2. Download the latest version of vMix from the Download page

https://www.vmix.com/software/download.aspx

3. Download the latest Zoom Plugin for vMix from the Download page

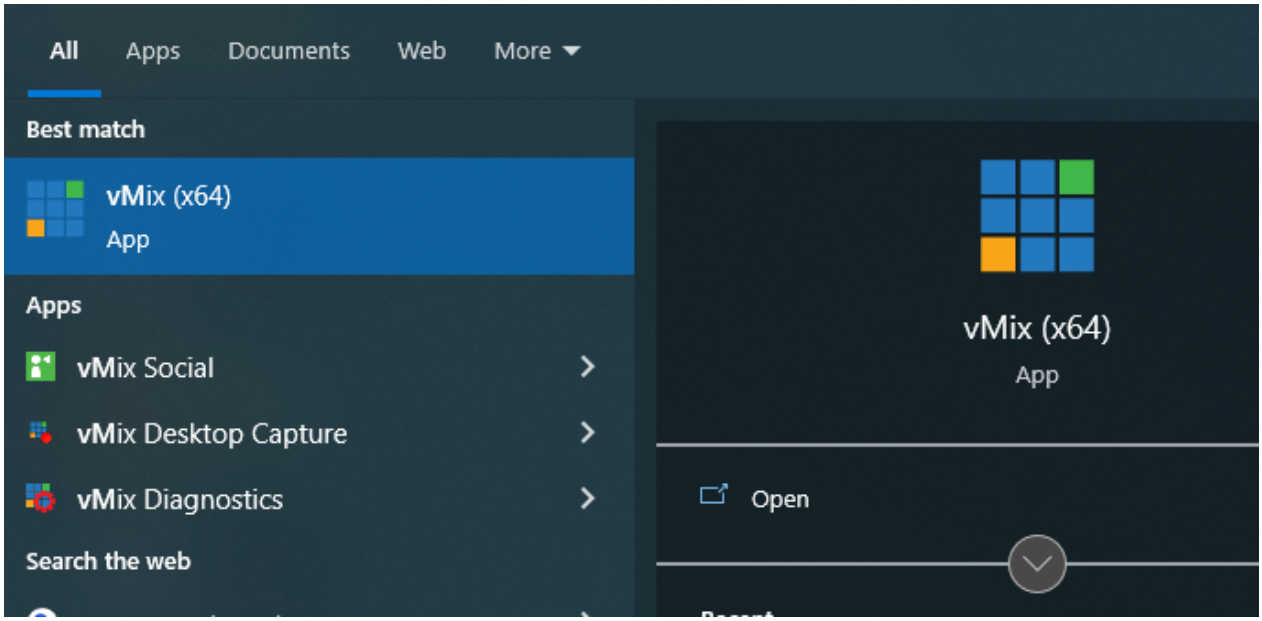
https://www.vmix.com/software/download.aspx

4. Install both vMix and the Zoom Plugin on your computer.

Double click the downloads and follow the instructions to install both vMix and the Zoom Plugin for vMix.

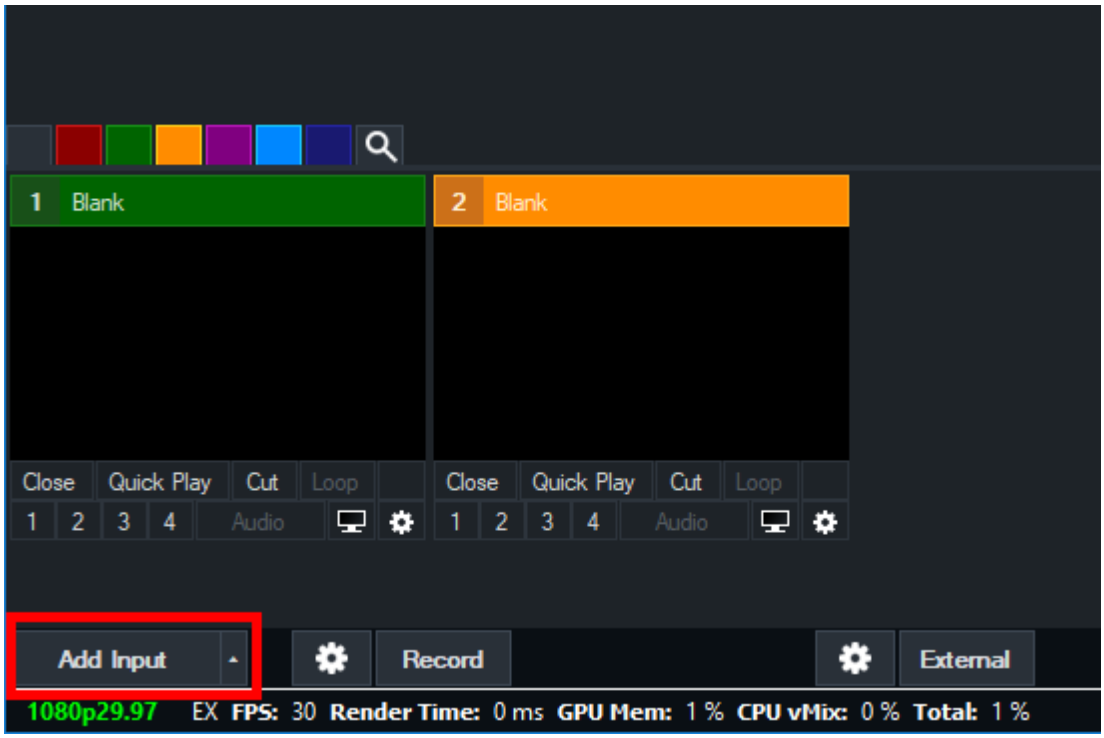
5. Start vMix

You can find vMix by searching for it in the Start Menu or if selected during install, as a desktop icon.

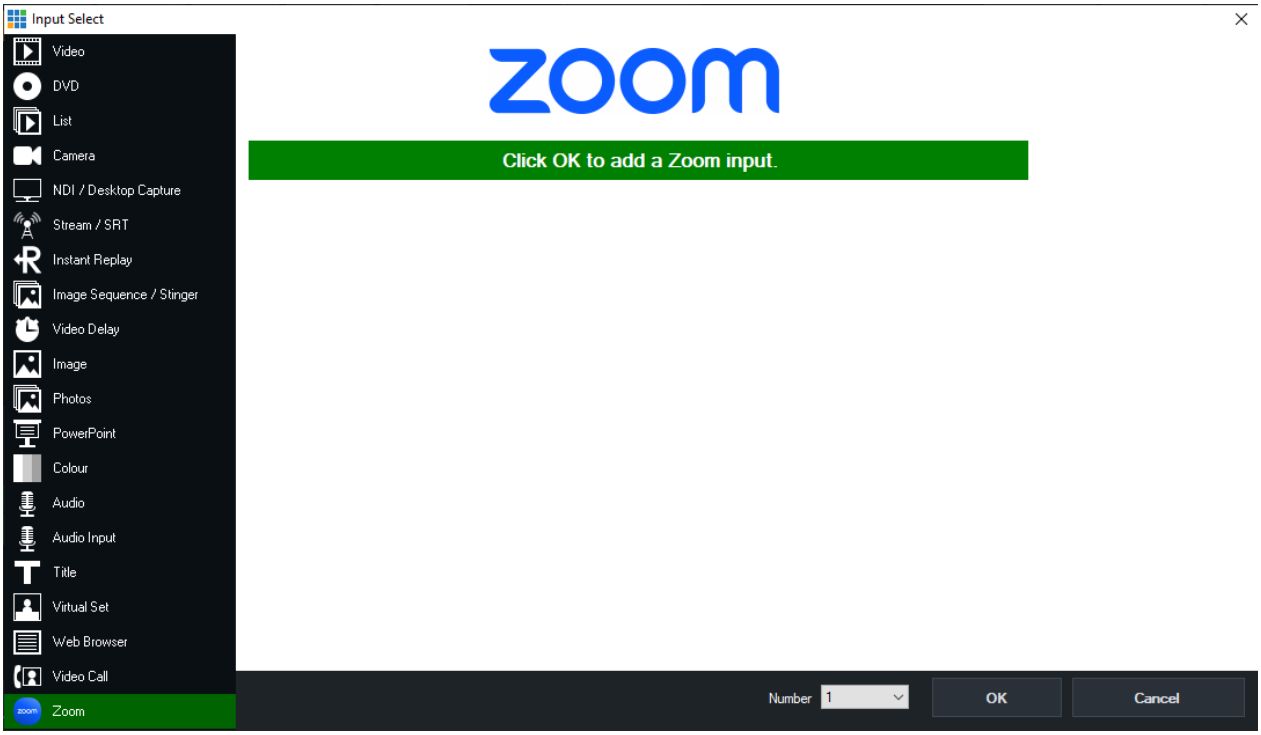


6. Add a Zoom input

Click Add Input at the bottom left hand corner of vMix to begin adding Zoom into your production.



7. Select Zoom from the left hand menu and the following window will be displayed.

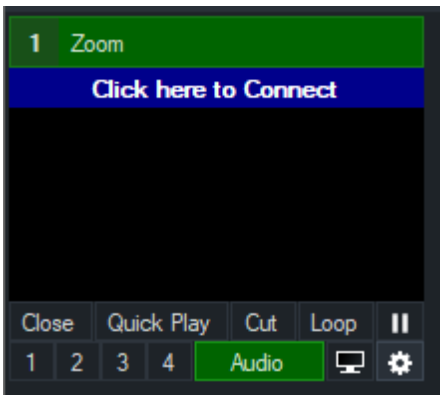


8. Click OK to add the Input.

To configure the Zoom meeting see **Setting up Zoom Input**

Setting up Zoom Input

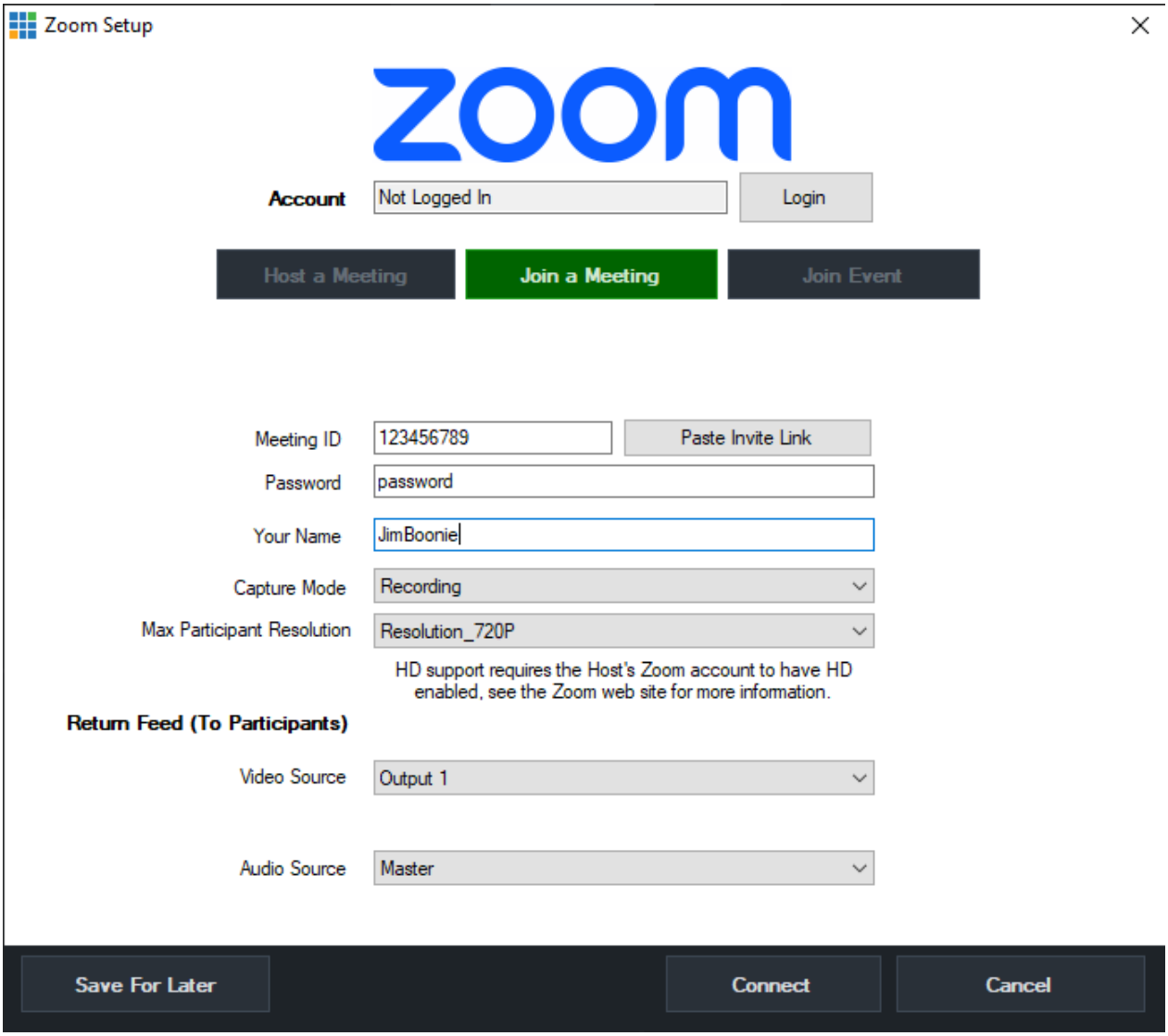
Once one or more Zoom inputs have been added (seeGetting Started), setup the meeting for the inputs by clicking the Click here to Connect bar under one of the inputs.



NOTE: Only one meeting can be setup in vMix at a time across all inputs. This is a Zoom imposed limitation.

Setup Window

This window is where you will configure all the Zoom settings prior to starting or joining a meeting.



1. Click Login to login to your Zoom account.

You can register for a Zoom account by visiting the zoom.us web site.
Note: Logging in is optional when Joining an existing meeting hosted elsewhere.

2. Host a Meeting

Click **Host a Meeting** if you wish to host a meeting from within vMix.
This will show a list of meetings available on your account.

If the Host a Meeting button cannot be selected, make sure you are logged in first.

If there are no meetings present, first create or schedule a meeting from the Zoom web site. Then return here and click the Refresh button to update the list of meetings.

3. Join a Meeting

To join an existing meeting instead, click **Join a Meeting.**
This will allow you to enter the Meeting ID and Password for the meeting you wish to join.

Click **Paste Invite Link** to use any Zoom invite link currently in the clipboard to populate the Meeting ID and Password fields automatically.

4. Join Event

To join an event, first login to your Zoom account and then click **Join Event**.
This will allow you to select an event and session to join.

Note: vMix does not provide the ability to control or start an event or session.
Use the normal Zoom app on a separate computer to run and control the event.
Then use a separate Zoom account for vMix where you have configured the account as a co-host of the event.

5. Your Name

Type in a name you wish to be displayed to other participants in the meeting.

6. Capture Mode

This option selects which Zoom meeting method vMix will use to retrieve the raw video and audio feeds of each participant.
Recording: This will use the Zoom "Recording" feature to retrieve the feeds. (Note: no files are actually recorded on Zoom in this mode)
Streaming: This will use the Zoom "Streaming" feature to retrieve the feeds. (Note: no live streaming will actually occur from Zoom in this mode)

If the login has a policy set to disable either Recording or Streaming on your Zoom account, then one of these modes may not work.
In this case, switch to the other capture mode or refer to the person responsible for setting your Zoom account policies for more information.

7. Max Participant Resolution

This is the maximum resolution you wish to receive for each of the participants within vMix.
Note that HD resolutions will need to be enabled on your Zoom account first by contacting Zoom support.
Additionally, the Group HD video toggle in your account settings will need to be enabled on the Zoom web site.

See the Zoom web site for more information on enabling HD support.
If you select a resolution here that is not enabled, Zoom will automatically revert to the highest supported resolution.

Note: This is a maximum resolution only and Zoom may dynamically change this at any time depending on factors like network congestion, the participant's camera and account limits.

8. Return Feed (To Participants)

Video Source: Select one of the outputs in vMix that will be seen by other participants.
Audio Source: Select the audio bus in vMix that will be heard by other participants.

Note: vMix will automatically apply a mix minus to the audio source, which will exclude all the participants audio from being sent back into the meeting.

Note: Only one return feed can be sent per meeting. If more than one input is used, the return feed settings of the first input to be setup will apply and cannot be changed throughout the duration of a meeting.

9. Connecting to the Zoom Meeting

Once all the settings have been configured click **Connect** to begin connecting to the meeting
Optionally click **Save For Later** if you only wish to save the settings but not connect to a meeting at this time.

Multiple Zoom Participants

vMix supports adding more than one participant at a time from a single meeting.

Once the main Zoom input has been added, go to **Add Input - Zoom** again to add additional inputs. These inputs will connect to the same meeting.

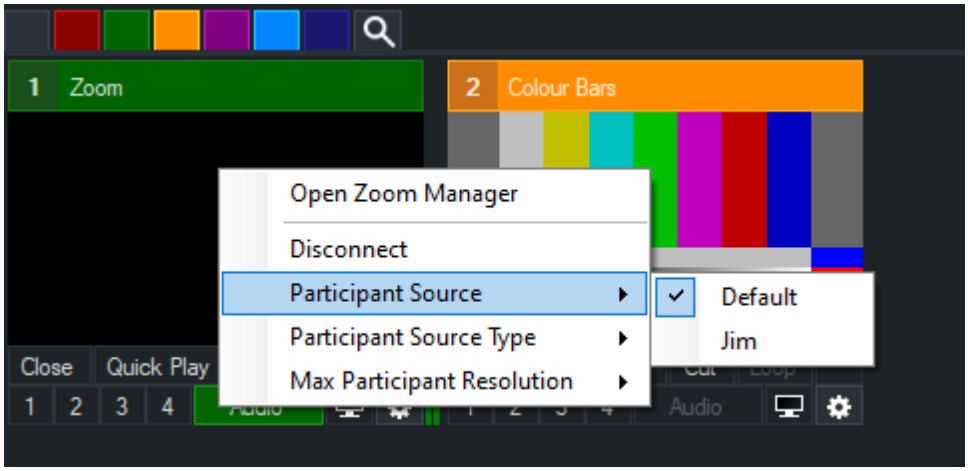
Note: Multiple meetings at a time is not supported. All participants must be joined to the same meeting.

Assigning participants to each input

Each Zoom input in vMix can have a unique participant assigned to it containing that participants audio and video.
By default the first participant to join a meeting is displayed in each Zoom input added.

To change this, right click the Zoom input and select the Participant to display.

Note: It is a requirement that all participants have a unique Name in order for vMix to be able to identify them accurately across sessions.
If two participants have the same name, then only the first in the Source list will be able to be selected.



Max Participant Resolution

Each participant can have a unique Max Participant Resolution selected from the right click menu.

For HD (720p and 1080) to work it must be enabled by your Zoom account and plan. See below for more information:
https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0066166

Note: This is a maximum resolution only and Zoom may dynamically change this at any time depending on factors like network congestion, the participant's camera and account limits.

Audio Source

The Audio Source menu specifies what audio the input receives from Zoom:

Isolated: The audio from the currently selected Participant Source
Mixed: The mixed audio of the entire meeting, this combines multiple participants and is controlled by Zoom.
Share: The audio from the currently shared source in the Meeting.

Language

The Language menu within the Audio Source menu, will show a list of languages where translation has been enabled on a Zoom meeting.
This controls the specific language that vMix will receive from the meeting and only one can be selected at a time.
Participants that do not match the selected language may become muted as a result.

Select **Original Audio** here to receive the default audio of the meeting.

Active Speaker

When the active speaker in a Zoom Meeting changes, OnZoomActiveSpeaker will trigger for any inputs that have that participant assigned.
The OnZoomActiveSpeakerWhileInOutput will trigger the same as OnZoomActiveSpeaker except only if the input in question is currently in the output (by itself or as a layer of another input).

OnZoomActiveSpeakerSelf can be added to any Zoom input and will triggers when the participant representing vMix in the meeting becomes the "Active Speaker".
Note this specific trigger will only activate if applied to a Zoom input. To use it, apply the trigger to any one of the Zoom inputs in the preset, even though that Zoom input is unrelated to the trigger.

These can be used to automate a number of scenarios such as transitioning to that input automatically.

NOTE: For performance reasons, it is not possible to dynamically assign a participant to an input in vMix based on its active status.
Instead, all participants that might be speakers during a meeting should be assigned a dedicated input ahead of time.

See Triggers for more information.

Meeting Settings

The following Meeting Settings can be changed while a meeting is in progress through the right click menu of a Zoom input:

Original sound for musicians

This adjusts the audio sent from vMix to the Zoom Meetings as follows:
1. Reduces noise suppression
2. Enables stereo
3. Increases audio quality (via higher bitrate)
4. Disables echo cancellation

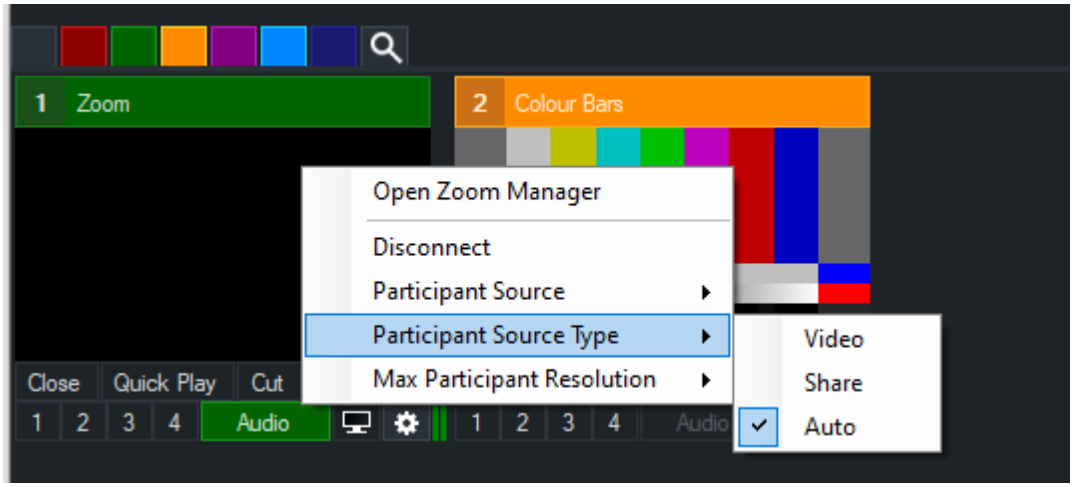
Note: this setting only controls the audio sent from vMix.
Participants audio is controlled via each participant within their Zoom meeting app directly.

UnMute Self / Mute Self

Mute or UnMute the audio vMix sends to the Zoom meeting.
This is useful in scenarios where vMix is joining a meeting and the Zoom host mutes participants on entry.

Screen Sharing of Participants

By default, each Zoom input will display the participants camera and then switch to the participant's screen sharing automatically when enabled.
To manually select the source for each participant, change this via the right click menu of the input.



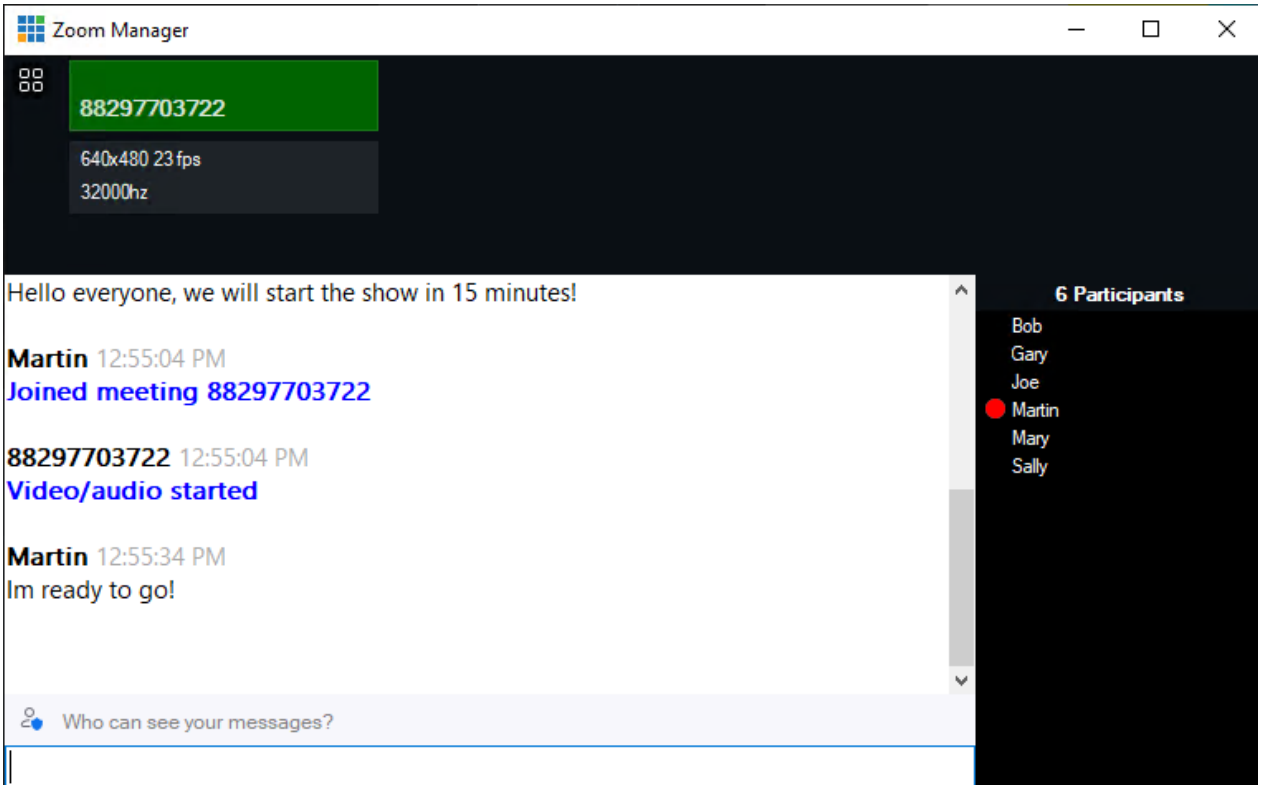
Multiple Zoom inputs can be added to display both the Video (camera) and the Share (screen sharing) of the Participant at the same time.

Share Audio

Audio from a share can be heard by selecting either "Mixed" or "Share" as the Audio Source from the Input's right click menu.
Mixed will include all audio from a meeting including share audio, while Share will just contain the audio from the share only.

Zoom Manager / Chat

Right click a Zoom input and select Zoom Manager to display the chat window for the meeting.



The chat window will allow you to communicate with each participant and also show important information about the current meeting, such as who has joined and meeting information such as join urls and meeting IDs and passwords if applicable.

The top section of the window will also display statistics about each participant currently assigned to an

input in vMix, including the current resolution and frame rate of the video and/or share they are sending.

Participants List

The list on the right hand side shows all the participants within the current meeting.
Participants with a red icon denote participants who are currently assigned to a Zoom input in vMix.

Right click a participant to do one of the following:

Add Participant as new Input
Assign Participant to Input

Removing vMix From Zoom

To remove vMix from your Zoom account follow the instructions below:

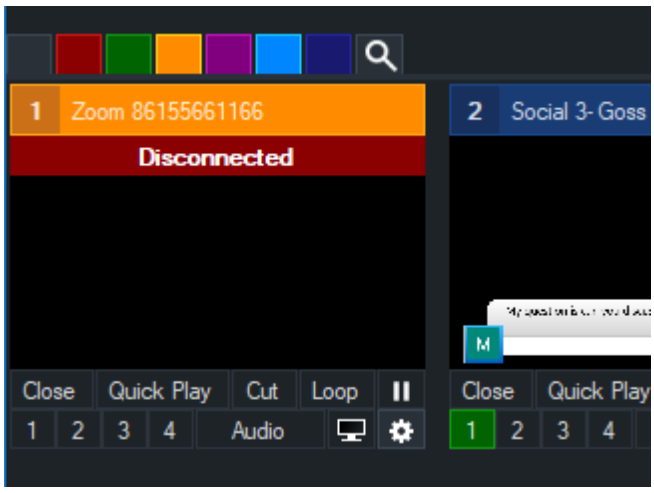
1. Login to your Zoom Account and navigate to the **Zoom App Marketplace**.
2. Click Manage >> Added Apps or search for the "vMix" app.
3. Click the "vMix" app.
4. Click Remove.

Troubleshooting

I cannot connect to a Zoom meeting

Check the error message that is displayed within the added Zoom input for further information.This may display errors such as "Incorrect Password" if the password used to join a meeting is incorrect.

If the message says Disconnected it means the meeting has ended. Right click the Input and select Connect to try connecting to the meeting again.



If you are joining a Zoom Event, make sure the Zoom account logged into vMix is not being used elsewhere. This usually means using a second Zoom account that is designated as a co-host of the event, and the primary Zoom account of the event runs the Zoom app separately.

The Zoom meeting is connected but the video/audio is blank

Items to check:

- Check that the participant has their microphone and/or cameras turned on within the Zoom app.
- vMix requires the Zoom Recording Permission or Zoom Streaming Permission in order to receive audio

and video.
(Depending on what Capture Mode was selected during Setup)

Check which permissions are enabled on Zoom account hosting the meeting and try again.
The settings on the Zoom web site that need to be enabled are:

Zoom.us -> Settings -> Recording -> **Local Recording** (turn this on)
Zoom.us -> Settings -> Recording -> **Hosts can give meeting participants permission to record locally** (tick this box)

- The meeting host will receive a prompt asking for permission to Record or Stream. This must be accepted by the host, otherwise audio and video will not be received by vMix.
- Try right clicking the Zoom input and selecting Disconnect. Then once disconnected try right clicking and selecting Connect.
- Ensure that no Zoom permission request popups have opened in the background of Windows that are awaiting your approval. vMix may need to be minimised to find them.
- Audio/video will not be received if **Automatically Record Meeting** is enabled in the Meeting settings on the Zoom web site.

Training Videos

For training videos on many of the topics covered here, visit our YouTube page:
https://youtube.com/vmixhd