



Tutorial for Mac

14.3



Installation

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

Topics

- General System Requirements
- Installing Wirecast
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- Preventing Dropped Frames from Short Latency
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General System Requirements

Operating System

- Minimum: macOS Mojave 10.14 or higher
- Recommended: macOS Big Sur 11, macOS Monterey 12

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.

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		

^{4 B}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.
- Apple Hardware Accelerated H.264 encoding requires a Mac with an integrated Intel GPU.

This may change in the future, as the Apple API decides what hardware acceleration method is to be used. At the time of this writing, only Quick Sync via an Intel GPU is supported.

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 (.dmg) program.

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. Open Wirecast from your downloads folder. Then click and drag the icon into the Applications folder. If a version of Wirecast already exists, the installer asks you whether you want to replace the previous version.

Purchasing and Activating Wirecast

To purchase and activate Wirecast, do the following:

- **1.** Launch Wirecast.
- 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: <u>http://www.telestream.net/telestream-support/wire-cast/training.htm</u>.

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.



Wirecast User Guide

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

- 1. To uninstall Wirecast,
- 2. Choose the Wirecast program icon in *Finder > Applications*, or on your desktop.
- **3.** Place the Wirecast program in the Trash folder.

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.

- 1. Select Wirecast > Preferences > Advanced.
- 2. 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.

- 1. Select Wirecast > Preferences > Advanced.
- 2. To close the Preferences dialog box, click the "x."

See Application Source Latency.

Choosing a Video Adapter

- **1.** Select*Wirecast* > *Preferences* > *Advanced*.
- 2. a video adapter.
- 3. To close the Preferences dialog box, click the "x."



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Choosing a Video Adapter



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 *Wirecast* > *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.

 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.

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: Command+1 and Command+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.

- 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 Command+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 Command+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*.

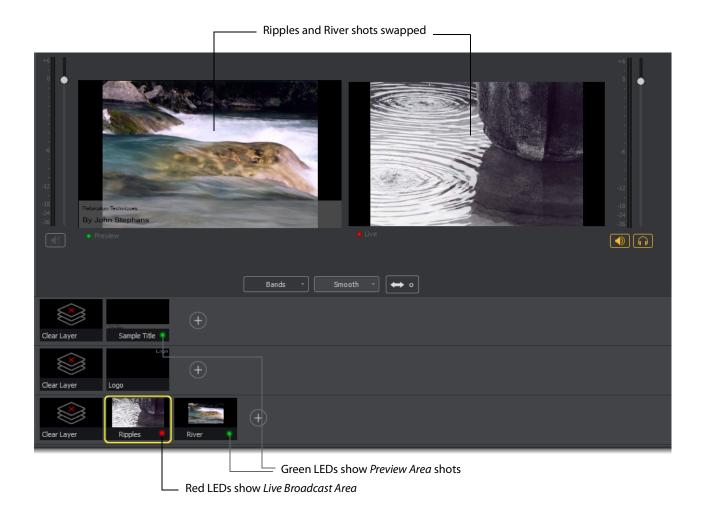
- 3. To send the River shot to the Live Broadcast Area, click the Go button.
- **4.** To remove the title from the *River* shot in the *Preview Area,* click the *Clear Layer* shot in Layer 1.
- **5.** Turn on the Live/Preview Swap option by selecting *Switch* > *Live/Preview Swap* (check mark displayed). 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.

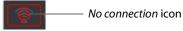
Streaming

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.

Stream: 00:0	02:46 💽 Record: 00:	:00:00 ISO ISO: 00:0	0:00			
Streaming time	Recording	ISO Recording				

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





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Tutorial 3: Broadcasting



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
- Wirecast Menu
- File Menu
- Edit Menu
- Switch Menu
- Media Menu
- Output Menu
- Layout Menu
- Replay + ISO Menu
- Social Menu
- Window Menu
- Help Menu



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.

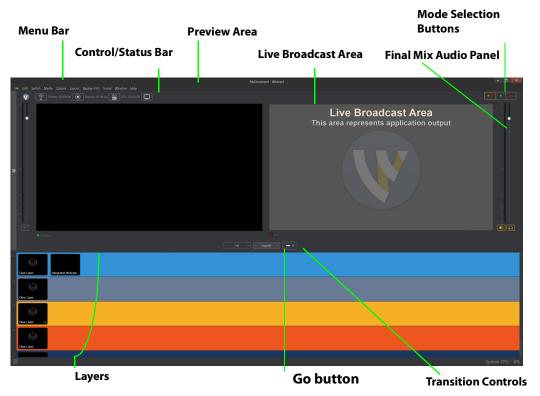
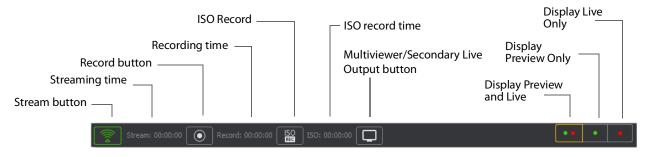


Figure 1. Wirecast default layout

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.

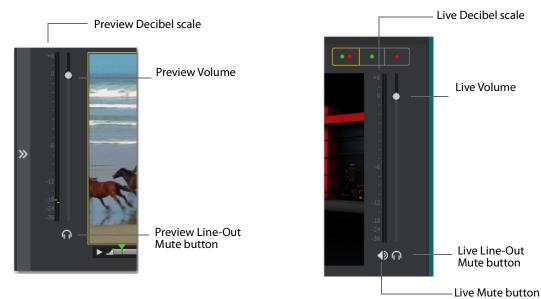
Transition Controls

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 Command+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.

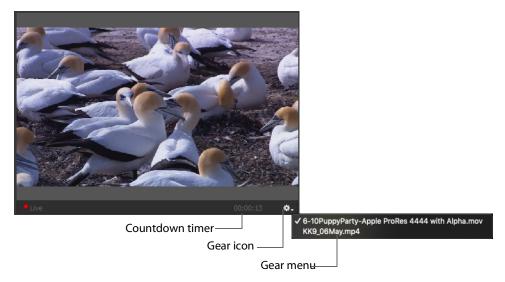
- Available Shots transitions to another shot on the same layer. All available shots are listed as menu selections. (In the example shown, the only available shot is "Logo".)
- *Previous Live Shot* transitions back to the shot that was live before the playlist began playing.
- Current Preview transitions 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.



Touch Bar (MacBook Pro only)

Note: Touch bar shot switching is only available when using a MacBook Pro equipped with a Touch Bar.

The Touch Bar switcher will appear every time a Wirecast document is the front-most window. If another window is front-most, the Touch Bar will be removed. Press a layer button to select any of the five shot layers.

8						Touch Ba						
< 🛛	Select Layer	1	2	3	4	5	1	¢.	*	(Z	\sim
Press a button to select a layer												



The Touch Bar displays one layer at a time. The layer selection button display the layer number. You can change layers by pressing this button. The shot buttons correspond to every shot on the selected layer. The *Go* button is identical the one in the Wirecast default layout. When you change the Live/Preview Swap state, the *Go* button will update to reflect the new mode. If Auto-live is enabled, the *Go* button will be removed from the Touch Bar.



All buttons have a fixed width and their title will clip if longer than the default space allowed. This guarantees you to always have a fixed-size touch target. The shot buttons will display a *green* LED if they are currently in the Preview window, and they will display *red* if in the Live Broadcast window. If the LED is not lit, the shot is in neither window. This mirrors the behavior of the shot list in the main Wirecast user interface. If there are more shot buttons than horizontal space allows, the shot area in the Touch Bar becomes scrollable

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.

Audio Capture

System Device

Select a system device. See NDI Devices in the Shot Layer Properties Tab.



System Audio Capture

Select an audio capture device.

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

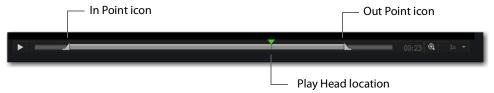
Displays the name of the source. To change the source name, enter a new one.

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

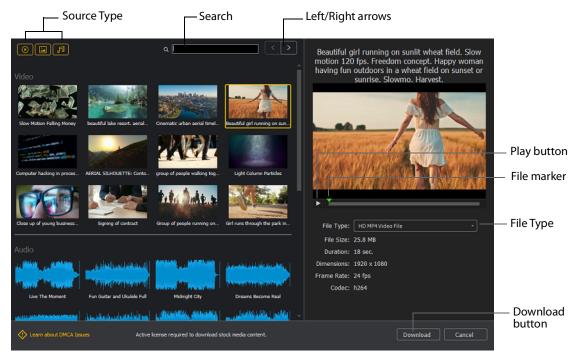
Any ASIO or WASAPI source on your local network will be discovered by Wirecast and listed under Capture Devices in the Source Input Menu. These devices are generally used with multi-track audio outputs. ASIO Audio Capture is a very low latency professional audio capture API. It is used to connect to 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 your 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. You can also capture your iPhone or iPad in Wirecast by connecting your device using an Apple certified lightening cable, and then adding it as a source by selecting *Screen Capture* from the Source menu.

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 command + 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.

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.

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 command + 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.

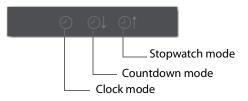
Name

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 newsanchor 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.

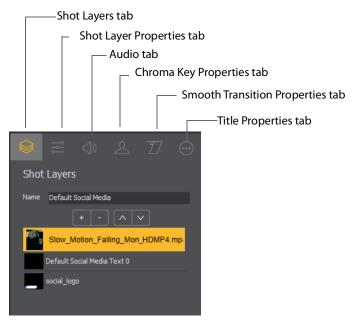
The shot icons can be made to display any live activity in the source it represents (cameras, streaming, etc.).

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.

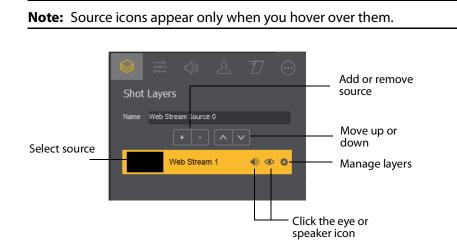
Title Properties

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.





See Adding, Deleting, or Rearranging Layers in a Shot.

Replay Layer

PRO

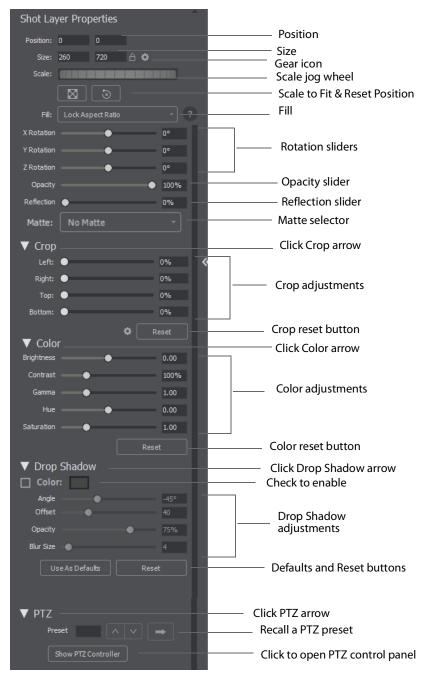
The Replay Layer is a placeholder layer that can be added to any shot for the purpose of creating a Replay Template Shot. Once the shot is selected in the Replay Settings it can be used as a template for any created Replay Shot.

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 you 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

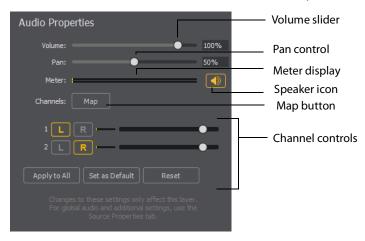
Check the *Monitor* check box to cause audio to play through your monitor output. If the check box is unchecked, audio will not play through the monitor output for this source. Checked is the default.

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.

Мар

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

Chrome 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

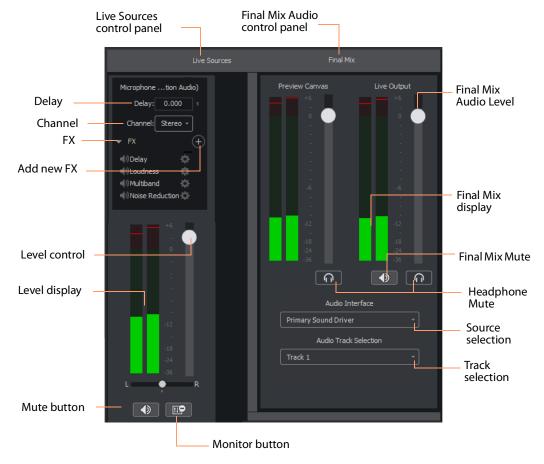
Click this button to make these Transition Settings the default settings for all new shots. These default settings will be applied in all future WC documents.

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 in 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.

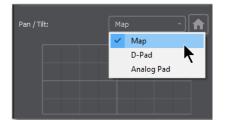
Home Button

Click the House icon to reorient the PTZ camera to its default position (default centered, no zoom).

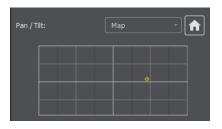


Pan/Tilt

Select the desired pan/tilt control method (Map, D Pad, or Analog Pad) from this dropdown 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.



Wirecast Menu

About Wirecast

Displays the version you are running.

Preferences

Opens the Preferences window. If the Preferences window is already open, it becomes the active window.

Services

Presents the Macintosh Services available.

Hide Wirecast

Hides all of the windows.

Hide Others

Hides all non-application windows.

Show All

Shows all non-application windows.

Quit Wirecast

Closes all documents and exits. If the broadcast is playing, you are asked to stop the broadcast first. If a document has not been saved, you are asked to save it.

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.

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.

Сору

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.

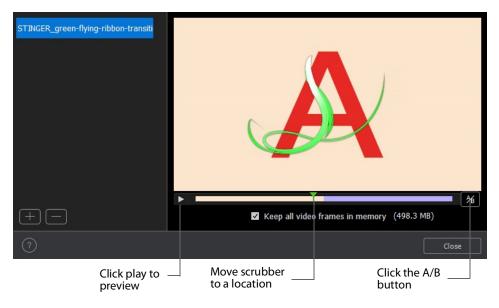
Manage Stinger Transitions

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 viability 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 an iSight 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. You can also click the *Stream* button on the *Record/Status Bar* in the default layout.

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. You can also click the Record button on the Window Bar in the default layout.

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 it 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.

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 with 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 chose 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 command key while clicking and dragging the divider line between layers.

Go to Layer

Displays the selected layer. You can also press command + 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



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

Minimize

Minimizes the front-most window.

Zoom

Maximizes the front-most window (zooms to the full size of the screen).

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



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 *Buy Upgrade* 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.

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.

