



User Guide for Windows

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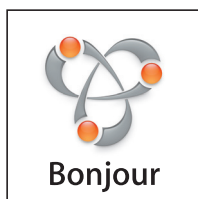
Preface

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Introducing Wirecast

Wirecast is professional-grade software for live streaming video production. Wirecast provides the tools you need for every step of a broadcast, from audio-video capture to live production to streaming.

Note: We use the word, “broadcast” throughout this guide to mean a one-to-many transmission of an audio-video stream, and related data, over the Internet.

Wirecast is available in two versions: *Studio* and *Pro*.

Wirecast Studio supports the following:

- Up to two guests on Rendezvous
- Unlimited capture
- Live production
- High-definition and standard-definition encoding for live streams
- Broadcasting to multiple servers and platforms simultaneously
- Streaming to Facebook, YouTube, Twitter, CDNs, LAN multicasts and unicasts, virtual camera, or secondary displays.

Wirecast Studio includes the following tools:

- A Stock Media Library
- An advanced audio mixer
- A remote desktop presenter
- Multi-viewer outputs

Wirecast Pro includes all the features of *Wirecast Studio* and also supports the following:

- Up to seven guests on Rendezvous
- 8-track audio output
- Live replay
- Program feed output
- Pro audio FX
- Custom transitions
- 3D virtual sets
- ISO recording
- Built-in PTZ controller
- NDI outputs

Features that pertain specifically to *Wirecast Pro* are indicated by this *Pro* icon:

PRO

Note: Both *Studio* and *Pro* licenses include one year of Insider Access Support providing free software updates, access to built-in Stock Media library, on-demand video training, access to Knowledgebase and Community Forum, and email support with an eight-business-hour response time target.

This guide explains how Wirecast works, and provides tips for producing the best broadcasts possible.

Topics

- [Wirecast Workflow](#)
- [Wirecast Resources](#)
- [Two Ways to Use this Application](#)
- [Navigate the User Interface.](#)

Wirecast Workflow

Because of its versatility in handling a variety of inputs and outputs, Wirecast typically fits in the middle of your broadcasting workflow. Wirecast can take the place of traditional *T-bar* hardware switchers, graphics generators, and title generators. However, you can also use Wirecast simply as the back-end encoder for large switching systems.

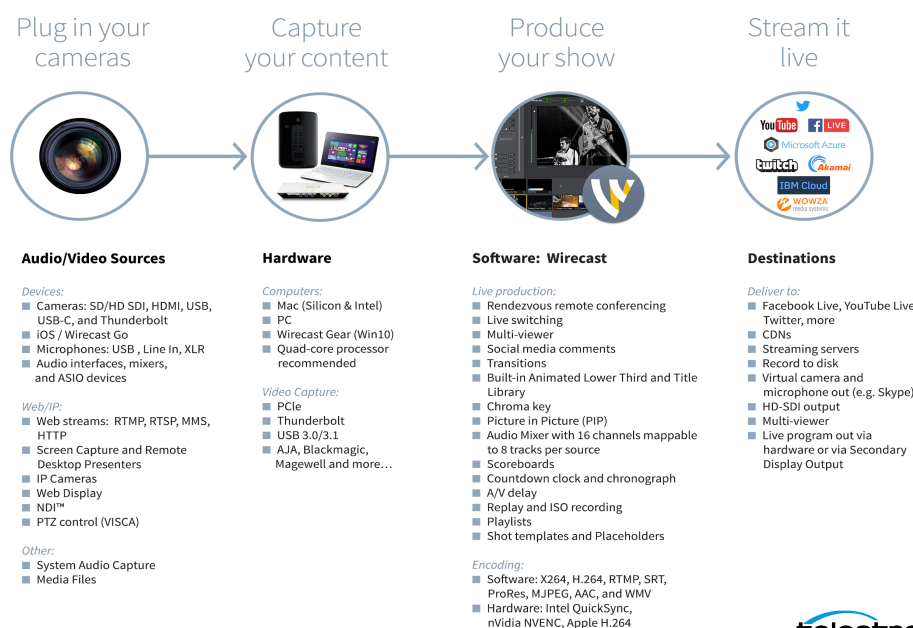
Wirecast productions generally follow a four-step workflow:

1. Plug in your live input devices such as video cameras, iOS cameras, computer desktop, and web feeds.

2. Capture your content.
3. Produce your program using the full range of Wirecast production features.
4. Stream your program live to the web or to a LAN, or record it to a local drive.



Wirecast Workflow



Wirecast Resources

For up-to-date information about Wirecast, visit the following Telestream resources.

Tutorials, Webinars, and Demos

A quick way to learn Wirecast basics is to work through the tutorials in the [Tutorials](#) section of the Wirecast User Guide. The tutorial environment built into Wirecast corresponds with these tutorials. The three tutorials take about thirty minutes.

Also, read [Making Great Broadcasts](#). This topic provides practical tips for improving the quality of your presentations.

Telestream provides additional tutorials, webinars, and product demos on the Wirecast Training Resources page:

<http://www.telestream.net/telestream-support/wire-cast/training.htm>

Telestream User Forum

Join the active community of Wirecast users in posting Wirecast questions, answers, and feature requests. Also, one click takes you from the forum to the knowledge base of Wirecast technical articles.

Telestream User Forums:

<https://telestreamforum.forumbee.com/>

Wirecast Literature, Documentation, and Knowledge Base

Find current versions of Wirecast literature, user guides, and customer case studies on the Wirecast Literature and Documentation page. Find Wirecast technical articles on the Wirecast Knowledge Base.

Wirecast Literature and Documentation:

<http://www.telestream.net/wirecast/resources.htm#docs>

Wirecast Knowledge Base:

<https://support.telestream.net/s/global-search/Wirecast>

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Website Links

- How to Buy:
<http://www.telestream.net/purchase/store.htm>
- Support:
<http://www.telestream.net/telestream-support/wire-cast/support.htm>

Navigate the User Interface.

For descriptions of the various Wirecast menu items, tools and windows, see [Windows, Controls, and Menus](#).

We'd Like to Hear from You.

Telestream welcomes comments, feedback, and suggestions about your experience with Telestream products. You can reach us at desktopsupport@telestream.net

If you have suggestions about improving the Telestream documentation or website, email us at techwriter@telestream.net.

Two Ways to Use this Application

There are two different ways you can use Wirecast:

- **Presenter Is Operator** The person conducting the presentation also operates Wirecast.
- **Presenter Plus Operator** The presenter concentrates on the content and someone else operates Wirecast. In this mode, the presenter never needs to know in detail how Wirecast works.

Presenter Is Operator

In this mode of operation, the person conducting the presentation simultaneously operates Wirecast.

Here are some suggestions for using Wirecast when you are both the presenter and operator:

- **Keep it simple** Set up Wirecast to make it easy for you to be the operator and the presenter. Set up your logo and titles so that you need to make very few changes during your presentation. Use a minimum number of shots so it's easy for you to see which shot to choose.
- **Keep the AutoLive feature on** This enables you to present your shots with just one click. Though this limits your ability to perform complex presentations, it is the best way when the presenter is also the operator. To turn AutoLive on or off, select it under the Switch menu.
- **Pre-configure your shots** Make sure that all the shots are created prior to your presentation. Do not try to create or modify shots while broadcasting them.
- **Use hot-keys for switching shots** Wirecast provides a hotkey editor that enables you to easily assign hotkeys to your shots.

Presenter Plus Operator

In this mode of operation, an engineer (or operator) is responsible for using Wirecast, and the presenter concentrates on the content of the presentation.

Here are some suggestions for using Wirecast when you have both an operator and a presenter:

- **Keep the AutoLive feature off** This enables you to make several changes at one time before taking the changes live. However, to quickly make a shot live, press the Shift+Ctrl keys and click the shot. The AutoLive control is located under the Switch menu

- **Open the Preview Area** The operator should use Preview mode to examine everything before it becomes live. The Preview display control is located under the Layout menu.
- **Use the Layer Windows to make more shots available** To open layer windows so you can quickly flip between shots on several layers, select *Window > New Layer Window*.

Installation

You can install Wirecast on any Mac or Windows computer that meets the minimum system requirements.

Topics

- [General System Requirements](#)
- [Installing Wirecast](#)
- [Purchasing and Activating Wirecast](#)
- [Activating Wirecast on One Computer from Another Computer](#)
- [Upgrades Included](#)
- [Checking for Wirecast Updates](#)
- [Deactivating Wirecast](#)
- [Uninstalling Wirecast](#)
- [Installing a Hardware Controller](#)
- [Preventing Dropped Frames from Vertical Sync](#)
- [Preventing Dropped Frames from Short Latency](#)
- [Choosing a Video Adapter](#)

General System Requirements

Operating System

- Minimum: Windows 10 version 1803 or higher
- Recommended: Windows 10 version 1903

Processor

- Minimum: i5 dual-core @ 2.3GHz, 6th generation or higher
NOTE: May be insufficient for 1080p+ or 60 fps workflows
[How to check the generation of your Intel processor](#)

- Recommended: i7 quad-core @ 2.8GHz+

Memory

- Minimum: 4GB RAM
- Recommended: 16GB+ RAM

Hard Drive

- Minimum: 2GB, 7200 RPM for record to disk
NOTE: Additional hard disk space required for record to disk
- Recommended: 500GB+, Solid State OS Drive

Graphics Card

- Minimum: Intel HD, DirectX 11 capable
NOTE: Insufficient for advanced Multi-Viewer workflows
- Recommended: Nvidia GeForce or AMD Radeon, 1GB+ video memory

Internet Connectivity

- Minimum: Open HTTP/HTTPS port 80, RTMP port 1935, port 7272 for Remote Desktop Presenter
- Recommended: If behind a firewall, check with your CDN for any sites to whitelist.

Note: We recommend running Wirecast on the Windows *Aero* theme, which includes a hardware accelerated window manager. Running Wirecast on the Windows *Classic* theme can cause performance issues.

Rendezvous Requirements

Wirecast Rendezvous uses WebRTC technology that can be very resource intensive. For the best Rendezvous experience, we recommend the following hardware:

	Studio (2 guests + 1 host)	Pro (7 guests + 1 host)
Bandwidth ⁴	Add 4 Mbps	Add 5+ Mbps ⁵
Processor ⁴	i5 quad-core ⁶	i7 quad-core ⁶

^{4B}Based on a single simultaneous stream of 720p30 x264 @ 4.0Mbps.

⁵ Bandwidth per guest will scale downwards as more are added to maintain reliability.

⁶ Minimum recommended processor with example stream4. More demanding workflows may require a more capable CPU.

Internet Connectivity

- Requires Internet connectivity with HTTP/HTTPS port 80, and RTMP port 1935 open for streaming, Remote Desktop Presenter requires opening port 7272.
- An Internet connection is recommended for Wirecast license activation.
- It is recommended that an upload rate of at least double the desired rate be available.
 - For lowest quality (240p) streaming an upload rate of at least 650Kbps is required.
 - 720p streaming requires an upload rate of at least 2500 Kbps.
 - 1080p streaming requires an upload rate of at least 4500 Kbps.

ISO Recording Requirements

Note: You cannot record the following using ISO: Rendezvous callers, Web Stream plugin, IP Cameras, Web Page plugin and Wirecast Go.

- Solid State Drive or fast RAID array recommended for ISO Recording and Replay functionality.
 - Actual data rates will vary depending on quality level selected for ProRes (Mac) or MJPEG recording (Windows), as well as the resolution and frame rate selected.
 - For Mac ProRes recording please refer to Apple's ProRes data rate specifications.
 - Total expected data rate should be compared to available disk write speed to ensure adequate disk throughput.
-

Note: Failure to ensure the available disk write speed is greater than the highest expected total data rate may result in frames being dropped from recordings (ISO, Replay, and Record-to-Disk).

Recommended Hardware

- Intel Core i3 CPU @ 1.7 Ghz or higher recommended for 540p streaming with x264 @ 30 fps.
 - Intel Core i5 CPU @ 2.5 Ghz or higher recommended for 720p streaming with x264 @ 30 fps.
 - Intel Core i7 CPU @ 3.0Ghz or higher recommended for 1080p streaming with x264 @ 30fps.
-

Note: 60 FPS streaming will result in increased CPU usage and a high bit rate (4Mbps or higher) for good quality.

- Minimum 4GB RAM, 2GB free hard disk space. Additional hard disk space required for recording to disk.

Hardware Accelerated Encoding Requirements

- Intel Quick Sync Video encoding requires an Intel CPU with an Intel® QuickSync Video core.
- NVIDIA NVENC encoding requires an NVidia GPU with Kepler architecture or newer.

Installing Wirecast

To install Wirecast, follow these steps:

1. Download the installer from the Telestream website:

<https://dynamic.telestream.net/downloads/download-wirecast.asp?prodid=wirecast>.

2. Run the installer (.exe) program and follow the instructions provided.

Note: The Wirecast installer asks whether you want to install the Virtual Microphone feature. If you do (recommended), check the box for this feature and continue the installation. You must have administrative rights to install Virtual Microphone.

3. If you have an older version of Wirecast already installed on your computer, the installer upgrades to the newer version.

Purchasing and Activating Wirecast

To purchase and activate Wirecast, do the following:

1. Launch Wirecast.
2. Select *File > Preferences > Licenses*, and click *Purchase*. Purchase Wirecast. Enter your license key into the License Key field. If you previously purchased a copy of Wirecast and want to use that serial number, enter that serial number.
3. Click *Activate*.
Wirecast validates the serial number and unlocks Wirecast.
4. Close the Preferences window.

Telestream activates your Wirecast program.

Note: You can also purchase a serial number at www.telestream.net.

See [License Key](#).

Activating Wirecast on One Computer from Another Computer

If the computer where Wirecast is installed is not on the Internet, you can use another computer to activate your license and unlock Wirecast. To activate your license from

another computer, follow the steps in the Manual Activation Guide at:
<http://www.telestream.net/telestream-support/wire-cast/training.htm>.

Upgrades Included

With each purchase of Wirecast – whether it is an upgrade purchase or full license – you receive an Access Support subscription for one year from the date of purchase. You can renew this subscription annually.

You can choose to upgrade from an Access Support subscription to a Premium Support subscription at any time, for an additional fee. You can also renew Premium Support subscriptions annually.

Your support subscription is tied to your Wirecast license. As long as your license is entered into the software and your Premium or Access support subscription is active, you will be allowed to upgrade to the latest unlocked version of Wirecast for free. To do this, download and install the latest version of Wirecast. You will automatically have access to all the new features (depending on your license level).

If your support subscription is expired, or you have not entered your license into the software, you will not be able to upgrade to an unlocked version and the software will revert to demonstration mode. However, you may continue to use the last valid version of the software released during your support subscription coverage.

If your support subscription is about to expire (12 months from the date of purchase), Wirecast will prompt you to renew it. If you do not renew it before it expires, you may re-subscribe at any time for an additional fee.

See also [Software Update Preferences](#).

Checking for Wirecast Updates

To check for Wirecast software updates, do the following:

1. Select *File > Preferences > Software Update*,
2. Click *Check Now*.

Wirecast checks for updates, but does not transmit personal information to Telestream during this action.

See also [Software Update Preferences](#).

Deactivating Wirecast

Deactivating a serial number on one computer allows you to re-activate it on another computer. Without an activated license, Wirecast adds water-marking to the video and audio whenever licensed features are used.

Note: You can always reactivate a serial number by re-entering it into the License Key field and clicking *Activate*.

To deactivate Wirecast, do the following:

1. Select FileWirecast > Preferences > Licenses.
2. Click *Deactivate*.
Wirecast deactivates the serial number and removes it from the License Key field.

Note: You can access the License Reset Tool at:
<https://www.telestream.net/telestream-support/deactivate-software.htm>

See [License Key](#).

Running Wirecast Without an Activated License

With no active serial number, Wirecast enters demonstration mode. In demonstration mode, Wirecast watermarks all outputs (both to disk and network). The video watermark is a periodic overlay of the Wirecast logo. The audio watermark is a periodic voice-over. If you have a Wirecast serial number and are using a Wirecast Pro feature without a Pro license, Wirecast also watermarks that output.

Uninstalling Wirecast

To uninstall Wirecast, follow these steps:

1. Run the Wirecast installer (.exe) program.
The installer asks if you want to repair or remove the existing version.
2. Select *Remove* to uninstall the existing version of Wirecast.
3. Choose the Wirecast program icon in *Finder > Applications*, or on your desktop.
- 4.

Installing a Hardware Controller

You can control many Wirecast functionalities with some external hardware controllers, or Human Interface Devices. Wirecast provides control of three MIDI controllers: APC MINI, APC40mk2, Launchpad MK2, and one X-keys controller: XKeys 128.

To install a hardware controller for Wirecast, do the following:

1. Select *FileWirecast > Preferences > Controllers*.
2. Select a controller from the drop-down menu.
3. To close the *Preferences* dialog box, click the "x."

See [Controllers Preferences](#).

Preventing Dropped Frames from Vertical Sync

You can prevent Wirecast from dropping frames, and optimize Wirecast performance by disabling vertical sync.

Wirecast usually synchronizes its video display with the refresh rate of your display. However, this degrades performance when the Wirecast program window is not visible (due to the screen being locked, Wirecast minimized, or the Wirecast covered by another application).

Note: Disabling vertical sync can interfere with the smooth display of video in the Wirecast user interface. This does not, however, decrease the broadcast video quality.

In order to avoid dropping frames, do the following:

1. Select *File > Preferences > Advanced*.
2. Check *Disable Vertical Sync*.
3. To close the *Preferences* dialog box, click the "x."

Preventing Dropped Frames from Short Latency

You can prevent Wirecast from dropping frames, and optimize Wirecast performance by lengthening latency.

Wirecast adds latency to all incoming sources. Latency is the brief period between receiving live video and displaying it or processing it. Adding latency gives Wirecast time to store the incoming data properly. This preference lets you specify the length of the latency. The lower this value, the less time Wirecast takes between receiving data and using it. If the connection is not fast enough, or the latency is too brief, this may result in dropped video frames (less noticeable) and audio blips (very noticeable). The higher this value, the more time Wirecast has to store data before displaying or processing it.

In order to avoid dropping frames from short latency, do the following:

1. Select *File > Preferences > Advanced*.
2. Enter a value into the *Application Source Latency* field.
3. To close the *Preferences* dialog box, click the "x."

See [Application Source Latency](#).

Choosing a Video Adapter

If your computer has multiple video adapters, such as NVIDIA, AMD, or Intel graphics cards, you can determine which video adapter Wirecast uses. To select a video adapter, do the following:

1. Select *File > Preferences > Advanced*.

2. From the *Video Adapter* drop-down menu, select the video adapter desired. Choose a video adapter.
3. To close the *Preferences* dialog box, click the "x."

Customization

You can customize Wirecast to your needs by selecting Wirecast preferences. You can select most preferences directly from a Wirecast document or from the Shot Editor. You can also manage your licenses, update your software, and select advanced video preferences through the Preferences window.

Topics

- [Launching Wirecast](#)
- [Learning the Layout](#)
- [Customizing Wirecast with Preferences](#)
- [Resetting Preferences](#)
- [Customizing the Playlist Countdown Timer](#)
- [Selecting and Customizing Encoder Presets](#)
- [General Preferences](#)
- [Canvas Preferences](#)
- [Shot Display Preferences](#)
- [Software Update Preferences](#)
- [Keyboard Shortcuts Preferences](#)
- [Controllers Preferences](#)
- [Advanced Preferences](#)

Setting the Primary Device for Audio Monitoring

To select the device Wirecast uses for audio monitoring, do the following:

1. In Windows, right-click the speaker icon in the task bar. Then, select *Open Sound settings > Sound*.
2. Select the desired default audio-monitoring device from the drop-down menu under *Choose your output device*.

Wirecast uses the device chosen as the default device for audio-monitoring. You can change the device from this default through the Audio Playback preference. See [Audio Playback](#).

Disabling Sleep Mode

Wirecast does not prevent your computer from entering sleep mode. To ensure uninterrupted streaming, disable sleep mode on your computer while using Wirecast.

Assigning CPU Usage

To avoid a decrease in video quality, don't set Wirecast CPU usage above 80%. See the Telestream Website for suggested configurations.

Launching Wirecast

To start Wirecast, double-click the Wirecast icon that was placed on your desktop during installation.

Note: You can determine whether Wirecast displays the landing page, and whether Wirecast opens the last document you worked on, at startup. See [Show landing page on startup](#) and [Open last document on startup](#).

Learning the Layout

Before customizing the Wirecast layout, familiarize yourself with the default layout, and with the main Wirecast windows, controls, and menus. See [Windows, Controls, and Menus](#).

Customizing Wirecast with Preferences

You can customize Wirecast to meet your particular production needs, and types of equipment, by choosing preferences. To customize Wirecast, do the following:

1. Select *Preferences* from the File menu (or press the Ctrl+ Comma (",") keys).
2. In the *Preferences* dialog, click one of these headings to view and change its associated preferences:
 - General
 - Canvas
 - Shot Display
 - Licenses
 - Software Update

- Keyboard Shortcuts
- Controllers
- Advanced

Wirecast applies your preferences immediately, and saves them automatically, every time you change a preference.

Resetting Preferences

To reset your preferences, use Support Assistant (see *Send Support Information* under [Help Menu](#)).

Customizing the Playlist Countdown Timer

The countdown timer in the *Live Broadcast Area* displays either the times for the current shot, or the times for both the current shot and for the playlist containing the current shot. To choose the mode of the playlist countdown timer, do the following:

1. With a playlist displayed in the *Live Broadcast Area*, click the gear icon in the *Live Broadcast Area*.
Wirecast displays a drop-down menu
2. Choose one of the following:
 - To display the times for only the current shot, choose the first item in the drop-down menu. The first item is the name of the current shot.
 - To display the times for both the current shot and for the whole playlist, choose the second item in the drop-down menu, *New Playlist - Completion*.

Setting the Number of Transition Buttons

To set the number of transition buttons, from 0 - 3, that Wirecast displays, do the following:

1. Select *File > Preferences > General*.
2. Select the desired number of transition buttons from the Transition Buttons drop-down menu, and close the *Preferences* dialog box.

See [Transition Buttons](#) and [Determining the Transitions for the Transition Buttons](#)

Selecting and Customizing Encoder Presets

To select one of the default encoder presets, or to customize encoder presets for your outputs, do the following:

1. Select *Window > Encoder Presets*.
2. Select an encoder preset from the Encoder Preset drop-down menu, and click *Close*.

3. (Optional) Alternatively, check *Video Encoding*, *Audio Encoding*, or both. Choose the video and audio settings desired. Click *Save As*, give the custom preset a name, and click *OK*.

See [The Encoder Presets Window](#).

General Preferences

You can customize whether Wirecast shows the landing page and last document on startup, the number of transition buttons shown, and other defaults, through the General preferences.

Open last document on startup

When checked, the last document you used is opened when Wirecast starts up.

Show landing page on startup

When checked, the Welcome screen is displayed when Wirecast starts up.

Show Number of Viewers

When checked, enables the viewership indicator while streaming.

Send diagnostic and usage information

When checked, causes diagnostic and usage information to be sent to Telestream anonymously.

Hide Unlicensed Features

When checked, unlicensed features (Studio and Pro) are hidden from display in the menus.

Transition Buttons

The value selected from the drop-down menu determines the number of transition buttons Wirecast displays in the default layout.

Maximum Reconnect Attempts

The number entered into this field determines the number of times Wirecast tries to reconnect to a host provider. The default is three.

Audio Playback

The device selected from the drop-down menu determines the device Wirecast uses for monitoring audio playback.

Stock Media Download Folder

This field displays the full path of the folder where Wirecast stores stock media downloads. Clicking the *Browse* button lets you select a different folder for stock media downloads.

Canvas Preferences

Canvas preferences let you set options for your document canvas, including the default size and the display rate used for video rendering.

Canvas Size for New Documents

The preference selected from the drop-down menu determines the default canvas size for new documents.

Note: To optimize the quality of the video that Wirecast broadcasts, set the canvas size to match, as closely as possible, the resolution of the desired output.

Lock Aspect Ratio When Resizing Layers

When checked, maintains aspect ratio when resizing layers.

Enable Snapping to other layers

When checked, turns on snapping to selected layers.

Enable Snapping to canvas

When checked, turns on snapping to the canvas.

Show Z Rotation controls

When checked, Wirecast displays the Z Rotation controls.

Video Display Rate

The preference selected from the drop-down menu determines the display rate.

Shot Display Preferences

Shot Display preferences enable you to change settings related to your shots and the Main Shot Display.

Theme

The preference selected from the drop-down menu determines how Wirecast displays the shot window.

- Default: Displays shot icons normally.
- Darker: Displays shot icons with a darkened background.
- XKeys: Displays shot icons with shot titles highlighted.
- XKeys - Layer Backgrounds: Displays shot icons with colored backgrounds.

Live GPU Accelerated Icons

The preference selected determines the framerate at which Wirecast displays the active icons.

Note: Higher framerates place greater demands on your CPU. This could diminish Wirecast performance.

Live Audio Meters

When checked Wirecast enables live audio meters.

When Dragging Multiple Files From Explorer

The preference selected determines what Wirecast does when you drag multiple files from a folder into Wirecast. Depending on your selection, Wirecast either creates a playlist containing the multiple files, or Wirecast creates multiple shots that are not part of a playlist.

Licenses Preferences

Licenses preferences enable you to register and license Wirecast.

License Key

This field displays the serial number that you have received for Wirecast.

Note: The serial number is composed of numbers and upper case letters (excluding upper case letter O), but it never contains quotation marks. When you receive a serial number, it may be enclosed in quotation marks (e.g., "123-456-789").

Purchase

When clicked, the *Purchase* button launches the purchasing dialog.

Deactivate

When clicked, the *Deactivate* button deactivates the serial number.

Software Update Preferences

Software update preferences enable you to obtain Wirecast updates.

Automatically check for updates

When checked, Wirecast checks for updates on the Telestream Website each time Wirecast is launched. No personal information is transferred to Telestream during this action.

Check Now

When clicked, *Wirecast* immediately checks for updates on the Telestream Website (www.telestream.net). Wirecast does not transmit personal information to Telestream during this action.

See [Checking for Wirecast Updates](#).

Keyboard Shortcuts Preferences

Keyboard Shortcut preferences enable you to view and create custom key assignments.

List of Keyboard Shortcuts

The Keyboard Shortcuts window displays a list of existing keyboard shortcuts.

“+” Button

When clicked, this button creates a new line item, in the list of shortcuts, that you can edit to create a keyboard shortcut.

“-” Button

When clicked, this button deletes the line item and keyboard shortcut selected in the list of keyboard shortcuts.

Name

Text entered into this field names the keyboard shortcut selected in the list of keyboard shortcuts.

Key Binding field (unlabeled)

Wirecast makes the key combinations entered into this field keyboard shortcuts.

See also [Creating a Keyboard Shortcut](#).

Controllers Preferences

Controllers preferences enable you to adjust MIDI and X-keys controller settings for Wirecast.

Controller

The controller selected from the drop-down menu controls Wirecast.

See [Installing a Hardware Controller](#).

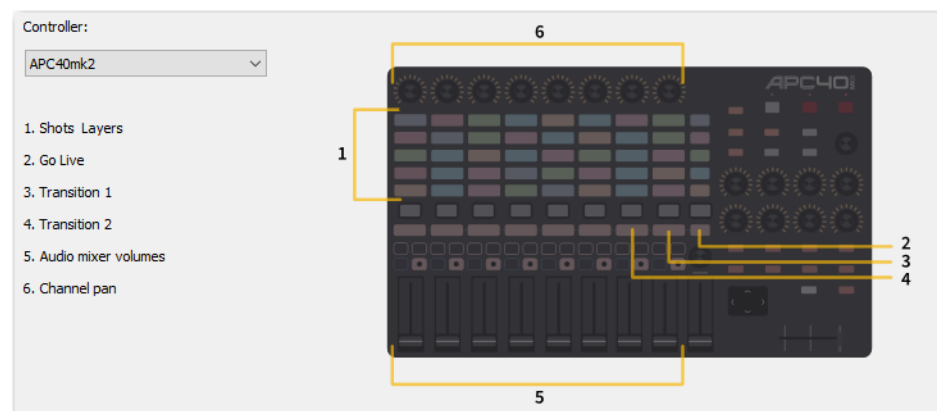
MIDI Control Assignments

Each MIDI controller has up to six controls assigned to it. The locations of each of these controls are shown below for the three midi controllers supported.

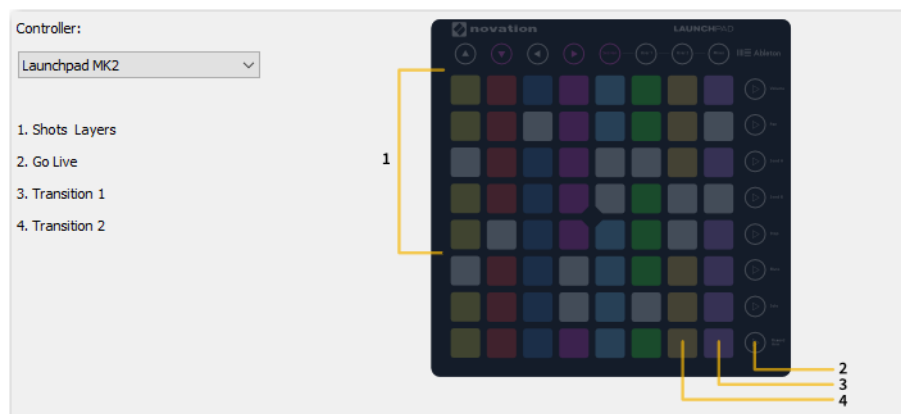
The locations of *APC MINI* controls are shown below:



The locations of *APC40mk2* controls are shown below:



The locations of *Launchpad MK2* controls are shown below:



Each MIDI controller has up to six controls assigned to it. The locations of each of these controls are shown below for the three midi controllers supported.

MIDI Control Descriptions

Shot Layers

The matrix of buttons on the MIDI controller (five rows of eight buttons) automatically correspond to the five layers in the Wirecast shot list window. Up to eight shots in each layer are controlled by the MIDI controller buttons. Shots are automatically assigned to MIDI controller buttons as they are created. If less than eight shots exist on a layer, the corresponding buttons (to the right) are inactive.



Go Live

Pressing this MIDI controller button is the same as clicking the *Go Live* button in the Wirecast default layout.

Transition 1

Pressing this MIDI controller button is the same as clicking the *Left Transition* button in the default layout.

Transition 2

Pressing this MIDI controller button is the same as clicking the *Left Transition* button in the default layout.

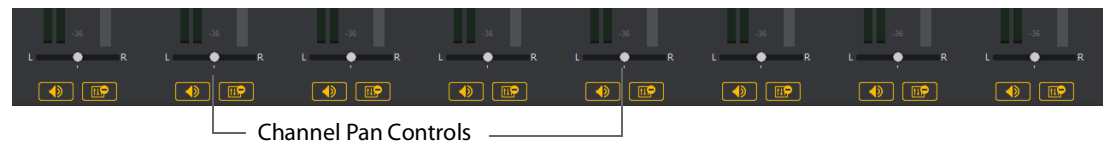
Audio Mixer Volumes

Sliding these MIDI controls adjusts up to eight volume controls in the Wirecast Audio Panel. Each MIDI slider corresponds (left to right) to a volume control in the Audio Panel. Volume controls are automatically assigned to MIDI controller sliders as they are created. If less than eight volume controls exist in the Audio Panel, the corresponding MIDI sliders (to the right) are inactive.

Channel Pan

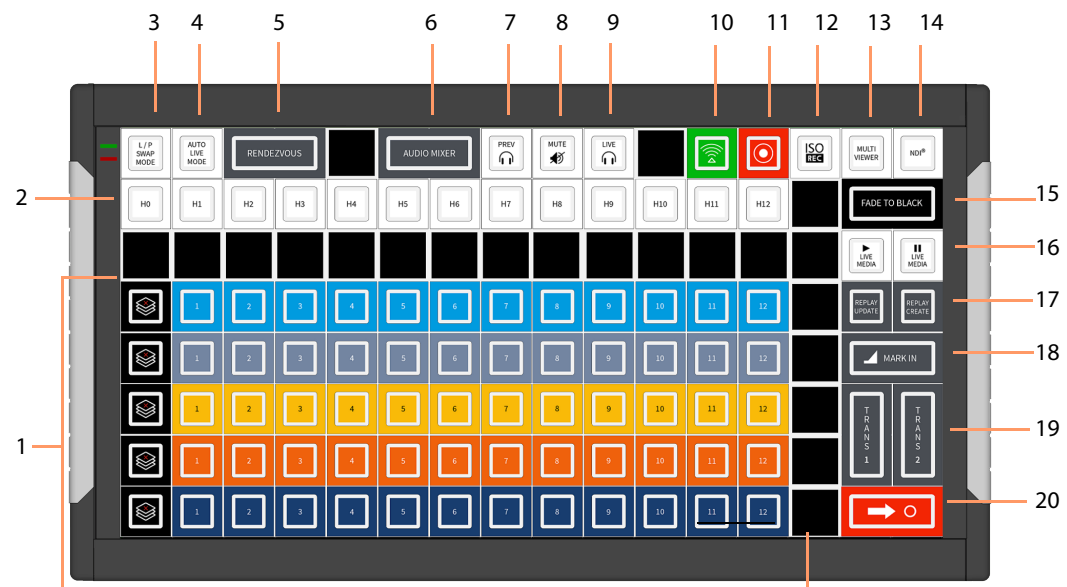
Adjusting these MIDI controls sets up to eight Channel Pan controls in the Wirecast Audio Panel (located just below the volume controls). Each MIDI control corresponds (left to right) to a Channel Pan control in the Audio Panel. Channel Pan controls are automatically assigned to MIDI controls as they are created. If less than eight Channel

Pan controls exist in the Audio Panel, the corresponding MIDI controls (to the right) are inactive.



X-keys Control Assignments

The X-keys controller has multiple controls assigned to it. All of the assigned controls are shown below.



General Key Operations

- Key lamps turn red when a function is on, and turn blue when off (except for keys that do not have dual states, like the Keyboard Shortcuts).
 - Function lamps turn red when a function is on, and turn blue when off (except for keys that do not have dual states, like the Keyboard Shortcuts).
 - Shot switching key lamps turn Blue when shot is in Preview and Red when in Live. Otherwise they are off.
- The Wirecast software and the X-keys panel stay in sync when keys are pressed or changes are made in Wirecast.
- Some keys are interactive. In such a case, pressing one key affects the status of another (like the PREV and LIVE keys).

Key Descriptions

Five Layers keys

Controls the first twelve shots (plus the Clear Layer shot) on each of the five layers.

Keyboard Shortcuts

The twelve keys represent the twelve Keyboard Shortcuts that have been assigned in Wirecast. Pressing a key executes the matching numbered Keyboard Shortcut (1 through 13). The key lamps momentarily turn red, then turn back to blue.

Live/Preview Swap Mode

Toggles the Live/Preview Swap mode. When in this mode, the Live and Preview shots are swapped.

Auto Live Mode

Toggles the Live Auto mode. When in this mode, selected shots are displayed in the Live Output window immediately.

Rendezvous

Toggles (show/hide) the display of the Rendezvous window.

Audio Mixer

Toggles (show/hide) the display of the Audio Mixer window.

Preview Monitor Audio

Toggles the Preview monitor audio (what you hear locally) on and off. (It is mutually exclusive with Live Monitor audio).

Mute Live Streaming audio

Toggles the Live Streaming audio (what your viewers hear) on and off.

Live Monitor Audio

Toggles the Live monitor audio (what you hear locally) on and off. (It is mutually exclusive with Preview Monitor audio).

Streaming

Toggles streaming on and off.

Recording

Toggles recording on and off.

ISO Recording

Toggles ISO recording on and off.

Multi Viewer

Enables all displays. Pressing this key is the same as selecting *Output > Multi-Viewer Output > Enable All Displays*.

NDI

Enables/Disables NDI output.

Fade to Black

Pressing this key acts as a “master transition-to-black”. The transition used is the one currently selected. It is very helpful when needed to make the Live Output black in an emergency. If Wirecast is in Live/Preview Swap mode, the live shot is moved to Preview and the pre-fade condition can be restored by pressing the Go key.

Live Media Play and Pause

Press the Play button to play a selected media file, and press the Pause key to pause it. These keys are interactive. Pressing one changes the lamp status of the other.

Replay Create and Update

These keys execute *Replay+ISO > Create All Replay Shots*, and *Replay+ISO > Update All Replay Shots*.

Mark In

Pressing this key executes *Replay+ISO > Program Replay > Replay Mark In*.

Transitions 1 and 2

These keys select Transition 1 or Transition 2 so that when the Go key is pressed, the selected transition will occur.

Go

Press this button to send the shot from the *Preview Area* to the *Live Broadcast Area*, by the transition selected. If Wirecast is in the Live/Preview mode, the Live output shot will be moved to the *Preview Area* when you click the Go button.

Advanced Preferences

Advanced preferences enable you to adjust advanced settings for Wirecast.

Disable Vertical Sync

When checked, Wirecast receives frames as fast as possible, for example, during video game play. This is especially useful when the application window is minimized or covered by another application.

Video Adapter

The preference selected from the drop-down menu determines the video adapter Wirecast uses for rendering and compositing. If you are using a discrete GPU, select the same GPU on which your application is running.

Note: *Video Adapter* defaults to the first discrete card that is discovered by Wirecast. If you have multiple GPUs, it is best to configure Wirecast to use the same card as used for your application (for optimal performance), otherwise Wirecast uses a slower

capture path. Also, best performance is achieved by setting the Video Adapter to use the NVidia card.

Web Stream

Check to enable automatic discovery of ONVIF cameras.

Microphone

Check to automatically detect feedback and force the display of a warning message.

Missing Media

Check to automatically reconnect live shots when Wirecast loses communications with a source.

Application Source Latency

The value entered into this field determines Wirecast latency period, in microseconds. When you update this value, Wirecast applies it as soon as the preference is committed. You don't need to restart Wirecast to see the change.

The minimum value for this preference is 50ms (2 frames @ 30fps). The maximum value is 330ms (10 frames @ 30fps). The default is 100ms (3 frames @ 30fps).

Note: Wirecast applies application source latency to all sources, while the audio delay and video delay values in Source Properties determine the delay for individual sources.

Missing Media Image

The preference selected determines how Wirecast indicates a missing graphic.

- When *Default* is selected, Wirecast presents a red question mark in place of the missing graphic.
- When *Transparent* is selected, Wirecast makes no replacement of the missing graphic.
- When *Custom* is selected, Wirecast lets you browse to a graphic to replace the missing graphic.

Document Creation and Input Configuration

Wirecast enables you to work with media created outside of Wirecast, as well as with live camera and live microphone sources. Wirecast supports media in a variety of platforms such as AVFoundation, a variety of file types such as MOV and AVI, and a variety of codecs such as AVC or H.264. This section introduces some common media types you can use with Wirecast. You can add media by selecting *Import Media* from the File menu.

Topics

- [Creating a Document](#)
- [Configuring the Wirecast Layout](#)
- [Shots](#)
- [Playlist Shots](#)
- [PTZ Cameras and Controls](#)
- [Twitter](#)
- [Facebook](#)
- [Creating a Replay Shot from a Layer](#)
- [RendezvousResizing the Shot Icons](#)
- [Setting Transition Speed](#)
- [Determining the Transitions for the Transition Buttons](#)
- [Images/Opacity](#)
- [The Preview Area](#)
- [Adding and Modifying Template Placeholders](#)
- [Reassigning Media](#)
- [Supported Codecs](#)

Creating a Document

In Wirecast, you keep all the resources for a particular broadcast in a Wirecast document. You can save the audio, video, file, and controller sources, as well as the output settings, for a broadcast in a document file. Wirecast Document files have the file extension, “.wcst.”

Once you’ve created a document, you add shots to the document. Then, you add sources to the shots. The document then contains the shots and sources for a particular broadcast.

To create a new document, do the following:

1. Select *File > New*.
Wirecast opens a new document.
2. To save the document, select *File > Save*.
3. Enter a file name for the document, and click *Save*.

Note: Consider establishing a file-naming method for naming documents. For example, you could name documents for specific broadcasts, or for specific types of broadcasts.

Configuring the Wirecast Layout

To optimize the user interface for each document, you can configure the Wirecast layout. Wirecast saves the layout settings in the document file.

To configure the Wirecast layout, do the following:

1. Select *Layout*.
2. Choose a desired option from the menu.
Wirecast configures the layout accordingly, and closes the *Layout* menu.
3. To select whether Wirecast displays the *Preview Area*, the *Live Program Area*, or both, choose the appropriate *Mode Selection Button*. See [Mode Selection Buttons](#).

Shots

You can create and edit shots for your broadcasts before you begin broadcasting.

Creating a Shot

1. To create a shot, click the “+” in any of the layers.
Wirecast opens the Add Shot dialog box.
2. Select options for the shot as desired.

See [Add Shot Window](#).

Adding Media Files to a Shot

1. To add media files to a shot, click the "+" in any of the layers. Wirecast opens the Add Shot dialog box.
2. Click *Media Files*. Select media files for the shot as desired.
3. Click Add.

See [Add Shot Window](#).

Adding Video Sources to a Shot

1. To add media files to a shot, click the "+" in any of the layers. Wirecast opens the Add Shot dialog box.
2. Click *Video Capture*. Select video sources for the shot as desired.
3. Click Add.

See [Add Shot Window](#).

Adding Audio Sources to a Shot

1. To add media files to a shot, click the "+" in any of the layers. Wirecast opens the Add Shot dialog box.
2. Click *Audio Capture*. Select audio sources for the shot as desired.
3. Click Add.

See [Add Shot Window](#).

Creating a Consolidated Shot

1. Select multiple sources in the Shot Layers tab of the *Shot Editor*.
2. Select *Edit > Copy*.
3. Select *Edit > Paste as new Consolidated Shot* to create a new shot in the selected layer.

See [Edit Menu](#).

Adding a Title to a Shot

To add a title to a shot, do the following:

1. In a layer, click the Add Shot "+" button.
2. Select *Overlays > New Title*.
3. To add the title to your document, click the *Add* button.

See [Title](#).

Adding a Virtual Set to a Shot

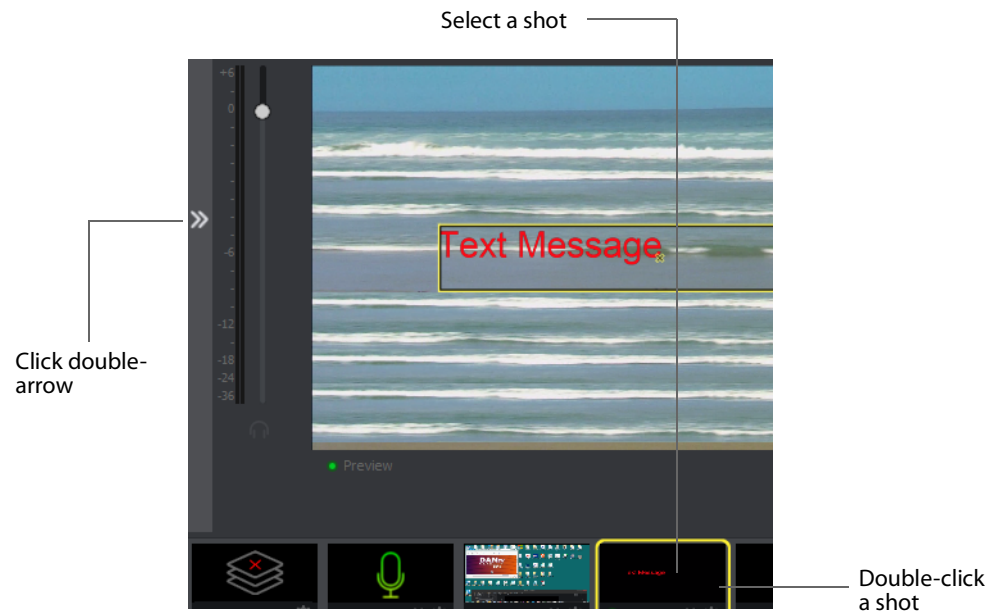
To add a virtual set to a shot, do the following:

1. In a layer, click the Add Shot “+” button.
2. Select *Backgrounds > Virtual Set*. Click *Add*.
3. Click the desired virtual set, and click *OK*.
4. Customize the set as desired.

See [Virtual Set Properties](#).

Editing a Shot

To edit a shot, double-click the shot in a layer to open the shot editor. You can also single-click the shot to select it, then click the double-arrow on the left of the default layout to open the shot editor panel. See [The Shot Editor Window](#).



Adding, Deleting, or Rearranging Layers in a Shot

You can add, delete, or rearrange layers in a shot with the controls on the Shot Layers tab of the Shot Editor.

To add, delete, or rearrange layers in a shot, do the following:

1. Select a shot in a layer. Then select *Edit > Edit Shot*.
2. Edit the shot in one or more of the following ways, as desired:
 - Add a layer by clicking the plus (+) button
 - Delete a layer by select selecting it and clicking the minus (-) button.

- Reorder the layers by selecting a source and clicking the up arrow or down arrow to move it.
- To move a layer forward or back, replace a source in a layer with another source, add a layer to a shot, remove a layer from a shot, or display the original location of a media file, click the gear icon.
- Toggle, on or off, the visibility of a video source by clicking the eye icon.
- Toggle, on or off, the visibility of an audio source by clicking the speaker icon.

See [Shot Layers Tab](#).

Resizing or Rotating a Shot

To resize or rotate a shot, do the following:

1. Click a shot in a layer. Then, click the shot in the *Preview Area*.
Wirecast places a control frame around the shot in the *Preview Area*. The control frame includes handles for resizing and rotation.
2. Click and drag any of these handles to resize or rotate your image.

See [Preview Area](#).

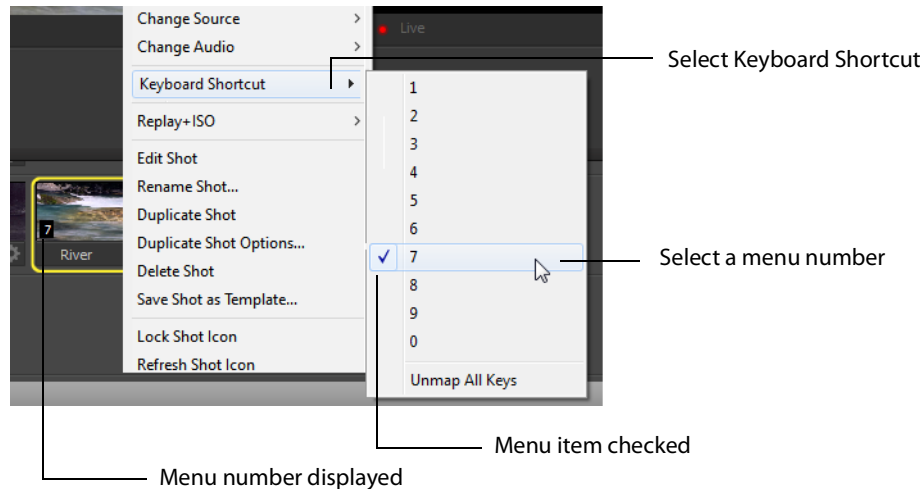
Changing Shot Sources

To change the audio or video source of a shot, right-click on any shot. Wirecast displays the shot menu.

Change Source Select Change Source to change the video source of your shot. Upon selection, a menu of sources will display enabling you to make a selection.

Change Audio Select Change Audio to change the audio source of your shot. Upon selection, a menu of audio sources will display enabling you to make a selection.

Keyboard Shortcut You can create a keyboard shortcut to any shot. To do this, select *Keyboard Shortcut*, then select a menu number to associate with that shot. After you have selected a menu number, that menu item is checked and the number is displayed in the shot icon.



To take a shot using the assigned hotkey, press the number key assigned to that shot.

You can assign multiple shots to the same menu number as long as they are on different layers. When you use the assigned hotkey all the shots assigned to it will be taken. Selecting a checked menu item will uncheck it and unassign the shot.

Select *Unmap All Keys* to remove all hotkey assignments.

Note: See also the section on [Keyboard Shortcuts Preferences](#) for Keyboard Shortcut management.

Edit Shot You can edit a shot by clicking the double arrows (located on the left side of the *Preview Area*) to the right, revealing the shot editing panel. You can also edit a shot by double-clicking on it, by right-clicking it and selecting *Edit Shot*, by selecting *Edit Shot* from the *Edit* menu, or by selecting it and pressing the *Ctrl+E* keys.

Rename Shot You can rename a shot by right-clicking it and selecting *Rename Shot*, or by selecting *Rename Shot* from the *Edit* menu. You can also rename a shot by selecting it and pressing the *Ctrl+R* keys.

Duplicate Shot You can duplicate a shot by right-clicking it and selecting *Duplicate Shot*, or by selecting *Duplicate Shot* from the *Edit* menu. You can also duplicate a shot by selecting it and pressing the *Ctrl+D* keys.

Duplicate Shot Options Check a source to create a new instance of it when duplicating the shot containing it. Multiple selection is allowed.

Delete Shot You can delete a shot by right-clicking it and selecting Delete Shot, or by selecting Delete Shot from the Edit menu. You can also delete a shot by selecting it and pressing the Ctrl+Backspace keys.

Save Shot as Template You can configure any shot with a Placeholder and save it as a Template Shot. When the dialog box displays, enter a template name and click OK.

Lock Shot Icon Click to take a snapshot of your live shot icon thumbnail and save it as a static image for your shot. This can help users identify each shot with a snapshot image that's meaningful for them. For example, if you have a PTZ camera with multiple shots configured for different camera positions, you can display a customized snapshot of each camera angle as the icon for each shot. This provides quick identification during production. Once a shot icon is locked, the Gear menu item will turn into *Unlock Shot Icon*.

Refresh Shot Icon Click to refresh the shot icon after any changes made.

Positioning an Image Within a Shot

You can also snap an image in the *Preview Area* to various alignments: Snap to Center, Snap to Edge, Snap to Corner, or Snap to an Image. The yellow guide lines appear when the image is ready to snap into place.

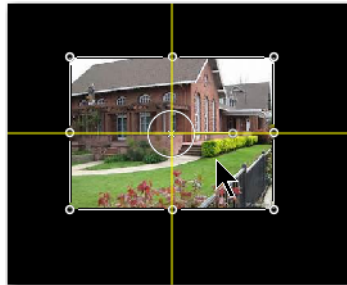
See [Preview Area](#).

Moving a Shot to Another Layer

You can move a selected shot to another layer by selecting *Move to Layer* from the Edit menu, then selecting the target layer from the drop-down menu. You can also click and drag the shot icon to a different layer.

When shots are created, they are assigned to a specific layer. They exist on that layer until they are moved or deleted. (See [Layers](#).)

To temporarily disable the snap action, hold down the Alt key while moving an image into place (the yellow snap lines will not appear). Additionally, after selecting an image, the arrows keys can be used to nudge it into placement.



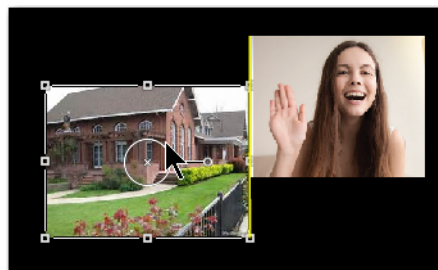
Snap to Center



Snap to Corner



Snap to Edge



Snap to an Image

Playlist Shots

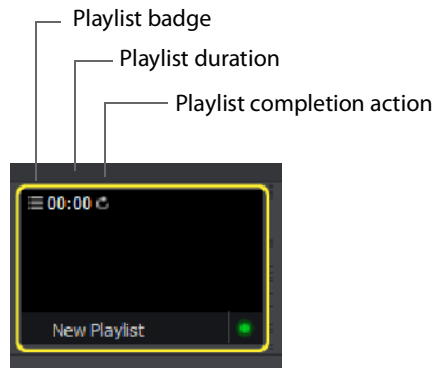
You can create and broadcast shots containing multiple preselected clips. First, create and edit the playlist shots.

Creating a Playlist Shot

To add a live source to a playlist, click the "+" in one of the layers, and select a live source from the list.

1. To create a new Playlist, click the "+" in one of the layers, and select *Shots*.
2. Select *New Playlist Shot*. Then click *Add*.

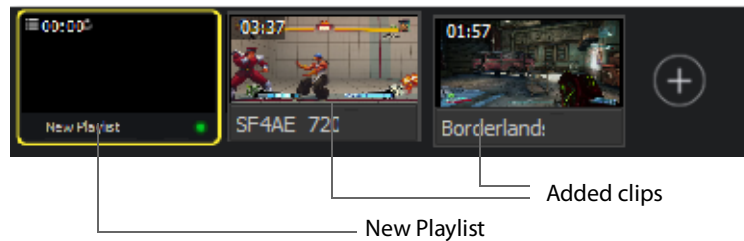
The playlist shot icon displays a playlist badge, the playlist duration, and the playlist completion action.



Adding Clips to a Playlist Shot

To add clips to an existing playlist, do the following:

1. Click and drag the desired clips onto the layer where the playlist shot is located.



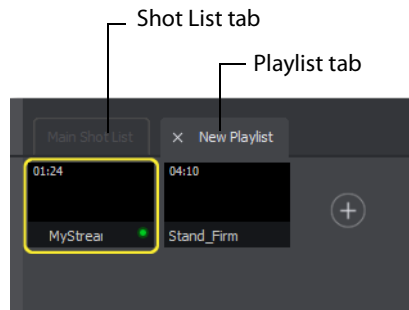
2. Click and drag each shot onto the playlist shot (you must click the bottom part of the shot icon to drag it). Wait for the playlist shot to obtain a yellow border before releasing the mouse button.



Adding Clips to a Playlist from the Shots Menu

To add clips to an existing playlist shot from the *Shots* menu, do the following:

1. Double-click the playlist icon to open the *Playlist* tab.



2. Select *Shots > New Shot*, and select the clips desired.

Wirecast adds the selected clips to the playlist.

Editing Playlist Shots

To edit a shot in a playlist, do one of the following:

- Double-click the shot in the playlist.
- Right-click the shot and select an item from the *Change Shot Menu*.

Note: Do not delete shots from a playlist while the playlist is running.

Changing the Duration of a Playlist Shot

The *Change Shot* menu for playlist shots has a *Modify Duration* option. By default, live sources have an infinite duration (since they are not clips). For clips, you must assign a duration time.

1. To set or change the duration of a playlist shot, right-click the shot and select *Modify Duration* from the *Change Shot Menu*.
Wirecast displays the *Shot Duration* window.
2. Enter a new duration time value.
3. (Optional) Check *Apply to All* if you want this duration applied to all items in the playlist.
4. (Optional) Reset the duration to its original value by clicking *Reset*.
5. Click *OK* when finished.

Adding a Live Source to a Playlist Shot

To add a live source to a playlist, click the “+” in one of the layers, and select a live source from the list.

Note: Wirecast does not support nested playlists: playlists within playlists).

Replay Shots

You can create replay shots that you can broadcast at any time.

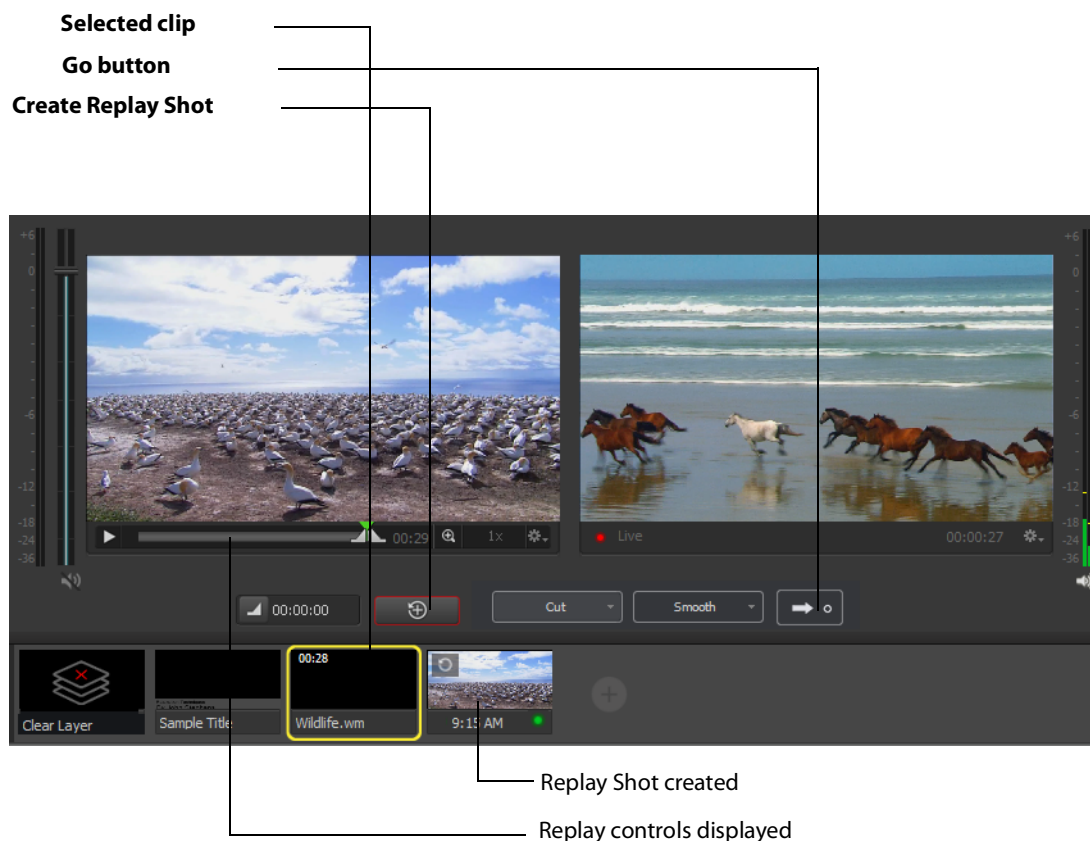
See [Configuring Replay + ISO](#).

Creating a Replay Shot from a Selected Clip

To create a Replay shot, do the following:

1. Make sure you have activated Replay.
See [Activating Replay](#).
2. To play a clip, select the clip and click the Go button.
3. Click the *Create Replay Shot* button.

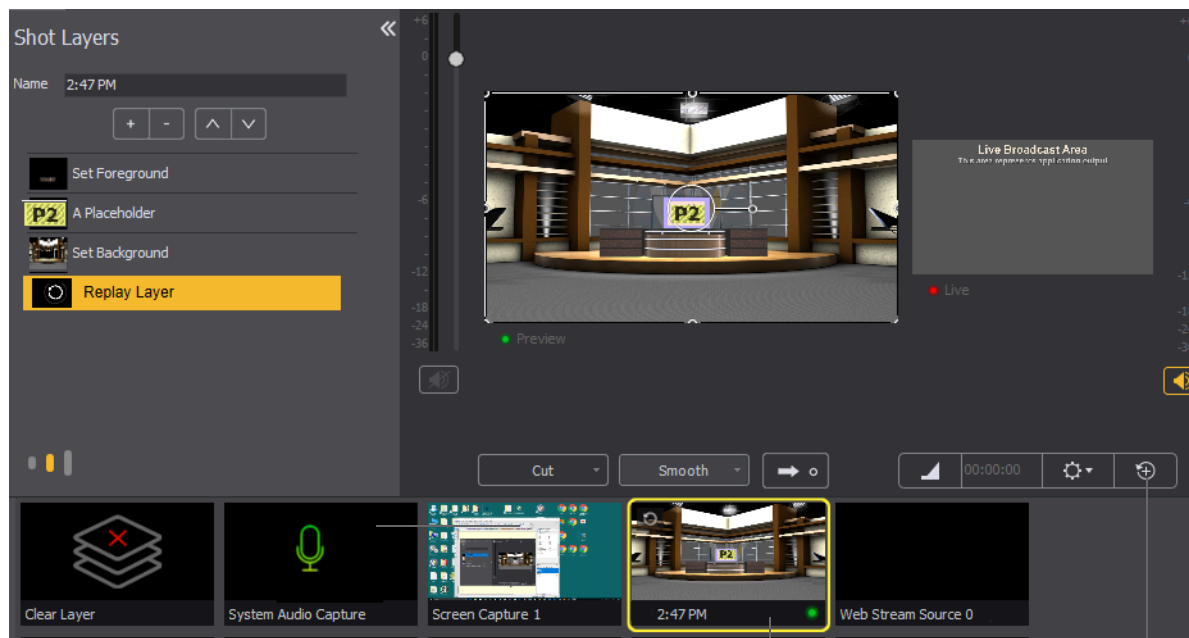
Since the default Replay duration is set at 30 seconds, Wirecast creates a Replay shot that starts 30 seconds before you clicked *Create Replay Shot*. Wirecast places the new Replay Shot in Layer 1 and displays the Replay controls at the bottom of the Preview Area.



Creating a Replay Shot from a Layer

To create a replay shot, do the following:

1. In a layer, click the plus icon (+). In the *Add Shot dialog box*, select *Shots > Replay Shot*. Click *Add*.
2. In the *Shot Layers* tab of the *Shot Editor*, add additional graphics, titles or other sources to the shot as needed.
3. Select *Replay+ISO > Configure*, then select *Replay Settings*. Select the new template from the *Replay Shot Template* drop-down menu, check *Program Replay*, and click *OK*.
4. Enable the Replay system by selecting *Replay+ ISO > Start All*.
5. Click the *Update Replay Shot* button to create a replay shot using the new template.



Newly created Replay shot

Update Replay Shot button

See [Add Shot Window](#), [The Shot Editor Window](#), [Shot Layers Tab](#), and [Replay Layer](#).

Trimming a Replay Shot

To trim a Replay shot from its start, do the following:

1. Select a Replay shot in a layer.
The Replay shot appears in the *Preview Area*.
2. Scrub the play head to the frame in the Replay shot you want to set as the start of the shot.
3. Click the Mark In button.

4. Play the Replay shot to the frame you want to end the shot.
5. Click the *Create Replay Shot* button.

Your Replay Shot now contains only the content you wanted.

PTZ Cameras and Controls

You can control cameras that allow remote control of pan, tilt, and zoom (PTZ) functions. First, configure Wirecast to support your PTZ cameras.

Setting Up PTZOptics Camera with a Dynamic IP Address

PTZOptics cameras ship with a Static IP address set to 192.168.100.88. To communicate with your cameras on your network, you will need to change this to be in range of your existing network.

To set up your PTZOptics camera IP address, follow these steps:

1. To obtain a usable IP address for your camera, ensure you can access the video feed of your camera over HDMI or SDI (not IP). Since the IP address will be changing, you need to use HDMI or SDI to access the video feed. Connect the HDMI port of the camera to a TV, or if you are already using a capture card with Wirecast simply add the source to your document and queue it up in Preview.
2. To set your Camera to DHCP (Automatic) and make it addressable by your PC, enter “# * 4” (sequentially) using the camera remote control. (Do not press the buttons simultaneously.) The camera will display a message in the video feed that says “DHCP OPEN”, and then the camera will automatically reboot.

Note: If your camera did not display DHCP OPEN and restart automatically, you may need to contact PTZOptics for assistance unless you are proficient in manual IP assignment procedures not covered below.

3. When the video feed displays, enter “# * 4” (sequentially) using the remote control to view the new DHCP address. The camera will now always request a new IP address, whenever it is plugged into a new network.

Note: This means the IP address can change, which is generally not desirable in a live environment.

Setting Up PTZOptics Camera with a Static IP Address

If you prefer to set a static IP address for a permanent installation, follow these steps:

1. Open a web browser, and enter the IP address obtained in the previous steps. You can view that IP address by entering “# * 4” (sequentially) using the remote control
2. Enter *admin* for both the username and password.

3. Select *Network* in the navigation options, located at the top-left part of the web page.
4. Find the DHCP/STATIC setting.
5. Set IP Configuration Type to *Fixed IP Address*.
6. When the confirmation dialog window displays, click *Apply*, then click *OK*.
7. Recycle to power on the camera to reboot it.

Note: If you are have trouble setting the IP address on your camera, contact PTZOptics for assistance.

Configuring The PTZ Controller

1. Get the IP address of your camera.
See [Setting Up PTZOptics Camera with a Dynamic IP Address](#) and [Setting Up PTZOptics Camera with a Static IP Address](#)
2. To display the PTZ Controller panel, select *Window > PTZ Controller*.
3. Select the video ingestion method from the *Camera* menu. This will be an HDMI or SDI capture device, or NDI if your device supports it.
4. Enter the IP address for your camera.
5. Port and VISCA Address are set automatically to the default values for PTZOptics camera. You do not need to change these.
6. Click the *Connection* button to the far right of *Status*. Wirecast displays *connected* when a connection is made.

Setting Up a PTZ Camera Shot

To setup a Wirecast shot using a camera setup, follow these steps:

1. To display the PTZ Controller panel, select *Window > PTZ Controller*.
1. Select *D-Pad* from the Pan/Tilt menu and move the camera to a desire position.
(Pan the camera by clicking the left and right arrows, and tilt the camera by clicking the up and down arrows.)
2. Enter a preset number (0 to 255) and click the *Save* button to save this camera position.
3. To create a camera shot, click a "+" in one of the Wirecast layers.
Wirecast opens the *Add Shot* dialog box.
4. Select *Video Capture*, select your camera from the device pane, and click the *Add* button.
Wirecast places your PTZ camera shot in the layer.
5. To open the Shot Editor, double-click your camera shot from its layer. Click the *Shot Layer Properties* tab.

6. Click the PTZ triangle to display the PTZ controls. Check the *Preset* check box, enter a preset number and click the Go arrow.

You are now able to move your camera by changing shots.

Opening the PTZ Controller Panel

To open the PTZ Controller panel, select *Window > PTZ Controller*.
See [The PTZ Controller Panel](#).

Enabling Preset Recall for a PTZ Camera

Once you have configured a shot layer with a PTZ Preset, sending that shot to preview recalls the preset for the camera. If multiple shots share the same video source with different PTZ Presets configured, the shot which is currently live takes precedence over subsequent PTZ Preset recall actions, until you drop the shot from the live feed.

To enable preset recall, do the following:

1. In the *Shot Editor*, select the *Shot Layer Properties* tab. Click the PTZ triangle towards the bottom of *Shot Layer Properties*.
2. Check the *Enable* box. To select a preset, enter a preset number or click the up/down arrow buttons. Click the Go button (right pointing arrow) to cause the associated PTZ camera to go live with the recalled preset.

When you enable *Preset*, clicking *Show PTZ Controller* opens the *PTZ Controller* panel.
See [Shot Layer Properties Tab](#) and [The PTZ Controller Panel](#).

Twitter

You can display posts from a Twitter feed in your broadcast. First, configure Wirecast for Twitter.

Configuring a Twitter Feed

To display contents from a Twitter feed during your broadcast, configure a Twitter feed for Wirecast. To configure your account with Twitter, do the following:

1. Select *Social > Twitter > Settings*. Then click the *Authenticate* button.
2. When Wirecast displays the PIN field, enter your Twitter PIN
3. Select a Feed Type.
If you select *Search*, the *Search String* field becomes active., and Wirecast displays Twitter feeds that contain a search string.
4. Click *OK*.
5. When Wirecast displays the Twitter window, click *Authorize app*.
6. When Wirecast displays the PIN window, copy the PIN, and close the window.
7. In the *Twitter Settings* window, enter, or paste, the PIN.

8. Select a *Feed Type*. If you select *Search*, enter a search string containing a word or phrase used in the Twitter feeds, and click *OK*.

See [Creating a Twitter Shot](#).

Creating a Twitter Shot

To create a new Twitter shot, do the following:

1. Make sure you have configured a Twitter feed. See [Configuring a Twitter Feed](#).
2. Select *Social > Twitter > Create Shot*.
3. When Wirecast displays the new shot icon in the *Shot List*, click it to place it in the *Preview Area*.
4. Click and drag the Twitter message box to any location in the shot.

Note: When a message feed is selected, Wirecast automatically fills in the message.

Selecting Messages for a Twitter Shot

To add Twitter messages to your broadcast, do the following:

1. Click *Twitter > Message Feed*.
Wirecast displays the Twitter message window.
2. (Optional) Enter a term into the Search field to search for the messages you want to broadcast, and press Enter.
3. To select messages to be rotated in your broadcast, first check *Rotate Selected Every*, and enter the number of seconds of the rotation interval.
4. Select the messages you want rotated by checking the *Select* box at the left of each message.
5. Choose a starting message by clicking the *Live* circle to the left of the message desired.
6. (Optional) Check *Auto Refresh Every* and enter number of seconds for each refresh.
7. (Optional) To select all messages, click the Gear icon in the Twitter message window, and select *All* from the drop-down menu.
8. Close the Twitter message window.

Facebook

You can create and display Facebook polls in your broadcast. First, configure Wirecast for Facebook.

Creating a Facebook Poll

Note: Wirecast displays Facebook polls in the Facebook user interface only when a Facebook video is playing, and is fully open.

Note: Wirecast can use only Facebook Polls created within the Wirecast application itself. You can't import Facebook polls created within the Facebook Live user interface.

To create a Facebook poll, do the following:

1. Select *Social > Facebook > Create New Poll*.
Wirecast opens a dialog box for specifying the poll options.
2. Enter a question.
3. Select whether there are two, three, or four answers, and enter each answer. Be sure to enter an answer for every option selected.
4. Check the boxes for any of the implementation options desired.
5. Click *OK*.
Once you've created the poll, Wirecast lists the poll in the *Social > Facebook* menu.

See [Facebook](#).

Selecting a Facebook Poll

To select an existing Facebook poll, do the following:

1. Select *Social > Facebook*.
2. Select a previously-created poll from the drop-down menu.

Note: Wirecast saves Facebook polls, like Wirecast preferences, with the Wirecast application, not with a specific document.

See [Facebook](#).

Editing or Deleting a Facebook Poll

To edit or delete an existing Facebook poll, do the following:

1. Select *Social > Facebook*.
2. Select a previously-created poll from the drop-down menu.
3. Do one of the following:
 - To edit the poll, select *Edit*.
 - To delete the poll, select *Delete*.

Note: Facebook does not allow you to edit a poll that is being shown, so this option is not enabled while streaming to Facebook and using a poll.

See [Facebook](#).

Showing or Hiding a Poll or Results when Streaming to Facebook

The options to *Show Poll*, *Show Results*, and *Hide* are available when streaming to Facebook. Once the poll has been activated, you may show a poll or show its results at any time while streaming to Facebook. When you start streaming, the *Show Poll* option is enabled, but by default, it is not selected.

There is a lag of 5 to 15 seconds between selecting a poll and having it shown in your stream. When a poll is actually shown in your stream, a check mark is added to its menu item and Wirecast enables the *Show Results* and *Hide* options.

To show or hide a Facebook poll or Facebook poll results, do one of the following:

- To show a Facebook poll, select *Social > Facebook > Show Poll*.
- To show the results for the Facebook poll, select *Social > Facebook > Show Results*.

Note: Showing a Facebook poll closes the poll to further responses.

Note: On Facebook, polls are not automatically shown. The viewer must click on the video to see or vote on a poll.

To hide the Facebook poll and results, select *Social > Facebook > Hide*.

Note: You may hide a poll only if it is the active poll. Showing a different poll, or showing the results for a different poll, hides any other polls being shown. This allows you to show a poll, or show the results of the poll, and then hide it.

See [Facebook](#).

Rendezvous

Creating a Rendezvous Session

Rendezvous provides an easy way to organize a video conference with up to two guests in *Wirecast Studio*, and up to seven guests in *Wirecast Pro*. You can bring in live

video feeds from a computer or smart device running a supported web browser, or from iOS devices running the Wirecast Go app.

To create a Rendezvous session, do the following:

1. select *Rendezvous Session* from the Shot Menu, then select *Create Rendezvous Session*.
2. In the *Creating Session* window, optionally select *Enable chat for session* and/or *Share chat history*, then click *Create Session*.
3. In the *Created Session* window click the *Click to Copy* button to copy the Rendezvous URL to the clipboard. Send this URL to the participants that you want to invite to the broadcast.
4. Click *OK* when finished.

See also [Rendezvous Essentials](#).

Adding NDI™ Sources to Rendezvous

Wirecast lists any NewTek NDI source on your local network under the Network option in the Add Source Menu. To add an NDI source to a shot, do the following:

1. In a layer, click the “+” icon.
Wirecast opens the *Add Shot* dialog box.
2. Select *Network*.
3. Select the NDI source from the list of sources in the right-side pane, and click *Add*.
Wirecast create a shot for the NDI source selected.

Note: You can also check *GPU Decoding* for NDI sources. When checked, incoming sources will use your GPU to process the incoming source (potentially saving you some CPU processing power).

When the Rendezvous Dashboard displays, select video source, audio source and audio output. You can also make a copy of the URL to send to participants by clicking *Copy*.

Send the session URL (copied above) to your participants and instruct them to use this URL in a browser to join the Rendezvous session you just created.

Note: The only browsers supported by Wirecast for joining a Rendezvous session are Chrome and Firefox.

See [NDI Devices in the Shot Layer Properties Tab](#).

See also [How to setup a NDI Discovery Server to resolve NDI connectivity issues in Wirecast](#).

Joining a Rendezvous Session

To join a Rendezvous session on a remote computer (or smart device), paste the obtained URL into a browser and press the Enter key to initiate a connection with Wirecast.

Note: The only browsers supported by Wirecast for joining a Rendezvous session are Chrome and Firefox.

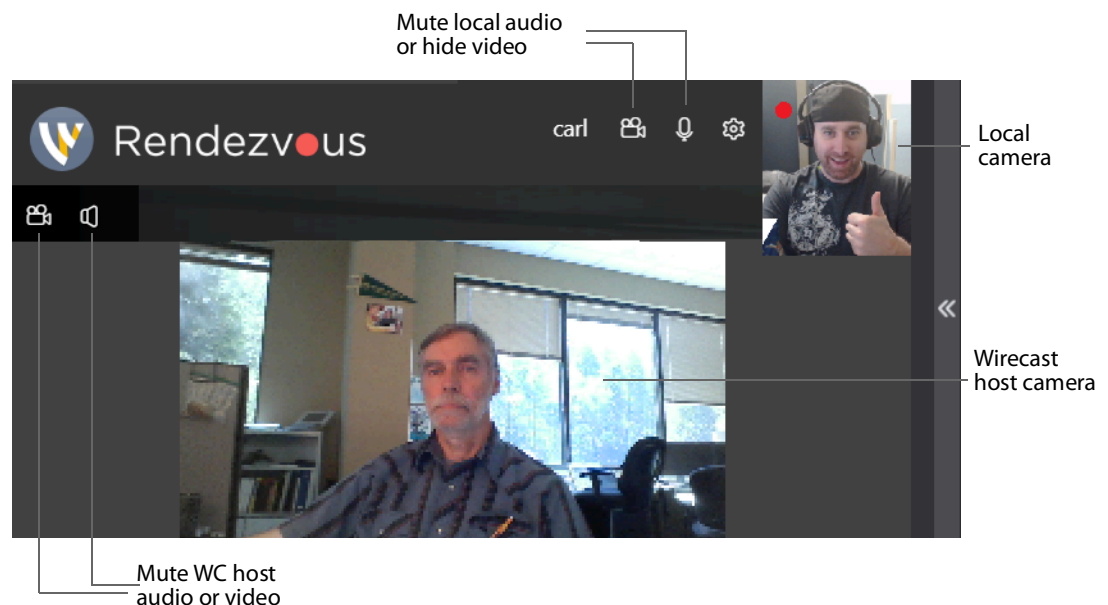
When the Wirecast Rendezvous window appears, select a camera and microphone from the drop-down menus by clicking the gear icon. You can, optionally, mute the camera or mic by clicking on either icon. Enter an identification in the Your Name field and click *Join*.

Note: Wirecast Go, running on iOS devices, can join a Rendezvous Session by opening the URL. Android devices can join a session by opening a Session URL (sent to them) using a Chrome browser.

After you click Join, the Rendezvous window will display a *Waiting to join* message until the Wirecast host has added you as a participant.

Participant Options

Once you have successfully joined the Rendezvous session, the window will display the camera shot from Wirecast and from your local computer. In this window you can mute the audio or hide video of your resources or those coming from Wirecast. You can also adjust your settings by clicking on the gear icon.

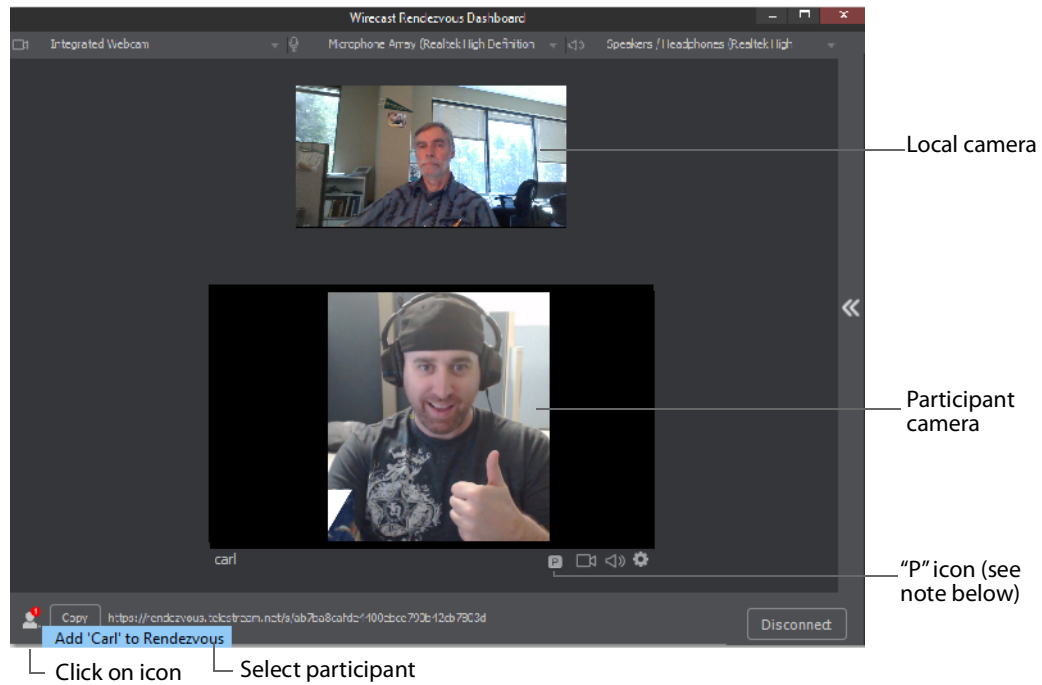


You can also share your screen (instead of your camera) by clicking on the gear icon and selecting *Share Screen*.

When the Share Screen window displays, select the screen you want to share and click *Share*.

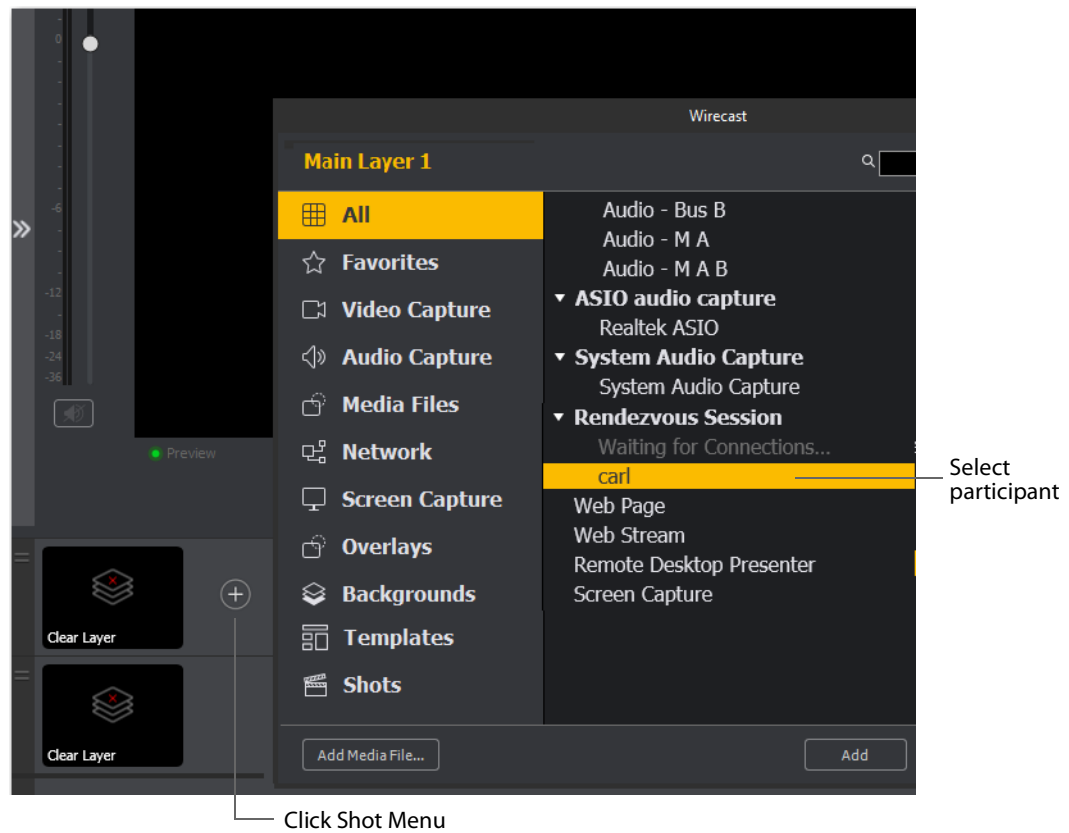
Adding a Participant Shot to Rendezvous

Whenever participants are waiting to join the Rendezvous session, a participant icon displays in both the Wirecast default layout and the Rendezvous Dashboard. Click on the icon and select a participant to add to the session.



Note: If at any time Wirecast displays a “P” icon to the right of a user’s name, it indicates that the connection is “proxied” through the Wirecast TURN infrastructure, and traffic is flowing through WC servers. In most cases, Rendezvous traffic does *not* flow through Wirecast proxy servers. Data flows only through Wirecast servers if the user’s server cannot be connected directly (this typically happens in the case of restrictive firewalls). Otherwise, the traffic flows peer-to-peer and there is no need to worry about Wirecast server capacity. See also [Wirecast Network Ports and Proxy Servers](#).

Create a shot of a participant by clicking the shot menu and selecting a participant. The participant is automatically added when you create this shot.



Wirecast displays your new Rendezvous shot on the shot level from which it was selected. Select the shot to display it in the *Preview Area* where you can place it and size it as needed.

You can also select your local camera and mic as an integrated Webcam shot on another layer and add it to the *Preview Area* by selecting it.

From the Rendezvous Dashboard in Wirecast, you can mute audio or hide the camera of your local sources (or of those who have joined). To do this click the camera or mic icon of the source to mute. You can also disconnect at any time by clicking the *Disconnect* button.

You can also select the *Live Broadcast Area* as your Rendezvous display (instead of your local camera). To do this, click the camera icon and select *Live Output*. You can add live output audio by clicking the mic icon.

Enabling Rendezvous Chat

There are times in a live interview where you need to communicate privately with your guests. That is the purpose of the Rendezvous Chat feature in Wirecast.

When you initiate a Rendezvous session, you will be asked to choose the chat settings for that session.

The *Enable chat for session* option enables a chat dialog between you and your guests.

If you select *Share chat history with new session participants*, any new guests that arrive at any time in the session will see the full chat history. If you don't select this option, new guests will only see chat messages that occur after they have joined the session.

When you select *Create session*, your Rendezvous Session will be created, and you can copy/send the link to your guests.

Click *OK* and your Rendezvous Dashboard will appear. There will be a panel on the right side of your Dashboard that, when clicked, will slide-out to reveal the Rendezvous Live Chat panel.

You can open and close that panel at any time by clicking on the ">>" icon to the left of the Live Chat panel.

You will receive a notification if a guest types a message, even if you have the Live Chat panel closed or the Rendezvous Dashboard is not in focus.

Host and guests can type into the message window to communicate. This chat panel will not be seen on the live broadcast, so you can type private messages you might not want to say over the live stream.

Each guest's name will appear above any messages they send. If you have several guests, each guest will have a different color assigned to their chat bubble windows, for easy identification.

You, as the host, can select *Clear Chat* in the top right corner of your Live Chat panel, at any time, and all the messages will be cleared from your, and your guests', Live Chat panel.

Your guests connecting through a browser, like Chrome, will also see a Live Chat panel in their browser.

They can close their Live Chat panel by clicking on the X in the top of their panel.

If a message arrives for a guest when they have their Chat panel closed, they will get a green dot on the chat icon, which they can press to re-open their chat panel.

If a guest disconnects and reconnects to the same session, they will still be able to see the chat history (as long as you selected to enable chat history).

However, if you disconnect your session and force Guests to disconnect, then your chat history will be deleted.

Ending a Rendezvous Session

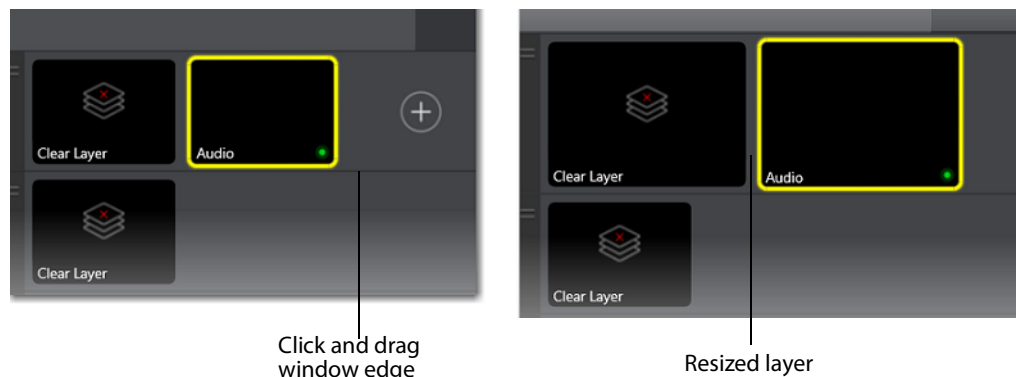
When you are ready to close your session, click *Stop Session*.

When you disconnect from a Rendezvous session, your camera is removed in the participant's browser and the participant's camera is removed from your local session window. To reconnect to the previous session click *Reconnect to previous session*. When you do this, everything is restored as long as the remote browsers are still open. If a remote browser has been closed, it can still reconnect by re-joining, using the same URL that was used previously. You can also start a new session by clicking *Start Session*, but you will have to copy and send a new URL to all potential participants.

See [Rendezvous](#).

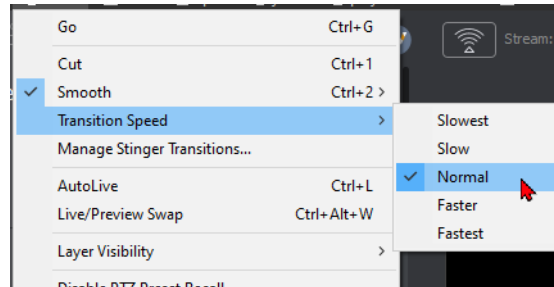
Resizing the Shot Icons

You can resize the shot icons on any layer by clicking and dragging the edge of the layer window.



Setting Transition Speed

The transition speed is set by selecting *Switch > Transition Speed*. There are five settings: Slowest, Slow, Normal, Faster, and Fastest.



Determining the Transitions for the Transition Buttons

To assign a type of transition to a transition button, do the following:

1. Click the down-arrow on the right side of the transition button
2. From the drop-down menu, select a new transition to assign to that button.
3. See [Transition Controls](#), and [Setting the Number of Transition Buttons](#).

Images/Opacity

Wirecast supports a wide variety of still images types (TIFF, GIF, JPEG, PNG, etc.). Some of these formats offer some form of opacity (or transparency). This is often called an Alpha Channel. Wirecast works seamlessly with these formats making them the preferred methods for using graphics and logos which have transparency.

GIF and Transparency

GIF files are a special case because they only offer transparency and not a true Alpha Channel. The GIF format enables you to define part of the image as transparent (completely invisible), but does not enable you to define it as partially transparent. Some GIF images use transparency for much of the image. However, near the edges of the visible data, transparency cannot be used. This happens quite often when there is a shadow near the edges of the visible data. The author of the GIF often assumes a certain background color (white, for example) and that color becomes embedded in the actual image.

When Wirecast displays these types of images, the edges of the visible data shows the background that was saved in the GIF. This is not a defect in Wirecast and, therefore, Wirecast can only present the data as it exists in the GIF. The solution is to obtain the original image and re-save the image as either TIFF or PNG. Both of these formats offer full Opacity.

The Preview Area

You can preview media files in the Preview Area.

See [Preview Area](#).

Viewing the Preview Area

To display the *Preview Area*, select *Layout > Show Live and Preview*, or *Layout > Show Preview Only*.

See [Preview Area](#).

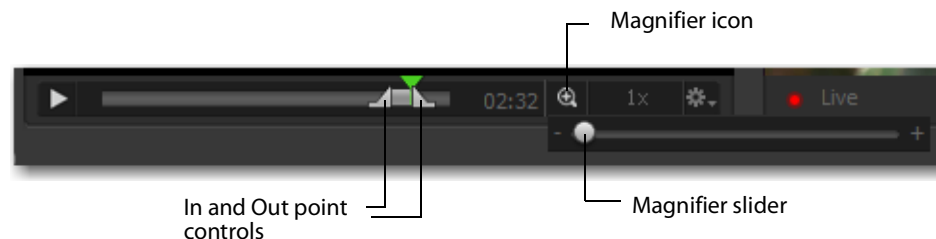
Viewing a Shot in the Preview Area

To view a shot in the *Preview Area*, click a shot in a layer. Wirecast displays the shot in the *Preview Area*.

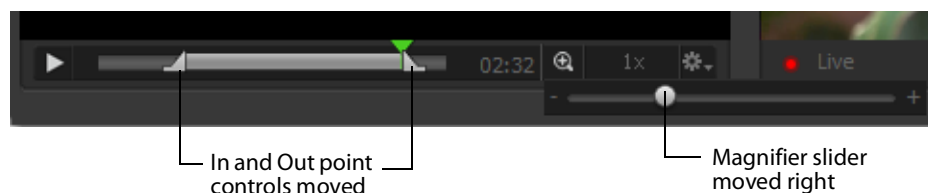
See [The Default Layout](#), [Viewing the Preview Area](#), and [Preview Area](#).

Magnifying the Preview Area

Another control available at the bottom of the *Preview Area* is the Magnification control. Click the magnifier icon (spyglass) to display a magnification slider. Slide the slider to the left for lower magnification of the In and Out controls, and to the right for greater magnification.

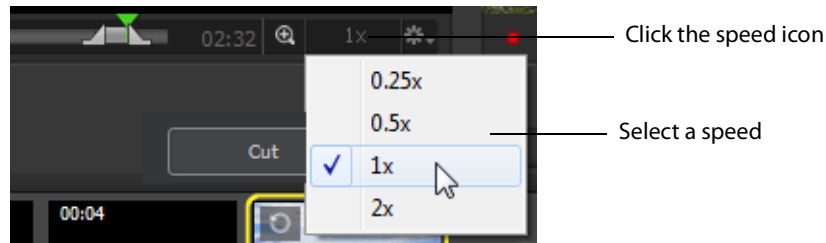


For example, if you move the slider to the right, the In and Out controls move farther apart, increasing the magnification, so that you can more easily adjust the location of the In and Out controls. This is very helpful when you have long-duration shots. However, the slider will quit sliding when you have reached the maximum size of the shot.



Setting the Speed of Preview

One more control is available at the bottom of the Preview Area. It is the speed control. You can set the playback speed of the shot by clicking the speed icon ("1x") and selecting a speed from the pull-down menu. Your choices are 1x (normal speed), 2x (double speed), .5x (half speed), and .25x (one-fourth speed). The audio is muted for any speed other than normal.



Adding and Modifying Template Placeholders

There are nine default placeholders (labeled A through I). If you need more, you can create your own. All existing Placeholder letters will appear in the list of available placeholders, and the current assignment of each placeholder will display next to the letter.

Select *New Placeholder* and click *Add* to generate a new placeholder.

Wirecast displays the new placeholder shot in the shot editor, and displays its *Placeholder [#]* in the list of placeholders.

The next time you choose *Add Source > Placeholders*, you will be able to see and choose that newly generated Placeholder from the list.

Note: Wirecast saves new placeholders in the document. These placeholders don't appear in newly created documents. You can't assign media to a placeholder with *New Placeholder > Add*. You can add an existing placeholder to a shot, or add a new placeholder.

Assigning Media to Placeholders

To assign media to a placeholder, do one of the following:

- Select *Media Menu > Assign Placeholder*. Any placeholders that have been added to shots will appear in the drop-down of the *Assign Placeholder* menu item. Clicking on one of the available Placeholders will open the Add Source dialog box, where you can assign a source to that Placeholder. When you assign a Source to a Placeholder, that source will be assigned to the Placeholder in every shot that Placeholder is used.

- In the Shot Layers tab, click on the Gear Menu of any Placeholder and select Assign Placeholder. This will bring up a drop-down where you can choose a source to be assigned to your Placeholder.
- Right-Click on a Placeholder in the *Preview Area*.
- This will bring up a similar Assign Placeholder drop-down menu where you can select a source to replace your Placeholder.

Media does not have to already be in the document in order to select/assign it. The exception to this is Rendezvous Guests. You cannot assign them to a placeholder until they have joined the broadcast.

Resetting Placeholders

Select *Media > Reset Placeholder*, then select a Placeholder to remove any media assignments.

Indicating Media is assigned to a Placeholder

There are two places to see what source/media is assigned to any particular Placeholder:

1. In the Add Source Dialog box you can see a list of available Placeholders and see what they're currently assigned to.
2. Select *Media > Assign Placeholder*. Then select a current placeholders and its assignment.

Adding placeholders to shots or templates

You can add a Placeholder to any shot in the same way you can currently add a source. Click the Add Source menu, select Templates and choose a Placeholder.

Creating customized Shot Templates

You can configure any shot with a Placeholder and save it as a Template Shot. Click the Shot Gear menu then select *Save as a Template*.

When the dialog box displays, enter a template name and click *OK*.

Once saved as a Template shot, it will appear in the Add Source > Template Dialog box, as a Custom Template.

Custom Templates are saved in Global Preferences so that you can access your Custom Template across different documents.

Note: Any Placeholders that are in your Custom Template will revert to an unassigned Placeholder, (even if that Placeholder was assigned to a Source when you saved the Custom Template)

Deleting Custom Templates

To delete a Custom Template select *Add Source > Templates > Shot Template* to open the Custom Templates window. Select the template to delete, then click *Delete Template*.

This will delete it from your Global Preferences, so that Custom Template will no longer appear in the Shot Templates window. However, shots in any documents using this Shot Template will not be deleted, they will simply no longer be a Template shot.

Shots

New Shot

Creates a new shot. Select and click the *Add* button.

New Playlist Shot

Creates a new Playlist shot. Select and click the *Add* button.

New Shots From Clipboard

Creates a new shot that has been copied to the clipboard. This is how you duplicate a shot. Select and click the *Add* button.

Favorites

Displays a list of shots that have been marked as a Favorite by clicking on the star on the right side of each shot in the Add Shot Menu.

All

Displays all sources in one list.

Add Media File

Creates a Media File shot (video clip or picture). When selected, a navigation window displays. Navigate to a media file location, select a media file, and click *Open*. (See [Media File Properties](#)).

See [Templates](#).

Reassigning Media

The Asset Manager is used to change the sources of media in your document. It is accessed by selecting *Media > Show Asset Manager*.

Wirecast stores a path to your media in the Wirecast document. If you relocate your media, Wirecast no longer is able to find them. In this case, use the Asset Manager to reassign the new media locations. However, Wirecast does keep track of the relative path to your media. If you move both the document and media to a new position, Wirecast still finds the media.

To reassign media, follow these steps:

1. To open the *Asset Manager*, select *Show Asset Manager* from the *Wirecast Media* menu.
2. Select the media you want to assign to another source.
3. Some media assets (i.e. cameras) enable you to set the aspect ratio by displaying a *Device Aspect Ratio* menu. You can select an aspect ratio from this menu.

4. Select the desired media file from the *Assign To* menu; or click *Browse* and locate the desired media file, and then select the desired media file.

Note: When *Remote Desktop Presenter* is selected as the source, you can enter the IP address for the RDP. This enables you to build a Wirecast presentation with placeholders and then reconfigure at a later date to accommodate a new presenter with a new Remote Desktop Presenter as a source. Click *Apply*, then click the corresponding icon in the Shot Selection.

5. Click *Apply* to replace the existing media, then close the *Reassign Media* window.

Note: You can also select an item from the list and click *Delete* to remove it. Or, you can click *Delete All* to clear the list.

Supported Codecs

Shown below is a list of supported video and audio codecs.

Video Codec	MOV (M4V)	MP3 MPEG-4 ISO (MP4)	WAV AIFF (AIFF, AIF)	ASF (WMV)	WEBM
AVC	YES	NO YES	NO NO	NO	
H264	YES	NO YES	NO NO	NO	
DVC25	YES	NO NO	NO NO	NO	NO
DVCPRO50	YES	NO NO	NO NO	NO	NO
DVCPRO100	YES	NO NO	NO NO	NO	NO
MJPEG	YES	NO NO	NO NO	NO	NO
ProRes	YES	NO NO	NO NO	NO	NO
	(mac only)				
QuickTime	YES	NO NO	NO NO	NO	NO
Animation					
VP8	NO	NO NO	NO NO	NO	YES
VP9	NO	NO NO	NO NO	NO	YES
Windows Media	NO	NO NO	NO NO	YES	NO
Video				(windows)	
Audio Codecs					
AAC	YES	NO YES	NO NO	NO	NO
MP3	YES	YES NO	NO NO	NO	NO
Opus	NO	NO NO	NO NO	NO	YES
PCM	YES	NO NO	YES YES	NO	NO
Vorbis	NO	NO NO	NO NO	NO	YES

Windows Media Audio	NO	NO	NO	NO	YES (windows)	NO
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Output Configuration

Before you can broadcast with Wirecast, you must configure your output settings.

Wirecast enables you to specify many output settings for your presentation. You can configure Wirecast to broadcast multiple data rates simultaneously, broadcast with different encoders at the same time, or use Windows Media Encoder to record your broadcast to disk.

Topics

- [Destinations](#)
- [Encoder Presets](#)
- [Streaming](#)
- [Configuring Replay + ISO](#)
- [Recording To Disk](#)

Destinations

To broadcast with Wirecast, you define at least one destination. A destination can be a broadcast server, content distribution network, or local disk recording.

See [The Output Settings Window](#).

Destination Settings

Wirecast offers several default presets. The first choice you need to make is whether you'll be using RTMP Server, SRT (Secure Reliable Transport), Windows Media, or some combination as the broadcast technology. This decision depends on what you expect your viewers to use. Given enough bandwidth, you can stream to combinations of RTMP Server, and Windows Media by adding new destinations to the output settings.

Note: To use Push To Server, you must have a good local Internet connection and access to a Windows Media Server. Pushing your broadcast to a Windows Media Server moves the bandwidth strain from your local machine to the external server.

Multicast and Unicast Destination Settings

You can select Multicast or Unicast from the Destination drop-down menu. Multicast lets you broadcast to multiple computers simultaneously. Unicast lets you broadcast to a specific computer.

You need to create an SDP File, and you must do so every time you change any option on this page (including the encoder preset). To create an SDP file click the gear icon to the right of the Destination field. Select *Save SDP File*, navigate to the desired location, and click *Save* in the Save File dialog window. The SDP file must be given to the user to place on the computer that receives your broadcast.

During multicast, your broadcasting computer sends data across your local network, identifying it as a broadcast that it has no specific destination. Since many applications could be doing the same thing, the broadcasting computer must have a unique way of defining the data that is being multicast. This enables clients to choose between the available multicast streams.

The multicast protocol uses unique addresses, one for video and one for audio. Although these unique addresses look like TCP/IP addresses, they are not. Instead, they provide a way to define uniqueness among all multicast data flowing over the network. Once the broadcasting computer is streaming this data through the local network, any computer on the network can receive it.

The SDP file becomes the glue between your broadcast computer and the viewer computers. The SDP file contains multicast addresses, encoding format, and other important information.

Selecting a Destination

To select a destination for a broadcast, do the following:

1. Select *Output > Output Settings*. Select a destination from the *Destination* drop-down menu.
Wirecast displays the *Output Settings* dialog with presets for the destination you selected. Each Output Settings dialog has a unique set of controls and a way to authenticate your connection.
2. (Optional) To view more destinations in the *Destination* drop-down menu, click *More* in the *Select an Output Destination* dialog. Check the box for each destination you want to include in the destination menu list. Uncheck the box for any destination you want removed from the list of destinations for the broadcast.
3. , Click *OK*

See [The Output Settings Window](#).

Adding a Destination

To add a destination for a broadcast, do the following:

1. Select *Output > Output Settings*.
2. In the left-side pane, click *Add*.
Wirecast displays the *Select an Output Destination* dialog.
3. Choose a destination from the *Destination* drop-down menu.
4. (Optional) To view more destinations in the *Destination* drop-down menu, click *More* in the *Select an Output Destination* dialog. Check the box for each destination you want to include in the destination menu list.
5. Click *OK*.

Note: You can add as many destinations as you need, but keep in mind that each additional destination requires additional system resources.

See [The Output Settings Window](#).

Removing a Destination

To remove a destination from a broadcast, do the following:

1. Select *Output > Output Settings*. Select a destination from the *Destination* drop-down menu, and click *OK*.
Wirecast displays the *Output Settings* dialog with presets for the destination you selected.
2. In the left-side pane, select the destination you want to remove.
3. Click *Remove*.
4. Click *OK*.

See [The Output Settings Window](#).

Modifying Windows Media Server Destination Settings

Windows Media can be used to broadcast WMV8, WMV9 and WMV9 Advanced.

Push To Server

To access the Windows Media Push To Server window, select the Windows Media Streaming destination. In the *Output Settings* dialog, check the box for *Push to Server*.

Address Enter the Internet address of the Windows Media Server you use to broadcast.

Publish Point Enter the name of the file that is put on the server, and that is used as part of the URL that your users use. Wirecast cannot know the resulting URL that your users use, as this may vary depending on the installation of the Windows Media Server.

Contact your Windows Media Server administrator to understand how to build a proper URL for your viewers, based on the Publish Point.

Auto Remove Check Auto Remove to remove the file used as the publish point when the broadcast is over.

Username/Password Enter the user name and password for the Windows Media Server. Contact your Windows Media Server administrator to obtain these. If there is no user name or password required, leave these fields empty.

Pull From Server

To access the Windows Media Pull From Server window, select any of the Windows-Media-based presets from the *Encoding* drop-down menu. Check the box for *Pull From Server*.

To use the Pull from Server option, set the port number that your users use to connect to your computer. Connect by using the Open URL option in Windows Media Player, and enter a URL. For example, if your computer IP address is 10.0.5.55 and your port is 1755, use *mms://10.0.5.55:1755*.

Port Number Enter the port on your computer to use as the broadcast port. This can be, effectively, any port number as long as it doesn't conflict with any existing ports on your computer. Be aware that if you have any firewall software installed, you need to enable the port entered here.

See also [Wirecast Network Ports and Proxy Servers](#).

Maximum Connections The maximum number of connections your server accepts is 50 users. Your CPU is affected by the number of users you have connected, therefore you may need to limit the number of connections.

This option turns your local computer into a mini Windows Media Server, enabling you to broadcast immediately. There are, however, some limitations:

- **User Requirement** You cannot have more than 50 users connected at any one time.
- **Bandwidth Requirement** You must have enough bandwidth on your Wirecast computer to supply all of your viewers.
- **CPU Requirement** Since the Wirecast computer is acting as a server the CPU must be fast enough to handle all of the user connections.

The greatest issue with this method is bandwidth. If, for example, all of your viewers are on a local network (a business or school), then you should be able to use this method. However, if you have a DSL connection to the Internet and you want to broadcast a 200k stream to 20 viewers, you may not have enough upload bandwidth to accommodate this.

Note: Be aware that when you use Wirecast with an Internet connection what matters is your upload bandwidth. Most ISP businesses offer packages that have a higher

download than upload bandwidth (e.g., a 512k DSL package is often only 256k upload).

See [The Output Settings Window](#).

Modifying RTMP Server Destination Settings

Wirecast can stream to an RTMP/H.264-compatible streaming server such as RTMP Server Media Server or Wowza Media Server.

To configure RTMP Server Streaming, follow these steps:

1. Select *Destination > RTMP Server*.
2. Select an encoder.
3. Enter the Address to the RTMP server. The default RTMP port is 1935, but you may need to configure your firewall to allow connections on this port.
4. Wirecast can import a RTMP Server Encoder configuration file (XML file). Click Open FMLE XML File, and navigate to the configuration file and select either version 2.5 or version 3.0. Wirecast reads the Address and Stream information from that file. Many online streaming services offer FMLE configuration files which Wirecast can use.

Note: Only the Address and Stream information from the XML configuration file is used. No Encoding information is imported.

5. Click *OK* to save your settings:

Modifying SRT (Secure Reliable Transport) Destination Settings

Wirecast can stream to SRT (Secure Reliable Transport), an open-source video transport protocol that enables the delivery of high-quality and secure, low-latency video across the public Internet. SRT Supports x264 and Apple H.264 encoding methods.

To configure SRT Streaming, follow these steps:

1. Select *Destination > SRT:Secure Reliable Transport*.
2. Select an encoder.
3. Enter the Address, Port, and Passphrase to the SRT.
4. Click *OK* to save your settings:

Modifying CDN Partners Destination Settings

Listed below are the Content Distribution Network (CDN) partner destinations available in Wirecast. Most destinations share a common user interface and only require a user name and password. Destinations that do not conform to this paradigm, or require additional parameters, are presented separately.

Note: The list of CDN partners in Wirecast is subject to change at any time.

Most Common CDN Configurations

To stream to one of these CDN partners, do the following:

1. Select *Output > Output Settings*.
Wirecast opens the Output Settings dialog box.
2. Select a CDN partner from the *Destination* drop-down menu.
3. You can (optionally) click the *Map* button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
4. Enter your username or email.
5. Click *Authenticate* to enter your password and generate the RTMP URL. You only need to do this one time because Wirecast stores the channel information for future streams. The default RTMP port is 1935. You may need to configure your firewall to enable connections on this port.

Note: If you do not have a username and password, you can sign up with a CDN partner by clicking *Sign Up*.

6. Select your channel.
7. Optionally, you can refresh your connection by clicking *Refresh*.
8. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.

Note: We recommend keeping stream delay as low as possible, ideally less than 30 seconds

9. Click *OK* when finished.

Modifying Azure Media Services and Sermon.net Destination Settings

To stream to one of these CDN partners, follow these steps:

1. Optionally, enter a Name for your destination.
2. Select a CDN partner from the Destination menu.
3. Select an encoder.
4. You can (optionally) click the *Map* button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
5. Enter the domain name or IP address (this is provided by the CDN partner).
6. Enter the stream name of your broadcast (this is provided by the CDN partner).

Note: If you do not have a stream name and password, you can sign up with the CDN partner by clicking [Learn More](#).

7. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.
-

Note: We recommend keeping stream delay as low as possible, ideally less than 300 seconds.

8. Click *OK* when finished.

Modifying Brightcove and Limelight Destination Settings

To stream to one of these CDN partners, follow these steps:

1. Optionally, enter a Name for your destination.
 2. Select a CDN partner from the Destination menu.
 3. Select an encoder.
 4. You can (optionally) click the Map button to open the Multi-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
 5. Enter the domain name or IP address (this is provided by the CDN partner).
 6. Enter the stream name of your broadcast (this is provided by the CDN partner).
 7. Click *Set Credentials* to enter your Username and Password.
-

Note: If you do not have a stream name and password, you can sign up with the CDN partner by clicking [Learn More](#).

8. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.
-

Note: We recommend keeping stream delay as low as possible, ideally less than 300 seconds.

9. Click *OK* when finished.

Modifying Akamai Destination Settings

To stream to Akamai, follow these steps:

1. Optionally, enter a Name for your destination.
2. Select *Akamai* from the Destination menu.
3. Select an encoder.

4. You can (optionally) click the Map button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
5. Enter your Akamai Stream ID and Event Name.
6. Enter your Akamai Angle and Video Rate.
7. Enter your user name and click *Authenticate* to enter your log in information.

Note: If you do not have a username and password, you can sign up with Akamai by clicking the Akamai icon, or by clicking *Sign Up*.

8. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.

Note: We recommend keeping stream delay as low as possible, ideally less than 300 seconds.

9. Click *OK*.

Modifying LinkedIn Live Destination Settings

To stream to LinkedIn Live, follow these steps:

1. Enter a Name for your destination.
2. Select *LinkedIn Live* from the Destination menu.
3. Select an Encoder.
4. You can (optionally) click the *Map* button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
5. Select *On Behalf of Organization* or *Member* and click *Login*.
6. When the login window displays, enter email/phone and password information, then click *Sign In*.

Note: If you do not have a username and password, you can sign up with LinkedIn Live by clicking *Join Now*.

7. Select an Organization.
8. Select a Ingest Region.
9. Enter your Post information.
10. (Skip ahead to step 11 to create a targeted audience.)
To create an event, check *Event*, enter a URL, and click *Verify URL*.
11. (Skip ahead to step 14 if you created an event.)
To create a targeted audience, check *Audience Targeting* and Click *Setup*.
12. When the Setup window displays, select multiple regions.
13. Select Languages and click *OK*.

Note: Your target audience must include at least 300 members.

14. Check *Draft* (optionally) if you want your post to be just a draft, and click *Create Broadcast*.
 15. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.
-

Note: We recommend keeping stream delay as low as possible, ideally less than 300 seconds.

16. Click *OK*.

Modifying LiveArena Destination Settings

To stream to LiveArena, follow these steps:

1. Optionally, enter a Name for your destination.
 2. Select *LiveArena* from the Destination menu.
 3. Select an encoder.
 4. You can (optionally) click the Map button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
 5. Enter your LiveArena Account ID, User Name, and Password.
 6. Click *Apply*.
-

Note: If you do not have a username and password, you can sign up with LiveArena by clicking the LiveArena icon, or by clicking *Sign Up*.

7. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.
-

Note: We recommend keeping stream delay as low as possible, ideally less than 300 seconds.

8. Click *OK*.

Modifying Twitter/Live Broadcast Destination Settings

To stream to Twitter follow these steps:

1. Optionally, enter a Name for your destination.
2. Select *Twitter* from the Destination menu.

3. You can (optionally) click the Map button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
4. Click *Plus (+)* to enter your username and password.
5. Copy the Authorization Code and click on the URL below it.
6. When the Authorization Code window displays, paste in the code and click *Authorize*.

Note: If Wirecast does not display the Authorization Code window, or if Wirecast displays an error window, clear your browser history or try using a different browser. Then, sign in again.

7. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the length of delay.

Note: We recommend keeping stream delay as low as possible, ideally less than 300 seconds.

8. Click *OK*.

See also [Wirecast: Streaming to Twitter using RTMP Output Destination](#).

Modifying Twitch Destination Settings

To stream to Twitch, follow these steps:

1. Optionally, enter a Name for your destination.
2. Select *Twitch* from the Destination menu.
3. Select an encoder.
4. You can (optionally) click the Map button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
5. Enter your Twitch username.
6. Click *Authenticate* to open the Twitch Log In window.

Note: If you do not have a username and password, you can sign up with Twitch by clicking the Twitch icon or by clicking *Sign Up*.

7. When the Twitch Login window displays, enter your username and password and click *Log In*.
8. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.
9. Click *OK* when finished.

Modifying Vimeo Destination Settings

To stream to Vimeo, follow these steps:

1. Optionally, enter a Name for your destination.
2. Select *Vimeo* from the Destination menu.
3. Select an encoder.
4. You can (optionally) click the Map button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
5. Click *Authenticate* to enter your username and password.

Note: If you do not have a username and password, you can sign up with Vimeo by clicking *Sign Up*.

6. When the Authorization window displays, click *Allow*.
7. Click the plus (+) icon to add a new event.
8. Enter your email and password, then press *Enter*.
9. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.
10. Click *OK* when finished.

Modifying Wowza Streaming Engine Destination Settings

To stream to Wowza Streaming Engine, follow these steps:

1. Optionally, enter a Name for your destination.
2. Select *Wowza* from the Destination menu.
3. Select an encoder.
4. You can (optionally) click the Map button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
5. Enter the domain name or IP address (this is provided by the CDN partner).
6. Enter the stream name of your broadcast (this may be provided by the CDN partner).
7. Click Import Wowza Config to import a Wowza configuration to use.
8. Select User Agent. Default is Wirecast/FM1.0.
9. Click *Set Credentials* to enter your Username and Password.

Note: If you do not have a stream name and password, you can sign up Wowza.

10. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from

0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.

Note: We recommend keeping stream delay as low as possible, ideally less than 300 seconds.

11. Click *OK* when finished.

Modifying Zixi Destination Settings

To stream to Zixi, follow these steps:

1. Optionally, enter a Name for your destination.
2. Select *Zixi* from the Destination menu.
3. Select an encoder.
4. You can (optionally) click the Map button to open the Muti-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.
5. Enter Zixi connection information.
6. Enter your Zixi channel name and password.
7. Click *Apply* to generate the RTMP URL. You only need to do this one time because Wirecast stores the channel information for future streams. The default RTMP port is 1935. You may need to configure your firewall to enable connections on this port.

Note: If you do not have a username and password, you can sign up with Zixi by clicking the Zixi icon, or by clicking *Sign Up*.

8. Optionally, enter a Stream Delay value. This provides a time buffer between your live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. However, greater delays require greater memory use. The amount of memory used is displayed when you enter the amount of delay.

Note: We recommend keeping stream delay as low as possible, ideally less than 300 seconds.

9. Click *OK*.

See also [Wirecast: Streaming to Destination Zixi](#).

Modifying Facebook Live Destination Settings

To stream to Facebook, follow these steps:

1. Optionally, enter a Name for your destination.
2. Select *Facebook Live* from the Destination menu (if not already selected).
3. Select an encoder from the *Encoding* menu.

4. Choose the audio track to be used by selecting it from the *Audio Track Selection* menu.
5. You can (optionally) click the Map button to open the Multi-Track Input Mapper. For each Channel, select (by checking the box) one or more inputs.

Note: If you change the encoding settings while streaming to Facebook, an error will occur. The encoder settings are set by Facebook.

6. To log into Facebook, do one of the following:
 - To log into Facebook with a user account, click *Authenticate* and log into Facebook. If you already are logged into Facebook, you can click the *Change* button to log into a different Facebook account.

Note: If you do not have a username and password, you can sign up with Facebook by clicking the Facebook icon, or by clicking *Sign Up*.

- To log into Facebook with a one-time stream key instead of a user account, click *Pair Device*. Wirecast opens a dialog. Follow the instructions given in the dialog.
7. Select *Go Live Now* or *Schedule for Later* from the Post To menu.
 8. If you selected *Schedule for Later*, select also a start date and a time.
 9. Select *Pages, Profile, or Groups* from the Post To destination menu. Click *Refresh* to refresh the page list. If planning to use co-branded content, check the *Show verified pages only* checkbox to filter out all non-verified pages. Enter a Title and a Description. Click *Create* to refresh after changing any settings.
 10. If you selected *Go Live Now*, select also *Pages, Profile, or Groups* and enter a Title and Description (as described in step 9 above). Optionally, click *Advanced Options*. If you select Pages, you can also select *Crosspost*, if desired.
 11. If you selected to post to a *Profile*, select also a level of Privacy: *Public, Friends, or Only Me*.
 12. Click *Create* to start an event on Facebook. You can, optionally, optimize your connection by clicking *Optimize Connection*. When you do a progress bar is displayed while optimization is performed. Click *Cancel Speed Test* at any time to cancel your optimization request.
 13. Click *OK* when finished.

Modifying Microsoft Stream Destination Settings

In order to broadcast using Microsoft Stream, you must first configure your streaming using Office 365. For a detailed procedure on how to do this visit the Telestream Knowledge Base at:

<https://support.telestream.net/s/article/Wirecast-10-Publish-to-Microsoft-Stream>

1. When Wirecast displays the *Output Settings* window, select *Microsoft Stream* as your *Destination*, and click *OK*.
2. When Wirecast displays the *Output* window, select an *Encoder* and *Audio Track* for the stream. Paste in the address copied from Office 365 where streaming was initiated.
3. (Optional) Enter a *Stream Delay* if needed. Click *Ok* when finished.
4. (Optional) Click the *Map* button to open the *Muti-Track Input Mapper*. For each channel, select (by checking the box) one or more inputs.

Click *OK* when finished.

Modifying YouTube Destination Settings

Note: Custom encoders cannot be used to stream to YouTube. They may only be used to encode a recording to disk.

To stream to YouTube, follow these steps:

1. Log into your YouTube account using your browser.
2. Optionally, enter a *Name* for your destination.
3. Select *YouTube* from the *Destination* menu.
4. Select an encoder.
5. You can (optionally) click the *Map* button to open the *Muti-Track Input Mapper*. For each *Channel*, select (by checking the box) one or more inputs.
6. Check *Use Backup Server* if you get an error when authenticating, or the application tries to connect and then crashes.

Note: At times the primary streaming servers at YouTube go down for maintenance or other reasons. When Wirecast users attempt to connect to these servers, especially when using YouTube's "Stream Now" feature, they are unable to connect.

7. Click the plus (+) icon to add a new event.

Note: If you do not have a YouTube account, click *Sign Up* (or go to www.youtube.com).

8. Enter all of your event information and click *Save*.

Note: Click the *Details* button to get more information from Google.

9. Click *Authenticate*, enter your login information, and wait for your event to appear in the *Event* menu box. Click the minus icon (-) to remove a selected event. Optionally, enter a *Stream Delay* value. This provides a time buffer between your

live stream from Wirecast and the actual broadcast itself. You can set the delay from 0 to 999 seconds. Click *OK* when finished.

Note: If you are not already signed in, a browser with is launched enabling you to sign into your YouTube account. Enter your account information and click *Sign In*.

Encoder Presets

Without compression, the bandwidth of audio-video data can be too large to successfully broadcast across a network. An encoder is a program that compresses audio, video, or both, for broadcast. Wirecast supports a wide variety of encoders, also known as codecs.

The settings for encoders range from simple to very complex. Wirecast offers presets of the most common settings for encoders. This provides a starting point, reduces complexity, and enables you to experiment and adjust settings as you test your broadcast.

Note: Encoder Presets can be edited from the *Output Settings* window. To do this select *Output > Output Settings*, click the gear icon, then choose *View Details* from the drop-down menu.

See [The Encoder Presets Window](#).

Selecting an Encoder Preset

To use an encoder other than the default, select an encoder from the Encoding drop-down menu in the *Output Settings* dialog.

Note: Click *More* next to the *Destination* field to display a list of all available destinations. Check the box for each destination you want to include in the destination menu list.

Note: Click *Filter* from the Gear menu next to the *Encoding* field to display a check list of encoder presets. Check the presets you want to display in the *Encoder Presets* menu. Click *Save* when finished.

Creating an Encoder Preset

The default encoder presets cannot be changed. However, you can make a copy of any preset, modify it as needed, and save it under a new name. You can refer back to the default presets at any time since they are never modified.

To edit an encoder preset, do the following:

1. Select *Window > Encoder Presets*.
2. Select a preset to edit from the *Encoder Preset* drop-down menu.
3. Change the settings as desired.
4. Click *Save As*. Enter a name for the edited preset.
5. Click *OK*.

Note: Click *New Preset* from the Gear menu next to the Encoding field to create a new encoder preset. Enter a name for your new preset and click *OK*. (See [Creating New Presets](#)).

Note: Click *View Details* from the Gear menu next to the Encoding field to modify an encoder preset. (See [Creating New Presets](#)). One important option is Strict Constant Bitrate. When checked, the bitrate is strictly held at the bitrate entered in *Average bit rate*.

Modifying the MainConcept H.264 Preset

To modify a MainConcept H.264 preset, follow these steps:

1. Select *Window > Encoder Presets*.
2. Select the MainConcept H.264 encoder preset from the *Encoder* drop-down menu.
3. To encode video, check the *Video Encoding* checkbox.
When checked, the video for your broadcast is encoded. When *Video Encoding* is unchecked, the output contains a blank video screen.

Note: To create an audio-only broadcast, uncheck *Video Encoding* and check *Audio Encoding (AAC)*. To create a video-only broadcast, check *Video Encoding* and uncheck *Audio Encoding (AAC)*.

4. Enter the desired width, in pixels, into the *Width* field.
5. Enter the desired height, in pixels, into the *Height* field.
6. Select the desired framerate, into the *Frames per second* field. This value is a target value for the encoder. The exact value of the output is not guaranteed.
7. Enter the average bit rate in Kbits (1000 bits) per second into the *Average bit rate* field. This is the target bit rate of your video. Higher numbers provide better quality. The connection speed of your audience is a significant factor in determining your target bit rate. The encoder compresses the video to approximate this target. However, at different times during your broadcast the bit rate may be higher or lower than the target rate.
8. Select an encoder profile from the *Profile* menu. Three profiles are provided: Baseline, Main, and High. The Baseline profile is commonly used in mobile applications. It is also used in other applications which operate with limited processing power, storage capacity, and/or bandwidth. The Main profile is

appropriate for general-purpose applications of broadcast media, such as high-bandwidth Internet broadcasting. The High profile provides the highest broadcast quality encoding.

9. (Optional) *Key frame every* allows you to enter the number of frames. A movie is a sequence of images and each image is called a frame. To compress video data, most encoders take a frame and make it a reference (also known as a key). This keyframe is sent as part of the broadcast, and all of the data after that keyframe is relative to it. The benefit of this is that the compressor only needs to send what has changed since the last keyframe. The main drawback of this is that over time it becomes harder for the encoder to distinguish the frame-difference information, especially if there is a lot of motion in the video. Another drawback is if your viewer's computer misses a keyframe, the video is distorted until the next keyframe is sent. However, you can control how often the encoder makes a new keyframe by setting the number of frames. The more keyframes you broadcast, the more bandwidth required and less compression, but results in better quality video.
10. (Optional) Check the *Timecode Every* checkbox and enter the number of frames between timecodes. Wirecast can generate timecodes embedded in the flash stream. If a frames value of zero is entered, the timecode is never sent. Wirecast sends metadata along with the frames. This data looks like an ONFi call. Various timecodes and timestamps are also sent with the stream.
11. (Optional) Check *Strict Constant Bitrate*. When checked, it forces the Average bit rate (see item 8 above) to maintain the exact bit rate entered. CBR pads the data (when necessary) to meet exact bitrate specified. Disabling CBR can result in slightly improved quality and decrease file size, but at the cost of greater bitrate fluctuations which could prove troublesome for certain streaming destinations. Selecting this option for recording is not recommended because it can result in decreased quality and larger files, with no real benefit.
12. (Optional) Check *Keyframe Aligned*. When checked, it facilitates adaptive bitrate streaming by ensuring that keyframes from multiple streams are in sync, along with the keyframes timestamp, DTS and PTS values. But this is true only if those other streams also have the option turned on and have the same keyframe interval. To accomplish this, Wirecast disables scene detection and manually inserts the keyframe at the exact keyframe interval specified. Therefore, to ensure quality and smooth switching in the player, the keyframe interval should be in the 1 to 4 second range. When Keyframe Aligned is enabled, absolute timestamp is also enabled.
13. (Optional) Check the *Audio Encoding (AAC)* checkbox. When checked, the audio for your broadcast is encoded. When *Audio Encoding (AAC)* is unchecked, the output contains no audio track.
14. Select the type of audio channels: Mono or Stereo. Mono uses less bandwidth than stereo.
15. Select the audio bit rate, in Kbits (1000 bits) per second, from the *Target Bit Rate* menu. This is the target bit rate of your audio. Higher numbers provide better quality. The connection speed of your audience is a significant factor in determining your target bit rate. The encoder compresses the audio to approximate this target. However, at different times during your broadcast the bit

rate may be higher lower than the target rate. The total broadcast bit rate is a function of video bit rate plus audio bit rate.

16. Select the audio sample rate, in kHz (1000 Hz) per second, from the *Sample rate* menu. This value specifies how many thousands of times per second to sample the audio in the broadcast. Higher values provide better quality sound, but at greater bandwidth.

17. Click *Save* to save your settings.

See [The Encoder Presets Window](#).

Modifying the x264 Preset

Note: The x264 implementation of the H.264 standard results in better quality and lower CPU usage for any given bitrate, but at the cost of higher memory usage. The default implementation is based on the MainConcept codec and uses less memory.

To modify an x264 preset, follow these steps:

1. Select *Window > Encoder Presets*.
2. Select an x264 from the Encoder menu.

Note: See [The Encoder Presets Window](#).

3. Check the *Video Encoding* checkbox. When checked, the video for your broadcast is encoded. When unchecked, a blank video screen is provided. This is the preferred method of producing audio-only broadcasts.
4. Enter the Width of your broadcast video.
5. Enter the Height of your broadcast video.
6. Select the desired frames per second (fps) of your broadcast. This value is a target value for the encoder and the exact value is not guaranteed.
7. Enter the average bit rate in Kbits (1000 bits) per second. This is the target bit rate of your video. Higher numbers provide better quality. The connection speed of your audience is a significant factor in determining your target bit rate. The encoder compresses the video to approximate this target. However, at different times during your broadcast the bit rate may be higher or lower than the target rate.
8. Select encoding quality (*Ultra fast* to *Very slow* encoding). Slower encoding results in better quality.
9. In the *x264 command line options* edit box, enter any command line options you want included.
10. Select an encoder profile from the Profile menu. Three profiles are provided: Baseline, Main, and High. The Baseline profile is commonly used in mobile applications. It is also used in other applications which operate with limited processing power, storage capacity, and/or bandwidth. The Main profile is appropriate for general-purpose applications of broadcast media, such as high-

bandwidth Internet broadcasting. The High profile provides the highest broadcast quality encoding.

See [Profile](#).

- 11.** Key Frame (optionally) allows you to enter the number of frames. A movie is a sequence of images and each image is called a frame. To compress video data, most encoders take a frame and make it a reference (also known as a key). This keyframe is sent as part of the broadcast, and all of the data after that keyframe is relative to it. The benefit of this is that the compressor only needs to send what has changed since the last keyframe. The main drawback of this is that over time it becomes harder for the encoder to distinguish the frame-difference information, especially if there is a lot of motion in the video. Another drawback is if your viewer's computer misses a keyframe, the video is distorted until the next keyframe is sent. However, you can control how often the encoder makes a new keyframe by setting the number of frames. The more keyframes you broadcast, the more bandwidth required. The result is less compression but better quality video.
- 12.** Check (optionally) Strict Constant Bitrate. When checked, it forces the Average bit rate (see above) to maintain the exact bit rate entered. CBR pads the data (when necessary) to meet exact bitrate specified. Disabling CBR can result in slightly improved quality and decrease file size, but at the cost of greater bitrate fluctuations which could prove troublesome for certain streaming destinations. Selecting this option for recording is not recommended because it can result in decreased quality and larger files, with no real benefit.
- 13.** Check (optionally) Keyframe aligned. When checked, it facilitates adaptive bitrate streaming by ensuring that keyframes from multiple streams are in sync, along with the keyframes timestamp, DTS and PTS values. But this is true only if those other streams also have the option turned on and have the same keyframe interval. To accomplish this, Wirecast disables scene detection and manually inserts the keyframe at the exact keyframe interval specified. Therefore, to ensure quality and smooth switching in the player, the keyframe interval should be in the 1 to 4 second range. When Keyframe Aligned is enabled, absolute timestamp is also enabled.
- 14.** Check (optionally) the Timecode Every checkbox and enter the number of frames between timecodes. Wirecast can generate timecodes embedded in the flash stream. If a frames value of zero is entered, the timecode is never sent. Wirecast sends metadata along with the frames. This data looks like an ONFI call. Various timecodes and timestamps are also sent with the stream.
- 15.** Check (optionally) the Audio Encoding (AAC) checkbox. When checked, the audio for your broadcast is included. When unchecked, audio is absent. This is the preferred method of producing video-only broadcasts because the presence of silent audio uses bandwidth.
- 16.** Select the number of channels: Mono or Stereo. Mono uses less bandwidth than stereo, but stereo is more pleasing to the listener.
- 17.** Select the audio bit rate, in Kbits (1000 bits) per second, from the Target Bit Rate menu. This is the target bit rate of your audio. Higher numbers provide better quality. The connection speed of your audience is a significant factor in determining your target bit rate. The encoder compresses the audio to

approximate this target. However, at different times during your broadcast the bit rate may be higher or lower than the target rate. The total broadcast bit rate is a function of video bit rate plus audio bit rate.

18. Select the audio sample rate, in kHz (1000 Hz) per second, from the Sample Rate menu. This value specifies how many thousands of times per second to sample the audio in the broadcast. Higher values provide better quality sound, but at greater bandwidth.

19. To save your settings, click *Save*.

See [The Encoder Presets Window](#).

20. Select *Window > Encoder Presets*.

21.

22. Set the quality of your encoding at high, medium, or low. Higher quality results with greater CPU usage.

23.

See [The Encoder Presets Window](#).

Streaming

To start steaming, do the following:

1. Click the Stream button.



The Stream button

The Stream button blinks until a connection is made. Once you are connected, the Stream icon turns unblinking green. If you cannot connect, Wirecast displays an error message.

Wirecast indicates connectivity strength by the number of bars displayed in the Stream icon. Fewer bars indicate lower speed or connection reliability issues. If packets aren't reaching the destination server, Wirecast buffers the packets. When this happens, the green streaming indicator becomes yellow and Wirecast continues sending those packets in an attempt to reach the destination server.

If packets continue to fail to reach the server, Wirecast drops packets, and the streaming indicator turns red. When Wirecast stops attempting to send packets, Wirecast displays the red *Failed* icon.

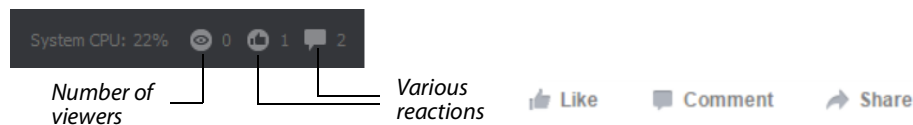


Red Failed icon

When the connection is recovered, Wirecast replaces the red *Failed* icon with green bars.

Note: Connection problems may be due to: destination server-side issues, Internet ISP problems, or Wirecast computer resources. You can test for server-side issues by running a test stream to another server. If you get a continuous green streaming indicator to the new destination, contact the CDN host and report the destination server problem. To test for Internet ISP problems, run a speed test and note upload speed and packet loss. Your total combined encoder settings to all destinations should be no more than half the tested upload speed. This allows for headroom because the sending data rate and ISP upload bandwidth can vary from moment to moment. It's not uncommon for actual upload speed to vary from that claimed by an ISP. Packet loss should always be 0% as any other number indicates packet loss. In this case, the ISP should be contacted so they can run tests to your point-of-origin broadband connection. While streaming from Wirecast, keep CPU use under 60% for optimal performance, and be aware that if CPU usage exceeds 80% a variety of problems may occur, including a red *Failed* icon indicating a disconnection.

While streaming, Wirecast displays the status. If you are streaming to Facebook, Wirecast displays additional statuses on the right side of the status bar.



2. (Optional) To record your broadcast click *Record*.
3. To stop streaming, click *Stream* again.

Red and Yellow Stream Icon Circumstances

When streaming over RTMP, there is a buffer for the packets called the flash queue.

Buffer Utilization

The buffer is utilized to handle scenarios where the Internet uplink to the RTMP endpoint (CDN) temporarily is unable to deliver at a fast enough rate.

- This can occur because your local LAN is saturated
- This can occur because your ISP uplink is saturated
- This can occur if the route from your ISP to the end point is compromised or saturated.
- This can happen if the endpoint is saturated.
- Any degradation in speed from Wirecast to CDN endpoint, can cause a temporary slow down.

Colors

- Green will be shown when the flash queue is able to be emptied just as fast or faster than it is able to be filled.

- Yellow will be shown when the flash queue has grown, but is not yet approaching overload.
- Red will be shown when the flash queue is just about to be full, in which packets will be lost.

Example 1

- Encoding is set to 7Mbps
- ISP upload speed is 7Mbps
- Video content was fairly still, but a scene change or shot switch occurs that is fast motion.
- The encoder bursts to handle the more complex content, and momentarily requires 8Mbps to properly deliver the content.
- The flash queue is only able to output at 7Mbps, so it grows with more frames/ packets backed up.
- The Icon color turns Yellow, to alert this state.
- The encoder catches up, and settles back down to 5Mbps after the scene change.
- The Icon returns to green.

Example 2

- Encoding is set to 5Mbps
- ISP upload speed is 7Mbps
- Video content is running fine, with green Icon.
- Someone else on the network begins uploading at 4Mbps, perhaps an Aspera transfer if you remember those taking down Telestream's network...
- The available bandwidth to the stream is 3Mbps during this usage.
- The icon will turn yellow, then turn red.
- If the queue stays red for long enough, the stream disconnects.

Example 3

- Encoding is set to 5Mbps
- ISP upload speed is 7Mbps
- Video content is running fine, with green Icon.
- The ISP oversold their network, and some neighboring business or residents all hopped on the Internet at the same time.
- The available upload speed drops to 5Mbps
- The icon drops to yellow, then to red.
- The icon stays red, and the stream continues.
- Viewers are still seeing the stream despite the icon being red.

- The flash queue is able to unload the packets during downward bitrate fluctuations, and builds more packets in buffer during upward bitrate fluctuations, just enough that the queue stays in this almost-full-but-hasn't-burst state.

Limiting Reconnection Attempts

When Wirecast loses an Internet connection, Wirecast attempts to reconnect. Each time reconnection is attempted, the stream icon will blink. To limit the number of reconnection tries, do the following:

1. Select *File > Preferences > General*.
2. Enter a value into the field, *Maximum Reconnect Attempts*.
3. To close the *Preferences* dialog box, click the "x."

When the connection is recovered, the red *Failed* icon is replaced with the green bars.

Configuring Replay + ISO

PRO

Replay enables you to repeatedly play a clip, or even a portion of a clip, any number of times or endlessly. You can also replay playlists (see [Playlists](#)). This makes the combination of Playlist and Replay a very powerful production tool.

ISO (or Isolated Output) allows users to create recordings for system devices (cameras, capture cards, or mics) that are currently not being displayed in the *Live* canvas window. This enables you to be outputting one device while broadcasting with another. ISOs can also be setup as a replay source. This enables you to have all the *Replay* functionality (hotkeys, Mark-in, and Mark-out) in your ISO source but without it being displayed in the *Live* canvas window.

Replay and ISO share the same menu because ISOs have the ability to be setup to use replay functionality. This functionality is toggled in the ISO Settings window. If an ISO is set to use Replay then it will use all the replay settings that have been configured in the *Replay+ISO* window.

Note: Multiple Replay clips captured during the same replay session will not render correctly when played at the same time on different Main Layers or different shot layers.

To use Replay you need to set it up the way you want it to perform. To do this select *Replay+ISO > Configure*. Check the Program Replay box, make your desired settings, and click *OK* when finished.

Capture Audio in the Replay Check the Audio box to capture audio in the Replay you are creating. If unchecked all audio is ignored.

Video Quality Set the video quality for Standard or High. Depending on what quality you choose, an estimate of the *write rate* will be displayed.

Folder Click Browse and navigate to the location where you want to store your Replay shots.

Create Replay Hotkey Select a hotkey from the drop-down menu that will activate the Create Replay function.

Update Replay Hotkey Select a hotkey from the drop-down menu that will activate the Update Replay function.

Mark Replay Hotkey Select a hotkey from the drop-down menu that will activate the Mark Replay function.

Manage Opens the *Preferences > Hotkeys* window so you can add, delete or change your hotkeys. The Global check box must be checked if you want that hotkey to be available in the drop-down menus above.

See [Replay + ISO Menu](#) and [Replay Shots](#).

Activating Replay

Note: When Replay is activated, CPU usage increases.

To activate Replay, select *Replay > Start All*.

The Start All menu item becomes *Stop All* and Wirecast adds buttons to the Wirecast default layout: *Set Replay Mark In* and *Update Replay Shot*.

Once Replay has been activated it keeps all shot activity (playing of clips or capturing of live sources) in the Replay buffer on disk. The amount that is saved when the *Create Replay Shot* button is pressed depends on the value entered into the *Default Replay duration* setting.

See [Replay Shots](#).

Configuring ISO Recording

ISO (or Isolated Output) is a Wirecast Pro feature that allows you to create clean recordings of your system devices (cameras, capture cards, or mics) even when they are not being displayed in the Live canvas window. This is often helpful when you want to edit together a video-on-demand version of your live show. You can have recordings of all your cameras even when they weren't live in your broadcast.

There are two ways to ISO record:

1. The Capture Source ISO capability allows you to choose one source (such as your webcam, or a microphone). This is truly an isolated source recording, so it doesn't enable you to combine a separate audio and video raw sources into one ISO recording. However if your source includes audio, you can capture that as part of your Capture Source ISO.

2. The Shot ISO capability lets you record any shot that is on your Main Shot Display. This lets you mix two or more sources into a single shot and record that. It also lets you ISO record sources that are not available in the Capture Source ISO option such as WebRTC sources (Rendezvous and Wirecast Go), NDI, Webstream, or Elgato capture sources.
3. Select *Configure* from the Replay+ISO main navigation.
4. Click *Add ISO*.

You have two choices for Recording type: *Capture Source ISO* or *Shot ISO*.

Capture Source ISO

Capture Source ISO lets you ISO record an individual camera or audio source, (e.g. your Facetime Camera, or a camera plugged in via a capture card).

Note: Certain sources, such as Rendezvous guests, Web Stream sources, IP Cameras sources, Web Page plugin sources, or Wirecast Go sources will not show up as available Capture Source sources. To record these, you should use Shot ISO.

If your chosen source produces both video and audio, you will have the option to include which media tracks are included from your single source.

If you want to record audio that is coming from a separate source (like from a separate micro-phone), you can either set up another Capture Source ISO for that audio separately, OR you can place your chosen video and audio sources into a single shot on the Main Shot Display and use Shot ISO to record that shot.

Note: Documents created prior to Wirecast version 14.1 that had ISO configured that included video and audio from two different sources will be split into two separate source recordings (one for Audio, one for Video).

Shot ISO

Shot ISO lets you ISO record any shot on the Main Shot Display. The advantage of this is that you can combine any audio and video sources into a shot. You can also record shots that contain sources that aren't available in Capture Source ISO, like Rendezvous guests and IP camera sources.

If your chosen shot has both video and audio, you will have the option to include which media tracks are included from the shot.

Shot ISO recordings will produce video at the canvas resolution and frame rate. This can be adjusted in *Preferences > Canvas*. Audio will match the Wirecast internal mixer which is stereo, 32-bit float, 48 kHz.

Note: Any animated graphic or media file contained in your shot will not play as part of a Shot ISO recording. So, if you don't want a static image where your media is, you should place that source in a different shot on a different layer.

Audio-Only Recordings You can make audio-only ISO recordings, using either *Capture Source* (if your source is audio) or *Shot ISO* (if your shot includes only audio).

The ISO configuration dialog displays the selected source's current video resolution and frame rate so you know what to expect in your recording. The same goes for audio channels, bits per sample, and sample rate. When no source is selected or the source does not produce a certain type of media, *None* is displayed where the source media information would normally appear (next to the corresponding video/audio media track checkboxes).

Format

- QuickTime: ProRes Video + Uncompressed Audio: ProRes is better suited for NLE work. Also, color space information is less ambiguous.
- QuickTime: x264 Video + Uncompressed Audio:
 - x264 is a compressed video file that results in significantly smaller file sizes.
 - x264 recordings are still placed in QuickTime files and still paired with uncompressed audio. Uncompressed audio offers top quality and minimal CPU drain for archival purposes.
 - You can choose the bitrate and keyframe interval for recordings that use x264 encoding. The default values are 10 Mbps with 15 frames/second. The defaults were chosen for high quality full HD archival. We use the high-profile encoder setting and the "fast" x264 algorithm with variable bitrate encoding.

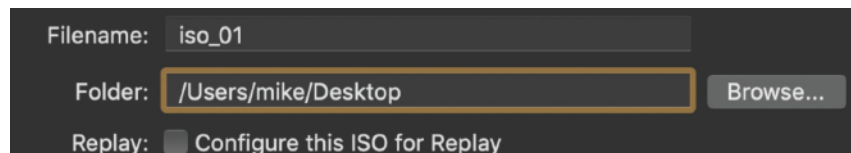
Quality

Wirecast offers the ability to encode your files using ProRes or x264 on both Mac and Windows.

Filename

Each new ISO recording you create in a document includes the next number in a sequence that begins with 1 and is incremented when you create a new ISO configuration. For example, the first ISO will be named "ISO 1", the second will be named "ISO 2", third "ISO 3", and so on. Likewise, filenames given will be "iso_01", "iso_02", "iso_03", and so on. Name-sorted listings of recordings on disk will remain in order beyond the 9th ISO configuration.

You can always choose another name for the files, but that will not affect the sequencing. So if you rename "ISO 1" to "Names Don't Matter", the next ISO will still be named "ISO 2" by default.



The screenshot shows a configuration window with three fields: 'Filename:' with the value 'iso_01', 'Folder:' with the value '/Users/mike/Desktop' and a 'Browse...' button to its right, and 'Replay:' with a checked checkbox and the text 'Configure this ISO for Replay'.

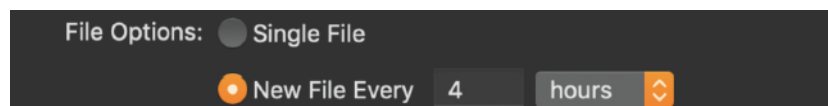
Folder Wirecast will remember the last folder you assigned to an ISO recording configuration and use that folder as the default for the next configuration that you create. This setting is app-wide so it will transfer between projects.

Replay Check this to configure your ISO recording to be available for Instant Replay within your broadcast. This can be applied for Capture Source ISOs as well as Shot ISOs (See tutorials on Replay for more information on configuring this).

File Options

Single File This is best used if you have shorter broadcasts and have plenty of disk storage space. When the user chooses the *Single File* option, what you're really choosing is the maxed-out 12-hour file duration.

New File Every This ensures you don't have files that are so big you run out of disk space. If you have a long broadcast or have limited space, you may want to limit your file sizes with this option. This will break the recordings up and start a new file at the increment you specify.



The screenshot shows a 'File Options' section with two radio buttons: 'Single File' (unselected) and 'New File Every' (selected). To the right of 'New File Every' is a numeric input field containing '4' and a unit dropdown menu currently set to 'hours'.

See [Starting your ISO Recording](#).

A Note about Resources

Keep in mind that this feature is very resource intensive. Because you are recording individual cameras or shots alongside your actual production you will need a rather powerful system.

We recommend that at minimum you have:

- An i7 processor
- A high-end dedicated graphics card
- An SSD for recording

Recording To Disk

If you want to archive your stream, you can use the *Record To Disk* destination.

Note: Wirecast auto-saves your stream or recording. All formats (WMV, MOV, MP4) are recoverable in increments of 20 seconds. Any recording less than 20 seconds is corrupted. ISO also recovers. In the case of an unexpected shutdown, the recoverable video is available in increments of one minute.

To record to disk, do the following:

1. Click the *Record* button (or *ISO Record* button) at the top of the Wirecast default layout.
2. When the *Output* window opens, click the *Add* button at the bottom of the window to add a recording destination.
3. When the dialog box displays, select *Record to Disk* and click *OK*.
4. In the *Output Settings* window select *Record To Disk* (MOV, MP4 or Windows Media)
5. Select an encoder.

Note: ProRes encoding is now available for MOV.

6. Click *Browse* or enter the path to where you want your recording located.
7. Select the recording mode: *Use Filename Only*, *Auto Increment Filenames*, or *Timestamp Filenames*. If you select *Auto Increment Filenames*, your filename will have an incremental number appended to the end of it. This causes a new file to be created every time you start recording to disk, otherwise your previous file is overwritten (if you have selected *Use Filename Only*).
8. Click *OK*.

Note: When recording to disk on FAT32 formatted drives, single files cannot be larger than 4GB in size. So, recording to disk on a FAT32 formatted drive may result in files that do not close properly if they exceed 4GB in size. It is recommended that you record to disk on a Windows NTFS formatted partition whenever possible.

Live Broadcast Production

Once you've created a document and have configured the inputs and outputs for your broadcast, you are ready to broadcast with Wirecast.

Topics

- [Launching Wirecast](#)
- [Switching with Preview](#)
- [Single-Click Switching with AutoLive](#)
- [Playing Playlists](#)
- [Broadcasting](#)
- [Controlling or Muting the Final Audio Mix Level](#)
- [Starting your ISO Recording](#)

Launching Wirecast

To start Wirecast, double-click the Wirecast icon that was placed on your desktop during installation.

Switching with Preview

Do the following to switch shots when AutoLive is disabled:

1. Click a shot in a layer.
Wirecast displays the shot in the *Preview Area*.
2. Click the transition button for the type of transition Wirecast generates to change from the current live shot to the shot selected. Alternatively, press the keyboard shortcut Ctrl+1 to select the first transition button or Ctrl+2 to select the second transition button.
3. Click the Go button.
Wirecast places the shot in the *Live Broadcast Area*.

See [AutoLive](#), [The Default Layout](#), [Transition Controls](#), and [Go Button](#).

Single-Click Switching with AutoLive

To switch shots when AutoLive is enabled, click a shot in a layer.

Wirecast places the shot in the *Live Broadcast Area*.

When you select multiple shots on multiple layers, Wirecast displays all of them in the *Live Broadcast Area*, with layer 1 on top and layer 5 at the bottom.

See [AutoLive](#), [The Default Layout](#), and [Go Button](#).

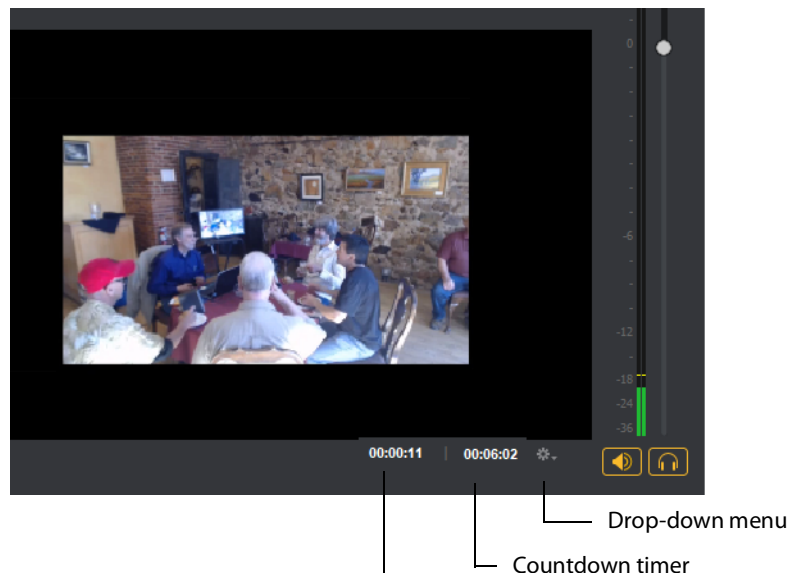
Playing Playlists

Playing back a playlist is the same as playing any other shot. To play a playlist, do the following:

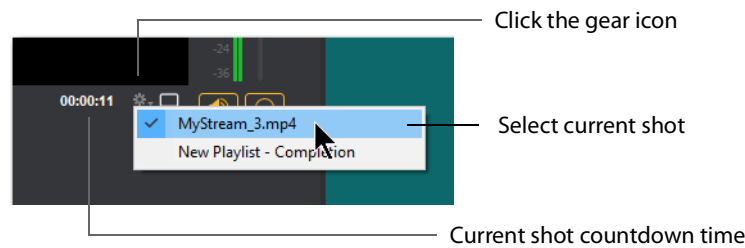
1. Select the playlist shot
Wirecast displays the shot in the *Preview Area*.
2. Click the Go button.
Wirecast displays the shot in the *Live Broadcast Area*, and broadcasts the shot.

See [AutoLive](#), [The Default Layout](#), and [Go Button](#).

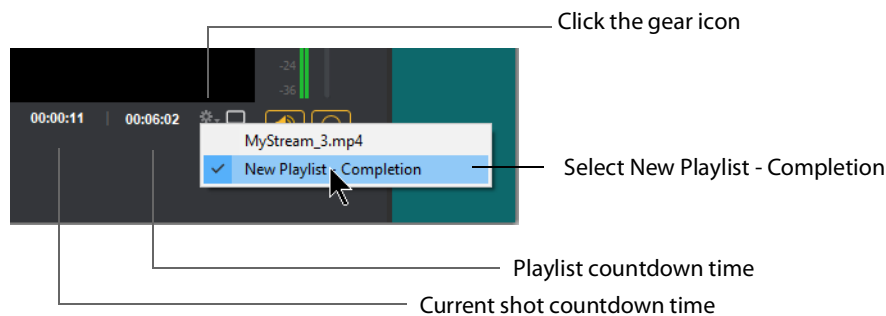
Viewing the Playlist Countdown Timer



Click the gear icon to open the counter display mode menu. Select the top item (the name of the currently playing shot) to display its countdown time only.



Select the bottom item (*New Playlist - Completion*) to display the countdown time of the current shot and of the Playlist.



Broadcasting

Before you can broadcast with Wirecast, you must configure your output settings. See [Selecting a Destination](#).

To start broadcasting, select *Output > Start/Stop Broadcasting > Start All*.

Note: If you try to broadcast without first configuring an output, Wirecast opens the *Output Settings* window for you. See [The Output Settings Window](#).

Controlling or Muting the Final Audio Mix Level

You can set the volume level, or you can mute, the final mix audio level for the *Preview Area* or the *Live Broadcast Area*, with the *Final Mix Audio* panels. There are separate *Final Mix Audio* panels for the *Preview Area* and for the *Live Broadcast Area*. The controls for both *Final Mix Audio* panels work the same way.

To control the volume for either the *Preview Area* or for the *Live Broadcast Area*, select the respective *Final Mix Audio* panel, and do one of the following:

- To set the volume, click and drag the slider control up or down. The decibel scale next to the slider indicates the audio level. When you take a preview shot live, the live audio levels match the levels set in preview.

- To mute the audio output, click the *Mute* button.

See [Final Mix Audio Panel](#).

Displaying or Hiding the Final Mix Audio Panel

To display *Final Mix Audio* for preview and live displays, select *Layout > Final Mix*.

To hide *Final Mix Audio* select *Layout > Final Mix* again.

See [Final Mix Audio Panel](#).

Viewing a Layer in a Layer Window

To open any layer in its own window, do the following:

1. Select *Window > New Layer Window*.
Wirecast displays a list of the layer windows you can open (*Main Layer 1* through *Main Layer 5*).
2. Select the layer you want to open.
Wirecast displays the layer in a separate layer window.

This separate layer window works exactly like the layers in the default display, but you can move layer windows independently of one another.

See also [Layers](#).

Controlling a PTZ Camera

To control a remotely-controlled pan-tilt-zoom (PTZ) camera, do the following:

1. Configure Wirecast for the PTZ camera. See [Setting Up PTZOptics Camera with a Dynamic IP Address](#) and [Setting Up PTZOptics Camera with a Static IP Address](#).
2. Select a PTZ camera shot in a layer.
3. In the *Shot Layer Properties* tab of the *Shot Editor*, click the triangle next to *PTZ*, and click the *PTZ Controller* button.
Wirecast opens the PTZ controller panel.
4. Control the camera with the controls in the *PTZ Controller*.

See [The PTZ Controller Panel](#) and [PTZ Control in the Shot Layer Properties Tab](#).

Starting your ISO Recording

When you finish configuring your ISO recordings, you're ready to start recording. There are a couple of ways to start your ISO recordings.

1. Go to *Replay+ISO* in the main navigation bar. There you have the choice to Start All or choose to start only a specific ISO that you have set up.

2. Alternatively, you can click the ISO-REC button at the top of the User Interface, which will start all your configured ISO recordings.
3. See [Configuring ISO Recording](#).

Error Reporting

When starting ISO recordings, Wirecast will send any number of specific error messages to the user-log and present you with a generic modal dialog that reads: "Av recording failed to start. View the user log for details and edit the Replay+ISO configuration to resolve issues." The dialog contains an *Edit* button which opens the ISO configuration dialog.

Also, many ISO recording errors occur after you start recording and some occur soon after. These asynchronous errors are reported only in the *Notifications* window where no modal dialog is shown.

Configuration Errors and Warnings

Wirecast tries to catch a number of configuration errors and potential problems while you are interacting with the ISO configuration dialog.

Warnings are shown in the dialog as warning icons next to the configuration fields. If you hover the cursor over each warning icon, a tool tip appears detailing the problem. Also, the topmost warning message will appear in red text at the bottom of the dialog until all warnings are cleared for the selected configuration.

Each ISO configuration listed on the right-hand side of the ISO configuration dialog has a warning icon if it has a problem. A list of the configuration problems Wirecast detects follows.

- No source/shot is selected for recording.
- The recording uses a source or shot that no longer exists.
- The recording uses the same source or shot as another recording.
- No media tracks are enabled for recording.
- The source does not produce media that matches the enabled tracks.
- The recording uses the same output file as another recording.
- The file name contains restricted characters.
- The selected output folder does not exist.
- The space available on the selected drive is insufficient for recording.
- The file duration must be between 10 seconds and 12 hours.

See [Configuring Replay + ISO](#).

Windows, Controls, and Menus

You create broadcasts through the various windows, controls, and menus of Wirecast.

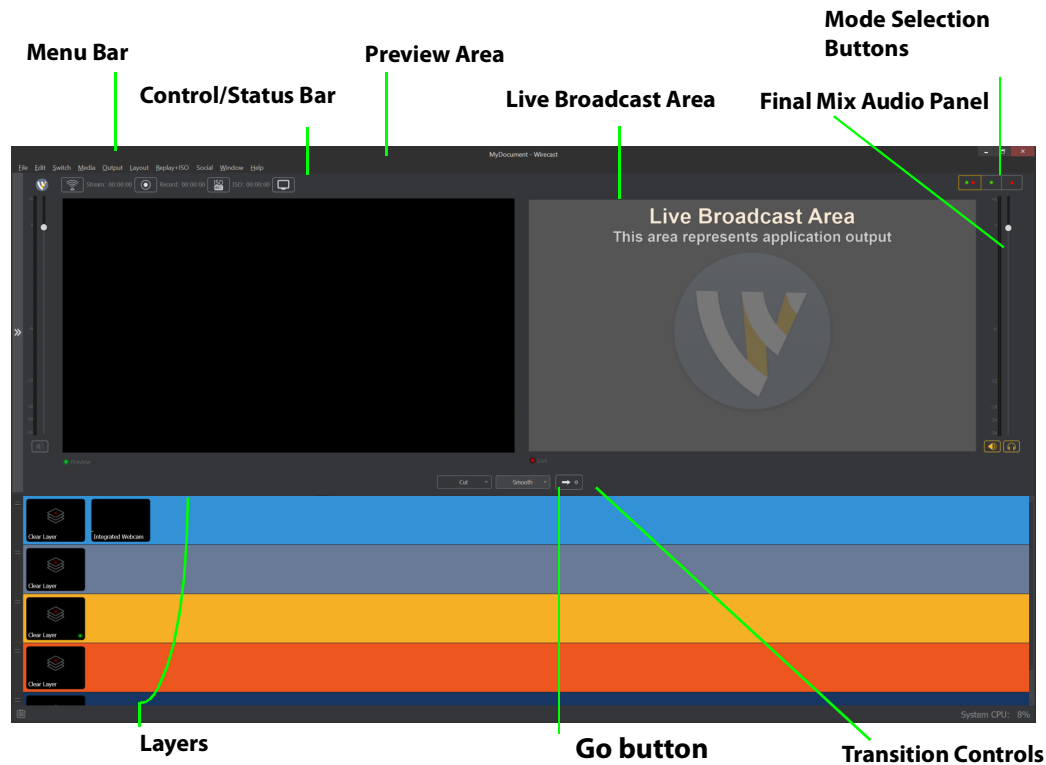
Topics

- [The Default Layout](#)
- [Control/Status Bar](#)
- [Preview Area](#)
- [Live Broadcast Area](#)
- [Transition Controls](#)
- [Final Mix Audio Panel](#)
- [Mode Selection Buttons](#)
- [Layers](#)
- [Window Controls](#)
- [Add Shot Window](#)
- [The Shot Editor Window](#)
- [The Audio Mixer Window](#)

The Default Layout

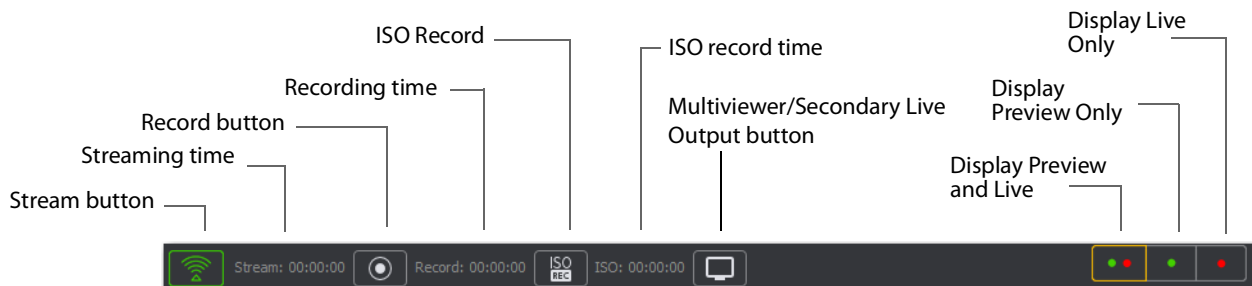
When you create a new document, Wirecast displays the document in the default layout. The main elements of the Wirecast layout are labeled in the following screen shot, and are described below.

Figure 1. Wirecast default layout



Control/Status Bar

Control buttons and status information are displayed at the top of the default layout.



Wirecast displays the following controls and statistics:

Stream button

When clicked, Wirecast begins streaming.

Streaming time

Total cumulative time the document has been streamed. This value does not reset when you start/stop the broadcast. If you save portions of the broadcast to disk, Wirecast still displays the total cumulative time.

Record Button

Click to begin recording.

Recording Time

This displays how long you have been recording. This value does not reset when you start/stop the broadcast. It is cumulative.

ISO Record

Click to begin ISO recording.

ISO Record Time

Displays the ISO recording time.

Multiviewer/Secondary Live Output Button

Opens the configuration window if you haven't already configured your displays. Once you've configured your displays, this button places the windows on your displays as configured.

Display Buttons

These three buttons enable you to choose to display the *Preview Area*, the *Live Broadcast Area*, or both in a divided display.

Note: To avoid decrease in video quality, Wirecast should not be used at CPU usage above 80%. See the Telestream Website for suggested configurations. You can also view streaming statistics by selecting *Output > Show Statistics*.

Preview Area

Displays the selected shot as it would appear when broadcast, without broadcasting the shot. When the shot in the *Preview Area* is selected, Wirecast outlines the preview with a control frame for resizing and rotating the shot.

See [Viewing the Preview Area](#), [Viewing a Shot in the Preview Area](#), and [Resizing or Rotating a Shot](#).

Live Broadcast Area

The *Live Broadcast Area* shows the un-encoded shot currently being encoded and broadcast. Also, you can play, pause, or scrub clips displayed in the *Live Broadcast Area* while they are broadcast.

See [Switching with Preview](#) and [Single-Click Switching with AutoLive](#).

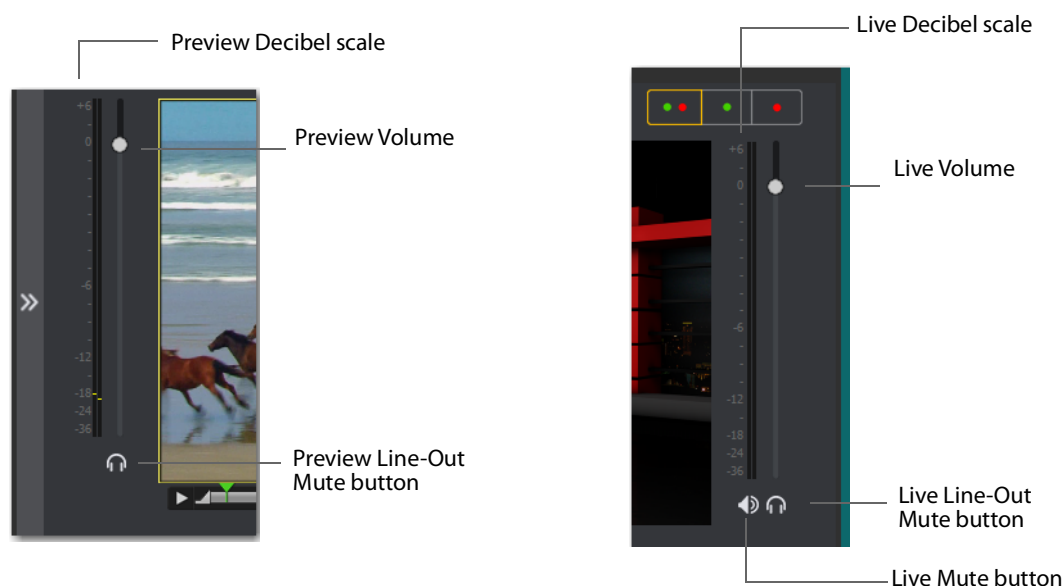
Transition Controls

Wirecast displays up to three transition buttons. You can configure each to present one of many possible types of transitions. If, for example, *Smooth* is selected (button darkened), clicking *Go* executes a smooth transition to the new shot.

See [Setting the Number of Transition Buttons](#) and [Determining the Transitions for the Transition Buttons](#).

Final Mix Audio Panel

The Final Mix Audio panel enables you to control the output volume level, mute audio output, and mute the line-out feed for Preview and Live windows.



The Preview and Live Volume control enables you to adjust the audio volume for Preview and Live separately.

The Live Mute button mutes the *Live Broadcast Area* audio (what your viewers hear). Even when you mute the output, the encoder still generates audio but the output remains silent.

Note: If you do not want to broadcast audio, modify the encoder presets to not process audio through the encoder. See [Encoder Presets](#).

The *Preview Line-Out Mute* button and *Live Line-Out Mute* button control local volume (what you hear), not broadcast volume. When Line-Out is muted, audio is not sent to your headphones or speakers, but your viewers still hear the audio. The two controls are mutually exclusive. You can't have both on at the same time, but you can mute both.

See [Controlling or Muting the Final Audio Mix Level](#) and [Displaying or Hiding the Final Mix Audio Panel](#).

Mode Selection Buttons

Button containing green and red dots

When clicked, Wirecast displays both the *Preview Area* and the *Live Broadcast Area*.

Button containing green dot

When clicked, Wirecast displays the *Preview Area*.

Button containing red dot

When clicked, Wirecast displays the *Live Broadcast Area*.

Note: These three buttons work the same as three of the options in the *Layout Menu*. See [Layout Menu](#)..

Layers

The horizontal bars towards the bottom of the screen are the layers. You can make more layers visible. Also, you can add, modify, and play shots from the layers.

By default, Wirecast displays five layers. Each layer can contain multiple shots. A red LED indicates that a shot is Live.

Wirecast allows you to put shots on any of the layers. Layering shots enables Wirecast to superimpose them, from the lowest layer to the highest, to form a single visual image during broadcast.

By default, Wirecast displays five layers. Each layer contains shots that can be selected by clicking a shot. A red LED indicates that a shot is selected. When a shot is selected it is displayed in the *Live Broadcast Area*. If you select multiple shots (by selecting a shot on more than one layer) Wirecast displays all of them in the *Live Broadcast Area*.

Wirecast displays Layer 1 at the top, Layer 5 at the bottom, and the other layers, in order, between them. The order of layers determines the order of superimposition in the *Live Broadcast Area*. If you place a video shot on Layer 5 and a title on Layer 1, Wirecast superimposes the title over the video.

See also [Viewing a Layer in a Layer Window](#).

Window Controls

Transition Controls

There are three Transition buttons. You can configure each to present one of many possible transition types. Typically, the two configured transitions are: Cut and Smooth.

When *Smooth* is selected (button darkened), any transition executed by clicking *Go* is a smooth transition.

Note: *Preferences > General* enables you to configure how many buttons you want displayed (between 0 and 3).

Changing Transitions

Click the *Cut* button to make it the current transition type.

You can also select one of the two buttons by pressing Ctrl+1 or 2 keys for the two transition types displayed.

If you click the down-arrow on the right side of any of the transition buttons, you can select a new transition to assign to that button.

Go Button

When clicked, Wirecast executes the transition selected, broadcasts the shot selected, and displays it in the *Live Broadcast Area*.

If *AutoLive* is enabled, the *Go* button appears with a red dot. When *AutoLive* is enabled, simply selecting a shot--without clicking the *Go* button, broadcasts the shot.

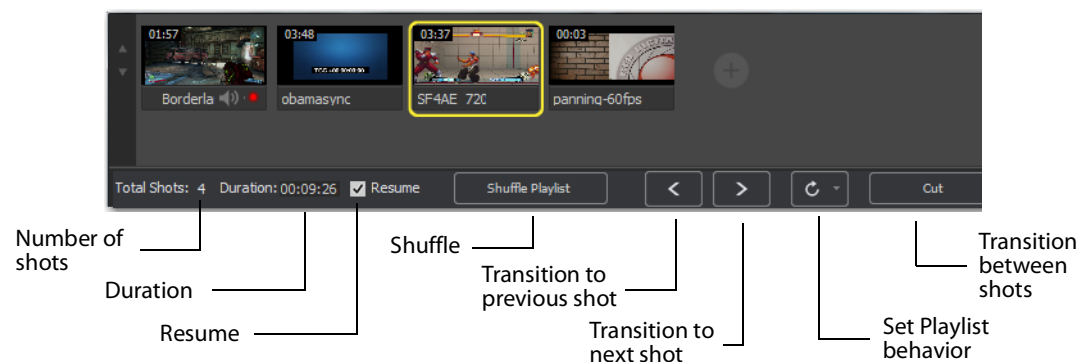
With *AutoLive* enabled, clicking the *Go* button updates the live shot with any changes you have made to it with the *Shot Editor*. If you have made no changes to the live shot, clicking the *Go* button does nothing when Wirecast is in *AutoLive* mode.

With *AutoLive* disabled, you can make several changes to your broadcast without your viewers seeing the change. This is most useful when an engineer runs your broadcast.

See [Single-Click Switching with AutoLive](#) and [AutoLive](#).

Playlist Controls

Playlists provide some basic playback controls, located at the bottom of the Playlist tab window. You can transition to the previous or next shot in the list, set playlist behavior, shuffle the playlist order, and more.



Number of Shots

Displays the current number of shots in the playlist.

Duration

Displays the duration of the playlist shots.

Resume

When checked, if you exit the playlist, when you return the playlist will resume playing at the location (same shot) as when you exited.

Shuffle

Click to shuffle the order of the playlist shots.

Transition to previous shot

Transitions to the previous shot in the playlist if the playlist is currently live.

Transition to next shot

Transitions to the next shot in the playlist if the playlist is currently live.

Set Playlist behavior

Sets the behavior of the playlist when the last shot in the list has been played. A check mark indicates what menu item (behavior) is selected.

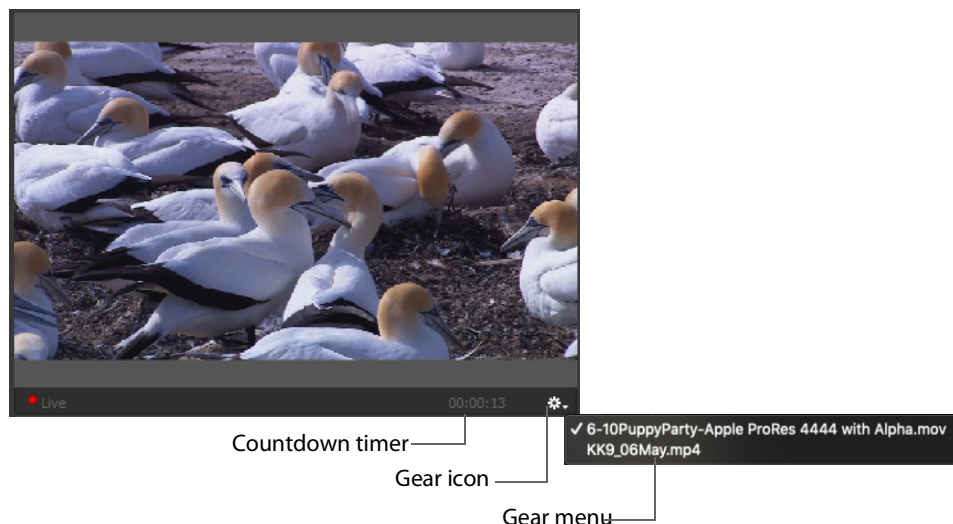
- *Loop* transitions back to the first shot, endlessly.
- *Hold* stays on the last shot. If the last shot is a clip, the last frame in the clip is displayed. If the last shot is a live shot, the live source stays active. If the last shot in a Playlist is a video clip Shot, it will obey the rules set for the video clip in the Media Properties Inspector tab under *Source Properties*. However, it will hold the Playlist on that last Shot if *Set Playlist Behavior* is set to "Hold". Therefore, if you want to see the last video in the Playlist pause on the last frame, you must set *When Finished* to "Hold" under Source Properties, in addition to setting the playlist behavior to "Hold". If you set *When Finished* to "Loop", under Source Properties, the last video in the Playlist will continue to loop.
- *Available Shots* transitions to another shot on the same layer. All available shots are listed as menu selections. (In the example shown, the only available shot is "Logo".)
- *Previous Live Shot* transitions back to the shot that was live before the playlist began playing.
- *Current Preview* transitions the contents of Preview to the *Live Broadcast Area*.

Transition between shots

Sets the transition to use when switching between shots.

Playlist Countdown Timer Display

Wirecast displays a countdown timer below the *Preview Area* or *Live Broadcast Area* whenever you play a video shot or playlist. If you play multiple video shots, click the gear menu icon and select the shot to associate with the countdown timer.



Add Shot Window

The *Add Shot* window provides a way to add sources, such as live sources, file sources, the Remote Desktop Presenter program, shot graphics, shot audio, and shot templates. Click the Plus Button (+) to open the *Add Shot* menu.

When Wirecast displays the *Add Shot* menu, select a shot category, select the type of shot to add. Modify the shot if desired and allowed. To add a shot to a layer, click the *Add "+"* button in a layer.

To add a source to the *Favorites* menu, select the source and click the star icon. Wirecast changes the color of the star to white and adds the source to the *Favorites* menu.

Video Capture

System Device

Select a system device.

See [NDI Devices in the Shot Layer Properties Tab](#).

- **Wirecast Gear Video Inputs** If you using Wirecast Gear (and have an active license) all available video inputs will be listed.

Audio Capture

System Device

Select a system device.

See [NDI Devices in the Shot Layer Properties Tab](#).

- **ASIO Audio Capture** Select an ASIO audio capture device and click the *Add* button.

System Audio Capture

Select an audio capture device. **WASAPI Audio Capture** Select a WASAPI capture device and click the *Add* button.

Source Name Displays the name of the source. To change the source name, enter a new one.

Audio Delay Enter the amount of time (in seconds, as short as 1 ms) to delay the audio signal to sync it up with a video source.

Monitor Click the *Monitor* icon to cause audio to play through your monitor output. The icon is gold when selected (turned on). If unselected, audio will not play through the monitor output for this source. Selected is the default.

Media Files

Browse Disk

Select to navigate to a media file.

Stock Media Library

Select to display the Stock Media Library window.

A Media File is a video clip or a picture. To open a Media File source, select *Media Files* from the source menu in the shot window, and then navigate to your file. You can also click the *Add Media File* button at the bottom of the Add Shot window.

Media Files have the following settings:

Source Name

Displays the name of the source. To change the source name, enter a new one.

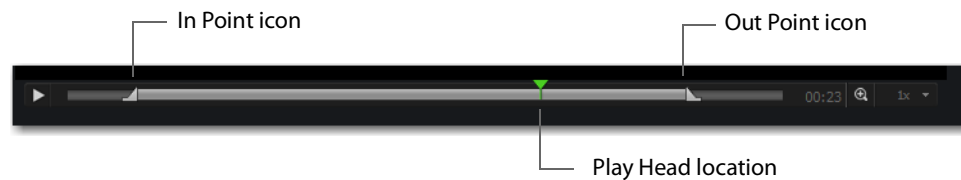
In Point

Click *Jump* to move the play head to the In Point in the media file. Set the In Point either by dragging the In Point icon to the desired beginning position on the play bar, or by entering a value into the In Point field.

Out Point

Click *Jump* to move the play head to the Out Point in the media file. Set the Out Point either by dragging the Out Point icon to the desired end position on the play bar, or by

entering a value into the Out Point field. The green triangle shows the current location of the Play Head.



When Finished

Select what happens when the media finishes playing. *Loop* causes the media to begin playing again. *Hold* causes the media to stop and hold the last frame in the *Live Broadcast Area*. *Remove* causes the media to be removed from the *Live Broadcast Area* when it finishes playing.

Begin playing when media becomes Live

When checked, the media begins playing as soon as it is made Live.

Remember position even when not Live

When checked, the media will always start playing where ever it was playing when it was stopped, even if it was removed from the *Live Broadcast Area* and made Live again. When unchecked, the media will start from the beginning every time it is taken Live.

Set Default

Click to set the media display to default settings.

Live Playback

Changes are live. When you select this option and your shot is live, Wirecast displays any action you take in the *Preview Area*--such as playing, pausing or scrubbing--in the *Live Broadcast Area*, and broadcasts the action live.

Note: If you use this feature to pause or scrub media in the live broadcast, it's usually best to uncheck "Begin playing when media becomes live."

WC Gear Inputs

If you are using Wirecast Gear 300/400 series hardware, the Wirecast Gear Video Inputs appear in the Shot Selection menu.

After a WC Gear shot is created, you can set up the shot using Wirecast Gear controls.

Audio Input Select the audio input (if any) from the pull-down menu.

ASIO and WASAPI Sources

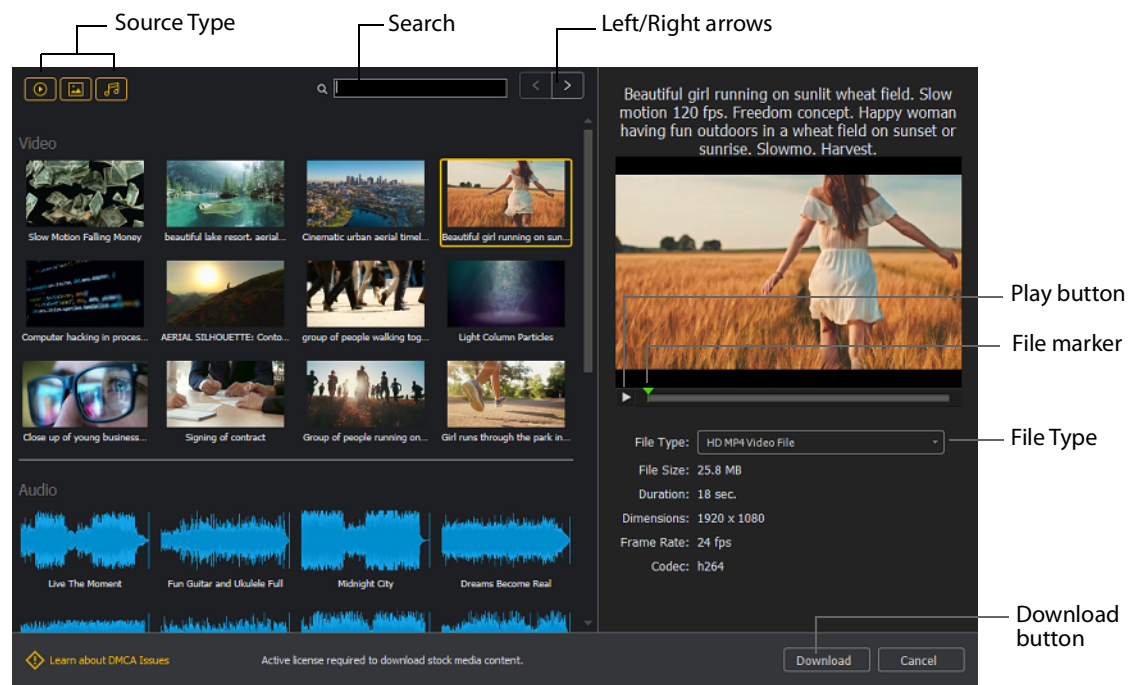
Any ASIO or WASAPI source on your local network will be discovered by Wirecast and listed under Capture Devices in the Source Input Menu. These devices are generally used with multi-track audio outputs. ASIO Audio Capture is a very low latency

professional audio capture API. It is used to connect to professional audio interfaces. WASAPI Audio Capture is also a low latency audio capture API. It replaces the old DirectShow-based audio capturing.

Stock Media Library

When you open a Stock Media Library file, Wirecast displays a window presenting Terms and Conditions. Read the Terms and Conditions, check the *I Agree* checkbox, and click the *Proceed* button. Wirecast displays this agreement window only the first time you open a Stock Media Library file.

You can also select *Stock Media Library* to open the Stock Media Library window. Use *Source Type* and *Left/Right* buttons to navigate to a media file, then click *Download* to include it as a shot.



Source Type

You can toggle on/off any type of media to include in the display: Video, Images, and Audio.

Search

Enter key words to display just the media files including these words. The display is updated as you enter words.

Left/Right arrows

Click the arrows to move to the next or previous set of Stock Media files.

Play button

Click to begin playing the selected media file.

File marker

Move the marker to view the media file quickly.

Download button

Click to download the selected media file into a shot.

Network

iOS Cam

Select an IOS Camera device, or an iOS camera through the Wirecast Go iOS app.

Rendezvous

Select to create a new Rendezvous session, or select to reconnect to a previously created session.

Web Display

Creates a new Web Display shot.

See [Web Page Properties](#).

Web Stream

Creates a new Web Stream shot.

See [Web Stream Properties](#).

NDI(R) Source

Select any NDI-capable devices on your network.

Web Page Properties

Web Page shows a web source defined by a web address (URL). To open a Web Page source, select *Web Page* from the source menu in the shot window. Web Page Properties have the following settings.

Name

Displays the name of the source. To change the source name, enter a new one.

Audio Delay

Enter the amount of time (in seconds, as short as 1 ms) to delay audio.

Video Delay

Enter the amount of time (in seconds, as short as 1 ms) to delay video.

URL

Displays the web address (URL) of the source. To change the address, enter a new one.

Width/Height

Displays the width and height of the display source. To change the width or height, enter a new value.

Transparent Background

Check to make the background transparent in your shot.

Shutdown when inactive

Check to turn off the audio and disable it from the shot when playing videos.

Override CSS

Enter Cascading Style Sheet code to override the default code for this web display.

Monitor

Click the *Monitor* icon to cause audio to play through your monitor output. The icon is gold when selected (turned on). If unselected, audio will not play through the monitor output for this source. Selected is the default.

Web Stream Properties

The Web Stream option allows RTMP, RTSP, MMS, or HTTP streams to be taken directly into Wirecast. This is useful for incorporating remote IP Cameras or other network streams into a broadcast. Sources are automatically detected and are also identified by *IP Camera Profile*. To open a Web Stream source, select *Web Stream* from the source menu in the shot window.

Web Stream Properties has the following settings.

Name

Displays the name of the source. To change the Name, enter a new one.

Audio Delay

Enter the amount of time (in seconds, as short as 1 ms) to delay audio.

Video Delay

Enter the amount of time (in seconds, as short as 1 ms) to delay video.

URI

Enter the address of your input stream. (For example: *rtsp://127.0.0.1:8080/my_stream.sdp*, or *http://10.0.0.1/my_stream*, or *rtmp://hades.telestream.net:1935/live/myStream*).

Username

Enter your username for your URI stream.

Password

Enter your password for your URI stream.

Buffer

Enter a buffer time in seconds.

Reconnect

Click to reconnect the Web Stream source.

Apply

Click the Apply button to update any changes.

Timestamps

Select *Provided by source*, or *Provided by Wirecast*. This setting allows you to use timestamps embedded in the source, or use timestamps generated by Wirecast. Timestamps are used to synchronize devices. Many sources don't provide completely accurate timestamps, resulting in sources out of sync with each other (i.e. audio and video not syncing).

Select *Provided by Wirecast* to ignore the timestamps coming from the source, and instead generate new timestamps. However, the risk is that if the system is under a heavy load, the generated timestamps could be impacted, and end up arriving late. The default setting is *Provided by source*.

Deinterlacing

Select *None*, or *Blend Fields*.

Dynamic Range

Select *Default*, *Full* or *Limited*.

Monitor

Click the *Monitor* icon to cause audio to play through your monitor output. The icon is gold when selected (turned on). If unselected, audio will not play through the monitor output for this source. Selected is the default.

Screen Capture

Remote Desktop Presenter

Creates a new Remote Desktop Presenter shot.

See [Remote Desktop Presenter Properties](#).

Screen Capture

Creates a new Screen Capture shot of any monitor or window on your computer.

See [Screen Capture Properties](#).

Note: When in screen-capture mode, some apps take control of your mouse and make the cursor invisible. To reduce the capture window size and regain use of your mouse, press Alt + Tab.

Remote Desktop Presenter Properties

The Remote Desktop Presenter (RDTP) is a utility application that enables Wirecast to broadcast the desktop of any computer running the Telestream Desktop Presenter program. To open a Remote Desktop Presenter source, select *Remote Desktop Presenter* from the source menu in the shot window.

Remote Desktop Presenter is normally auto-detected by Wirecast and is automatically added to the list of sources. However, if a RDTP is not detected, or if you want to add one in a remote location you can manually add it by selecting *New Remote Desktop Presenter* from the *Source* menu in the default layout.

Remote Desktop Presenter Properties have the following settings.

Source Name

Displays the name of the source. To change the Source Name, enter a new one.

Audio Delay

Enter the amount of time (in seconds, as short as 1 ms) to delay audio.

IP Address

Enter an IP address of the target computer.

Enable Audio When checked, the audio from the remote desktop is enabled.

Apply

Click the Apply button to update any changes.

Monitor

Click the *Monitor* icon to cause audio to play through your monitor output. The icon is gold when selected (turned on). If unselected, audio will not play through the monitor output for this source. Selected is the default.

Screen Capture Properties

A Screen Capture displays any monitor or window on your computer. To open a Screen Capture source, select *Screen Capture* from the source menu in the shot window. Screen Captures have the following settings.

Name Displays the name of the source. To change the source name, enter a new one.

Audio Delay Enter the amount of time (in seconds, as short as 1 ms) to delay audio.

Video Delay Enter the amount of time (in seconds, as short as 1 ms) to delay video.

Capture Video Check to enable Capture Type, Show Cursor, and fps settings (described below).

Capture Type Select *Monitor* (captures your entire monitor), *Window* (captures the currently selected window), or *Game* (captures the game currently played on your PC). If you select *Game*, you can also configure how your game is captured by selecting options offered under Select Window/Monitor (described below).

Anti Cheat Support Enables anti-cheating support for game capture.

Show Cursor Check to show the cursor in your streaming. Uncheck to hide it.

fps Select the FPS, from 10 to 60 frames per second as the capture rate. An FPS of 60 is the best frame rate, but it requires greater streaming bandwidth.

Capture System Audio Check to capture system audio when streaming. Uncheck to mute the audio.

Select Window/Monitor Click the *Configure* button to display the *Select Window* dialog. If you selected *Game* for your Capture Type, Wirecast displays a configuration window with the following options:

- **Capture Any Full Screen Game** Check this box to automatically capture a game running in a full monitor screen, or running in a full screen of a window.
- **Support Multiple Video Cards/SLI** Check this box if you have a Windows system with multiple discrete GPUs and are experiencing problems capturing a game. (Performance of the capture may be slower than when running on a single GPU.)
- **Capture Third Party Overlays** Check this box to capture overlays rendered on top of a game that are generated by applications external to the game. (For example, the Steam in-game overlay.)

Choose Audio Device Click the *Configure* button to display the *Select Audio Device* dialog, then select an audio device from the drop-down menu.

Note: Some apps, when screen captured, take control of your mouse and the cursor is not displayed. You can, at any time, press Alt + Tab keys to reduce the capture window size and enable you to use your mouse.

Dynamic Range Select dynamic range setting: Default, Full or Limited.

Monitor Click the *Monitor* icon to cause audio to play through your monitor output. The icon is gold when selected (turned on). If unselected, audio will not play through the monitor output for this source. Selected is the default.

See [Screen Capture](#).

Overlays

Clock

Creates a shot that displays time.

See [Clock Properties](#).

Image Carousel

Creates a new Image Carousel shot that shows a sequence of images.

See [Image Carousel Properties](#).

QR Code Generator

Creates a QR code display to present to your viewers in a live broadcast.

See [QR Code Generator Properties](#).

Scoreboard

Creates a new Scoreboard shot.

See [Scoreboard Properties](#).

Text

Creates a new Text shot.

See [Text Shot Properties](#).

Title

Opens a dialog for adding titles and lower thirds. The title library includes over 25 customizable animated titles. In the dialog, you can see all the available title designs. You can search for a title and filter your search using various criteria. You can preview the intro and outro animation, and you see how the title fits on the screen.

You can revise titles in your project in the Title Properties tab.

If your project contains titles made with earlier versions of Wirecast, those legacy titles continue to appear in your project. To access the legacy titles, click the three dots in the upper-right corner of the Add Source dialog, and choose "Display Deprecated Sources." Wirecast displays the names of animated titles with "Title..." at the beginning. Wirecast displays the names of legacy titles with "Title (legacy)" at the beginning.

See [Properties for Titles \(Animated\)](#).

Text Shot Properties

Text displays a text phrase. To open a Text source, select *Text* from the source menu in the shot window. Text Properties have the following settings.

Name

Displays the name of the source. To change the Source Name, enter a new one.

Width/Height

Displays the width and height of the display source. To change the width or height, enter a new value.

Mode

Select the source of your text: *Text* (directly entered) or *File* (navigate to a text file), or *RSS* (ticker tape RSS feed).

If you select *Text*, enter your text in the text box below the source selector.

If you select *File*, enter a file name in the File Path box displayed, or click the navigation button (three dots) and find your text file. The text from your file will be automatically displayed. The file has to contain UTF-8 encoded text in order for it to be rendered correctly. Only the first 64KB of the text file will be loaded and displayed. You can also check the Keep reading text file continuously to keep the text display in your broadcast up to date with file changes.

If you select *RSS*, enter a URL in the URL box displayed.

Text

Enter text to display.

File

Click the (...) icon to navigate to the file containing text to display.

RSS URL

Enter the RSS URL where the text to be displayed is located.

Update frequency

Enter the number of seconds between updates.

Keep reading text file

Check to keep reading the text file for changes.

Font

Select the desired font used for your messages. If you select Web Font, a Web Font field will display below. You can also select any of the fonts installed on your computer.

Face

Select the font style from the list of combination of bold and italic.

Size

Enter the font size. Click the gear icon to select the type of font size: small, medium, large, etc.

Justify

Enables you to justify the text along the left, center, or right side of the display.

Align

Enables you to align the text at the top, middle, or bottom of the display.

Color

Click the box to open the color selection panel. Select a new text color from the palette.

Wrap

Select wrap mode from the drop-down menu: *Word Wrap* or *Break Wrap*.

Scroll

Enter a scroll mode: *Non Stop* or *If it Does Not Fit*.

Background

Select *Solid*, *Linear Gradient* (line), or *Radial Gradient* (circle). Click in the color box to open the color palette and select a background color. Click the second color box to select the gradient color. For *Linear Gradient*, adjust the slider to set the angle of the gradient display.

Shadow

Check to activate the text shadow slider controls. Click the color box to open the color palette.

Angle

Move the Angle slider to adjust the direction (0 to 360 degrees) the shadow text is offset from the actual text.

Offset

Move the slider to adjust the distance the shadow text is offset away from the actual text.

Blur

Move the Blur slider to adjust the amount of blur in the shadow text.

Properties for Titles (Animated)

A title is text displayed in a banner window. Wirecast offers a wide variety of animated lower thirds and titles. To open a title source, select *Title...* from the Add Source menu.

Animated titles have the following settings:

Left/Right arrows

Click to view the previous page, or next page, of titles.

Search

Enter name of title desired.

Filters

Click to open options for filtering your view of the titles.

Scale to Fit/Show Preview

Click to view either the title scaled to the whole screen or placed in its live position.

Tags

Displays identifying tags for the title.

Lines of Text

Displays the number of lines of text in the title.

Custom Colors

Displays the number of custom colors in the title.

Intro Duration

Displays the length of the intro animation.

Animate Intro

Click to preview either the intro animation.

Outro Duration

Displays the length of the outro animation.

Animate Outro

Click to preview the outro animation.

Note: Some title styles have customization sections for Subhead 1 and Subhead 2.

Properties for Legacy Titles

Note: To access legacy titles, in the Add Shot dialog, click the three vertical dots at the top right corner of the box. Then select Show Deprecated Sources.

Legacy titles have the following settings:

Name

Displays the name of the source. To change the Source Name, enter a new one.

Width/Height

Displays the width and height of the display source. To change the width or height, enter a new value.

Mode

Select the source of your text: *Text* (directly entered) or *File* (navigate to a text file), or *RSS* (ticker tape RSS feed).

If you select *Text*, enter your text in the text box below the source selector.

If you select *File*, enter a file name in the File Path box displayed, or click the navigation button (three dots) and find your text file. The text from your file will be automatically displayed. The file has to contain UTF-8 encoded text in order for it to be rendered correctly. Only the first 64KB of the text file will be loaded and displayed. You can also check the Keep reading text file continuously to keep the text display in your broadcast up to date with file changes.

If you select *RSS*, enter a URL in the URL box displayed.

Text

Enter text to display.

File

Click the "... " icon to navigate to the file containing text to display.

RSS URL

Enter the RSS URL where the text to be displayed is located.

Update frequency

Enter the number of seconds between updates.

Font

Select the desired font used for your messages. If you select Web Font, a Web Font field will display below. You can also select any of the fonts installed on your computer.

Face

Select the font style from the list of combination of bold and italic.

Size

Enter the font size. Click the gear icon to select the size of font.

Style

Select any combination of Bold, Italic, All Caps, by toggling each button.

Justify

Enables you to justify the text along the left, center, or right side of the display.

Align

Enables you to align the text at the top, middle, or bottom of the display.

Color

Click the box to open the color selection panel. Select a new text color from the palette.

Wrap

Select wrap mode from the drop-down menu: *Word Wrap* or *Break Wrap*.

On Change

Select transition type: Fade, Drop In, Drop Out, and Slide. Enter the length (in seconds) of the transition time.

Scroll

Enter a scroll mode: *Non Stop* or *If it Does Not Fit*.

Direction

Select the direction of the scrolling: Top to Bottom, Bottom to Top, Left to Right, or Right to Left.

Speed

Enter the speed (in pixels per second) that you want your message to scroll through the display.

Auto Reverse

When checked, the display reverses the scrolling direction when it reaches the top or bottom of the list.

Background

Select *Solid*, *Linear Gradient* (line), or *Radial Gradient* (circle). Click in the color box to open the color palette and select a background color. Click the second color box to select the gradient color. For *Linear Gradient*, adjust the slider to set the angle of the gradient display.

Shadow

Check to activate the text shadow slider controls. Click the color box to open the color palette.

Angle

Move the Angle slider to adjust the direction (0 to 360 degrees) the shadow text is offset from the actual text.

Offset

Move the slider to adjust the distance the shadow text is offset away from the actual text.

Blur

Move the Blur slider to adjust the amount of blur in the shadow text

Twitter Feed Properties

Twitter Feed displays a list of Twitter messages. Twitter Feed Properties have the following settings.

Name

Displays the name of the source. To change the Source Name, enter a new one.

Width/Height

Displays the width and height of the display source. To change the width or height, enter a new value.

Mode

Select the source of your text: *Text* (directly entered) or *File* (navigate to a text file), or *RSS* (ticker tape RSS feed).

If you select *Text*, enter your text in the text box below the source selector.

If you select *File*, enter a file name in the File Path box displayed, or click the navigation button (three dots) and find your text file. The text from your file will be automatically displayed. The file has to contain UTF-8 encoded text in order for it to be rendered correctly. Only the first 64KB of the text file will be loaded and displayed. You can also check the Keep reading text file continuously to keep the text display in your broadcast up to date with file changes.

If you select *RSS*, enter a URL in the URL box displayed.

Text

Enter text to display.

File

Click the "... " icon to navigate to the file containing text to display.

RSS URL

Enter the RSS URL where the text to be displayed is located.

Update frequency

Enter the number of seconds between updates.

Font

Select the desired font used for your messages. If you select Web Font, a Web Font field will display below. You can also select any of the fonts installed on your computer.

Face

Select the font style from the list of combination of bold and italic.

Size

Enter the font size. Click the gear icon to select the size of font.

Justify

Enables you to justify the text along the left, center, or right side of the display.

Align

Enables you to align the text at the top, middle, or bottom of the display.

Color

Click the box to open the color selection panel. Select a new text color from the palette.

Wrap

Select wrap mode from the drop-down menu: *Word Wrap* or *Break Wrap*.

Scroll

Enter a scroll mode: *Non Stop* or *If it Does Not Fit*.

Background

Select *Solid*, *Linear Gradient* (line), or *Radial Gradient* (circle). Click in the color box to open the color palette and select a background color. Click the second color box to select the gradient color. For *Linear Gradient*, adjust the slider to set the angle of the gradient display.

Shadow

Check to activate the text shadow slider controls. Click the color box to open the color palette.

Angle

Move the Angle slider to adjust the direction (0 to 360 degrees) the shadow text is offset from the actual text.

Offset

Move the slider to adjust the distance the shadow text is offset away from the actual text.

Blur

Move the Blur slider to adjust the amount of blur in the shadow text.

Scoreboard Properties

PRO

Scoreboards allow you to add a scoreboard graphic to your broadcast that can be dynamically updated. Multiple scoreboards can be added. Unlike most other elements in Wirecast, changes to the Scoreboard go live instantly without requiring a transition. Once the scoreboard is live, the preview image is exactly as it is seen in your broadcast. To open a Scoreboard source, select *Scoreboard* from the source menu in the shot window.

Scoreboards Properties have the following settings.

Source Name

Displays the name of the source. To change the Source Name, enter a new one.

Scoreboard

Select how the scoreboard will look using two drop-down menus. The upper menu selects the scoreboard style: Pipe, Shade, Corner, etc. The lower menu selects how the display fields are laid out: Basic, Right Stats, or Bottom.

Home/Visitor/Score

The Home, Visitor, and Score fields contain the home and visitor team names and their current score. The three icons to the right of these fields control the text alignment, font size, and font color. Click on each icon to open its control window.

BG Color

Sets the background color for the Home or Visitor field display. Click the color icon to open the control window.

+1, +2, +3

Click these score increment buttons to increase the Home or Visitor score display.

Field 1-4

Displays information inside the scoreboard depending on the layout chosen using the Scoreboard menus. The three icons to the right of these fields control the text alignment, font size, and font color. Click on each icon to open its control window.

Use a Custom Image

Check to enable the *Choose* button.

Choose

Click to navigate to the location of your custom image.

Reset

Click to remove a custom image.

Note: Because Wirecast updates the scoreboards dynamically, It is recommended that you fill in the additional information fields while using a layout that hides them. Then, change to a layout that reveals those fields when ready, otherwise your viewers see you typing in those fields live.

There are four hotkeys associated with the Scoreboard.

=	Increments Home score
-	Decrements Home score
]	Increments Visitor score
[Decrements Visitor score

In order for these hotkeys to be active, the scoreboard must be displayed in the *Live Broadcast Area* and the Wirecast default layout must be in focus (selected as the active Windows window).

Clock Properties

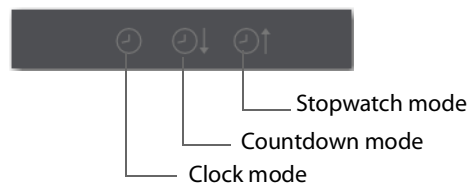
A Clock shot displays time. Clock Properties have the following settings.

Name

Displays the name of the source. To change the source name, enter a new one.

Clock Modes

Select *Clock*, *Countdown*, or *Stopwatch*.



Clock Mode:

Date Select a date display format.

Time Select a time display format.

Countdown Mode:

Mode

Select *Countdown from* or *Countdown to*.

Start Time

Enter the time value from which to start counting.

Start/Stop/Resume and Reset

Click *Start* to start the counter. When counting, click *Stop* to stop the counter. When stopped, click *Resume* to start counting again, or click *Reset* to rest the counter.

Automatically Start

When checked, the counter will start when the shot is taken live.

Format

Select one of the time-display formats from the drop-down menu.

Start, Stop, Reset

Click *Start* to begin counting down. Click *Stop* to end counting down. Click *Reset* to reset clock to Timer value.

At Zero

Select either *Stop at 00:00* or *Start count up clock*.

Stopwatch Mode:

Start, Stop, Reset

Click *Start* to begin counting. Click *Stop* to end counting. Click *Reset* to reset stopwatch to zero.

Display Format

Select time elements to display: Hours, Minutes, Seconds, and Fractional Seconds.

Font

Select font from drop-down menu.

Face

Select face from drop-down menu.

Size

Click the gear icon to select the font size from the menu.

Background

Select *Solid*, *Linear Gradient* (line), or *Radial Gradient* (circle). Click in the color box to open the color palette and select a background color. Click the second color box to select the gradient color. For *Linear Gradient*, adjust the slider to set the angle of the gradient display.

Shadow

Check to activate the text shadow slider controls. Click the color box to open the color palette.

Angle

Move the Angle slider to adjust the direction (0 to 360 degrees) the shadow text is offset from the actual text.

Offset

Move the slider to adjust the distance the shadow text is offset away from the actual text.

Blur

Move the Blur slider to adjust the amount of blur in the shadow text.

Image Carousel Properties

An Image Carousel shot shows a sequence of images. Image Carousel Properties have the following settings.

Name

Displays the name of the source. To change the source name, enter a new one.

Width/Height

Displays the width and height of the display source. To change the width or height, enter a new value.

Change Every

Sets how often the images are changed, in seconds.

Fade-In Time

Sets how long it takes for each image to fade in, in seconds. Enter zero for instantaneous display of images.

Shuffle Images

Check to shuffle the display order of the images. When unchecked, images are displayed as they are ordered in the image list.

Add/Delete/Move Images

Click the plus (+) button to find and add images. Select an image on the list and click the minus (-) button to delete it. You can move images up and down the list by selecting an image and clicking the up or down arrow.

QR Code Generator Properties

QR Code Generation has the following settings.

Source Name

Displays the name of the source. To change the source name, enter a new one.

Video Delay

Enter the amount of time (in seconds, as short as 1 ms) to delay video.

Content

Enter the message you want to be embedded in the QR code displayed in your broadcast.

Deinterlacing

Select *None*, or *Blend Fields*.

Backgrounds

Web Page

Creates a new Web Display shot.

See [Web Page Properties](#).

Solid Color

Creates a new Solid Color shot.

See [Solid Color Properties](#).

Solid Color Properties

Solid Color displays a solid color background. To open a Solid Color source, select *Solid Color* from the source menu in the shot window. Solid Color Properties has the following settings.

Name

Displays the name of the source. To change the Source Name, enter a new one.

Width/Height

Displays the width and height of the display source. To change the width or height, enter a new value.

Background

Select *Solid*, *Linear Gradient* (line), or *Radial Gradient* (circle). Click in the color box to open the color palette and select a background color. Click the second color box to select the gradient color. For *Linear Gradient*, adjust the slider to set the angle of the gradient display.

Virtual Set Properties

PRO

A *Virtual Set* is a pre-built source set, complete with graphics, that simulates a news-anchor set. For example, you can select a virtual set that displays three layers of decor with two live sources. You can use virtual sets as they are, or you can customize them to meet your needs.

Virtual Sets have the following settings.

Source Name Displays the name of the source. To change the source name, enter a new one.

Templates

Shot Template

Select *Templates* from the Add Shot menu.

When Wirecast displays the Templates window, select a template.

Wirecast displays the new template shot in the shot editor.

- **Placeholder Shot**

See [Assigning Media to Placeholders](#).

Shot Selection Icons

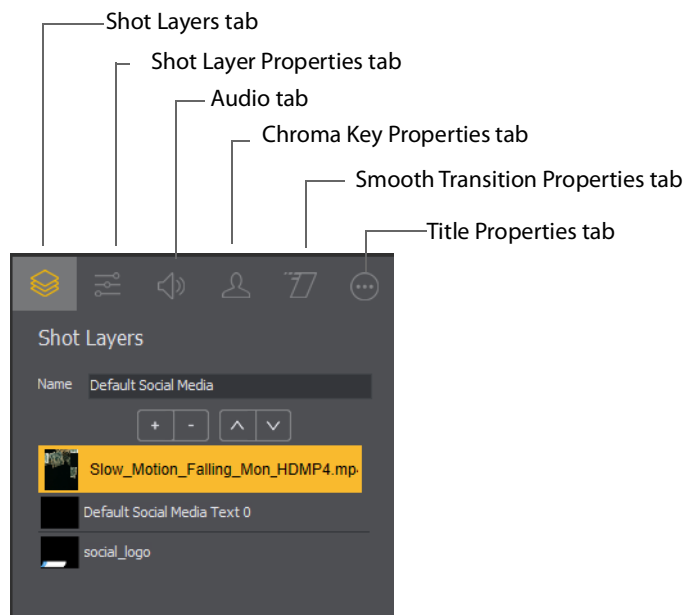
Each layer contains one or more shot-selection icons.

The shot icons can be made to display any live activity in the source it represents (cameras, streaming, etc.).

See [Creating a Shot](#) and [Shot Display Preferences](#).

The Shot Editor Window

The shot editor has six tabs: Shot Layers, Shot Layer Properties, Audio, Chroma Key Properties, Smooth Transition Properties, and Source Properties.



Shot Layers

Enables you to add and delete sources and to change the display order (layering within the shot).

Shot Layer Properties

Enables you to change the size, position, and other properties of a shot.

Audio

Enables you to set and monitor the audio level.

Chroma Key Properties

Enables you to configure the source chroma key settings. Each source in a shot can have its own chroma key settings.

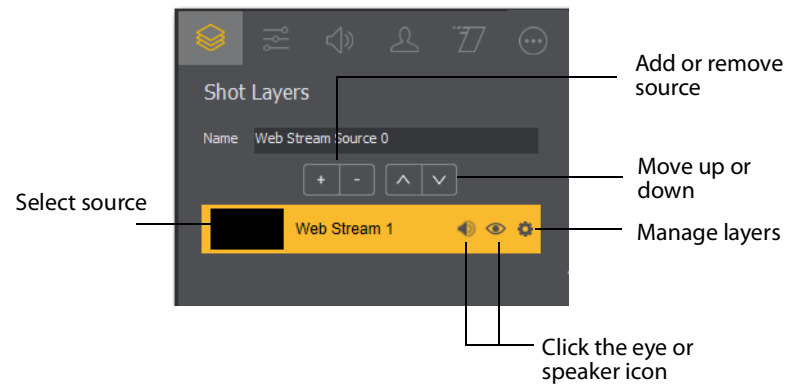
Title Properties

Enables you to set properties for a title in your shot.

Shot Layers Tab

The Shot Layers tab lists all of the layers in the shot.

Note: Source icons appear only when you hover over them.



See [Adding, Deleting, or Rearranging Layers in a Shot](#).

Replay Layer

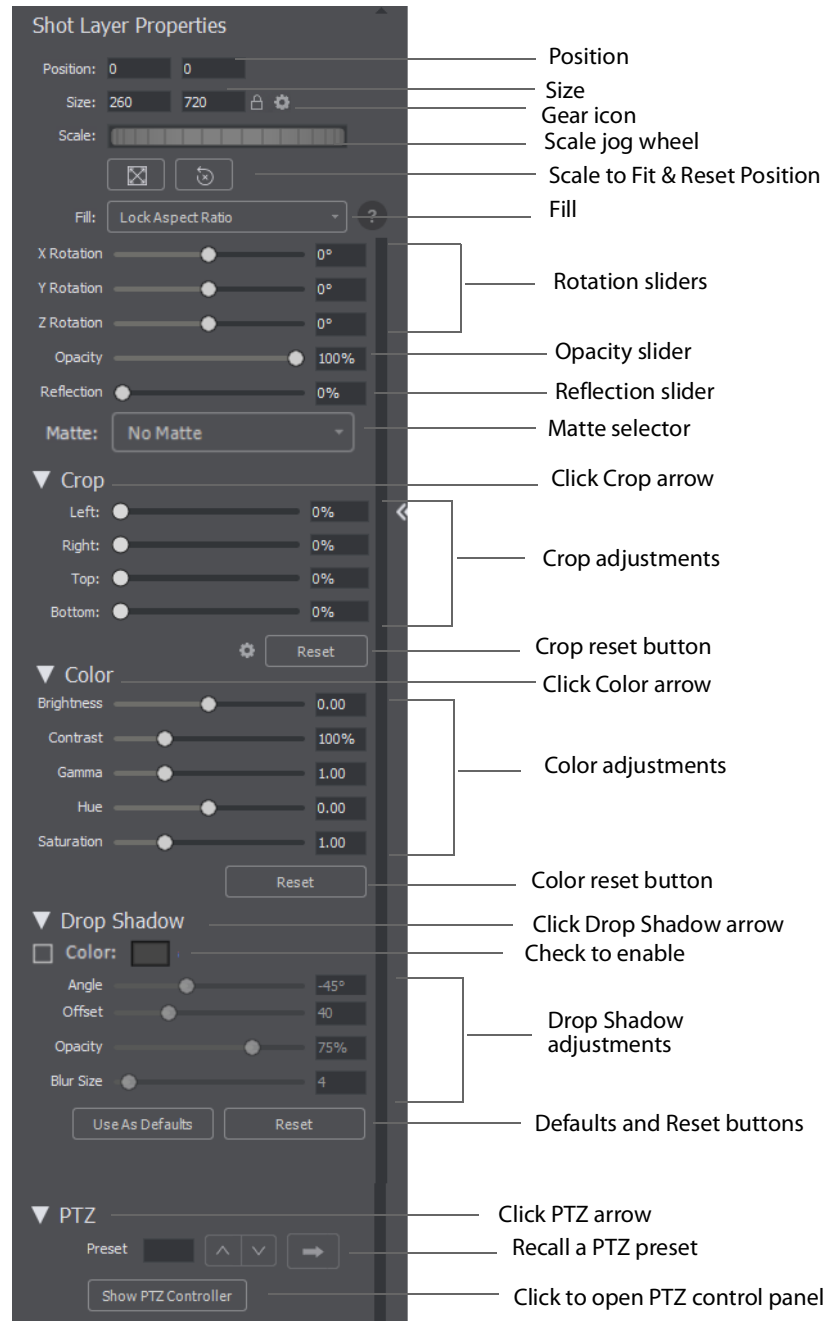
PRO

The Replay Layer is a placeholder layer that can be added to any shot for the purpose of creating a Replay Template Shot. Once the shot is selected in the Replay Settings it can be used as a template for any created Replay Shot.

See [Creating a Replay Shot from a Layer](#).

Shot Layers Properties Tab

The Shot Layer Properties tab enables you to make adjustments to the sources in your shot.



Position

Displays the position of the selected source in your shot. Position "0 0" represents the middle of the shot area. To move a source, enter new location values.

Size

Displays the size of the selected source in your shot. To resize a source, enter new size values.

Gear icon

Click and select how to size your bounding box: by pixels or percentage.

Scale Jog Wheel

Click and move the jog wheel to change the scale of your bounding box.

Scale to Fit Button

Click to expand the source to its maximum size on the canvas. This may distort the display of the source depending on what you have selected in *Fill* (below).

Reset Position Button

Click to force the source to return to its original size (scale) and rotation positions.

Fill

Select the way the scaling fills the bounding box:

- **Lock Aspect Ratio:** Fills the bounding box until one side hits the edge. Will respect the aspect ratio, and will not crop your media.
- **Lock and Fill Width:** Fills the bounding box to its width. Will respect the aspect ratio, so media may end up being obscured top to bottom if your bounding box height is less than the media height (or will have letterboxing if bounding box is larger).
- **Lock and Fill Height:** Fills the bounding box to its height. Will respect the aspect ratio, so media may end up being obscured on the sides if your bounding box width is less than the media width (or it will have pillar bars on either side if the bounding box is larger)
- **Stretch to Fill:** Fills your bounding box, does not respect aspect ratio of media, so may end up distorting your media.

Note: The *Fill* feature is not active in Clock, Text, Solid, QR Code or Web Page shots. In these shots the image automatically stretches to fill the bounding box.

X Y Z Rotation

Slide the X (Horizontal), Y (Vertical), or Z (Straight-through) axis sliders to rotate the source. (See also *Reset Position* below).

Opacity

Slide the Opacity slider to adjust the degree of transparency of your image.

Reflection

Slide the Reflection slider to adjust the degree of reflection below your image.

Matte

A Matte is a mask over a shot. Select a matte by clicking the down-arrow on the Matte menu. Default is *No Matte*. You can also use any media file as a *custom* matte. To do this, create a new shot of the media file you want to use as a matte. This file now appears in the Matte drop-down menu where you can select it.

Crop

Click the Crop triangle to open the cropping adjustment pane. Slide the Left, Right, Top, and Bottom sliders to crop your source image.

Reset

Click the *Reset* button to reset the crop controls to their default settings.

Color

Click the Color triangle to open the color adjustment pane. Slide the color controls to adjust the color.

Reset

Click the *Reset* button to reset the color controls to their default settings.

Drop Shadow

Click the Drop Shadow triangle to open the Drop Shadow adjustment pane. Check the checkbox to enable the controls.

- **Color** Click in the color field to open the color palette. Select a shadow color and luminance by sliding the vertical and horizontal sliders. Click outside the color edit box to close the palette.
- **Angle** Move the Angle slider to adjust the direction (0 to 360 degrees) the shadow text is offset from the actual text.
- **Offset** Move the slider to adjust the distance the shadow text is offset away from the actual text.
- **Opacity** Slide the Opacity slider to adjust the degree of transparency of your source.
- **Blur Size** Move the slider to adjust the amount of blur in the drop shadow.

Use As Defaults

Click to set the current drop shadow configuration as the default setting. All future enabled drop shadows will be set this by default. Clicking this button does not retroactively update previously created shots. Drop shadow settings on individual shots can still be changed.

Reset

Click to restore the drop shadow settings back to the default values. You can also restore the drop shadow settings to Wirecast application defaults by holding the Shift key down and clicking *Reset*.

PTZ

Click the PTZ triangle to open the PTZ control panel.

Preset

Click the up and down arrows to find a PTZ preset to recall, then click the Right Pointing Arrow button to recall the preset.

Show PTZ Controller

Click to display the PTZ Controller panel.

See [PTZ Controller](#).

PTZ Control in the Shot Layer Properties Tab

You can select PTZ Controller presets associated with a shot layer video source from the *Shot Layer Properties* tab of the Preview Inspector. You configure PTZ Control Presets in the PTZ Controller Panel.

To expand the PTZ control panel, click the PTZ triangle. To enable preset recall, check the *Enable* box. To select a preset, enter a preset number or click the up/down arrow buttons. Click the Go button (right pointing arrow) to cause the associated PTZ camera to recall that preset.

Once you have configured a shot layer with a PTZ Preset, sending that shot to preview recalls the preset for the camera. If multiple shots share the same video source with different PTZ Presets configured, the shot which is currently live takes precedence over subsequent PTZ Preset recall actions, until you drop the shot from the live feed.

When you enable Preset, clicking *Show PTZ Controller* opens the PTZ Controller panel. See [Shot Layers Properties Tab](#).

NDI Devices in the Shot Layer Properties Tab

If you have selected an NDI source, the NDI Source Properties tab will display. In addition to the controls above, an NDI source has the following controls.

Video Delay

Enter the amount of time (in seconds, as short as 1 ms) to delay video.

Bandwidth

Select the bandwidth to use: *Highest* (max quality), *Lowest* (max efficiency), or *Audio Only* (video bandwidth not applicable).

GPU Decoding

When checked, incoming sources will use your GPU to process the incoming source.

Timestamps

Select *Provided by source*, or *Provided by Wirecast*. This setting allows you to use timestamps embedded in the source, or use timestamps generated by Wirecast. Timestamps are used to synchronize devices. Many sources don't provide completely accurate timestamps, resulting in sources out of sync with each other (i.e. audio and video not syncing).

Select *Provided by Wirecast* to ignore the timestamps coming from the source, and instead generate new timestamps. However, the risk is that if the system is under a heavy load, the generated timestamps could be impacted, and end up arriving late. The default setting is *Provided by source*.

Deinterlacing

Select *None*, or *Blend Fields*.

Dynamic Range

Select *Default*, *Full* or *Limited*.

Monitor

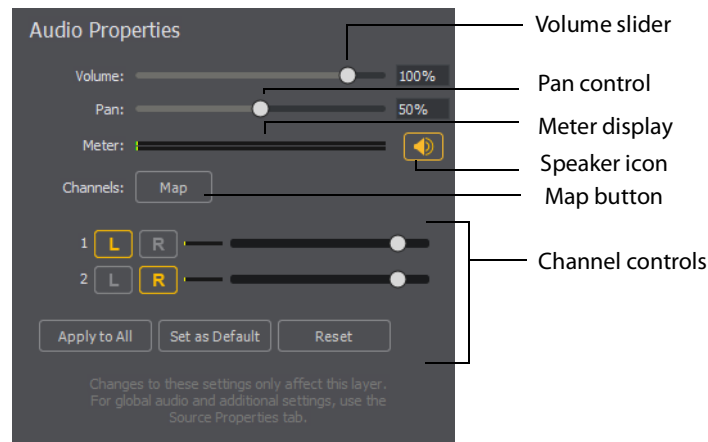
Check the *Monitor* check box to cause audio to play through your monitor output. If the check box is unchecked, audio will not play through the monitor output for this source. Checked is the default.

Note: NDI networking requires that your network has port 5353 open for mDNS device discovery, as well as one port per video channel (starting from port 5960 and onward) transmitted by an NDI source, plus one additional port for messaging.

See [Adding NDI™ Sources to Rendezvous](#).

Audio Properties Tab

The Audio Properties tab enables you to control and monitor audio. You can set the audio level, mute and monitor the audio, and map channel outputs.



Volume

Adjust the slider to set the audio volume level.

Pan

Adjust the slider to pan between left and right audio.

Meter

Monitors the audio level. You can also mute the audio by clicking the audio icon.

Speaker Icon

Click to mute the audio output. Icon turns gray when muted. Click the icon again to unmute the audio.

Channels

Select left (L) or right (R) for each channel. Adjust volume slider for each.

Apply to All

Click to apply the current settings to every instance of the selected source. If you have any shot specific configurations in other shots, they will be changed to match what was configured when you click this button. This action cannot be undone!

Set as Default

Click to take the current settings and set them as the default configuration. Any time this source is added to a shot in the future, it will be created with this configuration.

Reset

Click to reset the default settings. This is useful if you have made changes to the default custom settings, but want the defaults set back to the factory default settings. Factory defaults are: Chan 1 = Left; Chan 2 = Right; additional channels are unassigned.

Map

Click to open the audio mapping window. Check a square to map an audio channel to an audio track. Any audio can be tracked to any or all tracks. However, you will typically assign a group of channels to one track and other groups to other tracks.

If you have created a shot using a 16 input device, the mapping window will display all 16 channels.

Note: Although SDI supports 16 discrete audio channels, Wirecast Pro video out currently only supports two channels.

The audio track that is actually used is selected from the Audio Track menu in the Output Settings window. You can select only one track. However, if you are recording, you can select multiple audio tracks.

Chroma Key Properties Tab

Chroma Key (also called “green screen”) enables you to replace all green areas of your display (or any other color you choose) with a background image. For example, if you are in front of the traditional green screen, by “keying out” the green and leaving the background transparent, you will appear to be in front of your background.

The Chroma Key Properties tab enables you to turn on/off chroma keying and make chroma key adjustments. Check the *Use* box and+ select the type of use: Chroma, Luma, or Color Key.

Use

Check to turn on chroma keying. Uncheck to turn it off. Select the type of use: Chroma, Luma, or Color Key.

Color

Click the color square to open the Color Pallet. Select a color to use as the chroma key color and click *OK*. Click the dropper icon to use your mouse to select a chroma key color from your screen. Hover over the a desired color in the selected source, and click the left mouse button to select that color. All adjustments will be made using the selected color as the key.

Key Threshold

Move the slider to adjust how far away from your chosen chroma color you want to enable keying. The farther right you move the slider the more variation to the color it accepts.

Black Clip

The Black Clip slider allows you to define what is considered "black". When slider is fully left, you have a very thin definition of what black is. The farther to the right you go, you start adding more cases of what we consider "black". In chroma key, rarely do you want to bump the far left side to the right.

White Clip

The White Clip slider allows you to define what is considered "white". Slide both all the way to the right, for a very thin definition of white. The more you increase the range, the more you add to what you consider to be full intensity brightness. In chroma key, rarely do you want to bump the far right side to the left.

Spill Suppression:

This slider says: anything that is near green, bump it away from green. Move this slider to help take away the green reflection it locates on an edge. This will take everything that's green, and take away its greenness.

Solidify:

This slider says: if all the pixels around me seem to be part of the key, then bump up my probability of being part of the key. This tends to "solidify" your key. Move the slider to the right to bump up the alpha values for pixels surrounded by high alpha values. One disadvantage is that the hair on a subject may appear more "blocked" in nature.

Edge Coloring

Move the slider to adjust the level of edge coloring which pull colors from inside of keyed object to get rid of halo on an image.

Display

Select display: result of keying, white-alpha channel, or black-alpha channel. This can be helpful to get key parameters set correctly.

Luma Key

This lets you key based on its brightness (or Luma value). You have an icon with a white background - and you want to get rid of the white background.

Color Key

This lets you set the image alpha based on the distance from a given color in the RGB space. This is useful for images (logos) that have non-black and non-white backgrounds. If the BG is black or white use Luma Key. If it's a plate from a greenscreen/bluescreen then use Chroma Key. Otherwise, try Color Key.

Alpha Clip

This lets you choose what distance from the key color should be considered "foreground". So anything over a given distance from the key color is "foreground" otherwise it's "background". A range is used so there is a smooth transition from foreground to background.

Smooth Transition Properties Tab

The Smooth Transition Properties tab provides control over how objects (image, movie, title, etc.) are added or removed in the *Live Broadcast Area*. Wirecast performs motion only during a Smooth transition. If you are using any other transition, the motion settings are ignored.

There are two types of motion. When an object is added to your broadcast it is called *Build In*; When it is removed it is called *Build Out*. Motion only occurs when an object enters or leaves the *Live Broadcast Area*. For example, if you have two shots, each with a foreground and the media in the foreground is the same, then a Smooth transition is performed between the foregrounds. However, no motion is performed. Or, if a logo is positioned in the top left corner in an existing shot, and it is in the bottom right corner in a new shot, when you make the new shot Live the logo smoothly transitions from the top left corner to the bottom right corner. But the Build In and Build Out settings are ignored.

However, if you have two shots with a Foreground, but the media in each is different, the Build Out is performed for the existing shot, and the Build In is performed for the new shot.

Direction Menus

These provide selections of where the Build In comes from (top, bottom, right, etc.) when it is added, and where the Build Out goes when it is removed.

Fade In / Fade Out

Checking these checkboxes causes an object to be added or removed gradually. If unchecked, the object is instantly added or removed, much like a cut transition.

Spin In / Spin Out

Checking these checkboxes causes an object to be added or removed in a spinning fashion.

Scale In / Scale Out

Checking these checkboxes causes an object to be added or removed in a scaled fashion.

Apply To All

Click this button to make the Transition Settings the same for all sources in a shot. This is useful if you want to make all of your motion the same for all of the elements in the shot.

Set As Default

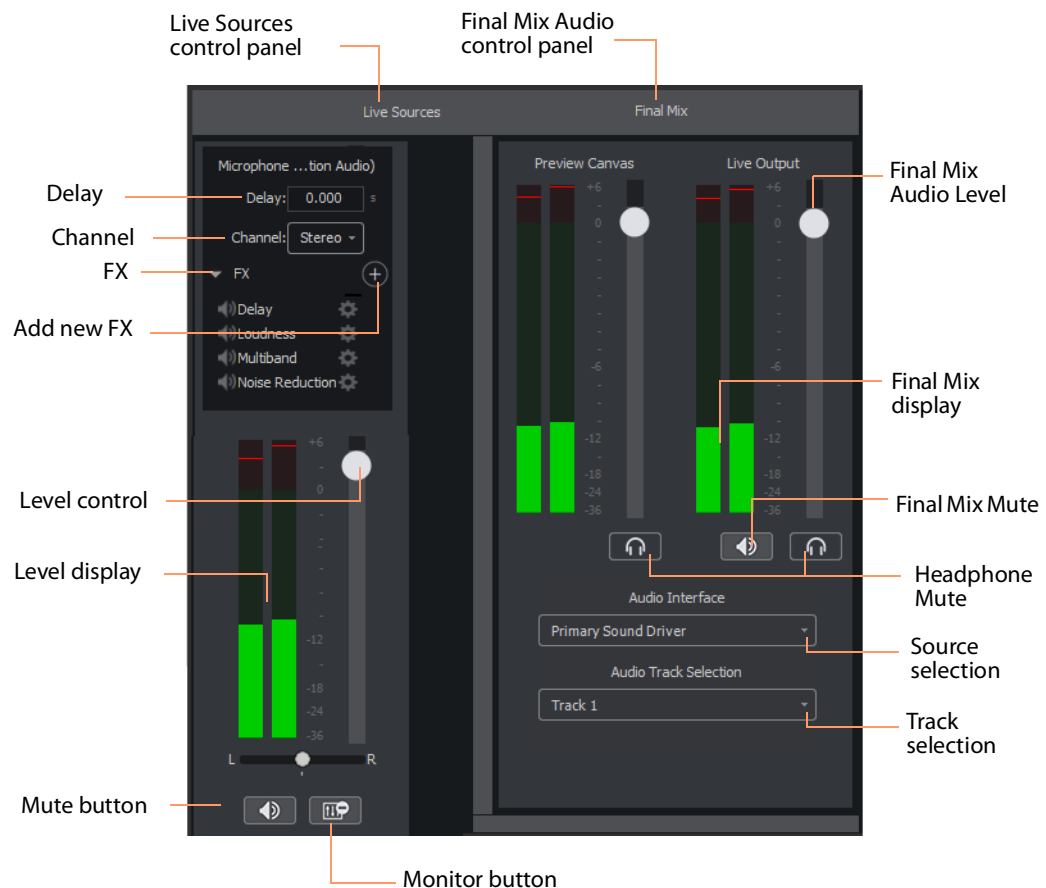
Click this button to make these Transition Settings the default settings for all new shots. These default settings will be applied in all future WC documents.

The Audio Mixer Window

The Audio Mixer enables you to monitor and control all of the audio sources from a single control panel. This section describes in detail how to use the Audio Mixer.

To open the Audio Mixer window, select *Audio Mixer* from the Window menu.

The Audio Mixer separates your audio by hardware and shot. Live Input is always the first section to the right of the Final Mix control, and it contains all hardware audio sources that are live in your streaming event. This includes microphones, audio input feeds, cameras, capture cards, Web streams, etc. The remaining audio controls are associated with specific shots.



The Monitor button toggles the source audio when monitoring Preview or Live output. This does not remove the audio from the output stream or recording. Delay enables you to delay the audio as needed, in seconds and milliseconds. Channel enables you to select left source only, right source only, or stereo (left and right).

Delay

Enter the amount of audio delay needed (in seconds and milliseconds).

Channel

Select the channel to use: Left, Right, or Stereo (both).

FX

Click the down-arrow to display the audio effects panel.

Add New FX (+)

Click the plus (+) icon to select an audio effect from the drop-down menu.

Delay

L and R Delay adjusts how much delay on each channel. Feedback is how much delay is used. Fb Tone is a frequency setting of highs and lows to be delayed. FX Mix is how much delay will be added to audio output. Output sets the delay output level.

Dynamics

Thresh sets the threshold of engaging compression. Ratio sets the compression ratio. Output sets the compression level. Attack sets the manner in which compression is applied. Release sets how compression is released. Limiter sets a max output level on the audio. Gate controls (Thresh, Attack, and Release) sets the noise gate that cuts off noise at the set level. Mix adjusts how much compression is applied to the audio.

De-ess

Thresh sets the threshold of de-essing. Freq selects the frequency at which de-essing will be applied to the audio. HF Drive adjusts the high frequency aspect of de-essing.

EQ

Low, medium, and high adjusts low, mid, and high frequency components in the audio.

Loudness

Loudness adjusts the amount of loudness (raising high and low frequencies) in the audio. Output adjusts how much loudness is applied to the audio.

Limiter

Thresh sets the minimum threshold of limiting in the audio. Output sets the amount of limiting used in the audio. Release sets the manner in which limiting is released as the audio decreases. Attack sets the manner in which limiting is applied. Knee adjusts the frequency and shape of point where limiting begins.

Multiband

Listen selects which part of the frequency spectrum to hear: low, mid, high, or all (output). L<>M adjusts the cutoff frequency in the low to mid range (87 to 1020 Hz). M<>H adjusts the cutoff frequency in the mid to high range (111 to 19606 Hz). L, M,

and H Comp adjusts the compression for low, mid, and high frequencies. L, M, and H Out adjusts the output for low, mid, and high frequencies. Attack sets the manner in which compression is applied. Release sets the manner in which compression is released. Stereo adjusts how the left and right channels are separated (width) from 0 to 200%. Process selects stereo or mono mode.

Noise Reduction

Amount sets the amount that noise reduction is applied.

Level Control

Adjusts the audio level of the live audio output.

Level Display

Displays the levels (left and right) of the live audio outputs.

Mute

Mutes the live audio output.

Monitor

Toggles the monitor audio output in the headphones without effecting the live audio output.

Final Mix Audio Level

Adjusts the audio level of the Final Mix audio output.

Final Mix Display

Displays the levels (left and right) of the Final Mix audio outputs.

Final Mix Mute

Mutes the Final Mix audio output.

Headphone Mute

Toggles the monitor audio output in the headphones without effecting the Final Mix audio output.

Source Selection

Click the down arrow to select an audio source from the drop-down menu.

Track Selection

Click the down arrow to select an audio track from the drop-down menu.

Note: Although SDI supports 16 discrete audio channels, Wirecast Pro video out currently only supports two channels.

The Output Settings Window

The Output Settings Window enables you to customize the settings for a destination.

Destination List

Wirecast lists the last-used destinations in the left-side pane of the *Output Settings* window. Each destination has its own broadcast technology preset, for example RTMP, or Windows Media.

Add Button

When clicked, the *Add* button opens the *Select an Output Destination* dialog, enabling you to add destinations to the destination list.

Remove Button

When clicked, the *Remove* button opens the *Select an Output Destination* dialog, enabling you to remove destinations from the destination list.

Name

This is an editable field for the name of the output setting. By default, Wirecast names the setting for the destination selected.

Destination

This drop-down menu lists all the visible existing destinations.

More Button

This button opens a menu listing all existing destinations, with check boxes for making each destinations visible in the *Destinations* drop-down menu.

First Gear Icon

This drop-down menu lists actions available for the destination selected.

Encoding

This drop-down menu lists the available encoding presets. Each destination preset has its own encoding presets. The encoding presets define the codec, aspect ratio, and frame rate for each destination. Wirecast provides many encoding presets.

Second Gear Icon

This drop-down menu enables you to view the details for the preset selected, create a new preset, or filter the presets listed for the destination selected.

Audio Track Selection

This drop-down menu lists the audio tracks available for the destination selected.

Map Button

This button opens the Multi-Track Input Mapper for the destination and track selected.

Address

This editable field contains the network address for the destination selected.

Port

This editable field contains the port address for the destination selected.

Passphrase

This editable field contains the passphrase for the destination selected.

Location

This field displays the host location for the destination selected.

See [Destinations](#) and [The Encoder Presets Window](#).

The Encoder Presets Window

The Encoder Presets window enables you to select a default encoder preset for your output, and to create your own custom presets.

Encoder Preset

This drop-down menu lists all default and custom encoder presets available.

Video Encoding

When checked, Wirecast enables you to customize the video encoding settings shown in the Video Encoding pane.

Note: You should match the output to the canvas size as closely as possible to preserve video resolution and quality. For example, a 800x600 source results in significant loss of quality if an aspect ratio of 640x480 is selected for the output. Choosing an output of 720x576, which is much closer in size, helps preserve video quality.

Profile

Many encoder presets enable you to select one of three profiles: Baseline, Main, or High.

Baseline Profile (BP) Baseline profile is primarily for low-cost applications that require additional data loss robustness. This profile is used in some video conferencing and mobile applications. It includes all features supported in the Constrained Baseline Profile, plus three additional features used for loss robustness (or for other purposes such as low-delay multi-point video stream compositing). The importance of this profile has faded somewhat since the definition of the Constrained Baseline Profile in 2009. All Constrained Baseline Profile bitstreams are also considered to be Baseline Profile bitstreams, since these two profiles share the same profile identifier code value.

Main Profile (MP) The Main profile is used for standard-definition digital TV broadcasts that use the MPEG-4 format as defined in the DVB standard. It is not, however, used for high-definition television broadcasts, since the importance of this profile faded when the High Profile was developed in 2004 for that application.

High Profile (HiP) The High profile is the primary profile used for broadcast and disc storage applications, particularly for high-definition television applications. For example, this profile is used by the Blu-ray Disc storage format and the DVB HDTV broadcast service.

Audio Encoding (AAC)

When checked, Wirecast enables you to customize the AAC audio encoding settings shown in the Audio Encoding pane.

See [Encoder Presets](#) and [Encoder Presets](#).

The PTZ Controller Panel

In this panel you can create a preset group of settings for each camera listed in the *Camera* drop-down menu. You can associate multiple presets for each camera. Also, you can switch between devices in the Camera drop-down menu.

Camera

This drop-down list shows cameras available to Wirecast. Selecting a camera updates the PTZ Controller window to display the preset VISCA and PTZ configuration for that camera. Once you establish a connection to a valid VISCA device, the PTZ Controller panel shows the camera's current Pan/Tilt orientation. Changing the Camera source changes all the settings in the panel accordingly.

Note: A PTZ camera's VISCA configuration is discrete from the video feed. You can associate any available video source with any manually-entered VISCA device information. This accommodates a workflow where the camera's video feed is being captured via a Capture Card.

Protocol

Select a PTZ protocol from the drop-down menu,

IP Address

Enter the IP address of a valid VISCA-over-IP source on the network. This IP address is configured in your camera's network settings.

Port

Enter the IP port for the VISCA connection of the camera. This IP port is configured in your camera's network settings.

VISCA Address

Select the correct VISCA Address of the camera. This VISCA Address is configured in your camera's VISCA settings.

Status / Reconnect Button

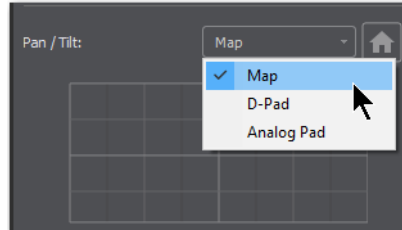
Displays the current VISCA connection status ("connected" or "invalid source") of your camera. Click the Reconnect button to force a reconnection.

Home Button

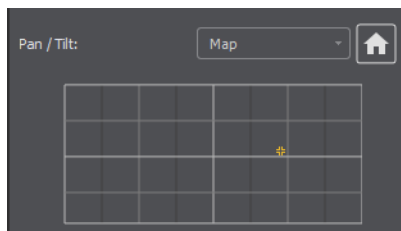
Click the House icon to reorient the PTZ camera to its default position (default centered, no zoom).

Pan/Tilt

Select the desired pan/tilt control method (Map, D Pad, or Analog Pad) from this drop-down menu.



- Map – displays an X/Y plane with a yellow cross-hair representing the current Pan/Tilt orientation of the camera



- D-Pad – Pan the camera by clicking the left and right arrows, and tilt the camera by clicking the up and down arrows.



- Analog Pad – Click in the analog circle to reposition the camera pan and tilt.



Zoom

Move the slider to adjust the zoom factor of your camera.

Note: When the PTZ Controller panel is the selected window, you can press the arrow keys on the keyboard to adjust the Pan (left and right arrow keys) and Tilt (up and down arrow keys) of the camera. Alternatively the W, A, S, and D keys can also be used (W = Up, A = Left, S = Down, D = Right)

Focus

Click the Plus and Minus buttons to adjust the focus of the camera. The yellow button in the center toggles auto-focus on and off. Any manual adjustments made to the focus will automatically disable the auto-focus.

Exposure

Select the exposure mode from the Exposure drop-down menu.

- **Shutter** Move the slider to adjust the shutter of the camera. You can only adjust the Shutter when Exposure mode is not in auto-focus.
- **Iris** Move the slider to adjust the iris of the camera. You can only adjust the Iris when Exposure mode is not in auto-focus.

Note: Refer to PTZOptics documentation for more details about each mode.

White Balance

Select the white balance mode from the White Balance drop-down menu.

Note: Refer to PTZOptics documentation for more details about each White Balance mode.

One Shot

When the White Balance mode is set to *One Shot*, click this button to adjust the White Balance one time only.

Red Gain/Blue Gain

When not in auto-focus mode, you can use these sliders to adjust the red and blue gain of the video signal to compensate for white balance issues.

Presets

Enter a preset number and click *Save* to save current Pan, Tilt, and Zoom configurations of camera. To recall a preset, select a preset number by clicking the arrow buttons, then click the Recall button.

Note: If you have Wirecast in the *AutoLive* mode, you must click the *Live* button to switch between presets on the same PTZ camera. This is a built-in safeguard against unintentionally moving the camera while in *Live* mode.

See [Configuring The PTZ Controller](#), [Opening the PTZ Controller Panel](#), and [Controlling a PTZ Camera](#).

File Menu

New

Creates a new, empty Wirecast document.

Open

Displays the Open dialog window for opening a Wirecast document.

Open Recent

Displays up to fifteen of the most recently accessed documents. Every time a document is opened or saved it is entered into this list.

Import Media

Enables you to import media into Wirecast. A new shot is automatically created using the new media.

Save

Saves the document. If the document has not already been saved, the Save As... dialog window is displayed.

Note: Wirecast auto-saves your Stream/recording. All formats (WMV, MOV, MP4) will be recoverable in increments of 20 seconds. Any recording less than 20 seconds is corrupted. ISO also recovers. In the case of an unexpected shutdown, the recoverable video is available in increments of one minute.

Save As

Displays the Save As... dialog window so that the document can be saved using a new file name.

Close Window

Closes the currently active Wirecast window. If the window is a document, all of its Shot Editor windows are closed as well. If Wirecast is still broadcasting, you are asked to stop the broadcast. If the document has not been saved, you are asked to save the document before closing.

Preferences Opens the Preferences window. If the Preferences window is already open, it is made active.

Exit Closes all documents and then exits. If the broadcast is playing, you are asked to stop the broadcast. If a document has not been saved, you are asked to save the document before exiting.

Edit Menu

Undo

Reverses your last change in Wirecast. Undo is only available in some windows (such as the *Preview Area*). Wirecast offers an unlimited number of undo actions (within

computer memory limitations). Undo information is stored on a per-window basis. Also, if you close a window then reopen it, your undo information is lost.

Redo

Reverses your last undo action. Redo is only available in some windows (such as the *Preview Area*). Wirecast offers an unlimited number of redo actions (within your computer's memory limitations). Redo information is stored on a per-window basis. Also, if you close a window then reopen it, your redo information is lost.

Cut

Cuts selected text.

Copy

Copies selected text to clipboard.

Paste

Pastes selected text from clipboard to location of cursor.

Paste as new Consolidated Shot

Pastes selected shots into one *consolidated shot*. A *consolidated shot* is a shot created from multiple sources.

Select All

Selects all text in the active window.

Edit Shot

Opens the Shot Editor. You can also double-click a shot, or right-click and select Edit Shot, to open the Shot Editor.

See [The Shot Editor Window](#).

Rename Shot

Enables you to rename a shot. You can also right-click a shot and select Rename Shot.

Duplicate Shot

Duplicates the currently selected shot. You can also right-click a shot and select Duplicate Shot.

Duplicate Shot Options

Check a source to create a new instance of it when duplicating the shot containing it. Multiple selection is allowed.

Delete Shot

Deletes the currently selected shot. You can also right-click a shot and select Delete Shot.

Move To Layer

Moves a shot to the selected layer. When shots are created, they are assigned to a specific layer. They exist on that layer until they are moved or deleted. You can also click and drag a shot to another layer.

Switch Menu

Go

Performs a transition (same action as clicking the Go button).

Transitions

Wirecast has two transition buttons that can be assigned any transitions (cut, smooth, etc.) that Wirecast supports. The Switch menu lists the currently assigned transitions by name. These two transitions can also be selected by pressing the control key and either the 1 or 2 key. Right-click on either transition to open the operation menu. Select how the transition will operate: *Ease In*, *Ease In/Out*, *Ease Out*, *Linear*, or *I*.

To select which transitions appear in this menu, see [Transition Controls](#).

Transition Speed

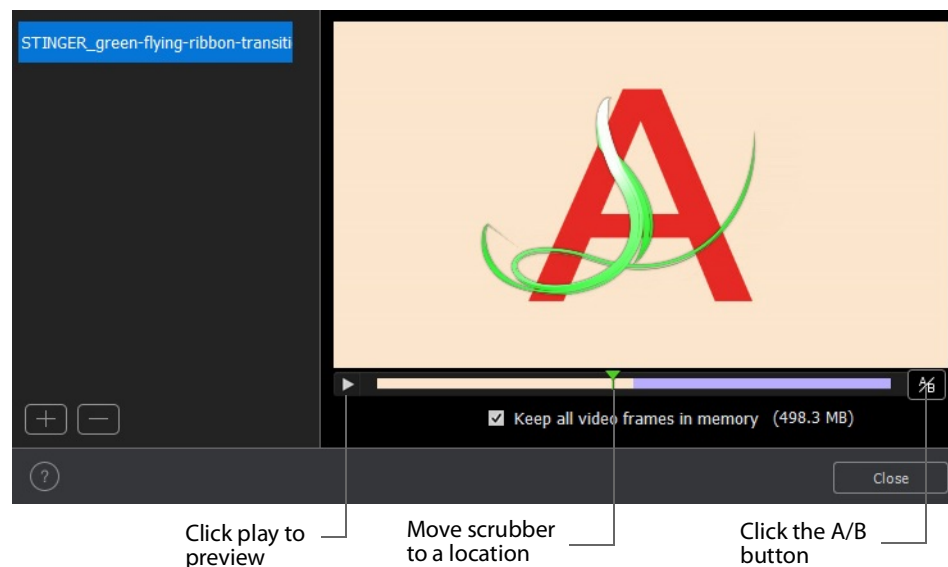
Enables you to select one of five transition speeds ranging from Slowest to Fastest.

Manage Stinger Transitions

Enables you to import and use custom transitions that employ transparent backgrounds. These transitions are typically created using applications such as *Adobe After Effects*, *Apple Motion* or *ScreenFlow*.

Select *Switch > Manage Stinger Transitions* to display the Stinger Transition Manager. To import a transition file, click the plus (+) button and navigate to the location of the file.

Once the transition file is imported, you can preview the transition from shot A to shot B by clicking the play button. To set the location of where the shot will change from A to B, slide the scrubber to a location in the transition, then click the A/B button.



Note: Stinger transitions are stored in the preferences (including the path to the media file). This allows the you to re-use transitions in other WC documents. When Wirecast cannot find a media file associated with a Stinger transition (file deleted or

moved), the transition will be removed from the transition bank list and the name will be highlighted red in the Stinger Transition Manager.

To delete a transition, select it and click the minus (-) button. Click the help (?) button to display help instructions (this portion of the user guide). Check (optionally) the *Keep all video frames in memory* check box. When checked, CPU spiking (which can cause streaming problems) is prevented, but more memory is used. Click *Close* to exit the Stinger Transition Manager.

To execute a Stinger Transition, open a transition menu and select a Stinger transition. Click the *Go* button to execute the Stinger transition.

AutoLive

Toggles (turns on and off) the AutoLive feature.

You may want to single-click a shot to make it become live. Alternatively, you may want to make several changes to a shot before making it live. You can use either method in Wirecast.

When enabled, the AutoLive feature lets you broadcast any shot with a single click. When AutoLive is enabled, Wirecast disables the *Go* button. Clicking a shot in a layer automatically places the shot in the *Live Broadcast Area*.

See [Single-Click Switching with AutoLive](#) and [Go Button](#).

Live/Preview Swap

Toggles (turns on and off) the Live/Preview Swap feature. When on, the Live Broadcast and Preview windows trade panes (swap) when the *Go* button is clicked.

Layer Visibility

Click to open the menu and select a layer to hide or show in your shot. A check mark displays when the layer is visible. The shot icon becomes gray when not visible. You can toggle on and off the visibility of each layer by pressing the *Alt+1* through *Alt+5* keys.

Disable PTZ Preset Recall

Enables/Disables PTZ preset recall.

See [The PTZ Controller Panel](#).

Note: When you transition to a shot containing an animated title, Wirecast first executes the transition, and then performs the opening animation for the title. When you clear the title from the shot, Wirecast first performs the closing animation for the title, and then executes the transition for the end of the shot.

Media Menu

Start Playing All Movies

Starts playing any movies that are not currently playing.

Pause All Movies

Pauses all movies that are currently playing.

Shuffle Playlist

Randomly rearranges the order of media in the playlist.

Show Asset Manager

Displays devices that can be configured. Some devices (cameras, etc.) may be configurable. For example, you can configure a USB camera to manually change its focus, contrast, brightness, etc. Other devices have multiple inputs you can choose (AlchemyTV Card, etc.).

See [Asset Manager](#).

Note: The Configure Devices menu selection is present only if a device is connected to Wirecast. The configuration user interface is provided by the device maker. It is beyond the scope of this document to describe all of the features available for all devices. See the documentation provided with your device on how to configure it.

Output Menu

Output Settings

Opens the Output Settings window.

Start/Stop Broadcasting

Starts (or stops) broadcasting to the network.

Start/Stop Recording

Starts (or stops) recording to disk. If you have not yet configured the Output Settings for this document, you are prompted to do so.

Show Recordings

Opens all the folders of all the file directories in the Output Settings.

Multi-Viewer Output

Enables you to setup and use a Multi-Viewer display on and or all monitors. You can configure your displays, enable all displays, select a display to be active, or show (or hide) all displays when the application is in the background.

Configure Displays

Select *Configure Displays* to open the configuration window.

Setup your Multi-Viewer by choosing a *Monitor* which determines where the Multi-Viewer will display. Also select the Mode: Multi-viewer, Live Output, or Disabled (neither).

Select a *Layout* which determines how the Multi-Viewer will be displayed. The layout choices are: one, two, or four slots. In the *Pro* version ten or seventeen slots can also be

selected. Each panel slot can then be mapped to any source: Preview, Live or any existing Shot in your document. Click inside a panel to select a source. Each Monitor is configured separately using the Configuration window. So, when you select a different monitor, the configuration panel (slots) also change. Additionally, all the monitors are automatically numbered. Clicking the *Identify Displays* button causes each of the monitors to display its number on it.

You can also control how each panel is labeled by making a selection from the *Labels* menu:

Draw Labels Below each Slot

Displays the label below each shot in each panel.

Superimpose Labels Over Each Shot

Displays the label over each shot in each panel.

Do Not Draw Labels

No labels are displayed.

Click on any slot panel to open the source menus, then select a source from the list to display it in the slot. Click *Identify Display* to cause the display number on each display to be shown.

Enable/Disable All Displays

Select to hide or display all of your configured Multi-Viewed monitors.

Select a Display

Select one of your configured Multi-Viewed monitors to hide or display. Shown below is a typically configured monitor with four slots. Audio meters are provided in each view.

Hide All Displays When App is in the Background**PRO**

When selected, all Multi-Viewer Displays are hidden if Wirecast itself is put into the background or minimized. Turning this option off allows the Multi-Viewer outputs to stay on if Wirecast is put in the background or minimized.

Note: Multi-Viewer displays can also be disabled by clicking on the Multi-Viewer display itself (on its target monitor), and then pressing the Escape (*Esc*) key.

Secondary Display Live Output

Sends the live program to a secondary device. For example, you can send a live program feed to another screen or to a capture card in an external device. If the external device has an UVC HDMI capture card, you can capture the live output from Wirecast for use in the applications--such as Zoom or Teams--on the other device.

You can use Secondary Display Live Output as an alternative to Virtual Camera/Mic.

You can map audio tracks, as well as video, to the secondary display.

Virtual Camera Out

Enables you to present the output of Wirecast as if it were a camera (a virtual camera), allowing it to be automatically detected by other applications when they are launched. Outputs only the Live Program feed.

For more detailed information, see [Virtual Camera](#).

Active Broadcast

Once you have logged into your YouTube or Twitch account and you start streaming, you can select *Active Broadcast* to display the YouTube broadcast window in a browser.

Control Room (YouTube only)

Once you have logged into your YouTube account, you can select *Control Room* to display the YouTube control room window in a browser.

Dashboard (Twitch Only) Once you have logged into your Twitch account, you can select *Dashboard* to display the Twitch dashboard window in a browser.

VOD of Last Broadcast Enables you to view the most recent completed broadcast.

Note: *Active Broadcast* is enabled only for Twitter-Live Broadcast and YouTube., *Control Room* and *VOD of Last Broadcast* are enabled only when you are logged into YouTube.

Facebook (Facebook Live Only)

Select *Active Broadcast* to display your Facebook Live event.

Twitter

Opens menu to monitor your Twitter broadcast.

- **Active Broadcast** Once you have logged into your Twitter account and you start streaming, you can select *Active Broadcast* to display the your broadcast window in a browser.
- **Producer Dashboard** Once you have logged into your Twitter account, you can select *Producer Dashboard* to display the Twitter dashboard window in a browser. In the dashboard you can start your broadcast by clicking the *Go Live* button.

To stop your broadcast click the *Stop Stream* button.

- **Toggle Broadcast** Click to toggle between *Go Live* and *Stop Broadcast* on the Producer Dashboard.

Canvas Size

Sets the canvas size resolution used when broadcasting a Wirecast document.

Note: You should match the output to the canvas size as close as possible to preserve video resolution and quality. For example, a 800x600 source results in significant loss of quality if a resolution of 640x480 is selected. Using 720x576, which is much closer in size, helps preserve video quality.

Show Statistics

Displays the statistics window for your broadcast. You can select (for display): Bitrate, RTMP Queue Size, Framerate, System CPU Usage, and System Memory Usage.

PRO

NDI Output

Sends the output of the Live Program feed. Select the output resolution for your NDI output. You can also select a link that will take you to NDI.NewTek.com for additional information.

Note: Although SDI supports 16 discrete audio channels, Wirecast Pro video out currently only supports two channels.

Blackmagic Cards

Note: If you are updating to Wirecast 14 (or a previous version) and have multiple capture cards that are different models, when you open a saved document that contains sources from the capture cards, one of the inputs may fail to upgrade (and will show their saved source.) To remedy this re-add the missing source back into the document, then open the Asset Manager and assign that newly added source to back into its saved shot.

You can use Blackmagic cards to send live feeds directly into editing, effects and broadcast design systems. In order to use this feature, install a Blackmagic card with associated drivers, then restart Wirecast. The Blackmagic card will then be listed in the Output menu.

Under the Output menu, select a Blackmagic card, and then select an HD setting for its output. If your card has multiple outputs, you can select more than one and all will output simultaneously at independent resolutions and Frame rates.

To begin outputting, select *Start Output* and choose a setting.

You can stop the Blackmagic card output by selecting *Stop Output*. If you have multiple outputs selected, they will all stop outputting.

Note: Some Blackmagic cards do allow input and output simultaneously, but need to be configured in the Blackmagic software.

Layout Menu

To optimize the user interface for each document, you can configure the Wirecast layout.

Wirecast enables you to select which functions are displayed in the default layout. These functions are added or removed from the default layout using the Layout menu.

Final Mix

When checked, displays the *Final Mix Audio* controls. *Final Mix Audio* controls are located on the left and right sides of the default layout.

Show Live and Preview

When checked, displays the Live and Preview windows, and allows you to select between displaying the *Preview Area* only, the *Live Broadcast Area* only, or both.

Show Preview Only

Displays the *Preview Area* only.

Show Live Only

Displays the *Live Broadcast Area* only.

Note: The three controls above work the same as the Mode Control buttons at the top-right of the default layout. See [Mode Selection Buttons](#).

Zoom Layers In

Increases the size of *all* the layer icons.

Zoom Layers Out

Decreases the size of *all* the layer icons.

Zoom Layers To

Sets the size of *all* the layer icons to: 50%, 100%, or 200%.

Note: You can also change *each* layer size by clicking and dragging the divider line between layers. Additionally, you can change the size of *all* layers by holding the Ctrl key while clicking and dragging the divider line between layers.

Go to Layer

Displays the selected layer. You can also press Ctrl + Shift keys with the T, F, N, B, or A keys to select a layer. Each of these letter keys represents a layer name: Title, Foreground, Normal, Background, and Audio.

Replay + ISO Menu

PRO

Start All

Activates the Create Replay Shot system. When activated, the menu item becomes *Deactivate*. Click *Deactivate* to deactivate the Create Replay Shot system.

Activate

Activates the Create Replay Shot system. When activated, the menu item becomes *Deactivate*. Click *Deactivate* to deactivate the Create Replay Shot system.

Configure ISO Outputs

Once ISO outputs are created, all ISO outputs are listed in this menu. To configure an ISO output, click *Configure*, then click the *Add ISO* button.

Note: You can create ISO recordings of any source or shot in your document.

Replay Mark All

Allows you to tighten up your Replay Shot capture. Select *Replay Mark In* to mark the beginning point of your Replay Shot capture.

Create All Replay Shots

Select *Create* to create additional Replay shots.

Update All Replay Shots

If no replay shot exists, selecting *Update* creates a new Replay shot. There after, selecting *Update* updates the first Replay shot created.

Configure

Displays the Replay Shot settings window.

For more information about Replay Shots see [Replay + ISO Menu](#).

ISO enables you can set up ISO recording and do Replays from the same menu. To use Replay and ISO functionality, select the Replay + ISO menu.

Start All

Activates all configured ISO shots and/or the Program Replay. When activated, the menu item becomes *Stop All*. Click *Stop All* to deactivate the Create Replay Shot system.

Program Replay

Allows you to Stop, Mark In, Create, or Update a relay shot.

PRO

Replay Mark All

Allows you to tighten up your Replay Shot capture. Select *Replay Mark In* to mark the beginning point of your Replay Shot capture.

PRO

Create All Replay Shots

Select *Create* to create additional Replay shots.

PRO

Update All Replay Shots

If no replay shot exists, selecting *Update* creates a new Replay shot. There after, selecting *Update* updates the first Replay shot created.

PRO

Configure

Displays the Replay Shot settings window.

Once ISO outputs are created, all ISO outputs are listed in this menu. To configure an ISO output, click *Configure*, then click the *Add ISO* button.

See [Configuring Replay + ISO](#).

Social Menu

Two social media options are provided: Facebook and Twitter. Facebook enables you to receive polling data from viewers. Twitter enables you to add Twitter messages to your broadcast along with filtering the messages displayed.

Facebook

The *Social > Facebook* menu contains the *Create New Poll* option as well as a list of any previously-created polls.

See [Creating a Facebook Poll](#) and [Selecting a Facebook Poll](#).

Twitter

Message Feed Brings up your Twitter feed.

Create Shot Creates a shot with a social media title in Main Layer 1.

Settings Brings up the Social Media Settings dialog.

Authenticate

Click to authenticate your account with Twitter. Enter your pin when the PIN field displays.

Feed Type

Select a Feed Type: Home Timeline, User Timeline, Favorites, Search. If you select Search, the Search String field becomes active.

Search String

Enter a search string. (Active only when Search is selected in Feed Type above.)

(See in the Social Media section of this user guide for more detailed information).

Comments

Opens a dialog listing comments about the broadcast that are posted to Facebook, Twitter, or YouTube.

Window Menu

Welcome to Wirecast

Displays the Welcome screen.

Encoder Presets

Opens the Encoder Presets window.

See [Encoder Presets](#) and [The Encoder Presets Window](#).

Audio Mixer

Opens the Audio Mixer window.

See [The Audio Mixer Window](#).

PTZ Controller

PRO

Opens the *PTZ Controller Panel*.

Wirecast Pro allows you to remotely control cameras with built-in pan, tilt and zoom (PTZ) features using the built-in PTZ Controller window. This feature currently works with PTZOptics and Lumens cameras that support VISCA over IP control, as well as NDI PTZ protocol controls.

See [The PTZ Controller Panel](#).

Show USB Devices

Opens a list of all USB devices.

Open Rendezvous Dashboard

Opens a Rendezvous Dashboard. Click *Start Session* to use.

See [Rendezvous](#).

PRO

Open Advanced Rendezvous Audio Mixer

Displays the Rendezvous Audio Mixer window.

- **Output from document** Select document source via the pull-down menu.
- **Channel** Output level indicators for each channel.
- **Include In Mix** When checked, this audio source is included in your Rendezvous session.
- **Audio Level (Sliders)** Move the sliders Library to adjust the audio level.

Download Manager

Opens the Stock Media download monitor window. Whenever you add a Stock Media Library file, the downloading progress is displayed. You can cancel a download by clicking on the X icon. To navigate to the location of a downloaded file, click the spyglass icon.

Notifications

Opens the notifications window. This window displays last “important” log messages and other application health messages.

New Layer Window

Opens a new Main Layer window for the layer selected.

Document Windows

All open document windows are listed at the bottom of this menu.

Help Menu

Wirecast Help

Opens the online version of the User Guide.

Open Wirecast PDF User Guide

Opens the PDF version of the User Guide.

Open Tutorial HTML

Opens the Wirecast Tutorial in your browser. To follow the tutorial, you'll need to Create a Document for the Tutorial as well.

Create Document for Tutorial

Creates a new Wirecast Document which contains the media necessary for following the Tutorial.

Buy/Upgrade

Opens *Licenses* in the Preferences window. This window allows you to purchase licenses and to activate or deactivate them.

Provide Feedback

Opens the Telestream Website feedback page where you can enter any feedback you may have about our product or company.

Send Support Information

Opens a Support Assistant dialog window. To create a new support ticket, select *Create a support ticket*. The information is sent to the Telestream support team for evaluation. If you have been previously issued a case number, select *Link with existing support case #* and enter your case number. You can also select *Do not receive follow-up from Telestream*. This enables you to send support information to Telestream without receiving a response. Click *Save Report* to save the information to a file on your computer. Click *Send Report* to send the information to Telestream.

For troubleshooting purposes, you can reset your preferences to the defaults by clicking the *Reset Preferences* button. This will reset your preferences and create a backup of your current preferences, in case TS Support needs it.

For troubleshooting without resetting preferences, you can also open Wirecast in "Safe" mode using *Shift + Control + Open*.

Note: You must click *Send Report* to create a ticket. If you click *Save Report*, a ticket will not be created.

Open Scripting Documentation Opens the Wirecast Scripting Help document.

Show Scripting Examples Opens the directory where the Wirecast Scripting examples are located.

Visit Telestream LLC Website

Opens the Telestream Website home page.

Visit Wirecast / Desktop Presenter download page

Opens the Telestream Website download page for Desktop Presenter.

Acknowledgments

Opens an on-line help to Acknowledgments.

About Wirecast

Displays version and copyright information about Wirecast.

Keyboard Shortcuts

This section provides a list all of keyboard shortcuts used for Wirecast commands. The shortcuts are listed under the names of the menus in which the commands appear.

Note: See also the section on [Keyboard Shortcuts Preferences](#) for Keyboard Shortcut management.

Topics

- [Creating a Keyboard Shortcut](#)
- [Creating a Keyboard Shortcut for a Shot](#)
- [Creating a Keyboard Shortcut for Multiple Shots](#)
- [Deleting a Keyboard Shortcut](#)
- [General Shortcuts](#)
- [File Menu](#)
- [Edit Menu](#)
- [Switch Menu](#)
- [Media Menu](#)
- [Output Menu](#)
- [Layout Menu](#)
- [Replay Menu](#)
- [Social Menu](#)
- [Window Menu](#)
- [Help Menu](#)

Creating a Keyboard Shortcut

To create a keyboard shortcut, do the following:

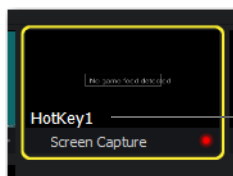
1. Select *File > Preferences > Keyboard Shortcuts*.

2. Click the add (+) button.
3. In the *Name* field, enter a name for the keyboard shortcut.
4. (Optional) To make your keyboard shortcut active even when the Wirecast window is not the active window, check *Global*.
If *Global* is not checked, the Wirecast window must be selected in order for the keyboard shortcut to work.
See also [Keyboard Shortcuts Preferences](#)

Creating a Keyboard Shortcut for a Shot

1. In the layers pane, click the gear icon for a shot.
Wirecast opens the *Keyboard Shortcuts* pane of *Preferences*.
2. In the *Name* field, enter a name for the keyboard shortcut.
3. In the *Key Binding* (unlabeled) field, enter a key combination for the shot.
4. To close the *Preferences* dialog box, click the "x."

Once a keyboard shortcut is assigned to a shot, Wirecast displays the keyboard shortcut in the shot icon.



Keyboard Shortcut name

See also [Keyboard Shortcuts Preferences](#).

Creating a Keyboard Shortcut for Multiple Shots

You can assign the same keyboard shortcut to multiple shots. This is useful when you want to activate different shots on different layers at the same time, using a single keyboard shortcut. To create a keyboard shortcut for multiple shots, do the following:

1. Assign a keyboard shortcut to one shot. See [Creating a Keyboard Shortcut for a Shot](#).
2. Assign the same keyboard shortcut to a second shot on another layer.
Wirecast displays the keyboard shortcut in both shot icons.

See also [Keyboard Shortcuts Preferences](#).

Deleting a Keyboard Shortcut

1. Select *File > Preferences > Keyboard Shortcuts*.
2. Click the *Delete* (-) button.

See also [Keyboard Shortcuts Preferences](#).

General Shortcuts

Misc Shortcuts	Keyboard Shortcut
Display Shot	<shot number key*>
Enter	Selects left-hand transition button and clicks Go button
Space bar	When two transitions are displayed, the space bar selects the transition on the right and clicks the Go button. When three transitions are displayed, the space bar selects the transition in the middle and clicks the Go button.
i	Sets the media IN point
o	Sets the media OUT point
e	Sets the Replay IN point
=	Increments Home score
-	Decrements Home score
]	Increments Visitor score
[Decrements Visitor score

* See Keyboard Shortcut in Changing Shots.

File Menu

File Menu	Keyboard Shortcut
New	Ctrl+N
Open	Ctrl+O
Import Media	Ctrl+Shft+I
Save	Ctrl+S
Save As	Ctrl+Shft+S
Close Window	Ctrl+W
Preferences	Ctrl+Comma

Edit Menu

Edit Menu	Keyboard Shortcut
Undo	Ctrl+Z
Redo	Ctrl+Shift+Z
Edit Shot	Ctrl+E
Rename Shot	Ctrl+R
Duplicate Shot	Ctrl+D
Delete Shot	Ctrl+Backspace+Delete

Switch Menu

Switch Menu	Keyboard Shortcut
Go	Ctrl+G
Cut	Ctrl+1
Smooth	Ctrl+2
AutoLive	Ctrl+L
Live/Preview Swap	Ctrl+Alt+W

Media Menu

Media Menu	Keyboard Shortcut
Start Playing All Movies	Ctrl+P
Pause All Movies	Ctrl+Shift+P
Play to Next Point	Ctrl+RightArrow
Jump to Previous Point	Ctrl+LeftArrow

Output Menu

Output Menu	Keyboard Shortcut
Output Settings	Ctrl+Y
Start/Stop Broadcasting > Start All	Ctrl+B
Start/Stop Recording > Start All	Ctrl+K

Layout Menu

Layout Menu	Keyboard Shortcut
Go to Layer > Main Layer 1	Shift+Ctrl+T
Go to Layer > Main Layer 2	Shift+Ctrl+F
Go to Layer > Main Layer 3	Shift+Ctrl+N
Go to Layer > Main Layer 4	Shift+Ctrl+B
Go to Layer > Main Layer 5	Shift+Ctrl+A

Replay Menu

Replay + ISO Menu	Keyboard Shortcut
Update All Replay Shots	R

Social Menu

Social Menu	Keyboard Shortcut
	NO SHORTCUTS

Window Menu

Window Menu	Keyboard Shortcut
Inspector	Ctrl+I
Encoder Presets	Ctrl+Shift+E
Audio Mixer	Ctrl+U
New Layer Window > Main Layer 1	Ctrl+T

Help Menu

Help Menu	Keyboard Shortcut
Wirecast Help	Ctrl+?

Tutorials

The best way to get started using Wirecast is to quickly work through all its main features. This tour presents a series of three tutorials, each designed to help you understand how to create and broadcast presentations using Wirecast.

As you work through these tutorials, you will become familiar with important Wirecast concepts. The more you know about Wirecast, the better it will serve your broadcasting objectives.

Because each tutorial builds on the skills and knowledge you learn in the previous tutorials, it is recommended that you take the tutorials in order. Working through all the tutorials takes about thirty minutes.

Note: If you run the tutorial before activating a Wirecast license, or with Wirecast in demonstration mode, Wirecast periodically superimposes a logo watermark over the video, and a voice-over watermark over the audio.

Note: For licensing information, select *File > Preferences > License*. Click *Purchase*. Or, contact Telestream at: desktopsales@telestream.net.

Topics

- [Tutorial 1: Basic Concepts](#)
- [Tutorial 2: Editing Shots](#)
- [Tutorial 3: Broadcasting](#)

Tutorial 1: Basic Concepts

The goal of this tutorial is to provide you with a quick experience creating and streaming a presentation using Wirecast.

Tutorial Prep

To prepare for this tutorial, do the following:

1. Select *Help > Create Document for Tutorial*.
2. Select *Switch > Smooth*.
3. Select *Switch > AutoLive*.
4. De-select *Switch > Live/Preview Swap*.
5. Select *Layout > Show Live Only*.

Wirecast displays the *Live Broadcast Area*, and the *Go* button with the red *AutoLive* LED turned on. You will change all of these options in the tutorial.

The Wirecast Default Layout

To familiarize yourself with the main windows, controls, and menus of Wirecast, see [The Default Layout](#).

What Is a Shot?

Wirecast uses the concept of a “shot” to construct presentations. A shot contains one or more media sources or files, along with settings for the sources and files. A shot contains at least one media file, such as a photo or a video clip. However, a shot can contain a number of sources and files, such as a live camera, a title, and background music. A shot can even include a whole playlist of clips.

You can assemble most of the files and sources for your broadcast, in shots, before you start broadcasting. Also, you can edit a shot and change its settings (See [Tutorial 2: Editing Shots](#)).

Switching Between Shots

Individual shots are displayed in the *Layers*. The *Transition Controls* are located just below the *Live Broadcast Area* where the two default transitions are shown: *Cut* and *Smooth*.

Replacing a shot in the *Live Broadcast Area* with a shot in the *Preview Area* is called “taking a shot live.”

See [Layers](#) and [Transition Controls](#).

1. Click the *Ripples* shot in the third layer.
The *Ripples* image fades in on the *Live Broadcast Area*. A “fade action” occurred

when you clicked on *Ripples*. This is because the *Smooth* fade is the default transition.

2. Click the shot labeled *Clear Layer*.

The *Ripples* image fades to black. The *Clear Layer* shot enables you to display black video.

Note: Wirecast does not support a true dissolve transition. The *Smooth* fade transition is the transition closest to a dissolve.

If you switch from shot "A" to a shot that contains shot "A," the *Smooth* fade interpolates the difference between the two shots and animates the changes. This makes a shot element larger or smaller, and changes its position as needed. However, if you switch from shot "A" to an entirely different shot "B," then the *Smooth* transition simply fades between the two shots.

3. To make the cut your default transition, select the *Cut* control.

4. Click the *Ripples* shot in the third layer.

The *Ripples* image cuts in on the *Live Broadcast Area*.

When you select *Cut* as the default transition, switching from shot "A" to shot "B" simply cuts from the first shot to the second. When *Smooth* is selected, transitions fade in and out, as you just saw.

Transitions

You can assign a maximum of three transitions to the *Transition Controls*, but more than three transitions are available to you. To select a different transition, click the small arrow on the right side of any of the transition buttons. When the list of transitions appears, select a transition to assign to that button. You can also click the transition button itself and drag the mouse downward to display the menu of transitions.

1. To change the left transition button from *Cut* to *Bands*, click the *Cut* button and drag downward until the menu appears. Select *Bands* from the menu. *Bands* should now be displayed as the left button.
2. Now click back and forth between the *River* and *Ripples* shots using *Bands*.

You can use these keyboard shortcuts for the two default transition buttons: Ctrl+1 and Ctrl+2.

Note: The *Preferences > General* tab enables you to set the number of transition buttons that Wirecast displays.

See [The Default Layout](#) and [Transition Controls](#).

Transition Speed

To determine how fast a transition occurs, do the following:

3. Select *Switch > Transition Speed*.

4. Choose a transition speed, from *Slowest* to *Fastest*.

Layers

Note: Before you start this section, select *Smooth* as your default transition.

You can display several shots in the *Preview Area* and *Live Broadcast Area* at the same time by placing them in layers, one above another.

To broadcast a layered shot, do the following:

1. Select the *Logo* shot in layer 2.
2. Select the *River* shot in layer 3.

The *Live Broadcast Area* displays a layered shot containing both images.

See [Layers](#).

Auto Live

So far in this Tutorial, Wirecast has been running in *AutoLive* mode. Wirecast sends any shot you select in a layer automatically to the *Live Broadcast Area*. This mode is very useful for those users who want to set up all of their shots at once and then single-click them as they run their presentation.

The disadvantage of this single-click method is that you can't preview the shot before taking it live.

Turn AutoLive Off

A red LED, next to the *Go* button is lit when you are in *AutoLive* mode.

See [Transition Controls](#).

1. For this tutorial, turn off *AutoLive*. Select *Switch > AutoLive*.
Wirecast de-selects *AutoLive*. A dialog box informs you that *AutoLive* is off.
2. Click *OK* in the dialog box to continue.
3. Click the *Ripples* shot.
Notice that Wirecast doesn't send *Ripples* to the *Live Broadcast Area*. That is because *AutoLive* is turned off.
4. Now, click the *Ripples* shot, and then click the *Go* button.
Wirecast sends the *Ripples* shot to the *Live Broadcast Area*.

Note: When *AutoLive* is off, you must click the *Go* button (or press Ctrl+G) to display the selected shot in the *Live Broadcast Area*.

Multiple Changes

A benefit of having *AutoLive* off is that you can make several changes to your shot first, and then have all changes sent to the *Live Broadcast Area* at the same time.

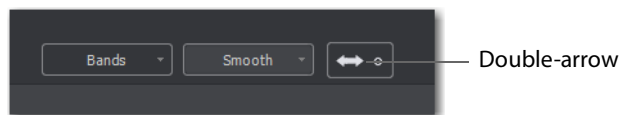
Do the following:

5. Verify that *AutoLive* is off.
6. Click *Sample Title* in Layer 1.
7. Click *Clear Layer Shot* in Layer 2, and then click the *Ripples* Shot in Layer 3.
8. Click the Go button (or Ctrl+G)
Wirecast takes the *Ripples* and *Sample Title* shots live at the same time.

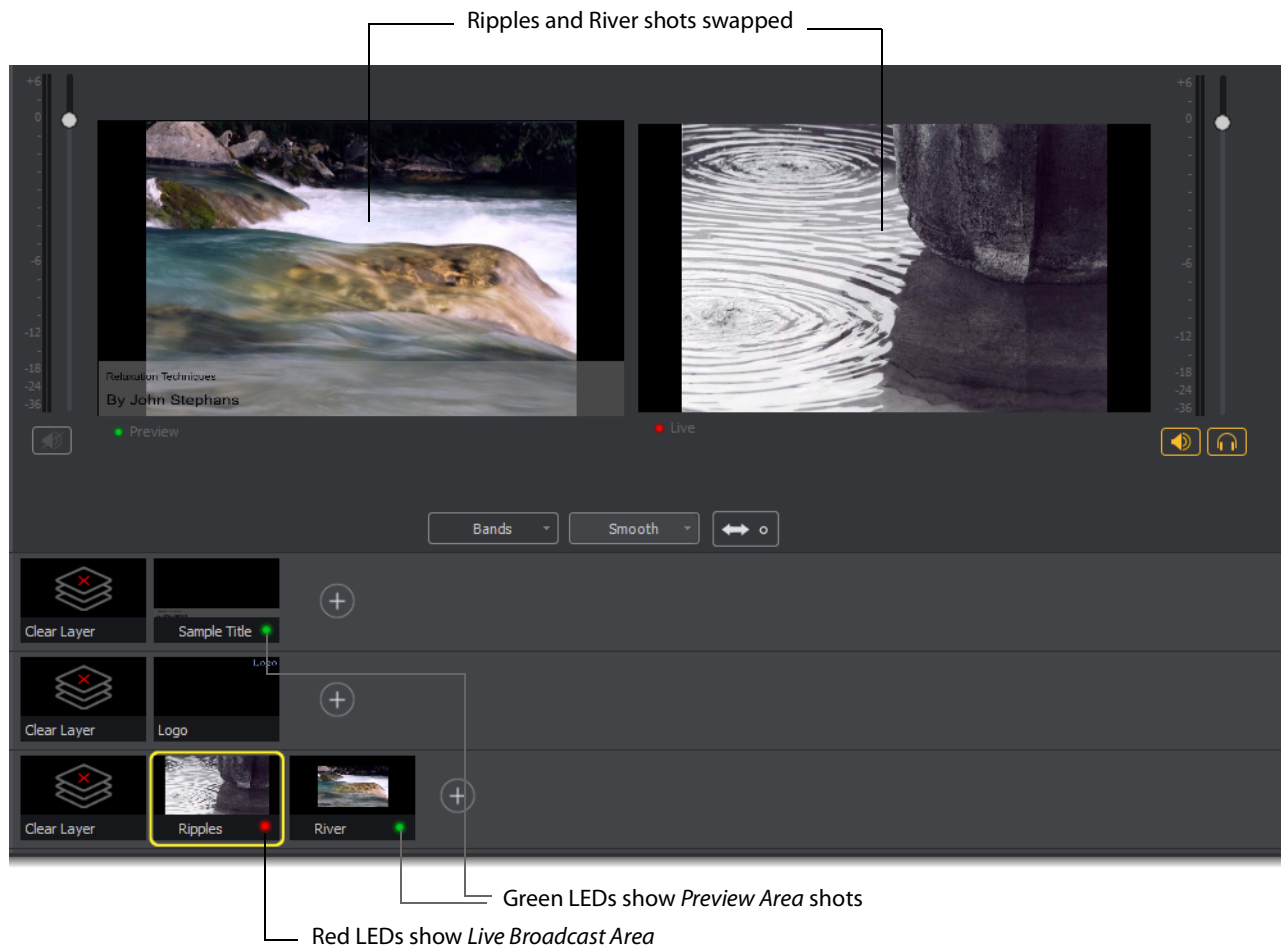
Preview

One problem you may have noticed while running this tutorial is that you can't see the changes you are making before broadcasting them. To solve this problem, Wirecast enables you to see a preview of what you broadcast.

1. Select *Layout > Show Live and Preview*.
Wirecast displays the *Preview Area* to the left of the *Live Broadcast Area*. The *Preview Area* uses a green LED to identify it. The *Live Broadcast Area* uses a red LED to identify it. These two colors (green and red) are also used to identify which shots are associated with the *Preview* or *Live* areas.
2. Click the *River* shot on Layer 3.
Wirecast displays the *River* shot in the *Preview Area*. When shots are selected they display a green or red LED to indicate selection for *Preview Area* or *Live Broadcast Area*.
3. To send the *River* shot to the *Live Broadcast Area*, click the Go button.
4. To remove the title from the *River* shot in the *Preview Area*, click the *Clear Layer* shot in Layer 1.
5. Turn on the Live/Preview Swap option by selecting *Switch > Live/Preview Swap* (check mark displayed). Notice that the Go button displays a double-arrow, indicating that the Live/Preview Swap option is on.



6. Select the *Ripples* shot and click the Go button to send the *Ripples* shot to the *Live Broadcast Area*.
Notice that the *Ripples* and *River* shots have swapped areas. Also, the shot LEDs have changed color. The green shot LEDs indicate all shots included in the *Preview Area* and the red LEDs indicate the shots included in the *Live Broadcast Area*. You can view the shot that is live as you prepare your next shot in the *Preview Area*.



Tutorial 2: Editing Shots

The first tutorial explained various ways in which you can use existing shots. However, you can also create and edit shots during a broadcast. This tutorial demonstrates how to edit your shots.

1. To edit a shot, double-click its icon in a layer.

Wirecast opens the *Shot Editor* panel. The *Shot Editor* has six tabs: *Shot Layers*, *Shot Layer Properties*, *Audio*, *Chroma Key Properties*, *Smooth Transition Properties*, and *Additional Source Properties*.

See [The Shot Editor Window](#).

2. Practice editing a shot using the various options in the *Shot Editor Window* tabs.

Tutorial 3: Broadcasting

This tutorial demonstrates how to setup and broadcast your Wirecast presentations. You can broadcast to a specific computer (Unicast), multiple viewers (Multicast), or even record your broadcast to disk.

There are two main components for broadcasting your presentation (or saving it to disk): encoding and selecting a destination.

You need to decide how you are going to encode your broadcast. Encoding is the type of compression used (JPEG, MPEG4, etc.). Wirecast comes configured with many common encoding options. (See [The Encoder Presets Window](#) for details.).

A destination for the broadcast must be selected. You can send it to a server for broadcast or save it to disk.

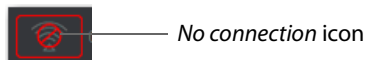
Streaming

1. To start streaming, click the *Stream* button.

In the Control/Status bar, the *Stream* icon blinks until a connection is made. Once you are connected the *Stream* icon turns green. If you can't connect, Wirecast displays an error message. See [Control/Status Bar](#).

Connection strength is indicated by how many bars are displayed in the *Stream* icon. Fewer bars indicates a weaker (slower) connection.

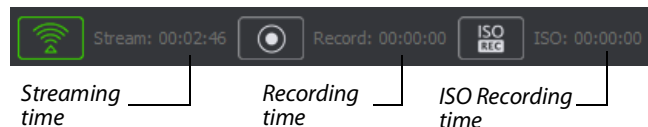
If the connection is ever broken, a *no connection* icon is displayed in place of the bars.



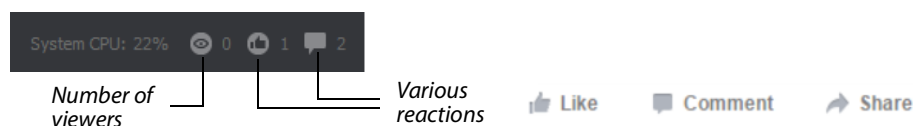
When the connection recovers, the *no connection* icon is replaced with green bars.

2. Click *Stream* again to stop streaming.
3. (Optional) You can also record your broadcast by clicking *Record*.

While streaming, the streaming status is displayed at the top of the default layout.



If you are streaming to Facebook, additional statuses are displayed on the right side of the status bar.



Making Great Broadcasts

There are many ways to make a good live event even better. This appendix focuses on two main things to remember about video streaming:

- **High Quality Audio Input** Great-looking video with poor audio is poor video.
- **Good Lighting** Video without light is radio. Poor lighting can ruin an otherwise excellent live event. If you use chroma or luma keys, excellent lighting, both of talent and background, is essential.

When video is saved to disk or sent over the network, it needs to be compressed. The compression process is done by encoders (codecs) which are optimized to work with clean input data. This means that if the audio or video is muddy to start with, it remains muddy after compression. Some codecs may even highlight poor input because the algorithm is built to look for differences.

Your goal is to send the best quality video and audio to the codecs. This means making sure what you see and hear in the *Live Broadcast Area* is high quality video and audio.

Topics

- [High Quality Audio](#)
- [Good Lighting](#)
- [Broadcast Settings](#)

High Quality Audio

You can make a great live event even better by paying attention to audio details. Here are some suggestions:

- **Use an External Microphone** Most video cameras have an audio input for an external microphone. Use this, whenever possible, instead of the built-in microphone. Built-in microphones usually are not high quality, and they tend to pick up hum from the electronics inside the camera. Even an average external microphone can deliver better sound than most built-in camera mics.
- **Use a Microphone Splitter or Mixer** If the broadcast has more than one sound source, use a separate mic for each sound source. Give each speaking subject a

dedicated mic. Wire the mics to a mic splitter or audio mixer. Wire the output of the splitter or mixer to the camera audio input. Dedicated mics produce better sound quality than one omni-directional microphone at a distance.

- **Position the Microphone Properly** Place any microphone as close to the sound source as possible, even when using omni-directional microphones, because sound volume decreases greatly the farther away the microphone is placed. High-volume sound hitting the microphone results in a stronger signal from the mic.
- **Use Lapel Microphones** Even inexpensive lapel microphones can make a huge difference because you can place them close to the source of the sound: the speaker's mouth.
- **Control Environmental Noise** If a chair squeaks, use a different chair. If you have a wood floor and you can hear people shuffling their feet as they talk, put down a rug. Turn off air conditioners, machines, and buzzing fluorescent lights. Do whatever it takes to keep noise at a minimum. Microphones pick up everything. Before you start broadcasting, yell, "Quiet on the set!"

Good Lighting

Do not underestimate the power of lighting. Whether shooting outdoors or indoors, you must control the lighting that hits the lens. For a good picture and a high-quality video signal, you must provide your lens two things: enough light and light with the right qualities. Here are a few suggestions to help you obtain reasonably good lighting:

- If you are using only one lighting source, do not shine it directly on your subject. You should diffuse the light by bouncing it off of a wall or by shining it through opaque material.
- Avoid deep shadows. Make sure you fill all areas of your subject with light. Sometimes this requires adjusting the light to bounce off a different wall or use two lights. Placing a light low and another one high is often a good way to light evenly.
- Do not light too evenly. If you evenly light a set, you may actually be worse off than not lighting the set at all. Take a sample shot and see if it looks natural. Good lighting usually has a little more light coming from above than any other direction. You should very rarely light just from below a subject.
- Beware of having too much light on your subject. If your subjects are people and you must use a lot of light, use make-up to compensate for the overly bright lighting. This is not necessarily a bad thing, but you must choose how much effort you want to go through to make a good live event. If your lighting balance is excellent, you can avoid using make-up on your subjects. The key in adjusting the lighting is to look at your subject and make sure they do not look washed out.
- Watch professional events and learn from them. As you watch, notice the lighting instead of watching the program. Notice how they employ the suggestions listed above.

Good lighting can make an amateur video look professional and a professional video look fabulous. The important thing to remember is that one or two properly placed lights makes a huge difference in the quality of your live event.

Triangular Lighting

One advanced and very effective approach to good lighting is known as triangular lighting (or three-point lighting, or the three-light setup). This involves setting up three lights (sometimes using natural light as one of the light sources), in a configuration that achieves a good balance. Here are the main elements of triangular lighting:

- **Key Light (Main Light)** This is the strongest of your lights and does most of the work. You can use the Sun or a strong lamp as your key light. Place the key light higher than talent eye-level, higher than the lens, and to the left or right of the lens, at least 20 degrees off the line between lens and talent. This creates shadows on the subject that enhance the sense of three-dimensionality.
- **Fill Light** This is a soft light. Place the fill light higher than talent eye-level, higher than the lens, and on the side of the lens opposite the key light. If your key light comes from the left of your camera, your fill light should come from the right, or vice versa. The fill light brightens the shadows, making them softer and less severe.
- **Back Light (Rim Light)** This light is directed from behind and above the subject. Aim the back light at the top of the subject's head. The back light is also called a *rim light* because it makes a slight rim around the edge of the head of your subject. The back light separates your subject from the back ground. This enhances the sense of three-dimensionality and helps create a sharp separation between the subject and a chromakey background. Since the back light faces the lens, make sure light from the back light does not spill into the lens, causing lens flares.

Broadcast Settings

Once you have good video and audio coming into Wirecast, make sure the broadcast settings are configured correctly for your presentation. Though there are many broadcast parameters to modify, there are three that are the most important: bandwidth, motion, and encoder settings.

Bandwidth

Bandwidth is the speed of data you can broadcast from your computer to your viewers. Transmit data no faster than your network upload speed and your viewers' download speed.

Estimate your viewers' download speed by the type of Internet connection they likely have. Are your viewers all on your corporate high-speed LAN, are they viewing from home via DSL or cable Internet, or are they on cell phones in remote areas downloading video over slow cell phone networks? Set your broadcasting bandwidth accordingly.

If you broadcast to a LAN, discuss your plans with your network administrator. Verify that you will not disrupt the network with your broadcasts. Ask the administrator what your bandwidth upper limit should be.

Motion

Once you determine your bandwidth, determine whether your video contains a lot of motion. An interview typically has little motion. A sports event, however, typically has lots of motion. Wirecast comes configured with defaults to help ease your configuration task. Choose a default configuration that meets your motion constraints.

Encoder Settings

It is beyond the scope of this document to describe the delicate balance required in defining encoder settings. Various streaming networks publish their optimal encoder settings. The Wirecast settings for the various streaming platforms generally are optimized for those platforms. (See [Encoder Presets](#) for information on changing the encoder settings.)

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Topics

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TurboJPEG

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